SECTION DAS
DRIVER ASSISTANCE SYSTEM

CONTENTS

CHASSIS CONTROL

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010284553

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:0000000010287283

- 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.

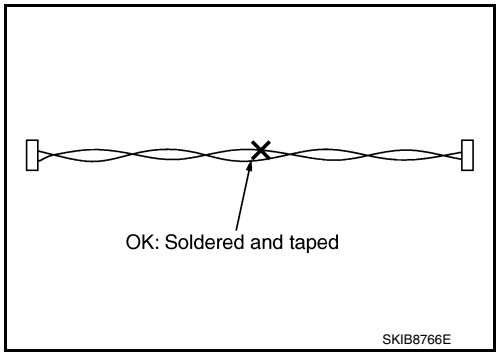
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

Precautions For Harness Repair

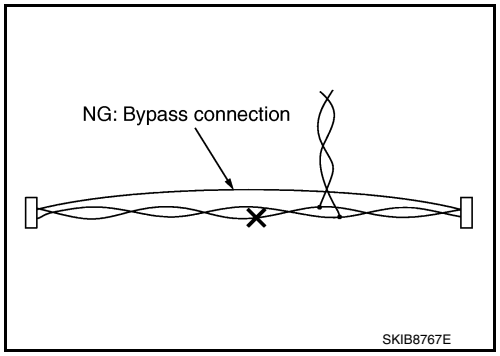
INFOID:0000000010227164

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

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



- Bypass connection is never allowed at the repaired area.
  NOTE:
  Bypass connection may cause ITS communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



Precautions for Driver Assistance Systems

INFOID:0000000010227165

CAUTION:
- **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 alignment, if necessary.**

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

CAUTION:
- **Do not use the DAS system when driving with free rollers or on a chassis dynamometer.**
- **Do not disassemble or alter the rear view camera.**
- **Do not disable the DAS system without the consent of the customer.**

OBSERVE THE FOLLOWING ITEMS IN ORDER TO KEEP THE DAS SYSTEM OPERATING PROPERLY:

Rear view Camera Maintenance

The rear view camera for the DAS system is located in the back door. To keep the DAS system operating properly and prevent a malfunction, be sure to observe the following:
- Always keep the camera lens area clean.
- Do not attach bumper stickers (including transparent materials) or install an accessory near the rear view-camera.
- Do not strike or damage the areas around the rear view camera.
- Do not touch the camera lens (except for cleaning) or remove the rear view camera.

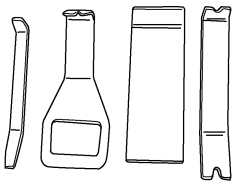
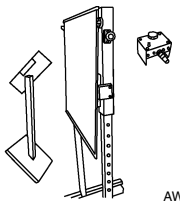
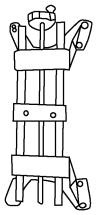
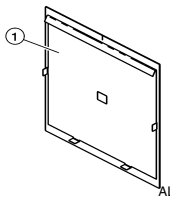
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000010246047

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

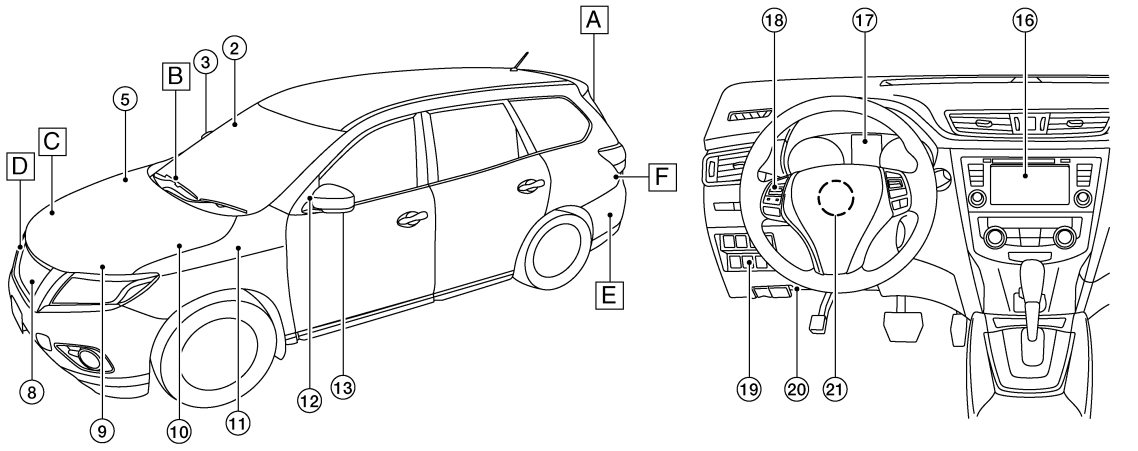
Tool number (TechMate No.) Tool name		Description
— (J-46534) Trim Tool Set	 AWJIA0483ZZ	Removing trim components
— (1-20-2721-1-IF) Distance Sensor Alignment Kit	 AWOIA0016ZZ	Adjusting distance sensor
— (1-20-2722-1-IF) Wheel Adapter	 AWOIA0017ZZ	Adjusting distance sensor
— (J-50808) Distance Sensor Alignment Attachment Board	 ALOIA0218ZZ	Adjusting distance sensor

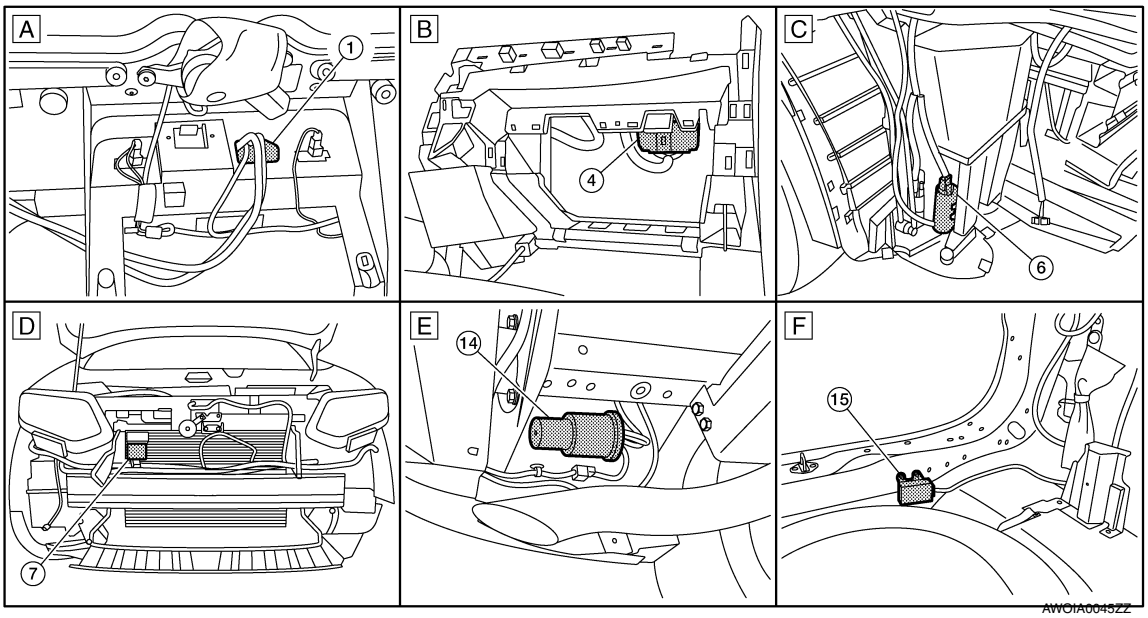
SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010227170





A. View with back door finisher removed
B. View with glove box assembly removed
C. View with front bumper removed
D. View with front bumper removed
E. Rear under body LH
F. View with luggage rear plate removed

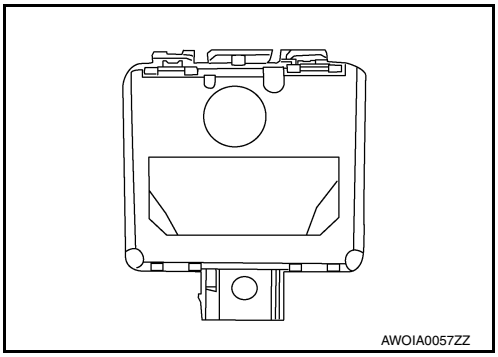
No.	Component	Function
1.	Rear view camera	Refer to DAS-13, "Rear View Camera".
2.	Side camera RH	Refer to DAS-14, "Side Cameras".
3.	Blind spot warning indicator RH	Refer to DAS-14, "Blind Spot Warning Indicator LH/RH".
4.	Around View® Monitor control unit	Refer to DAS-13, "Around View Monitor Control Unit".

No.	Component	Function
5.	ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal (wheel speed) to around view monitor via CAN communication Refer to BRC-8, "Component Parts Location" for detailed installation location.
6.	Rear washer motor	Pumps washer fluid to the rear view camera.
7.	Distance sensor	Refer to DAS-12, "Distance Sensor".
8.	Front camera	Refer to DAS-14, "Front Camera".
9.	ECM	• Transmits engine speed signal to around view monitor control unit via CAN communication. • Refer to EC-14, "Component Parts Location" for detailed installation location.
10.	TCM	Refer to TM-12, "CVT CONTROL SYSTEM : Component Parts Location" for detailed installation location.
11.	BCM	Transmits the turn indicator signal, dimmer signal, and back door switch signal to around view monitor via CAN communication. Refer to the following for detailed installation location: • With Intelligent Key system: BCS-7, "BODY CONTROL SYSTEM : Component Parts Location". • Without Intelligent Key system: BCS-79, "BODY CONTROL SYSTEM : Component Parts Location".
12.	Blind spot warning indicator LH	Refer to DAS-14, "Blind Spot Warning Indicator LH/RH".
13.	Side camera LH	Refer to DAS-14, "Side Cameras".
14.	Rear view camera air pump motor	Refer to DAS-13, "Rear View Camera Air Pump Motor".
15.	Rear view camera washer control unit	Refer to DAS-14, "Rear View Camera Washer Control Unit".
16.	AV control unit	Receives the various systems and camera signals via CAN communication and routes them to the AV control unit display. Refer to AV-77, "Component Parts Location" for detailed installation location.
17.	Combination meter	• Description: DAS-13, "Combination Meter". • Refer to MWI-6, "METER SYSTEM : Component Parts Location" for detailed installation location.
18.	Steering switch	Refer to DAS-13, "Steering Switch".
19.	Warning system switch	Refer to DAS-15, "Warning System Switch".
20.	Warning system buzzer	Refer to DAS-14, "Warning System Buzzer".
21.	Steering angle sensor	Transmits the steering angle sensor signal to around view monitor via CAN communication. Refer to BRC-8, "Component Parts Location" for detailed installation location.

Distance Sensor

INFOID:0000000010227171

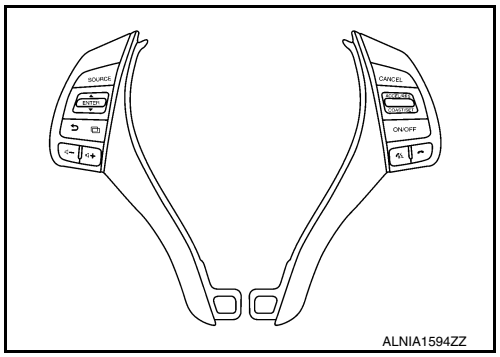
- Distance sensor is installed to the back of the front bumper and detects a vehicle ahead by using millimeter waves.
- Distance sensor detects radar reflected from a vehicle ahead by irradiating radar forward and calculates a distance from the vehicle ahead and relative speed, based on the detected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


AWOIA0057ZZ

Steering Switch

INFOID:0000000010227172

- 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 around view monitor via CAN communication.

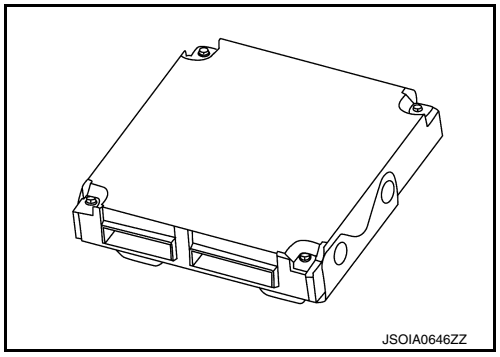


ALNIA1594ZZ

Around View Monitor Control Unit

INFOID:0000000010227173

- The around view monitor control unit is installed behind the glove box.
- Vehicle width guide lines, predicted course line, vehicle front guiding line and vehicle side line, and vehicle icon are displayed and combined with camera images.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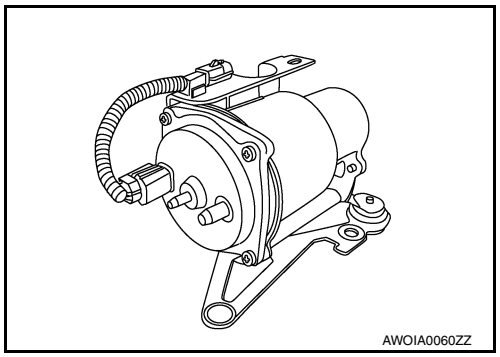
Rear View Camera Air Pump Motor

INFOID:0000000010227174

- Rear view camera air pump motor is installed to the rear left underbody.
- Air pump is activated and generates compressed air when power is supplied from the rear view camera washer control unit.
- Compressed air jets out from the air nozzle of rear view camera via air tube.


AWOIA0060ZZ

Combination Meter

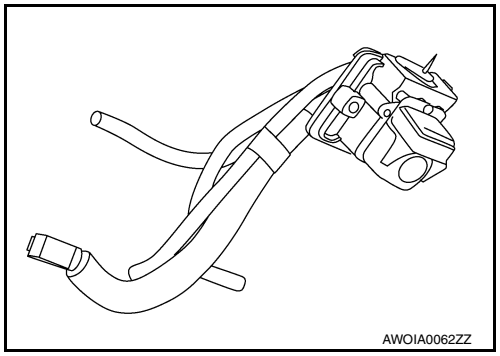
INFOID:0000000010227175

- Displays the system status according to a signal received.
- Operates the buzzer according to the signal from the distance sensor.

Rear View Camera

INFOID:0000000010227176

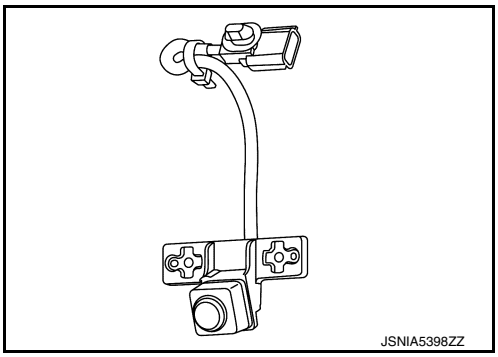
- The rear view camera is installed in the back door finisher.
- With the mirror processing function, a mirror image is sent as if it is viewed by a rear view mirror.
- Power for the camera is supplied from the around view monitor control unit, and the image at the rear of the vehicle is sent to the around view monitor control unit.
- The rear view camera is equipped with a washer nozzle and air nozzle for cleaning camera. A check valve is installed to the tube connected to the washer nozzle.


AWOIA0062ZZ

Front Camera

INFOID:0000000010227177

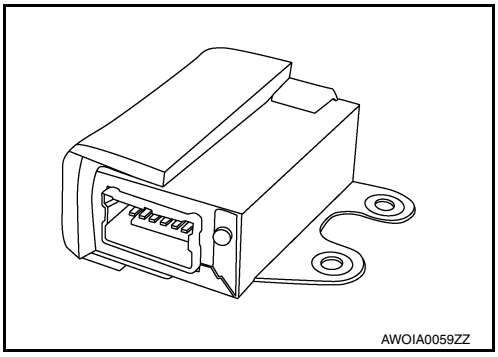
- The front camera is installed in the front grille.
- Power is supplied from the around view monitor control unit.



Rear View Camera Washer Control Unit

INFOID:0000000010227178

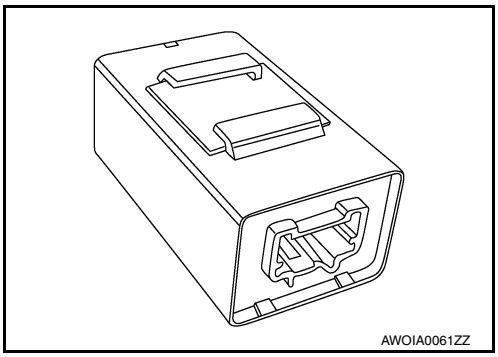
- Rear view camera washer control unit is installed under the luggage rear plate.
- Communicates with around view monitor control unit via serial communication line.
- Activates air pump and washer pump according to the signal from around view monitor control unit.



Warning System Buzzer

INFOID:0000000010227179

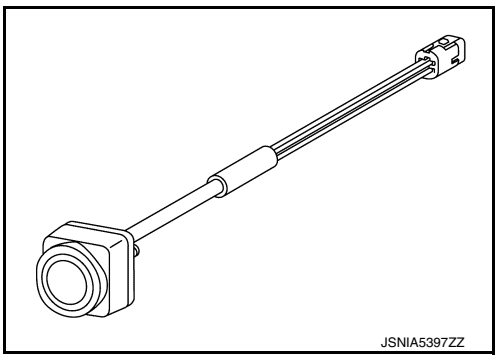
- Warning system buzzer is installed to the back of the instrument lower panel LH.
- When a warning buzzer signal is received from the around view monitor, the buzzer sounds.



Side Cameras

INFOID:0000000010227180

- The side cameras are installed in the door mirrors.
- Power is supplied from the around view monitor control unit.



Blind Spot Warning Indicator LH/RH

INFOID:0000000010227181

- 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 around view monitor control unit.

Warning System Switch

INFOID:0000000010227182

- 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 around view monitor control unit.

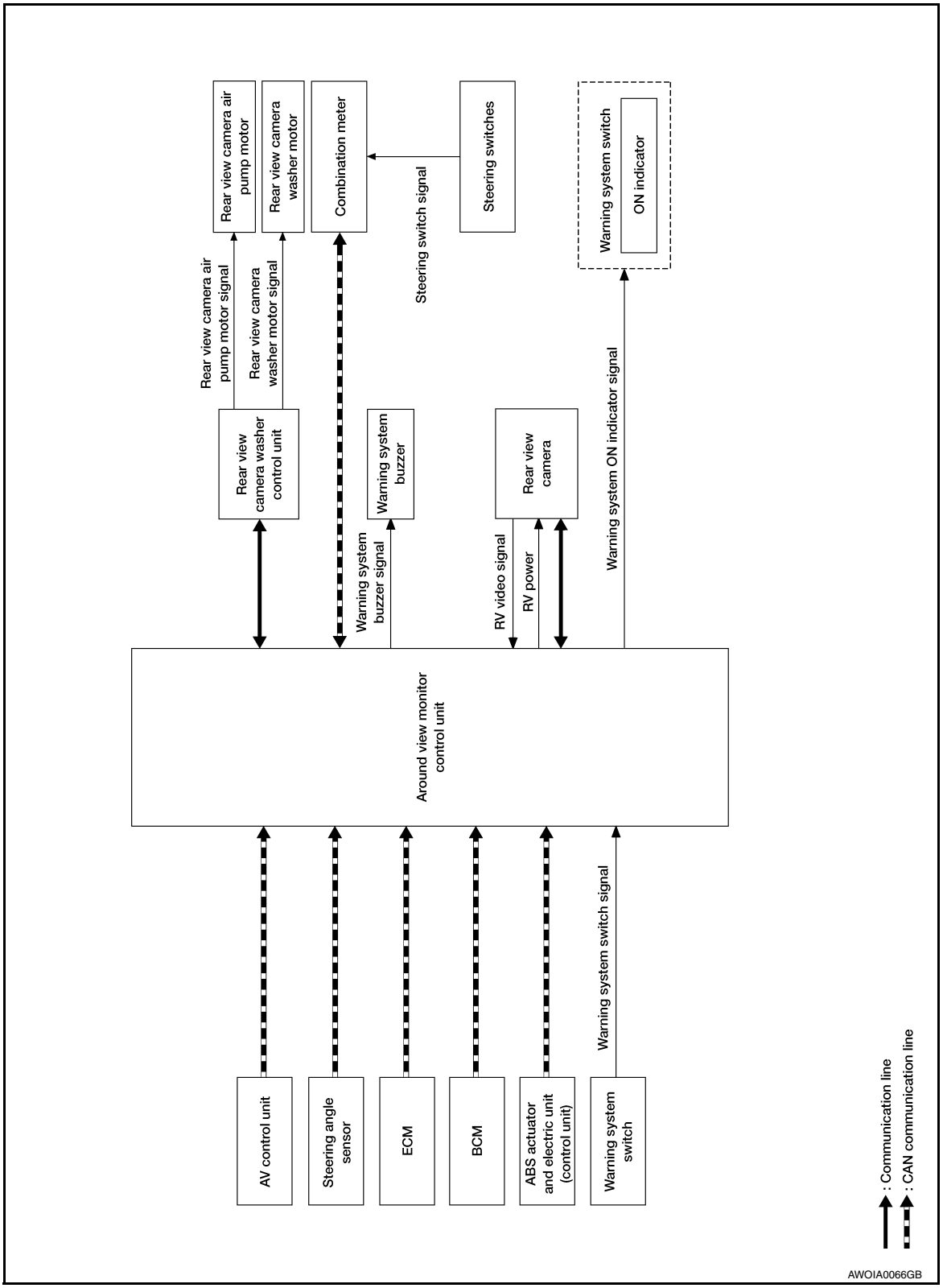
SYSTEM

LDW

LDW : System Description

INFOID:0000000010227185

SYSTEM DIAGRAM



AROUND VIEW MONITOR CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name		Description
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp
Combination meter	CAN communication	System selection signal	Receives a selection state of each item in “Driver assistance” selected with the information display
Steering angle sensor	CAN communication	Steering angle sensor signal	Receives the number of revolutions, turning direction of the steering wheel
ECM	CAN communication	Engine status signal	Receives the engine status
Rear view camera	Communication line	Detected lane condition signal	Receives detection results of lane marker
Warning system switch	Warning system switch signal		Receives an ON/OFF state of the warning system switch

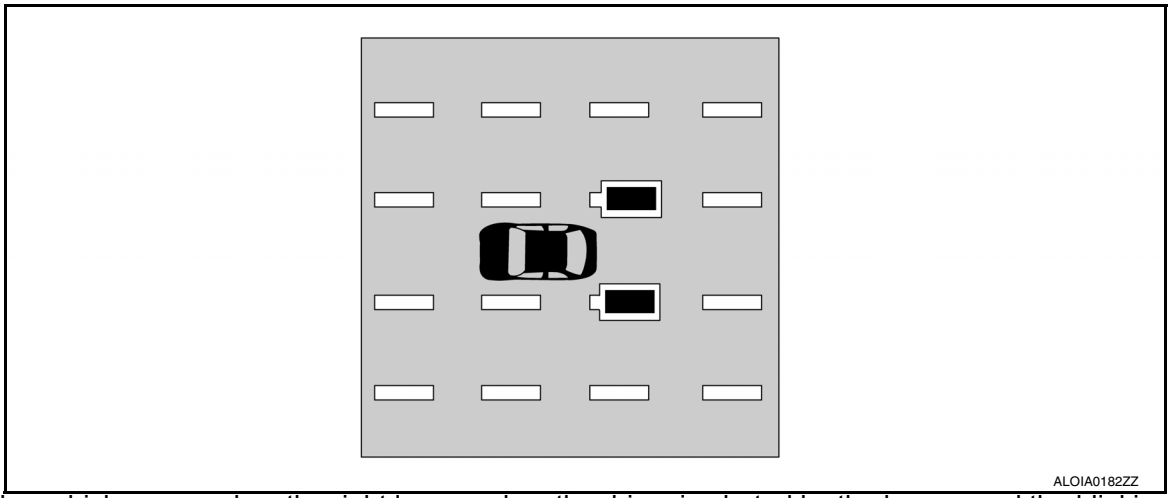
Output Signal Item

Reception unit	Signal name			Description
Combination meter	CAN communication	Meter display signal	LDW warning signal	Transmits a meter display signal to turn ON the LDW warning
			LDW ON indicator signal	Transmits a meter display signal to turn ON the LDW ON indicator
		Buzzer output signal		Transmits a buzzer output signal to activates the warning buzzer
Rear view camera washer control unit	Communication line	Rear view camera washer signal		Transmits a rear view camera washer signal to activate the washer motor
		Rear view camera air blow signal		Transmits a rear view camera air blow signal to activate the air pump
Warning buzzer	Warning buzzer signal			Activates the warning buzzer
Warning system ON indicator	Warning systems ON indicator signal			Turns ON the warning systems ON indicator

FUNCTION DESCRIPTION

- Lane Departure Warning (LDW) system provides a lane departure warning function when the vehicle is driven at speeds of approximately 45 MPH (70 km/h) or more.
- When the vehicle approaches either the left or the right side of the traveling lane, a warning will sound and the lane departure warning lamp (orange) on the combination meter will blink to alert the driver.
- The warning does not occur during turn signal operation (Lane change side).
- The warning function will stop when the vehicle returns inside of the lane markers.

EXAMPLE



When the vehicle approaches the right lane marker, the driver is alerted by the buzzer and the blinking of lane departure warning lamp (orange).

OPERATION DESCRIPTION

- When the system is turned ON by operating the warning systems switch, around view monitor control unit turns ON the LDW ON indicator and the warning systems ON indicator.
- Rear view camera monitors the traveling lane. It transmits the camera image signal to around view monitor control unit.
- When judging from a camera image signal that the vehicle is approaching the lane marker, the around view monitor control unit controls the following item to alert the driver.

- Activates warning buzzer in the combination meter.
- Around view monitor control unit transmits a meter display signal to combination meter via CAN communication and turns ON/OFF the LDW warning.

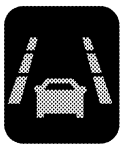
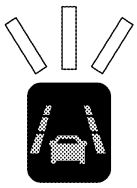
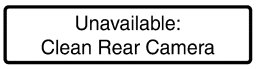
Operating Condition

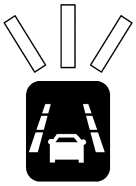
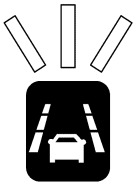
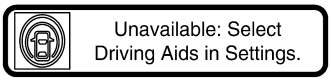
- LDW ON indicator: ON
- Warning systems ON indicator: ON
- Vehicle speed: approximately 45 MPH (70 km/h) or more
- Turn indicator signal: After 2 seconds or more from turned OFF
- Back door: Close
- Low washer fluid warning: OFF

NOTE:

- When the LDW system setting on the combination meter is ON.
- After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 40 MPH (60 km/h)
- The LDW system may not function properly, depending on the situation. Refer to DAS-36, "Precautions for Lane Departure Warning".

Fail-safe Indication

<table>
<tr><th>Vehicle condition/ Driver's operation</th><th>Warning systems ON indicator</th><th>Indication on the combination meter</th></tr>
<tr><td>When DTC is detected
(Except “U1308”)</td><td>ON</td><td rowspan="2"> 
JSOIA0736ZZ</td></tr>
<tr><td>Camera calibration is not completed
(“U1308” is detected)
NOTE:
This is detected while driving the vehicle and the indication remains ON until the ignition switch is turned OFF</td><td>ON</td></tr>
<tr><td rowspan="2">When lane markers cannot be detected due to dirt on the camera.</td><td rowspan="2">ON</td><td> 
JSOIA0737ZZ</td></tr>
<tr><td> 
JSOIA0738ZZ</td></tr>
</table>

Vehicle condition/ Driver's operation	Warning systems ON indicator	Indication on the combination meter
When the washer fluid level is low (Low washer fluid warning ON)	ON	Blinks at intervals of two seconds.  JSOIA0739ZZ
When the back door is open (Back door open warning ON)	ON	Blinks at intervals of two seconds.  JSOIA0739ZZ
Blinks when the setting of LDW and BSW are “OFF” and the warning systems switch is pressed	OFF	 JSOIA0780ZZ

REAR VIEW CAMERA WASHER OPERATION

- When judging that the rear view camera has water droplets, the around view monitor control unit transmits a rear view camera washer activation signal or rear view camera air blow signal to the rear view camera washer control unit via serial communication.
- When receiving a rear view camera washer signal, the rear view camera washer control unit simultaneously activates the rear view camera washer motor to clean the rear view camera by spraying washer fluid from the nozzle installed to the rear view camera bracket.
- When receiving a rear view camera air blow signal, the rear view camera washer control unit activates the air pump to clean the rear view camera by blowing air from the nozzle installed to the rear view camera bracket.

OPERATION CONDITION

- Approximately 20 MPH (30 km/h) or more
- When the around view monitor control unit judges that the rear view camera has water droplets.
- When the low washer fluid warning is OFF.

NOTE:

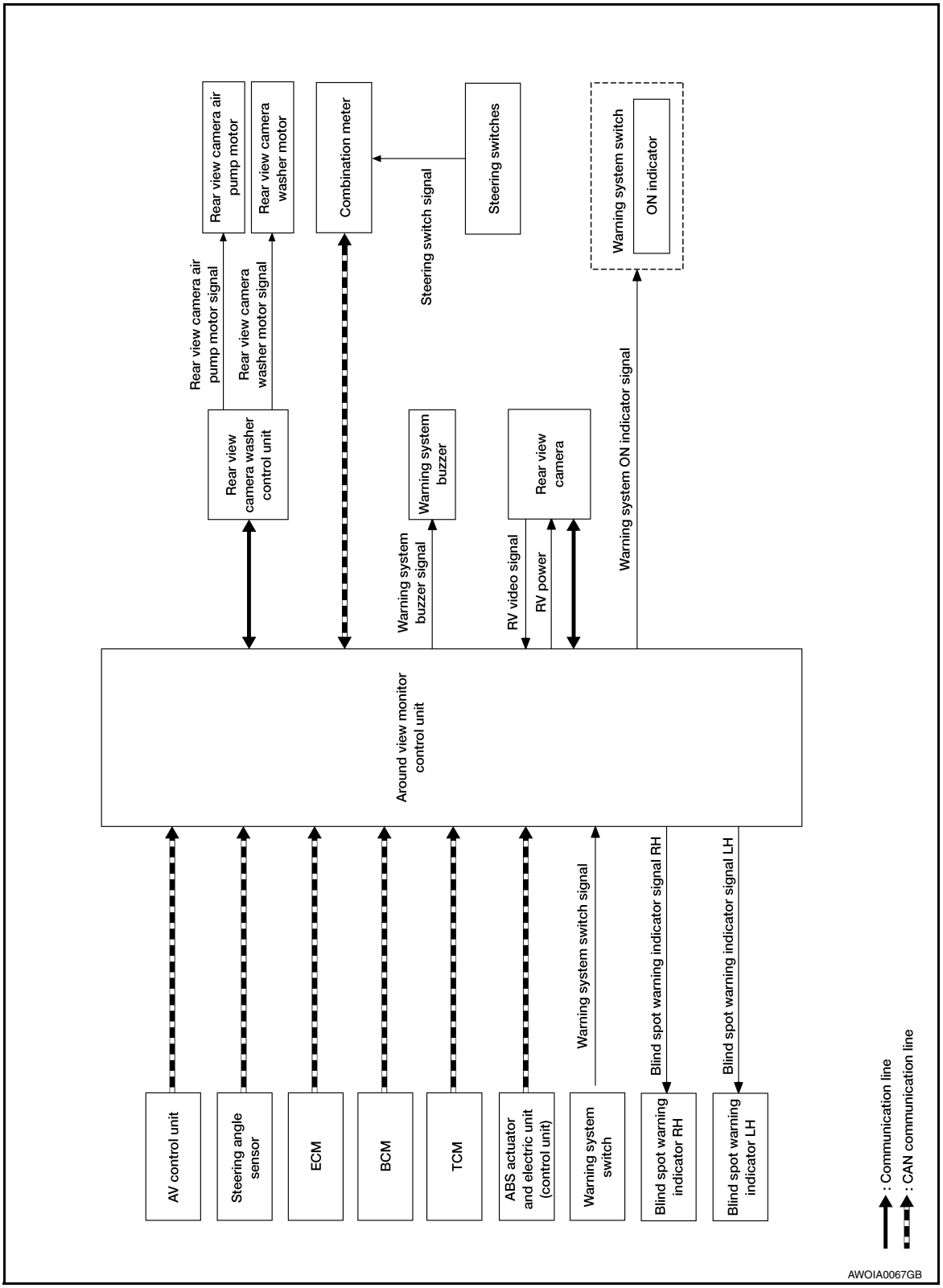
The camera is cleaned intermittently by spraying washer fluid and blowing air. When the around view monitor control unit judges that dirt on the camera cannot be removed even after approximately 5 minutes from the first detection of dirt, the activation of LDW is canceled.

BSW

BSW : System Description

INFOID:0000000010227187

SYSTEM DIAGRAM



CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Control unit receives signals via CAN communication. It also detects vehicle conditions that are necessary for BSW control.

Input Signal Item

Transmit unit	Signal name		Description
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp.
		Back door switch signal	Receives a state of the back door switch.
Combination meter	CAN communication	System selection signal	Receives a selection state of each item in “Driver assistance” selected with the combination meter.
Steering angle sensor	CAN communication	Steering angle sensor signal	Receives the number of revolutions, turning direction of the steering wheel.
ECM	CAN communication	Engine status signal	Receives the engine status.
ABS actuator and electric unit (control unit)	CAN communication	Wheel speed signal	Receives wheel speed.
Rear view camera	Communication line	Camera image signal	Receives the camera image signal.
Warning system switch	Warning system switch signal		Receives an ON/OFF state of the warning system switch.

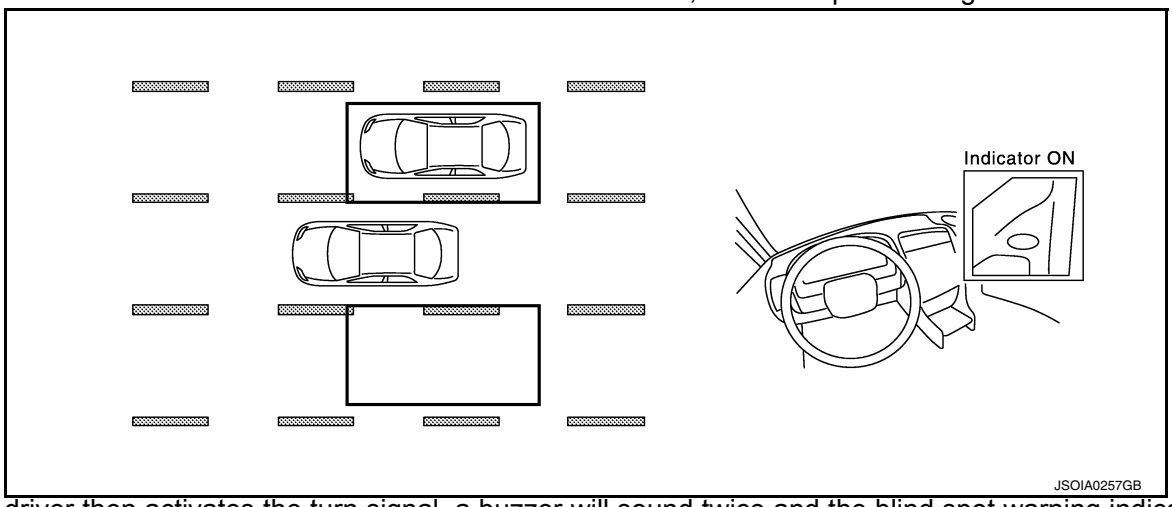
Output Signal Item

Reception unit	Signal name			Description
Combination meter	CAN communication	Meter display signal	BSW warning signal	Transmits a meter display signal to turn ON the BSW warning.
			BSW ON indictor signal	Transmits a meter display signal to turn ON the BSW ON indictor.
		Buzzer output signal		Transmits a buzzer output signal to activates the warning buzzer.
Rear view camera washer control unit	Communication line	Rear view camera washer signal		Transmits a rear view camera washer motor signal to activate the rear view camera washer motor.
		Rear view camera air blow signal		Transmits a rear view camera air blow signal to activate the air pump
Warning system ON indicator	Warning systems ON indicator signal			Turns ON the warning system ON indicator.
Warning buzzer	Warning buzzer operation signal			Activates the warning buzzer.
BSW indicator LH, RH	Indicator operation signal			Turns ON the BSW indicator LH, RH.

FUNCTION DESCRIPTION

- The BSW system can help alert the driver of other vehicles in adjacent lanes when changing lanes.
- The BSW system uses rear view camera near the rear bumper to detect vehicles in an adjacent lane.
- The rear view camera can detect vehicles on either side of vehicle within the detection zone shown as illustrated.
- This detection zone starts from the back of the vehicle and extends approximately 10 ft. (3.0 m) behind the rear bumper, and approximately 10 ft. (13.0 m) sideways.
- The BSW system operates above approximately 20 MPH (32 km/h).

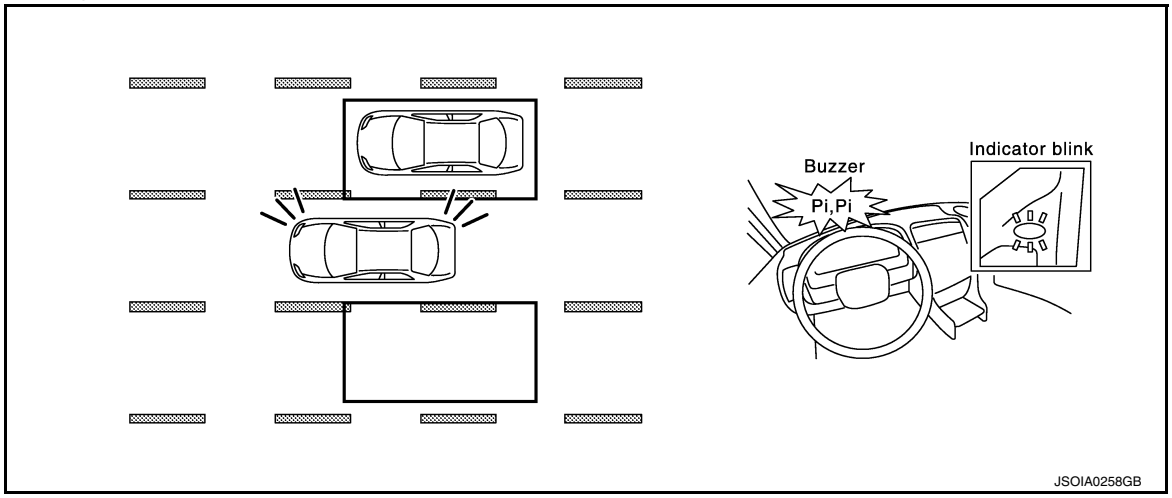
• If the rear view camera detects vehicles in the detection zone, the blind spot warning indicator illuminates.



• 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 rear view camera has already detected vehicles when the driver activates the turn signal. If a vehicle comes into the detection zone after the driver activates the turn signal, then only the blind spot warning indicator blinks and no buzzer sounds.



BSW SYSTEM OPERATION DESCRIPTION

• Control unit enables BSW system.
• The control unit turns on the BSW system when the warning systems switch is turned ON.
• Rear view camera detects a vehicle in the adjacent lane, and transmits the vehicle detection signal to control unit.
• Control unit starts the control as follows, based on a vehicle detection signal and turn signal transmitted from BCM via CAN communication:
- Buzzer signal transmission to warning buzzer.
• Around view monitor transmits a blind spot warning indicator signal LH or RH to the blind spot warning indicator LH or RH.

Operation Condition of BSW System

control unit performs the control when the following conditions are satisfied:

• When the warning system switch is turned ON*.
• When the vehicle drives at 20 MPH (32 km/h) or more in the forward direction.

NOTE:

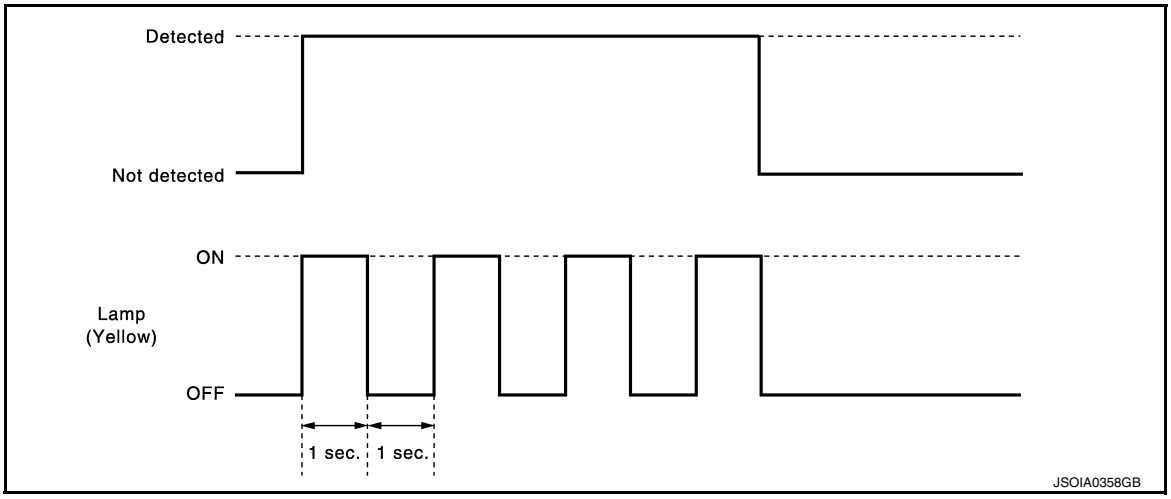
*: When the BSW system setting on the vehicle information display screen is ON.

• After the operating conditions of warning are satisfied, the warning continues until the vehicle speed is reduced below approximately 18 MPH (29 km/h)
• The BSW system may not function properly, depending on the situation.

BULB CHECK ACTION AND FAIL-SAFE INDICATION

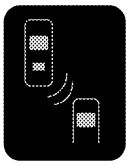
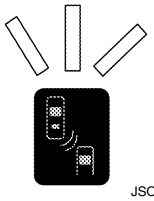
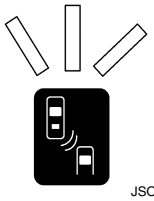
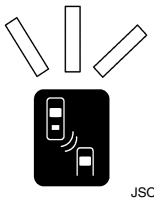
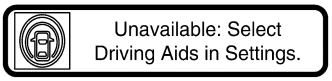
Vehicle condition/Driver's operation	Blind Spot Warning/ Blind Spot Intervention indicator	Warning systems ON indicator	Indication on the combination meter
When DTC is detected.	OFF	ON	OFF → Orange  ALOIA0172GB
Temporary disabled status.	OFF	ON	BSW light (white) will blink
When rear view camera needs cleaning.	OFF	ON	Unavailable: Clean Rear Camera
When the warning system switch is pressed. (When the settings of LDW system and BSW system on the combination meter information screen are "OFF").	OFF	Blink	—

*: Blinking cycle when there is a rear view camera blockage condition or lane camera unit high temperature condition



NOTE:
Time shown in the figure is approximate.

FAIL-SAFE INDICATION

Vehicle condition/Driver's operation	BSW indicator	Warning systems ON indicator	Indication on the combination meter
When DTC is detected	OFF	ON	 JSOIA0749ZZ
When vehicles cannot be detected due to dirt on the rear view camera	OFF	ON	 JSOIA0750ZZ  Unavailable: Clean Rear Camera JSOIA0738ZZ
When the washer fluid level is low (Low washer warning ON)	OFF	ON	Blinks at intervals of two seconds.  JSOIA0751ZZ
When the back door is open (Back door open warning ON)	OFF	ON	Blinks at intervals of two seconds.  JSOIA0751ZZ
Blinks when the setting of LDW and BSW are "OFF" and the warning systems switch is pressed	OFF	OFF	 Unavailable: Select Driving Aids in Settings. JSOIA0780ZZ

REAR VIEW CAMERA WASHER OPERATION

- When judging that the rear view camera has water droplets, the around view monitor control unit transmits a rear view camera washer activation signal or rear view camera air blow signal to the pump control unit via serial communication.
- When receiving a rear view camera washer activation signal, the pump control unit simultaneously activates the washer pump to clean the rear view camera by spraying washer fluid from the nozzle installed to the rear view camera bracket.

- When receiving a rear view camera air blow signal, the pump control unit activates the air pump to clean the rear view camera by blowing air from the nozzle installed to the rear view camera bracket.

OPERATION CONDITION

- Approximately 20 MPH (30 km/h) or more
- When the around view monitor control unit judges that the rear view camera has water droplets.
- When the low washer fluid warning is OFF.

NOTE:

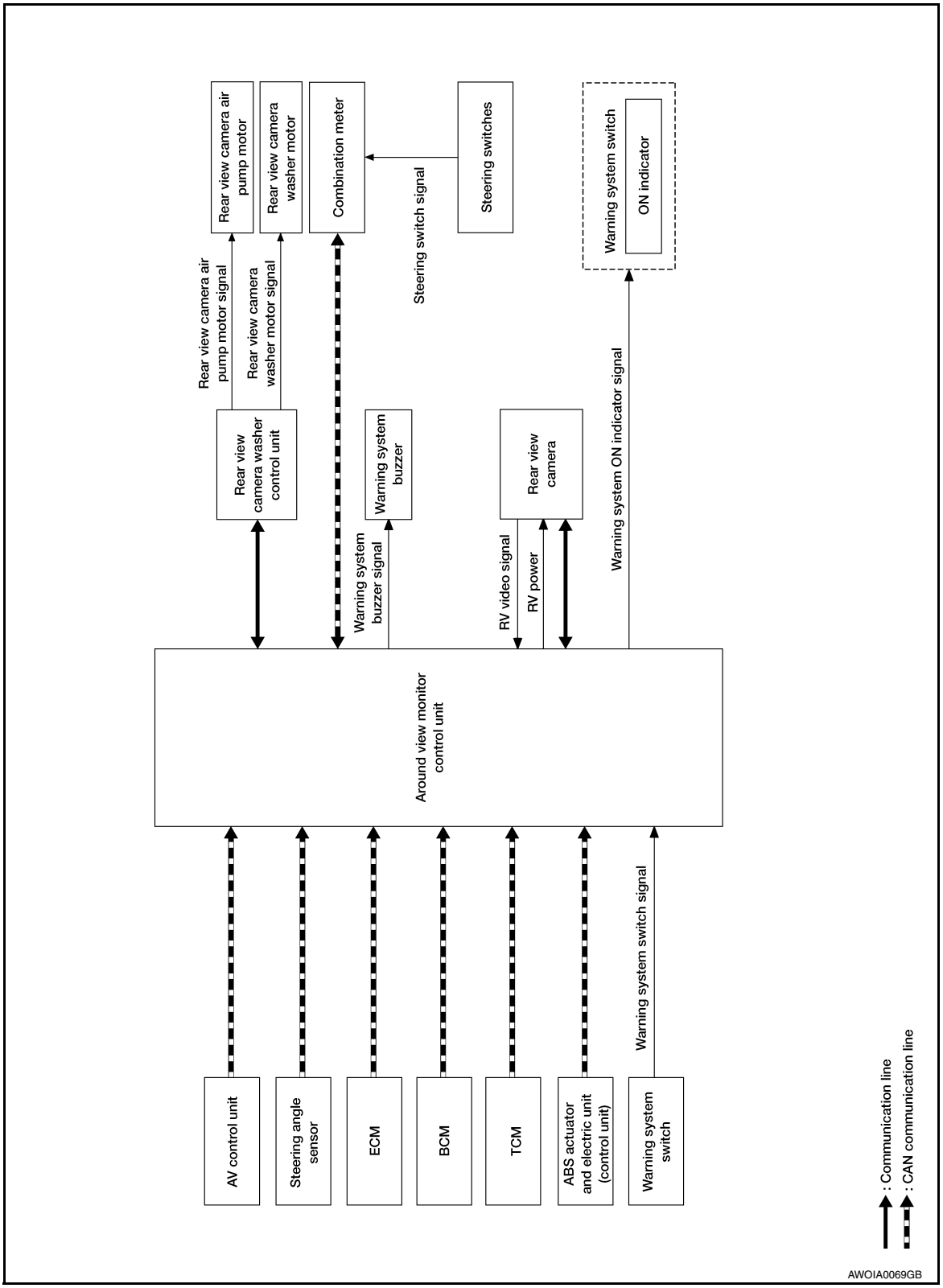
The camera is cleaned intermittently by spraying washer fluid and blowing air. When the around view monitor control unit judges that dirt on the camera cannot be removed even after approximately 5 minutes from the first detection of dirt, the activation of BSW is canceled.

MOD

MOD : System Description

INFOID:0000000010227183

SYSTEM DIAGRAM



AROUND VIEW MONITOR CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

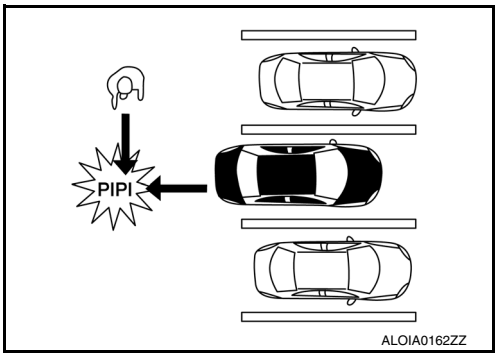
Transmit unit	Signal name		Description
ECM	CAN communication	Engine speed signal	Receives engine status
BCM	CAN communication	Back door open status signal	Receives back door open status
		Light status signal	Receives light status
		Turn signal	Receives turn signal status
ABS actuator and electric unit (control unit)	CAN communication	Wheel speed signal	Receives wheel speed
TCM	CAN communication	Shift selector position signal	Receives shift selector position
Combination meter	CAN communication	Moving Object Detection ON/OFF signal	Receives the ON/OFF status for Moving Object Detection function
Rear view camera	Communication line	Video signal	Receives the Rear View Camera image from camera for Moving Object Detection function in around view monitor control unit

Output Signal Item

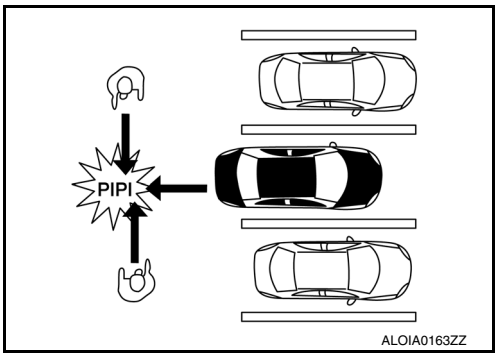
Reception unit	Signal name		Description
Warning system buzzer	Warning buzzer signal		Activates the warning buzzer
AV control unit display	CAN communication	Visual signal request	Transmits a visual signal request from the around view monitor control unit to display Rear View while the shift selector is in R (reverse).

FUNCTION DESCRIPTION

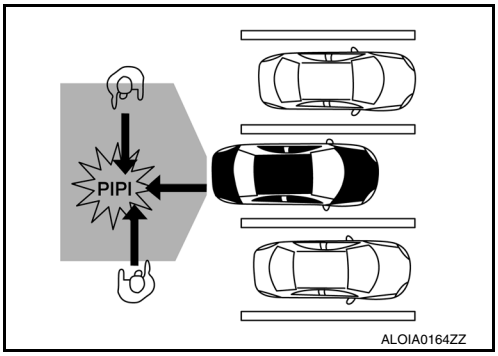
- The Moving Object Detection (MOD) system can help alert the driver of approaching vehicles or rear objects when the driver is backing out of a parking space.
- The MOD system comprises of the rear view camera as the main detection system, which is located on the back door as illustrated.
- The MOD system operates at speeds below 5 MPH (8 km/h) whenever the vehicle is in R (reverse).



- The MOD system uses the rear view camera to detect approaching moving objects from either side.



• The MOD system can detect moving objects on either side as close as rear obstacles of up to approximately 10 feet (3 m).



MOVING OBJECT DETECTION SYSTEM OPERATION DESCRIPTION

- Around view monitor control unit enables Moving Object Detection system.
- Combination meter turns Moving Object Detection ON indicator lamp ON/OFF according to the signals from around view monitor control unit via CAN communication.
- Around view monitor control unit starts the control as follows, based on a vehicle detection signal.

Operation Condition of Moving Object Detection System

Around view monitor control unit performs the control when the following conditions are satisfied:

- Moving Object Detection ON indicator: ON
- When the vehicle is moving in R (reverse) at 5 MPH (8 km/h) or less.

NOTE:

- When the Moving Object Detection system setting on the Vehicle Information Display is ON.
- Moving Object Detection braking will not operate or will stop operating and only a warning chime will sound under the following conditions:

- When driving with a tire that is not within normal tire conditions (pressure, wear, chain, spare, etc.)
- When the vehicle is equipped with non-original brake parts or suspension parts.

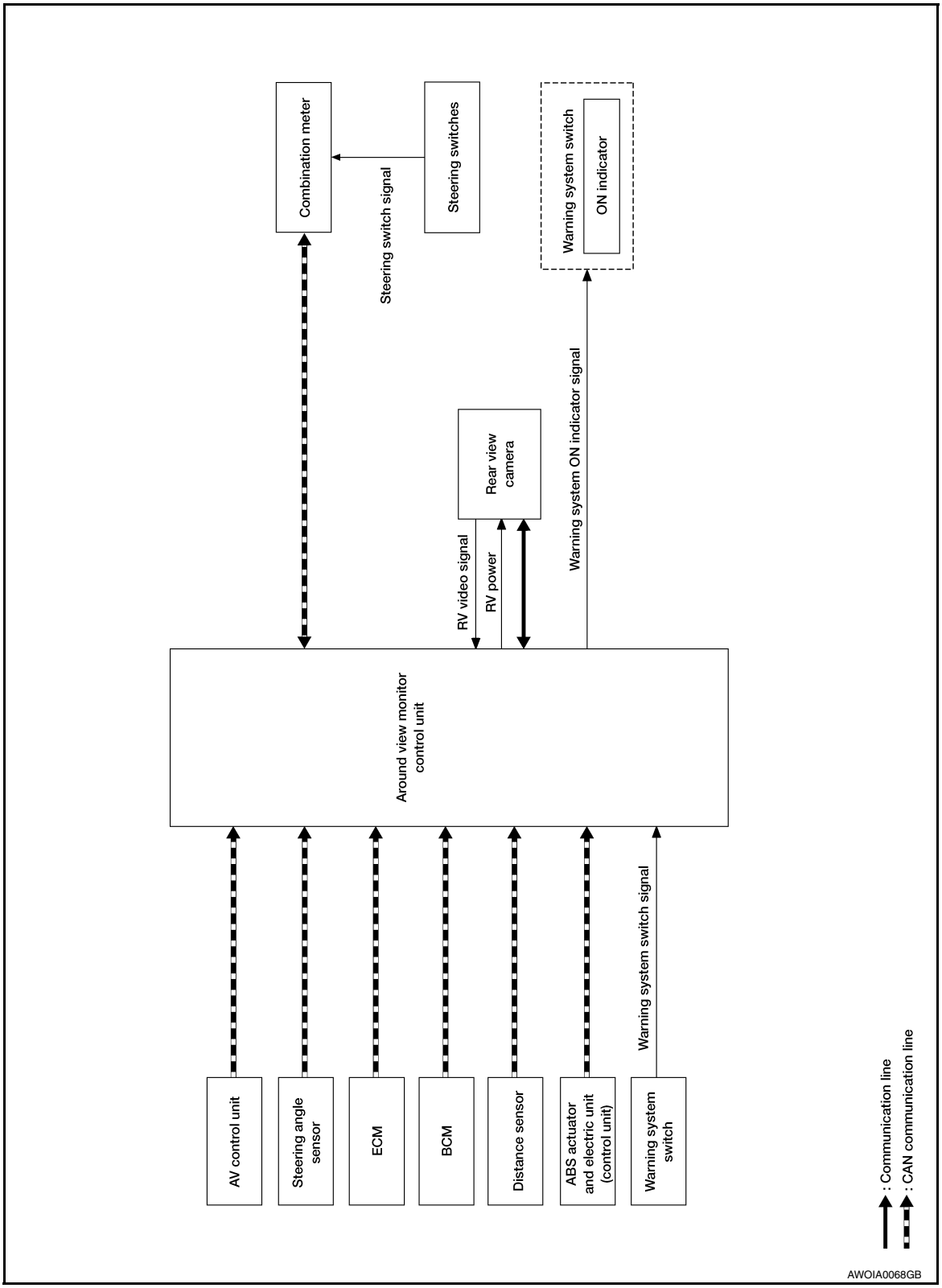
- Do not use the MOD system when towing a trailer.
- Excessive noise such as the audio system will interfere with the chime sound, and it may not be heard.

FCW

FCW : System Description

INFOID:0000000010227184

SYSTEM DIAGRAM



AROUND VIEW MONITOR CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name		Description
ABS actuator and electric 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” selected with the steering switch
Distance sensor	CAN communication	Distance sensor signal	Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle
Warning system switch	Warning system switch signal		Receives an ON/OFF state of the warning system switch

Output Signal Item

Reception unit	Signal name			Description
Combination meter	CAN communication	Meter display signal	Vehicle ahead detection indicator signal	Transmits a signal to display a state of the system on the information display
		Buzzer signal		Transmits a output signal to activate the buzzer
Distance sensor	CAN communication	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 combination meter via CAN communication. When judging the necessity of warning from the received distance sensor signal, the distance sensor transmits a buzzer signal and warning signal to the combination meter via CAN communication.

FCW Operating Condition

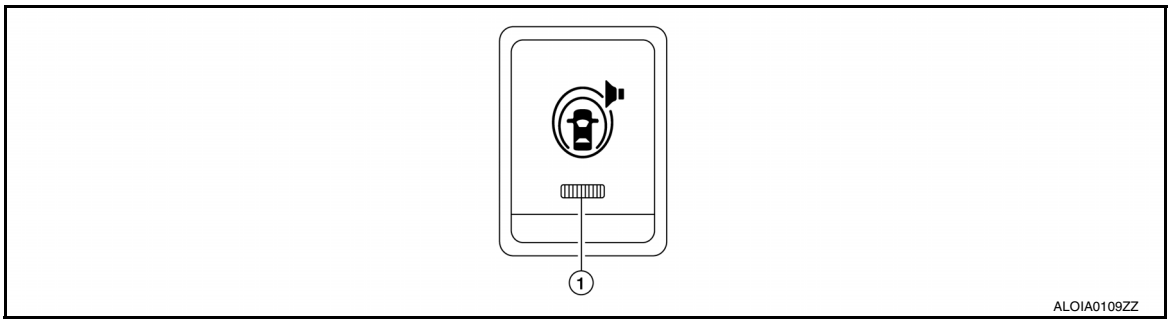
- Warning system switch ON)
- Vehicle speed: Approximately 10 MPH (15 km/h) and above.

OPERATION

BSW

BSW : Switch Name and Function

INFOID:0000000010287276

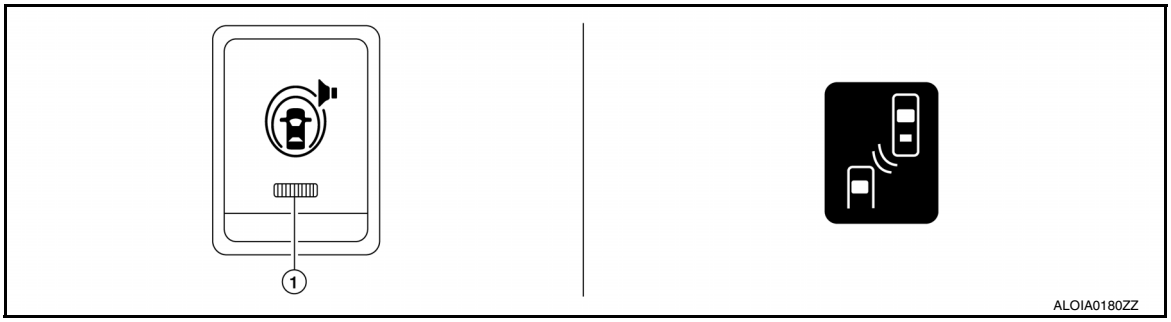


No.	Name	Function
1.	Warning systems switch	Turns BSW system ON/OFF (When the setting of BSW system on the vehicle information display setting screen is ON)

BSW : System Display and Warning

INFOID:0000000010287277

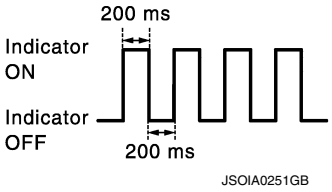
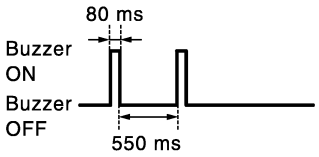
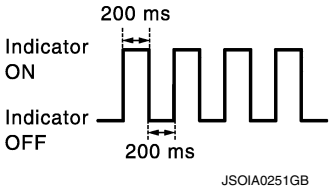
INDICATOR AND WARNING LAMP



No.	Name	Description
1.	Warning systems ON indicator	Indicates that the LDW system is ON.
2.	Blind Spot Warning lamp (orange)	• Turns ON when Blind Spot Warning system is malfunctioning. • Blinks during the following conditions: - DTC is detected or system is temporarily disabled. - When rear view camera blockage is detected.

DISPLAY AND WARNING OPERATION

Vehicle condition/ Driver's operation				Action	
Warning systems ON indicator	Vehicle speed (Approx.) [km/h (MPH)]	Turn signal condition	Status of vehicle detection within detection area	Indication on the Blind Spot Warning indicator	Buzzer
OFF	—	—	—	OFF	OFF

Vehicle condition/ Driver's operation				Action	
Warning systems ON indicator	Vehicle speed (Approx.) [km/h (MPH)]	Turn signal condition	Status of vehicle detection within detection area	Indication on the Blind Spot Warning indicator	Buzzer
ON	Less than approx. 29km/h (18MPH)	—	—	OFF	OFF
	Approx. 32 km/h (20 MPH) or more	—	Vehicle is absent	OFF	OFF
		OFF	Vehicle is detected	ON	OFF
		ON (vehicle detected direction)	Before turn signal operates Vehicle is detected	Blink 	Short continuous beep 
			Vehicle is detected after turn signal operates	Blink 	OFF

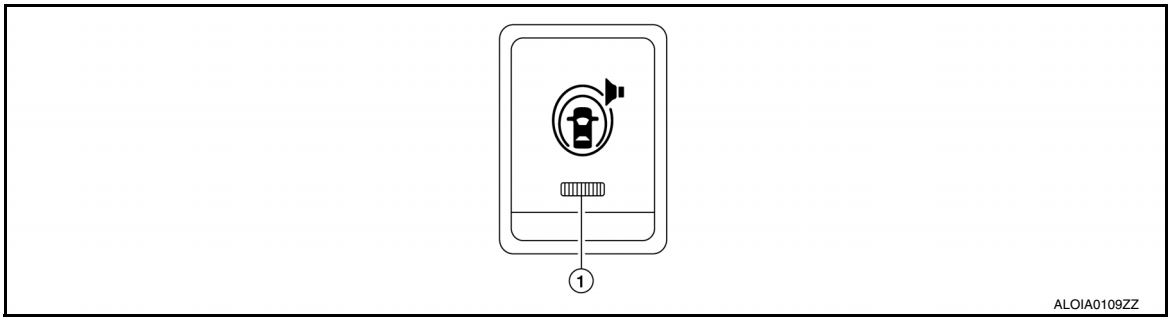
NOTE:

- 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.
- Whenever Blind Spot Warning system is turned off, the warning systems ON indicator remains OFF.

LDW

LDW : Switch Name and Function

INFOID:0000000010287278

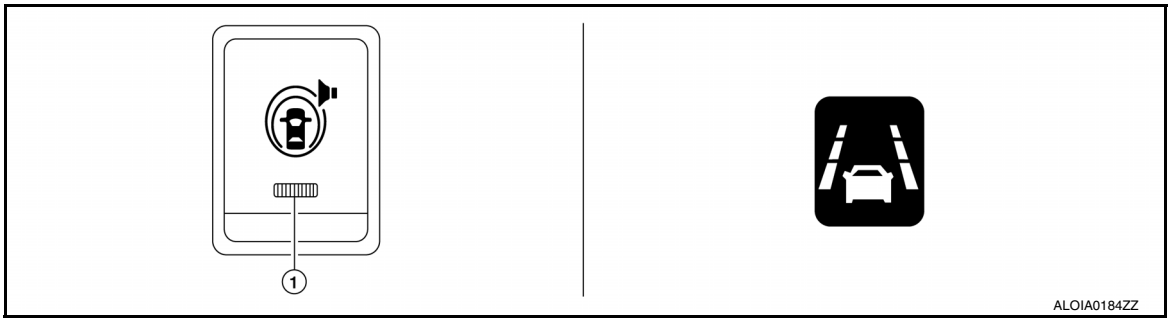


No.	Switch name	Description
1.	Warning systems switch	Turns LDW system ON/OFF (When the setting of LDW system on the vehicle information display setting screen is ON)

LDW : Menu Displayed by Pressing Each Switch

INFOID:0000000010287279

INDICATOR LAMP AND WARNING LAMP



No.	Display item	Description
1.	Warning systems ON indicator	Indicates that the LDW system is ON
2.	Lane departure warning lamp	• Blinks when LDW system is activated • Turns ON when LDW system has a malfunction • Blinks when DTC is detected or system is temporarily disabled • Blinks when rear view camera blockage is detected

DISPLAY AND WARNING

Vehicle condition/ Driver's operation		Action	Warning systems ON indicator	Indication on the combination meter	Buzzer
Less than Approx. 60 km/h (40 MPH)	Close to lane marker	No action	ON	White	—
Approx. 70 km/h (45 MPH) or more	Close to lane marker	Warning • Buzzer sounds • Warning lamp blinks (orange)	ON	OFF (orange) Blink  ALOIA0185ZZ	Short continuous beeps
	• Close to lane marker • Turn signal ON (Deviate side)	No action	ON	White	—

NOTE:
After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (40 MPH). Refer to DAS-16, "LDW : System Description".

MOD

MOD : System Display and Warning

INFOID:0000000010287280

INDICATOR AND WARNING LAMP

The MOD system can be turned ON or OFF for the current ignition cycle using the warning system switch. When toggled between ON and OFF, the indicator will appear on the right side of the rear view camera screen.

No.	Name	Description
1.	MOD indicator (blue)	• Turns ON while MOD system is ON. • Under the following conditions, the MOD indicator (blue) will blink. - When the VDC system (except TCS function) or ABS operates. - When the VDC system is turned off.
	MOD warning lamp (orange)	• Turns ON when MOD system is malfunctioning. • Blinks under the following conditions: - When the component temperature reaches high level. - When rear view camera blockage is detected.

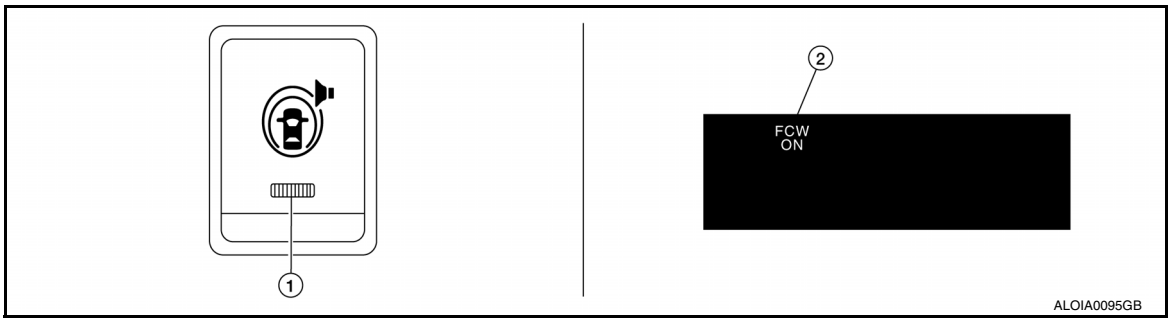
DISPLAY AND WARNING OPERATION

Vehicle condition/Driver's operation				
Moving Object Detection ON indicator	Vehicle speed (Approx.) [km/h (MPH)]	Status of vehicle detection within detection area	Indication on the Moving Object Detection indicator	Buzzer
OFF	—	—	OFF	OFF
Blue	Less than approx. 8 km/h (5 MPH)	Vehicle is detected	ON	ON
	Approx. 8 km/h (5 MPH) or more	Vehicle is absent	ON	OFF
		Vehicle is detected	ON	OFF
		Vehicle is not detected	ON	OFF

FCW

FCW : Switch Name and Function

INFOID:0000000010287281

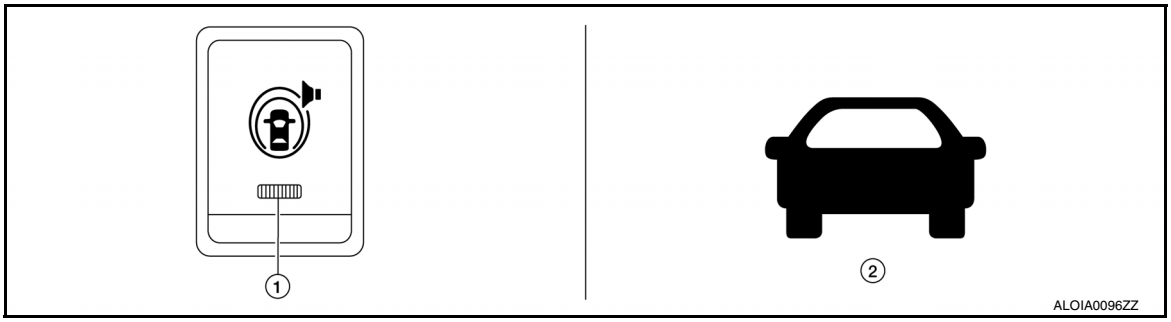


No.	Switch name	Description
1.	Warning systems switch	Turns FCW system ON/OFF (When the setting of FCW system in the vehicle information display is ON)
2.	FCW system setting screen (the vehicle information display)	The setting of FCW system can be switched between ON and OFF

FCW : Menu Displayed by Pressing Each Switch

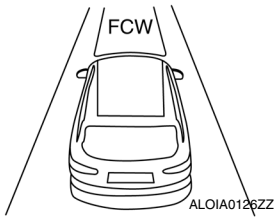
INFOID:0000000010287282

DISPLAY AND WARNING LAMP



No.	Display item	Description
1.	Warning systems ON indicator	Indicates that the FCW system is ON.
2.	Vehicle ahead detection indicator	Vehicle ahead detection indicator blinks when the FCW system is activated.

SYSTEM CONTROL CONDITION DISPLAY

Condition	Warning systems ON indicator	Vehicle ahead detection indicator (In the combination meter)	Buzzer
Set condition	ON	OFF	—
When the warning systems switch is turned ON with settings of FCW system OFF.	Blink	OFF	—
When own vehicle comes close to the vehicle ahead and it is judged that the distance between the vehicles is not sufficient.	ON		Beep

HANDLING PRECAUTION

Precautions for Forward Collision Warning

INFOID:0000000010227204

- 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 radar sensor
- 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 radar 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.

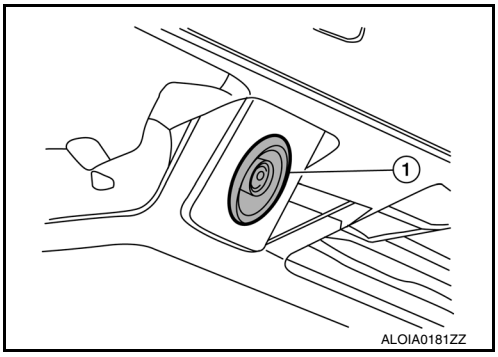
Precautions for Lane Departure Warning

INFOID:0000000010227205

REAR VIEW CAMERA HANDLING

The rear camera unit “1” for the LDW/BSW systems is located above the rear license plate.
To keep the proper operation of the LDW systems and prevent a system malfunction, be sure to observe the following:

- Always keep the camera lens clean. Be careful not to damage the nozzle of the automatic washer and blower.
- Do not attach ”license plate accessories” that reflect light.
- Do not strike or damage the areas around the camera unit.



LANE DEPARTURE WARNING (LDW)

- LDW system is only a warning device to inform the driver of a potential unintended lane departure. It will not steer the vehicle or 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 the vehicle at all times.
- The camera unit may not detect properly under the following conditions:
- When towing a trailer.
- When strong light enters the camera unit. (For example, direct sunlight or headlight from the rear.)
- When ambient light changes instantly. (For example, when the vehicle enters or exits a tunnel or passes under a bridge.)
- Automatic washer and blower may not be able to secure detection capability when excessive dirt adheres on the camera lens.
- Excessive noise (e.g. audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- The camera unit may not be able to detect properly under the following conditions:
- On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; non-standard lane markers; or lane markers covered with water, dirt or snow, etc.

- On roads where the discontinued lane markers are still detectable.
- On roads where there are sharp curves.
- On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs. (The LDW system could detect these items as lane markers.)
- On roads where the traveling lane merges or separates.
- When the vehicle's traveling direction does not align with the lane marker.
- When the road surface is very dark due to scarce ambient light or impaired tail lamp.
• When driving on a curved road, warning will be late on the outside of the curve due to the nature of the system.

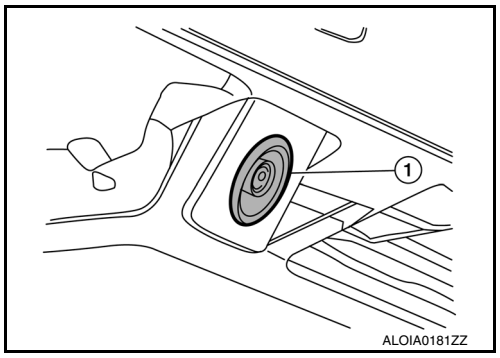
Precautions for Blind Spot Warning

INFOID:0000000010227206

REAR VIEW CAMERA HANDLING

The rear camera unit (1) for the LDW/BSW systems is located above the rear license plate.
To keep the proper operation of the LDW systems and prevent a system malfunction, be sure to observe the following:

• Always keep the camera lens clean. Be careful not to damage the nozzle of the automatic washer and blower.
• Do not attach ”license plate accessories” that reflect light.
• Do not strike or damage the areas around the camera unit.



BLIND SPOT WARNING (BSW)

• BSW 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 you will move to ensure it is safe to change lanes. Never rely solely on the BSW system.
• The camera unit may not detect properly under the following conditions:
- When towing a trailer.
- When strong light enters the camera unit. (For example, direct sunlight or headlight from the rear.)
- When ambient light changes instantly. (For example, when the vehicle enters or exits a tunnel or passes under a bridge.)
• Automatic washer and blower may not be able to secure detection capability when excessive dirt adheres on the camera lens.
• Excessive noise (e.g. audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
• The camera unit may not be able to detect when certain objects are present such as:
- Pedestrians, bicycles, animals.
- Several types of vehicles such as motorcycles.
- Oncoming vehicles.
- A vehicle approaching rapidly from behind
- A vehicle which your vehicle overtakes rapidly.
• The camera unit may not be able to detect properly when your vehicle travels beside the middle section of a vehicle with a long wheelbase (e.g., trailer truck, semi-trailer, tractor).
• The camera unit 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.
• The camera unit may detect reflection image of vehicles or roadside objects that are not actually in the detection zone, especially when the road is wet.

Precautions for Moving Objects Detection

INFOID:0000000010425175

REAR VIEW CAMERA HANDLING

• The rear view camera is located on the back door.

- Always keep the rear view camera lens clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work over the camera lens.
- Do not strike or scratch the lens causing physical damage to the camera or the surrounding area.

MOVING OBJECT DETECTION

- The Moving Object Detection system is not a replacement for proper driving procedure and is not designed to prevent contact with vehicles or objects. When backing up, always look in the direction driver will move to ensure it is safe to proceed. Never rely solely on the Moving Object Detection system.
- Using the Moving Object Detection system under some road or weather conditions could lead to improper system operation. Always rely on driver's own steering and braking operation to avoid accidents.
- The Moving Object Detection system may not provide a warning for vehicles that pass through the detection zone quickly.
- Do not use the Moving Object Detection system when towing a trailer.
- Excessive noise (e.g., audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- The rear view camera may not be able to detect and activate Moving Object Detection when certain objects are present such as:
- Pedestrians, bicycles, animals.
- A vehicle passing at a speed greater than approximately 15 MPH (24km/h).
- Severe weather or road spray conditions may reduce the ability of the radar to detect other vehicles.
- Do not use the MOD system under the following conditions because the system may not function properly:
- When driving with a tire that is not within normal tire condition (example: tire wear, low pressure, spare tire, chain, non-standard wheels).
- When the vehicle is equipped with non-original brake parts or suspension parts.

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

CONSULT Function

INFOID:0000000010284113

CONSULT FUNCTIONS

CONSULT performs the following functions via communication with the around view monitor control unit.

Direct Diagnostic Mode	Description
Ecu Identification	The around view monitor control unit part number is displayed.
Self Diagnostic Result	The around view monitor control unit self diagnostic results are displayed.
Data Monitor	The around view monitor control unit input/output data is displayed in real time.
Work support	The settings for around view monitor control unit functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing around view monitor control unit.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The part number of around view monitor control unit is displayed.

SELF DIAGNOSTIC RESULT

Refer to DAS-47, "DTC Index".

DATA MONITOR

Monitor Item	Description
ST ANGLE SENSOR SIGNAL [On/Off]	Indicates condition of steering angle sensor signal.
REVERSE SIGNAL [On/Off]	Indicates selector lever position.
VEHICLE SPEED SIGNAL [mph/km/h]	Indicates condition of vehicle speed signal.
CAMERA SWITCH SIGNAL [On/Off]	Indicates condition of camera switch signal.
CAMERA OFF SIGNAL [On/Off]	Indicates condition of camera OFF signal.
ST ANGLE SENSOR TYPE [Absolute]	Indicates steering angle sensor type.
ST GEAR RATIO TYPE [Type O]	Indicates steering gear ratio type.
STEERING POSITION [LHD/RHD]	Indicates LH or RH drive type.
REAR CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
WASH SW [On/Off]	Indicates state of wash switch indicator output.
R-CAMERA COMM STATUS [OK/Not]	Indicates status of rear camera communication.
R-CAMERA COMM LINE [OK/Not]	Indicates condition of rear camera communication line.
F-CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
DR-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of camera image signal.
PA-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of camera image signal.
PUMP COMM STATUS [OK/Not]	Indicates state of communication signal from pump control unit.
ILL [On/Off]	Indicates status of illumination signal.
ITS SW 1 [On/Off]	Indicates state of warning system switch.
ITS SW 1 IND [On/Off]	Indicates state of warning system switch indicator output.
TURN SIGNAL [Left/N/Right]	Indicates status of turn signal output.
ITS SW 2 [ON/OFF/No setting]	Indicates state of warning system secondary switch.
ITS SW 2 IND [ON/OFF/No setting]	Indicates state of warning system secondary switch indicator output.

ACTIVE TEST

Test item	Description
LED RH INDICATOR	This test is able to check RH LED indicator operation [LED Off/LED On].
LED LH INDICATOR	This test is able to check LH LED indicator operation [LED Off/LED On].
WASH ACTIVE	This test is able to check rear camera wash operation [WASH Off/WASH On].
AIR ACTIVE	This test is able to check rear camera air operation [AIR Off/AIR On].
AIR & WASH ACTIVE	This test is able to check rear camera air and wash operation [Off/On].
AVM BUZZER CONTROL	This test is able to check AVM buzzer operation [Off/On].

WORK SUPPORT

Support Item	Setting	Description
REAR CAMERA ITS	—	Displays and sets camera image calibration values.
CAUSE OF LDW CANCEL	—	Displays the information about reason of LDW cancellation.
CAUSE OF BSW CANCEL	—	Displays the information about reason of BSW cancellation.
CALIBRATING CAMERA IMAGE (FRONT CAMERA)	STATUS	Performs calibration of front camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)	STATUS	Performs calibration of passenger side camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)	STATUS	Performs calibration of driver side camera.
	AXIS X	
	AXIS Y	
	ROTATE	
CALIBRATING CAMERA IMAGE (REAR CAMERA)	STATUS	Performs calibration of rear camera.
	AXIS X	
	AXIS Y	
	ROTATE	
FINE TUNING OF BIRDS-EYE VIEW	STATUS	Confirmation and adjustment of difference between each camera can be performed.
	SELECT	
	AXIS X	
	AXIS Y	
	ROTATE	
REAR WIDE-VIEW FIXED GUIDE LINE CORRECTION	STATUS	Adjusts position of fixed guide line on rear wide view
	AXIS X	
	AXIS Y	
	Pattern	
FRONT WIDE-VIEW FIXED GUIDE LINE CORRECTION	STATUS	Adjusts position of fixed guide line on front wide view
	AXIS X	
	AXIS Y	
	Pattern	
NON-VIEWABLE AREA REMINDER	ON	ON/OFF setting of non-viewable area can be performed.
	OFF	

Support Item	Setting	Description
PREDICTIVE COURSE LINE DISPLAY	ON	ON/OFF setting of predictive course line display can be performed.
	OFF	
INITIALIZE CAMERA IMAGE CALIBRATION	—	Factory image calibration restoration can be performed.
STEERING ANGLE SENSOR ADJUSTMENT	—	Steering angle sensor neutral position adjustment can be performed.

CONFIGURATION

Refer to AV-289, "CONFIGURATION (AV CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-14, "CAN Diagnostic Support Monitor".

DIAGNOSIS SYSTEM (DISTANCE SENSOR)

CONSULT Function (LASER/RADAR)

INFOID:0000000010227210

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.
CAN Diag Support Monitor	Monitor the reception status of CAN communication viewed from Distance sensor.

SELF DIAGNOSTIC RESULT

Refer to DAS-49, "DTC Index".

DATA MONITOR

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

Monitored item [Unit]	Description
VHCL SPEED SE [mph] or [km/h]	Vehicle speed signal received from ABS actuator and electric unit (control unit) via CAN communication.
YAW RATE [deg/s]	Yaw rate signal received from ABS actuator and electric unit (control unit) via CAN communication.
PWR SUP MONI [V]	Indicates IGN voltage input by Distance sensor.
DISTANCE [feet]	Indicates the distance from the vehicle ahead.
RELATIVE SPD [fps]	Indicates the relative speed of the vehicle ahead.
LASER OFFSET [deg]	**NOTE:** The item is indicated, but not used.
LASER HEIGHT [deg]	**NOTE:** The item is indicated, but not used.
STEERING ANGLE [deg]	The steering angle is displayed.
STRG ANGLE SPEED [deg/s]	The steering angle speed is displayed.
L/R ADJUST [deg]	Indicates a horizontal correction value of the radar.
U/D ADJUST [deg]	Indicates a vertical correction value of the radar.

WORK SUPPORT

Work support items	Description
MILLIWAVE RADAR ADJUST	Outputs millimeter waves, calculates dislocation of the millimeter waves, and indicates adjustment direction.

Distance sensor alignment

Refer to DAS-72, "Description".

ACTIVE TEST

Test item	Description
ICC BUZZER	This test is able to check FCW warning chime operation [On/Off] in the combination meter.
METER LAMP	This test is able to check FCW warning indicator operation [On/Off] in the combination meter information display.

ECU DIAGNOSIS INFORMATION

AROUND VIEW MONITOR CONTROL UNIT

Reference Value

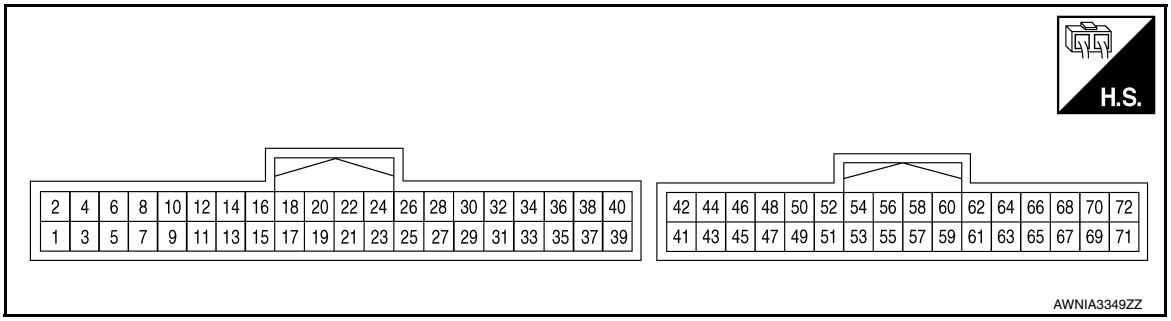
INFOID:0000000010284114

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
CAMERA OFF SIGNAL	CAMERA switch ON.	Off
	CAMERA switch OFF.	On
CAMERA SWITCH SIGNAL	CAMERA switch OFF.	Off
	CAMERA switch ON.	On
DR-SIDE CAMERA IMAGE SIG	Side camera LH inoperative.	NG
	Side camera LH operative.	OK
ILL	Illumination is ON	On
	Illumination is OFF	Off
ITS SW 1	ITS switch is pressed	On
	ITS switch is not pressed	Off
ITS SW 1 IND	Indicator of ITS switch 1 is lighting	On
	Indicator of ITS switch 1 is not lighting	Off
ITS SW 2	For this vehicle, the displaying is fixed	No SET
ITS SW 2 IND	For this vehicle, the displaying is fixed	No SET
F-CAMERA IMAGE SIG	Front camera inoperative.	NG
	Front camera operative.	OK
PA-SIDE CAMERA IMAGE SIG	Side camera RH inoperative.	NG
	Side camera RH operative.	OK
PUMP COMM STATUS	Pump communication signal is received	On
	Pump communication signal is not received	Off
R-CAMERA COMM STATUS	Rear camera serial status is OK	OK
	Rear camera serial status is not OK	NG
R-CAMERA COMM LINE	Rear camera serial communication signal is received	OK
	Rear camera serial communication signal is not received	NG
REAR CAMERA IMAGE SIGNAL	Rear camera LH inoperative.	NG
	Rear camera LH operative.	OK
REVERSE SIGNAL	When selector lever is in any position other than R (reverse).	Off
	When selector lever in R (reverse).	On
ST ANGLE SENSOR SIGNAL	Around view monitor control unit is not receiving steering angle sensor signal.	Off
	Around view monitor control unit is receiving steering angle sensor signal.	On
ST ANGLE SENSOR TYPE	Steering angle sensor type.	Absolute
ST GEAR RATIO TYPE	Steering gear ratio type.	Type O
STEERING POSITION	Left hand drive vehicle.	LHD
	Right hand drive vehicle.	RHD
TURN SIGNAL	Turn signal left is received	Left
	Turn signal neutral is received	N
	Turn signal right is received	Right

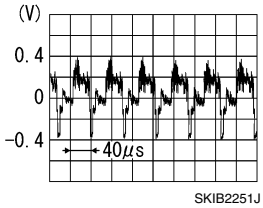
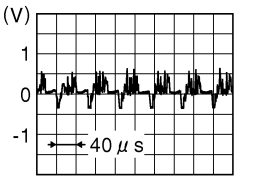
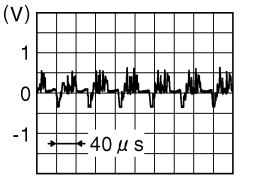
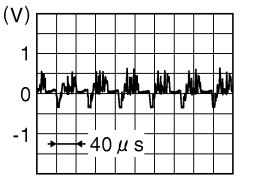
Monitor Item	Condition	Value/Status
VEHICLE SPEED SIGNAL	While driving, equivalent to speedometer reading	mph, km/h
WASH SW	Wash switch signal is pressed	On
	Wash switch signal is not pressed	Off

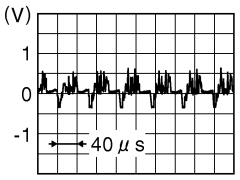
TERMINAL LAYOUT



PHYSICAL VALUES

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (B)	Ground	Ground	—	ON	—	0 V
2 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
3 (SB)	Ground	Ignition signal	Input	ON	—	Battery voltage
7 (R)	Ground	SOW LED signal L	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
8 (G)	Ground	SOW LED signal R	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
15 (BR)	Ground	ITS sw indicator	Output	ON	Warning system is ON	12 V
					Warning system is OFF	0 V
16 (Y)	Ground	Warning buzzer control	Output	—	—	—
17 (W)	Ground	ITS OFF sw	Input	ON	Cancel switch pressed	0 V
					Cancel switch released	12 V
27 (L)	—	CAN (H)	Input/ Output	—	—	—
28 (R)	—	CAN (L)	Input/ Output	—	—	—
36 (Y)	Ground	Washer signal AVM to pump	Output	ON	Rear view camera washer motor operated	5 V
37 (V)	Ground	Pump signal ground	Input	ON	—	0 V
38 (SB)	Ground	Washer signal pump to AVM	Input	ON	Rear view camera washer motor operated	5 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
47 (G)	Ground	Camera image signal	Output	ON	When camera image display	 SKIB2251J
48 (Shield)	—	Camera image signal shield	—	—	—	—
49 (LG)	—	Rear view serial signal	Input/ Output	—	—	—
50 (R)	Ground	Rear camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
52 (B)	Ground	Rear camera ground	—	ON	—	0 V
53 (W)	54 (Shield)	Rear camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
56 (L)	Ground	Side camera LH power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
58 (Y)	Ground	Side camera LH ground	—	ON	—	0 V
59 (G)	60 (Shield)	Side camera LH image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
62 (B)	Ground	Side camera RH power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
64 (L)	Ground	Side camera RH ground	—	ON	—	0 V
65 (Y)	66 (Shield)	Side camera RH image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
68 (L)	Ground	Front camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
70 (V)	Ground	Front camera ground	—	ON	—	0 V
71 (LG)	72 (Shield)	Front camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB

DTC Index

INFOID:0000000010284115

CONSULT Display	Reference Page
U0428: ST ANG SEN CALIB	AV-141, "DTC Logic"
U1000: CAN COMM CIRCUIT	AV-142, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	AV-143, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U111A: Rear display output signal diagnosis (Harness disconnection)	AV-144, "DTC Logic"
U111B: Right side display output signal diagnosis (Harness disconnection)	AV-148, "DTC Logic"
U111C: Front display output signal diagnosis (Harness disconnection)	AV-152, "DTC Logic"
U111D: Left side display output signal diagnosis (Harness disconnection)	AV-156, "DTC Logic"
U1232: ST ANG SEN CALIB	AV-163, "DTC Logic"
U1302: Camera supply power supply voltage abnormality	DAS-117, "DTC Logic"
U1303: LED supply power supply voltage abnormality	DAS-121, "DTC Logic"
U1304: Non-completion of the calibration	AV-177, "DTC Logic"
U1305: Non-completion of the configuration	AV-178, "DTC Logic"
U1308: Rear camera judgment	DAS-124, "DTC Logic"
U1309 PUMP UNIT CURRENT	DAS-125, "DTC Logic"
U130A: PUMP ECU JUDGE	DAS-127, "DTC Logic"
U0122: VDC CAN CIR1 (LDP)	DAS-100, "DTC Logic"
U0416: VDC CAN CIR2 (LDP)	DAS-104, "DTC Logic"
U1232: ST ANG SEN CALIB	DAS-116, "DTC Logic"
C1A03: VHCL SPEED SE CIRC	DAS-131, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A39: STRG SEN CIR	DAS-142, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A04: ABS/TCS/VDC CIRC	DAS-132, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U130B: Rear camera serial communication err	DAS-128, "DTC Logic"

DISTANCE SENSOR

Reference Value

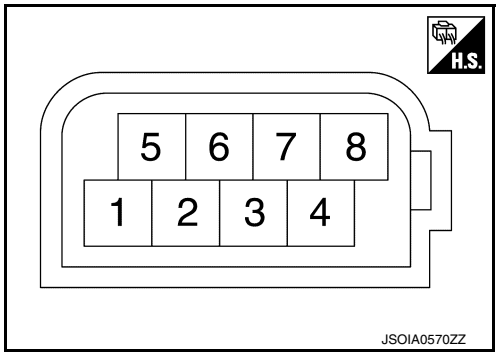
INFOID:0000000010227221

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)
YAW RATE	While driving	Vehicle stopped	0.0
		Vehicle turning right	Positive value
		Vehicle turning left	Negative value
PWR SUP MONI	Ignition switch ON		Power supply voltage value of Distance sensor
DISTANCE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the distance from the preceding vehicle
		When a vehicle ahead is not detected	0.0
RELATIVE SPD	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the relative speed
		When a vehicle ahead is not detected	0.0
RADAR OFFSET	**NOTE:** The item is indicated, but not used		—
RADAR HEIGHT	**NOTE:** The item is indicated, but not used		—
STEERING ANGLE	Ignition switch ON	When setting the steering wheel in straight-ahead position	0.0
		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	At the completion of radar alignment adjustment	Horizontal correction value is displayed
U/D ADJUST	Ignition switch ON	At the completion of radar alignment adjustment	Vertical correction value is displayed

TERMINAL LAYOUT



PHYSICAL VALUES

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

Fail-safe (Distance Sensor)

INFOID:0000000010227222

If a malfunction occurs in the distance sensor, around view monitor control unit cancels control, sounds a beep, and turns ON the FCW system warning in the information display.

DTC Inspection Priority Chart

INFOID:0000000010227223

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

Priority	Detected items (DTC)
1	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
2	• C1A50: ADAS MALFUNCTION
3	• C1A01: POWER SUPPLY CIR • C1A02: POWER SUPPLY CIR 2 • C1A12: RADAR OFF-CENTER • C1A16: RADAR BLOCKED • C1A21: UNIT HIGH TEMP • C1A23: UNIT LOW TEMP • C1A39: STRG SEN CIR • U0104: ADAS CAN CIR1 • U0121: VDC CAN CIR2 • U0126: STRG SEN CAN CIR1 • U0405: ADAS CAN CIR2 • U0415: VDC CAN CIR1 • U0428: STRG SEN CAN CIR2
4	• C1A00: CONTROL UNIT

DTC Index

INFOID:0000000010227224

×: Applicable

DTC	CONSULT display	Reference
CONSULT		
C1A01	POWER SUPPLY CIR	DAS-130
C1A02	POWER SUPPLY CIR2	DAS-130
C1A12	RADAR OFF-CENTER	DAS-134
C1A16	RADAR BLOCKED	DAS-137
C1A18	RADAR ALIGNMENT INCMPT	DAS-139
C1A21	UNIT HIGH TEMP	DAS-140
C1A39	STRG SEN CIR	DAS-142

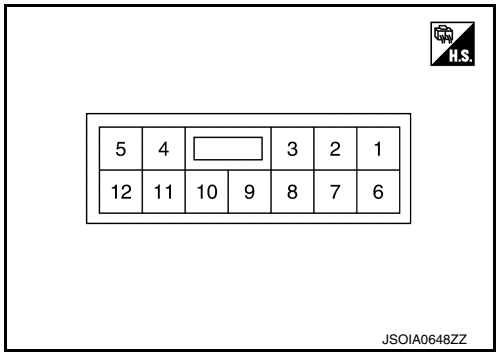
DTC CONSULT	CONSULT display	Reference
U1000	CAN COMM CIRCUIT	DAS-106
U1010	CONTROL UNIT (CAN)	DAS-107
U0121	VDC CAN CIR2	DAS-99
U0126	STRG MSG COUNTER	DAS-101
U0415	VDC CAN CIR1	DAS-103
U0428	STRG SEN CAN CIR2	DAS-105
U0401	ECM MSG COUNTER	DAS-102
C1A03	VHCL SPEED SE CIRC	DAS-131
C1A04	ABS/TCS/VDC CIRC	DAS-132
C1A05	BRAKE SW/STOP L SW	DAS-133
C10B7	YAW RATE SENSOR	DAS-129
C1A14	ECM CIRCUIT	DAS-135
C1A15	GEAR POSITION	DAS-136
C1A24	NP RANGE	DAS-141
C1A17	RADAR SENSOR FAIL	DAS-141

REAR VIEW CAMERA WASHER CONTROL UNIT

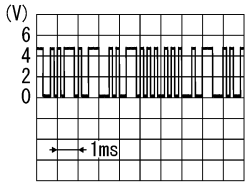
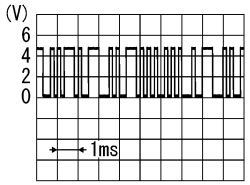
Reference Value

INFOID:0000000010275762

TERMINAL LAYOUT



PHYSICAL VALUES

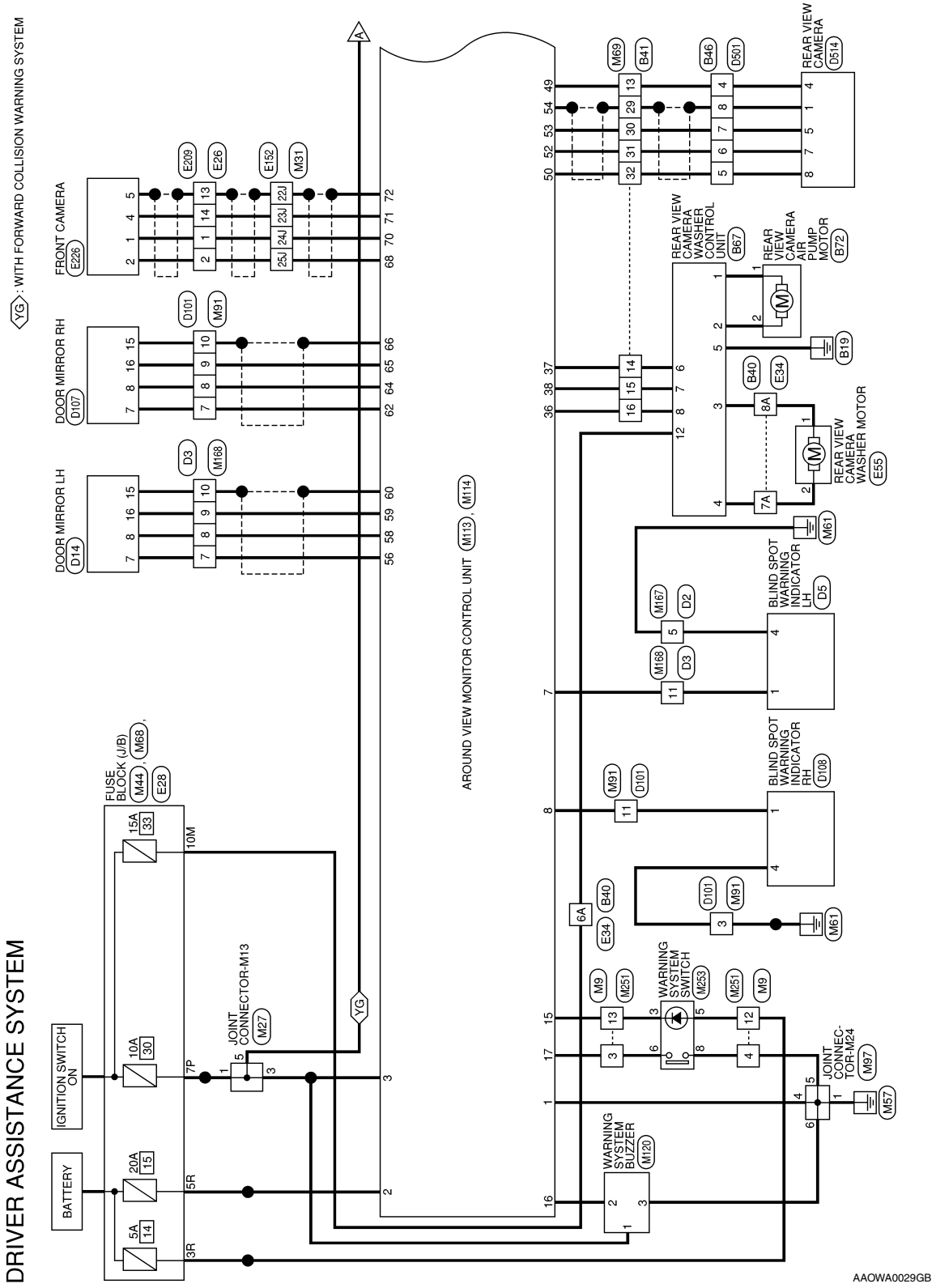
Terminal (Wire color)		Description		Condition		Standard value	Reference value (Approx.)
+	–	Signal name	Input/ Output				
1 (SB)	Ground	Air pump power supply	Output	Ignition switch ON	Air pump operated	9.5 - 16 V	Battery voltage
					Air pump not operated	0 - 0.1 V	0 V
2 (LG)		Air pump ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
3 (GR)		Washer motor ground		—	—	0 - 0.1 V	0 V
4 (Y)		Washer motor power supply	Output	Ignition switch ON	Rear view camera washer motor operated	0 - 0.1 V	0 V
					Rear view camera washer motor not operated	9.5 - 16 V	Battery voltage
5 (B)		Ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
6 (V)		Communication line ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
7 (L)		Communication line (PUMP → CAMERA)	Output	Ignition switch ON	—	Input the waveform synchronized with the communication status.  PKIB5039J	
8 (BR)		Communication line (CAMERA → PUMP)	Input	Ignition switch ON	—	Input the waveform synchronized with the communication status.  PKIB5039J	
12 (LG)		Ignition power supply	Input	Ignition switch ON	—	9.5 - 16 V	Battery voltage

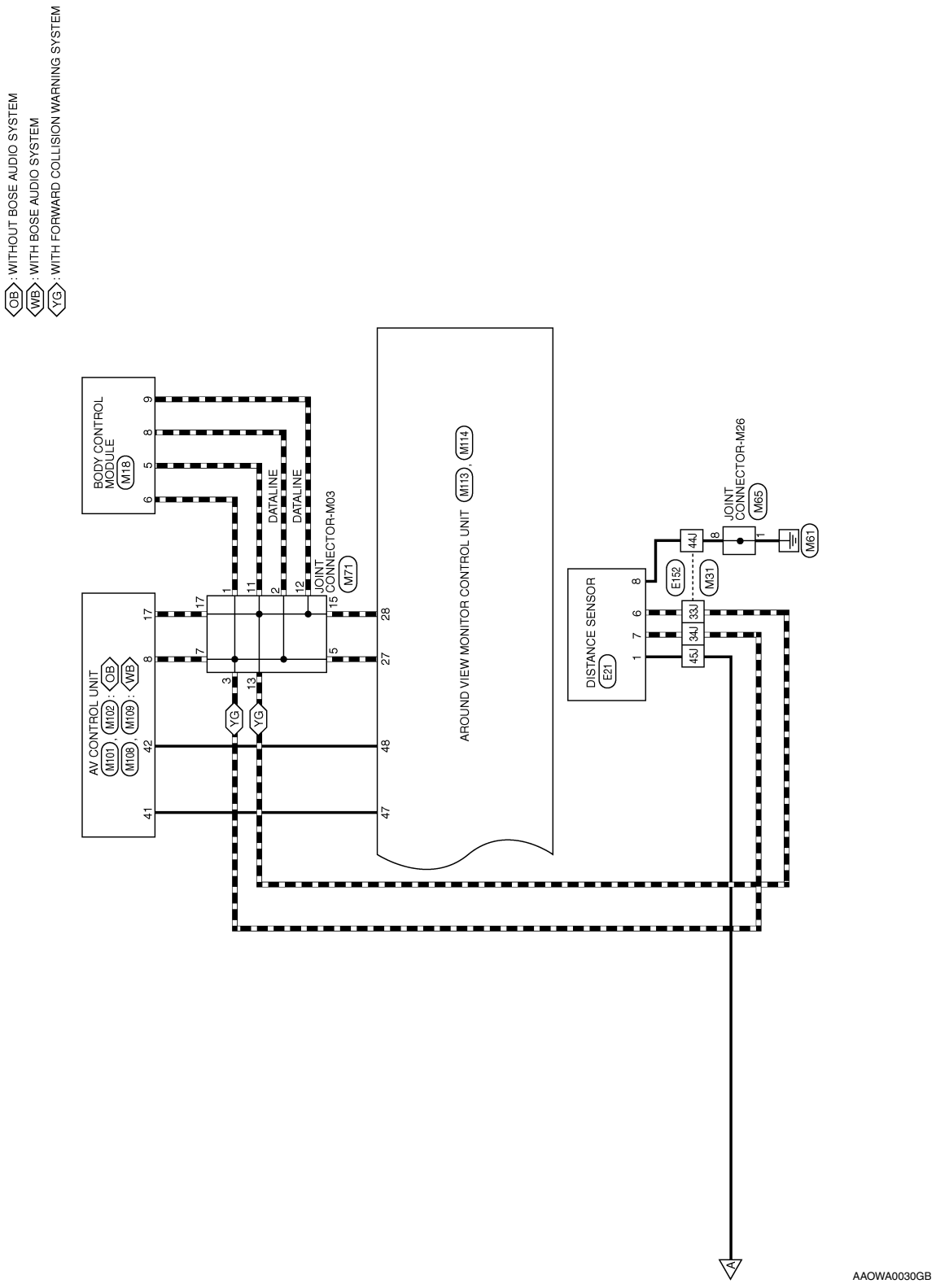
WIRING DIAGRAM

DRIVER ASSISTANCE SYSTEMS

Wiring Diagram

INFOID:0000000010227247




OB : WITHOUT BOSE AUDIO SYSTEM
WB : WITH BOSE AUDIO SYSTEM
YG : WITH FORWARD COLLISION WARNING SYSTEM
BODY CONTROL MODULE
M18
AV CONTROL UNIT
M101 , M102 : OB
M108 , M109 : WB
DATALINE
DATALINE
JOINT CONNECTOR-M03
M71
AROUND VIEW MONITOR CONTROL UNIT M113 , M114
DISTANCE SENSOR
E21
JOINT CONNECTOR-M26
M65
E152
M31
M61
AAOWA0030GB

DRIVER ASSISTANCE SYSTEM CONNECTORS

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

8	7	6	5	4	3	2	1
16	15	14	13	12	11	10	9

Terminal No.	Color of Wire	Signal Name
3	W	–
4	B	–
12	SB	–
13	BR	–

Connector No.	M18
Connector Name	BODY CONTROL MODULE
Connector Color	GRAY

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
5	R	CAN-L
6	L	CAN-H
8	L	CAN-L
9	R	CAN-H

Connector No.	M27
Connector Name	JOINT CONNECTOR-M13
Connector Color	WHITE

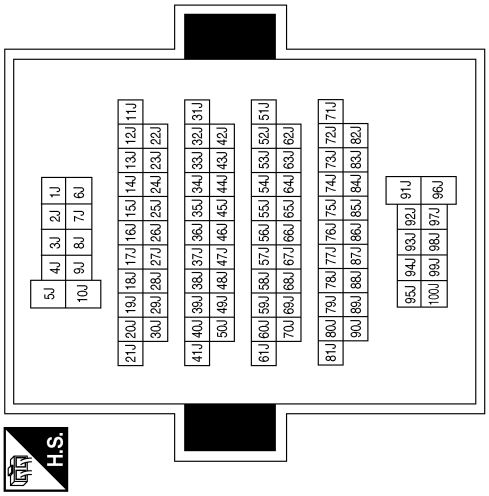
H.S.

8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	SB	–
3	SB	–
5	P	–

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
22J	SHIELD	–
23J	LG	–
24J	V	–
25J	L	–
33J	R	–
34J	L	–
44J	B	–
45J	P	–

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

7P	6P	5P	4P	3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

Terminal No.	Color of Wire	Signal Name
7P	Y	–

AAOIA0129GB

Connector No.	M65
Connector Name	JOINT CONNECTOR-M26
Connector Color	WHITE

H.S.

8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	B	–
8	B	–

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN

H.S.

7R	6R	5R	4R		3R	2R	1R
16R	15R	14R	13R	12R	11R	10R	9R	8R

Terminal No.	Color of Wire	Signal Name
3R	V	–
5R	L	–

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

Terminal No.	Color of Wire	Signal Name
13	LG	–
14	V	–
15	SB	–
16	Y	–
29	SHIELD	–
30	W	–
31	B	–
32	R	–

Connector No.	M71
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE

H.S.

9	8	7	6	5	4	3	2	1	
20	19	18	17	16	15	14	13	12	11	10

Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
3	L	–
5	L	–
7	L	–
11	R	–
12	R	–
13	R	–
15	R	–
17	R	–

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
3	GR	–
7	B	–
8	L	–
9	Y	–
10	SHIELD	–
11	G	–

Connector No.	M97
Connector Name	JOINT CONNECTOR-M24
Connector Color	WHITE

H.S.

8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	B	–
4	B	–
5	B	–
6	B	–

AAOIA0130GB

Connector No.	M101
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

19	10	11	12	13	14	15	16	17	18	20
	1	2	3	4	5	6	7	8	9	

Terminal No.	Color of Wire	Signal Name
8	L	CAN-H
17	R	CAN-L

Connector No.	M102
Connector Name	AV CONTROL UNIT (WITHOUT BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44

Terminal No.	Color of Wire	Signal Name
41	G	CAMERA+
42	SHIELD	CAMERA-(SHIELD)

Connector No.	M108
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

19	10	11	12	13	14	15	16	17	18	20
	1	2	3	4	5	6	7	8	9	

Terminal No.	Color of Wire	Signal Name
8	L	CAN-H
17	R	CAN-L

Connector No.	M109
Connector Name	AV CONTROL UNIT (WITH BOSE AUDIO SYSTEM)
Connector Color	WHITE

H.S.

21	22	23	24	25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40	41	42	43	44

Terminal No.	Color of Wire	Signal Name
41	G	CAMERA+
42	SHIELD	CAMERA-(SHIELD)

Terminal No.	Color of Wire	Signal Name
17	W	ITS SW
27	L	CAN-H
28	R	CAN-L
36	Y	FROM C/U TO PUMP
37	V	SIGNAL GND
38	SB	FROM PUMP TO C/U

Connector No.	M113
Connector Name	AROUND VIEW MONITOR CONTROL UNIT (WITH DRIVER ASSISTANCE SYSTEM)
Connector Color	WHITE

H.S.

2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39

Terminal No.	Color of Wire	Signal Name
1	B	GND
2	Y	+B
3	SB	IGN
7	R	INDICATOR L
8	G	INDICATOR R
15	BR	ITS SW INDICATOR
16	Y	BUZZER CONT

AAOIA0131GB

Connector No.	M114
Connector Name	AROUND VIEW MONITOR CONTROL UNIT (WITH DRIVER ASSISTANCE SYSTEM)
Connector Color	WHITE

H.S.

42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72
41	43	45	47	49	51	53	55	57	59	61	63	65	67	69	71

Terminal No.	Color of Wire	Signal Name
47	G	VIDEO OUTPUT SIGNAL
48	SHIELD	VIDEO OUTPUT GND
49	LG	RV SERIAL SIGNAL
50	R	RV POWER 6.2V
52	B	RV POWER GND
53	W	RV VIDEO SIGNAL
54	SHIELD	RV VIDEO GND
56	L	SV2 POWER 6.2V
58	Y	SV2 POWER GND

Terminal No.	Color of Wire	Signal Name
59	G	SV2 VIDEO SIGNAL
60	SHIELD	SV2 VIDEO GND
62	B	SV1 POWER 6.2V
64	L	SV1 POWER GND
65	Y	SV1 VIDEO SIGNAL
66	SHIELD	SV1 VIDEO GND
68	L	FV POWER 6.2V
70	V	FV POWER GND
71	LG	FV VIDEO SIGNAL
72	SHIELD	FV VIDEO GND

Connector No.	M120
Connector Name	WARNING SYSTEM BUZZER
Connector Color	BROWN

H.S.

1	2	3	4

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	Y	–
3	B	–

Connector No.	M167
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3		4	5	6	7
8	9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
5	B	–

Connector No.	M168
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
7	L	–
8	Y	–
9	G	–
10	SHIELD	–
11	R	–

Connector No.	M251
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

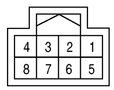
1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

Terminal No.	Color of Wire	Signal Name
3	W	–
4	B	–
12	BG	–
13	BR	–

AAOIA0132GB

Connector No.	M253
Connector Name	WARNING SYSTEM SWITCH
Connector Color	WHITE

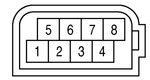
H.S.



Terminal No.	Color of Wire	Signal Name
3	BR	–
5	BG	–
6	W	–
8	B	–

Connector No.	E21
Connector Name	DISTANCE SENSOR
Connector Color	BLACK

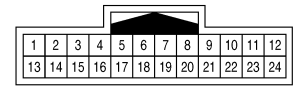
H.S.



Terminal No.	Color of Wire	Signal Name
1	P	IGN
6	R	CAN-L
7	L	CAN-H
8	B	GND

Connector No.	E26
Connector Name	WIRE TO WIRE
Connector Color	WHITE

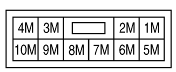
H.S.



Terminal No.	Color of Wire	Signal Name
1	V	–
2	L	–
13	SHIELD	–
14	LG	–

Connector No.	E28
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

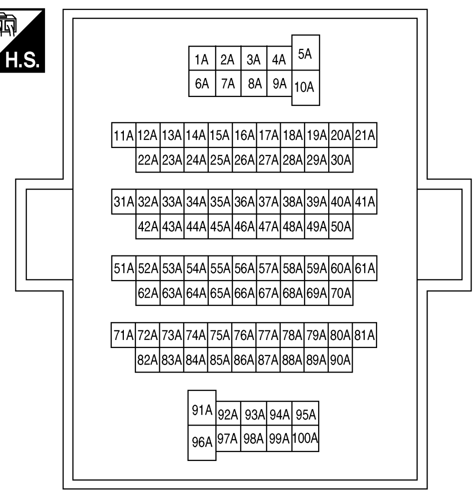
H.S.



Terminal No.	Color of Wire	Signal Name
10M	L	–

Connector No.	E34
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
6A	L	–
7A	R	–
8A	GR	–

AAOIA0133GB

A B C D E F G H I J K L M N DAS P

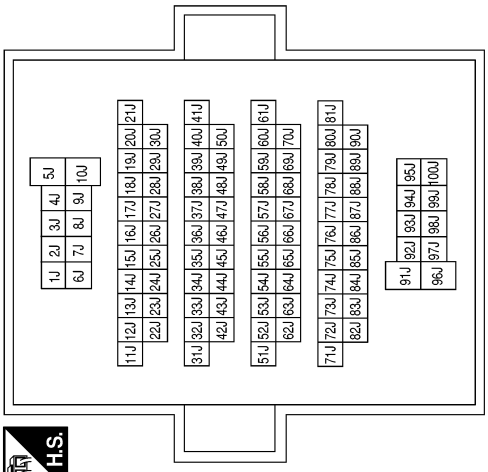
Connector No.	E55
Connector Name	REAR VIEW CAMERA WASHER MOTOR
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	–
2	R	–

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

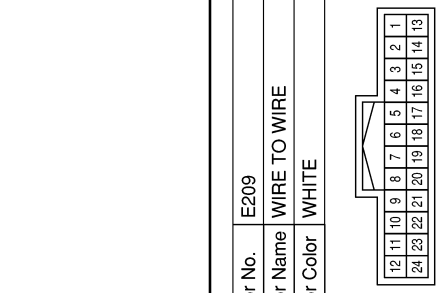
H.S.



Terminal No.	Color of Wire	Signal Name
22J	SHIELD	–
23J	LG	–
24J	V	–
25J	L	–
33J	R	–
34J	L	–
44J	B	–
45J	P	–

Connector No.	E209
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	V	–
2	L	–
13	SHIELD	–
14	LG	–

Connector No.	E226
Connector Name	FRONT CAMERA
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	V	–
2	L	–
4	LG	–
5	SHIELD	–

AAOIA0134GB

Connector No.	B40
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

5A	4A	3A	2A	1A
10A	9A	8A	7A	6A

21A	20A	19A	18A	17A	16A	15A	14A	13A	12A	11A
30A	29A	28A	27A	26A	25A	24A	23A	22A		

41A	40A	39A	38A	37A	36A	35A	34A	33A	32A	31A
50A	49A	48A	47A	46A	45A	44A	43A	42A		

61A	60A	59A	58A	57A	56A	55A	54A	53A	52A	51A
70A	69A	68A	67A	66A	65A	64A	63A	62A		

81A	80A	79A	78A	77A	76A	75A	74A	73A	72A	71A
90A	89A	88A	87A	86A	85A	84A	83A	82A		

95A	94A	93A	92A	91A
100A	99A	98A	97A	96A

Terminal No.	Color of Wire	Signal Name
6A	LG	–
7A	Y	–
8A	GR	–

Connector No.	B41
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
13	W	–
14	V	–
15	L	–
16	BR	–
29	SHIELD	–
30	W	–
31	B	–
32	R	–

Terminal No.	Color of Wire	Signal Name
4	Y	CAMERA -
5	B	GND
6	V	SIGNAL GND
7	L	FROM PUMP TO CAMERA C/U
8	BR	FRONT CAMERA C/U TO PUMP
12	LG	IGN

Connector No.	B67
Connector Name	REAR VIEW CAMERA WASHER CONTROL UNIT
Connector Color	WHITE

H.S.

5	4	3	2	1
12	11	10	9	8	7	6

Terminal No.	Color of Wire	Signal Name
1	SB	PUMP MOTOR +
2	LG	PUMP MOTOR -
3	GR	CAMERA WASHER +

Connector No.	B46
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
4	W	–
5	R	–
6	B	–
7	W	–
8	SHIELD	–

AAOIA0135GB

Connector No.	B72
Connector Name	REAR VIEW CAMERA AIR PUMP MOTOR
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	LG	–

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5	B	–

Connector No.	D3
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	GR	–
8	G	–
9	Y	–
10	B	–
11	R	–

Connector No.	D5
Connector Name	BLIND SPOT WARNING INDICATOR LH/BLIND SPOT INTERVENTION
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
4	B	–

Connector No.	D14
Connector Name	DOOR MIRROR LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
7	GR	–
8	G	–
15	B	–
16	Y	–

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
3	B	–
7	L	–
8	V	–
9	Y	–
10	B	–
11	G	–

AAOIA0136GB

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

Terminal No.	Color of Wire	Signal Name
4	L	–
5	R	–
6	B	–
7	W	–
8	V	–

Connector No.	D108
Connector Name	BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR RH
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	G	–
4	B	–

Connector No.	D107
Connector Name	DOOR MIRROR RH
Connector Color	WHITE

H.S.

8	7	6	5	4	3	2	1
16	15	14	13	12	11	10	9

Terminal No.	Color of Wire	Signal Name
7	L	–
8	V	–
15	B	–
16	Y	–

Connector No.	D514
Connector Name	REAR VIEW CAMERA
Connector Color	WHITE

H.S.

4	3	2	1
8	7	6	5

Terminal No.	Color of Wire	Signal Name
1	V	–
4	L	–
5	W	–
7	B	–
8	R	–

AAOIA0137GB

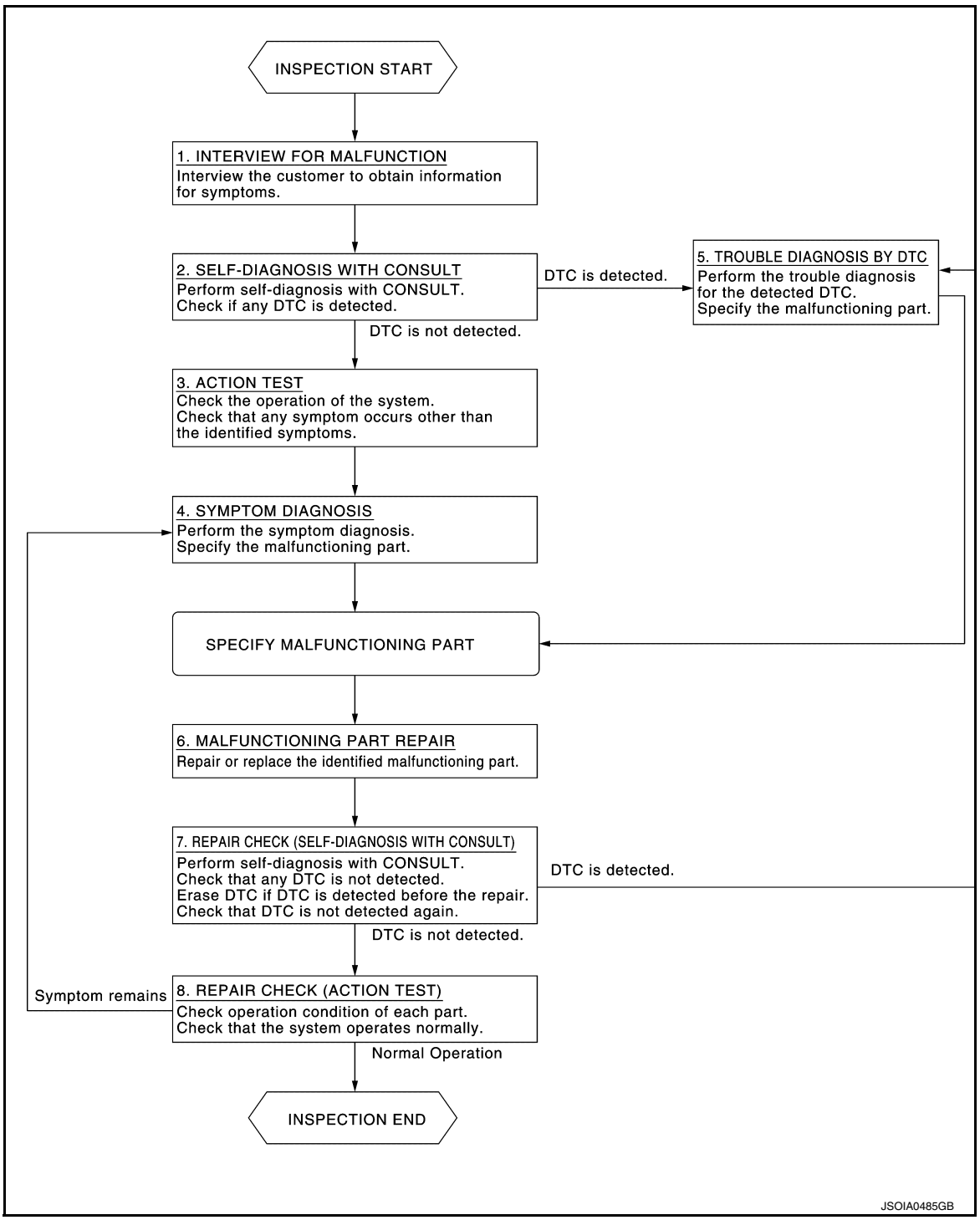
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000010227248

OVERALL SEQUENCE



DETAILED FLOW

1. INTERVIEW FOR MALFUNCTION

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

NOTE:
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

1. Perform “All DTC Reading” with CONSULT.
2. Check if the DTC is detected on the “Self-Diagnostic Results” of following:
- “DISTANCE SENSOR”
- “AROUND VIEW MONITOR”

Is any DTC detected?

YES >> GO TO 5.
NO >> GO TO 3.

3.ACTION TEST

Perform the following system action test to check the system operation:
• LDW refer to DAS-80, "LDW : Description".
• BSW refer to DAS-81, "BSW : Description".
• MOD refer to DAS-82, "MOD : Description".
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 DAS-152, "Symptom Table".

>> GO TO 6.

5.TROUBLE DIAGNOSIS BY DTC

1. Check the DTC in the “Self-Diagnostic Results”.
2. Perform trouble diagnosis for the detected DTC following:
- “DISTANCE SENSOR”: Refer to DAS-49, "DTC Index".
- “AROUND VIEW MONITOR”: Refer to DAS-47, "DTC Index".

>> 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. Erases self-diagnosis results.
2. Perform “All DTC Reading” again after repairing or replacing the specific items.
3. Check if any DTC is detected in self-diagnosis results of following:
- “DISTANCE SENSOR”
- “AROUND VIEW MONITOR”

Is any DTC detected?

YES >> GO TO 5.
NO >> GO TO 8.

8.REPAIR CHECK (ACTION TEST)

Perform the following system action test. Check that the malfunction symptom is solved or no other symptoms occur.

Is there a malfunction symptom?

YES >> GO TO 4.
NO >> Inspection End.

PRE-INSPECTION FOR DIAGNOSIS

Inspection Procedure

INFOID:0000000010284235

1.CHECK REAR VIEW CAMERA LENS

Is the rear view camera lens contaminated with foreign materials?

YES >> Clean rear view camera lens.
NO >> GO TO 2.

2.CHECK REAR VIEW CAMERA INSTALLATION CONDITION

Check rear view camera installation condition (e.g. position, looseness, bent in back door).

Is it properly installed?

YES >> Inspection End.
NO >> Install rear view camera properly, and perform rear view camera calibration. Refer to DAS-89, "Description".

REAR VIEW CAMERA WASHER/AIR BLOWER FUNCTION INSPECTION

Inspection Procedure

INFOID:0000000010284236

1.CHECK REAR VIEW CAMERA WASHER/AIR BLOWER FUNCTION

1. Start the engine.
2. Select the “Active Test” item “AIR&WASH ACTIVE” of “AVM” with CONSULT.
   NOTE:
   Before function check, perform the following items:
   - Fill with washer fluid.
   - Perform “Active Test” item “WASH ACTIVE” of “AVM” with CONSULT for 4 seconds.
3. While operating the test item, check the operation.

Is it properly operated?

Washer fluid ejects 4 - 6 times. (Normal function)>>Inspection End.
Washer fluid ejects 7 times or more.>>Properly install or replace air tube.
Washer fluid ejects only once>> Properly install or replace air tube.
Washer fluid does not eject>>Properly install washer tube or replace washer tube and check valve.

ADDITIONAL SERVICE WHEN REPLACING DISTANCE SENSOR

Description

INFOID:0000000010227249

Always perform the following after removing and installing or replacing the Distance sensor:
- Distance sensor initial vertical alignment
- Distance sensor alignment
- **CAUTION:**
  The system does not operate normally unless the Distance sensor is aligned properly.

Work Procedure

INFOID:0000000010227250

1. DISTANCE SENSOR INITIAL VERTICAL ALIGNMENT

Perform the distance sensor initial vertical alignment. Refer to DAS-70, "Description".

>> GO TO 2.

2. DISTANCE SENSOR ALIGNMENT

Perform the distance sensor alignment. Refer to DAS-72, "Description".

>> Work End.

DISTANCE SENSOR INITIAL VERTICAL ALIGNMENT

Description

INFOID:0000000010250289

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-70, "Required Tools".
2. Preparation, refer to DAS-70, "Preparation".
3. Distance sensor initial vertical alignment, refer to DAS-71, "Distance Sensor Initial Vertical Alignment".

CAUTIONARY POINT FOR DISTANCE SENSOR ALIGNMENT PROCEDURE

CAUTION:

- **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.**

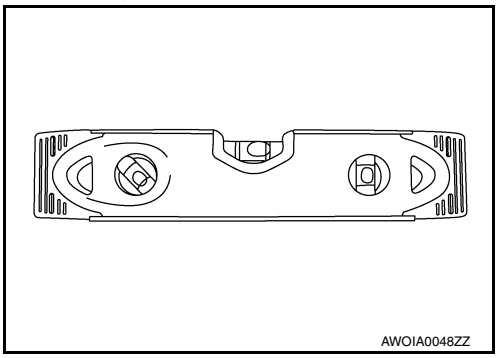
The Distance sensor requires alignment whenever the Distance sensor is removed and reinstalled and whenever front end structural repairs are performed. Distance sensor alignment consists of performing the mechanical vertical alignment (Distance sensor initial vertical alignment) described in the following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

Required Tools

INFOID:0000000010250290

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

- Carpenters level.



Preparation

INFOID:0000000010250291

1. PREPARATION FOR DISTANCE SENSOR INITIAL VERTICAL ALIGNMENT PROCEDURE

1. Verify correct vehicle suspension height. Refer to WT-65, "Wheel".
2. Repair or replace any damaged body components.
3. Verify proper tire inflation pressures. Refer to WT-65, "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".

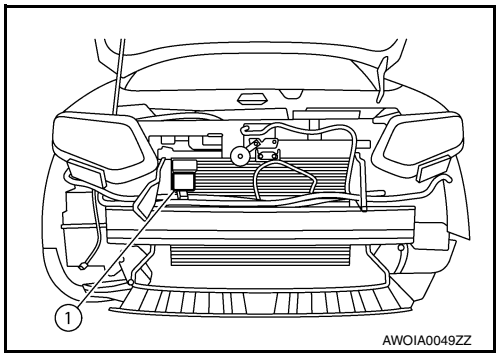
>> Refer to DAS-71, "Distance Sensor Initial Vertical Alignment".

Distance Sensor Initial Vertical Alignment

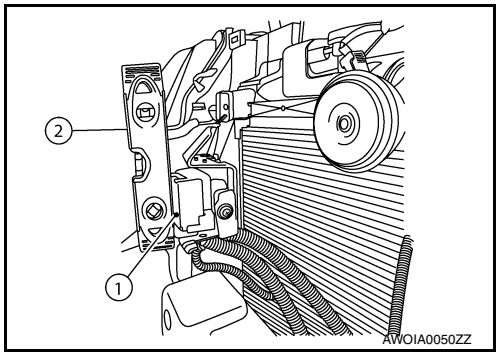
INFOID:0000000010250292

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

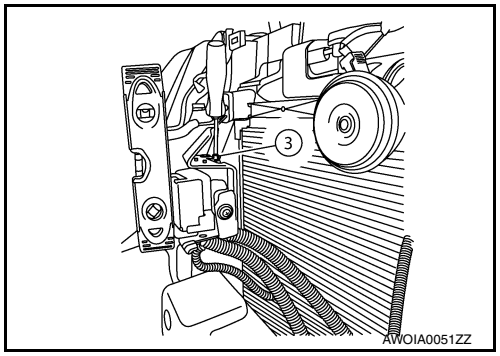
1. The Distance sensor (1) is located near the right front head lamp behind the front bumper fascia.



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. Insure 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 DAS-72, "Description".

DISTANCE SENSOR ALIGNMENT

Description

INFOID:0000000010250293

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 DAS-70, "Description".

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

1. Required tools, refer to DAS-72, "Required Tools".
2. Preparation, refer to DAS-74, "Preparation".
3. Vehicle set up, refer to DAS-74, "Vehicle Set Up".
4. Setting the Distance sensor target board, refer to DAS-76, "Setting The Distance Sensor Target Board".
5. Distance sensor adjustment, refer to DAS-77, "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 CONSULT exactly as instructed.**
- **For proper system operation and adjustment, all vehicle wheels must be of the same size.**

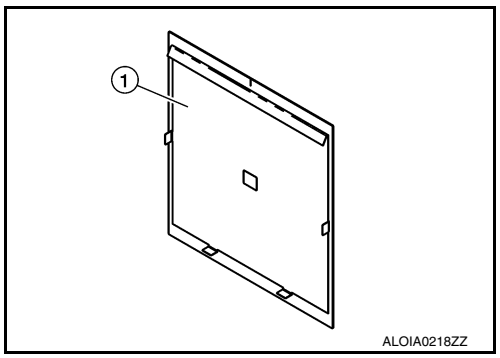
Required Tools

INFOID:0000000010250294

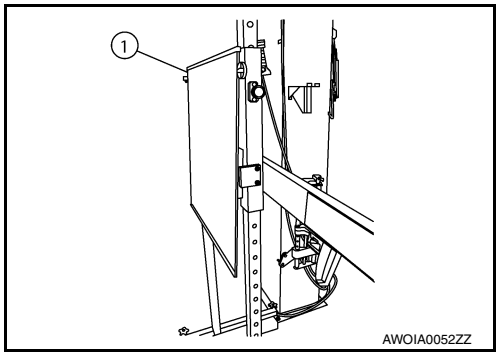
- Distance sensor alignment kit 1-20-2721-1-IF in addition to one of the following:
  a) Hunter self-centering wheel adapter (Hunter wheel alignment tool)
  b) Special Service Tool kit 1-20-2722-1-IF (kit SCA W/Tire Clamp-ICC Aiming)
- Distance sensor alignment kit attachment board J-50808

The following Distance sensor alignment kit (1-20-2721-1-IF) and Distance sensor alignment kit attachment board (target board) (J-50808) are necessary to perform the Distance sensor alignment:

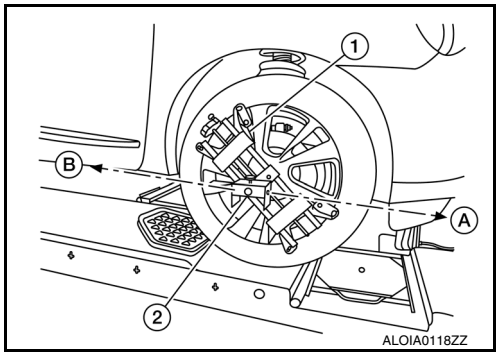
- Distance sensor alignment kit attachment board (target board) (1).



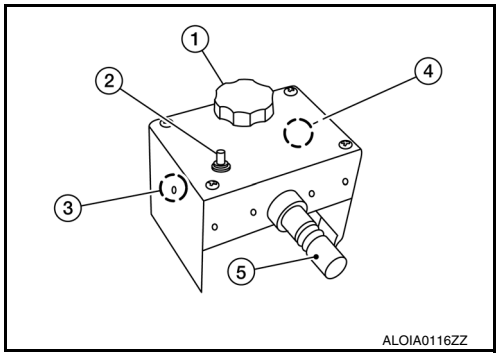
- Distance sensor target board (1).



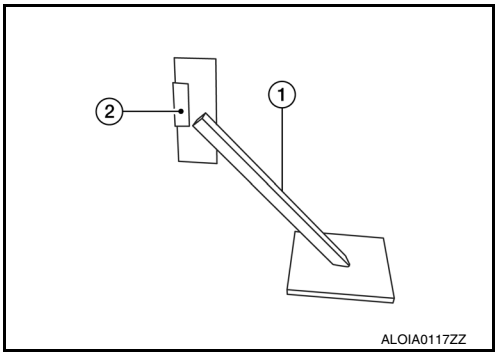
- Hunter self-centering wheel adapter (1) [shown with laser assembly (2) installed] (Hunter alignment rack head may be substituted).
  NOTE:
  Dealers that are not equipped with a Hunter self-centering wheel adapter will require the following kit:
  Part No. 1-20-2722-1-IF (kit SCA W/Tire Clamp-Distance 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)



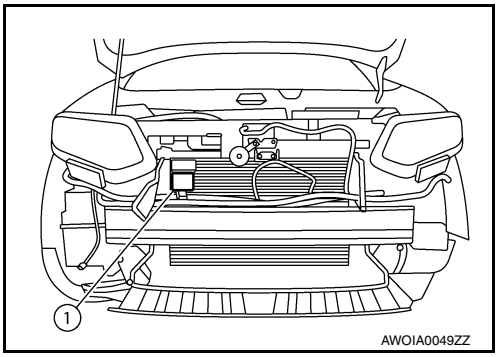
• Distance chain (not shown).

Preparation

INFOID:0000000010250295

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.
5. Clean off the right front side of the fascia in front of the Distance sensor.
   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-74, "Vehicle Set Up".

Vehicle Set Up

INFOID:0000000010250296

DESCRIPTION

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

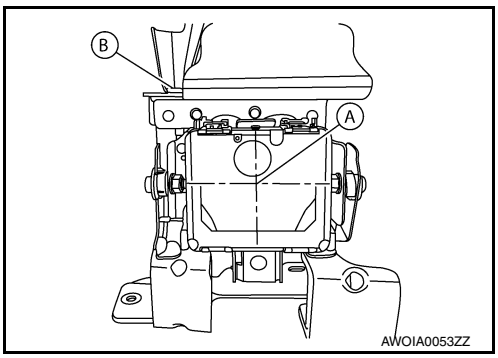
CAUTION:

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

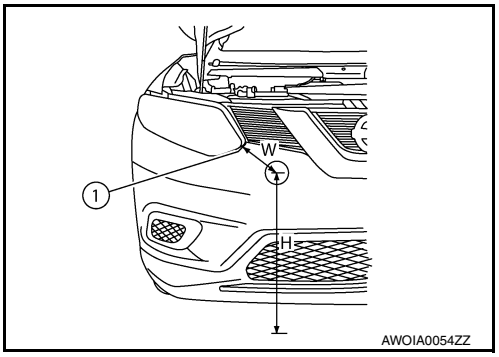
NOTE:

• The center of the distance sensor (A).



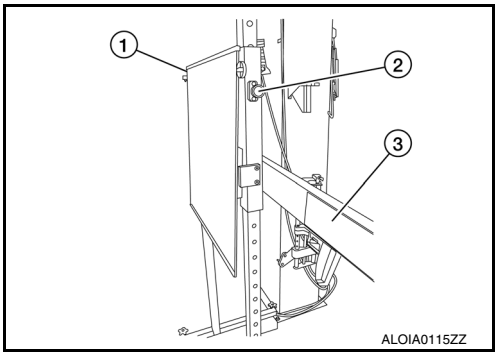
B : Up-down direction adjusting screw

- To locate the center of the distance sensor (A) easily, on a flat level surface measure 27 in (685 mm) (H) up from the floor, and 7 in (178 mm) (W) to the right from the point of the right front head lamp (1) when viewed from the front of the vehicle.

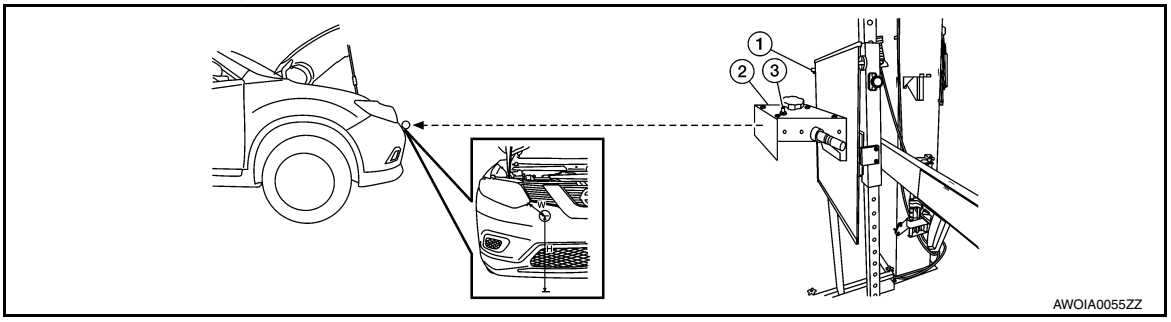


- Initial distance sensor target board setting must be in the center position.

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.) ± 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 ± 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 ± 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?

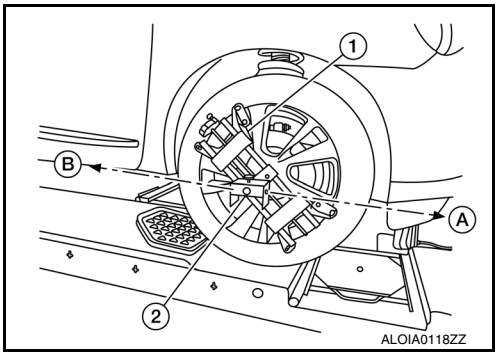
YES >> Refer to Hunter's equipment instructions for complete vehicle set up and distance sensor target board setting. Then, refer to DAS-77, "Distance Sensor Adjustment".

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.

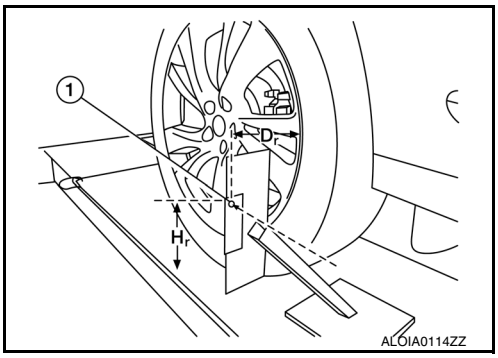
1. Install the wheel adapter (1) on the right front wheel.
2. Mount the laser assembly (2) to the wheel adapter (1) as shown in the figure.
NOTE:
When the power switch is turned ON, the front laser signal (A) will be emitted toward the front distance sensor target board, and the rear laser signal (B) will be emitted toward the rear of the vehicle.



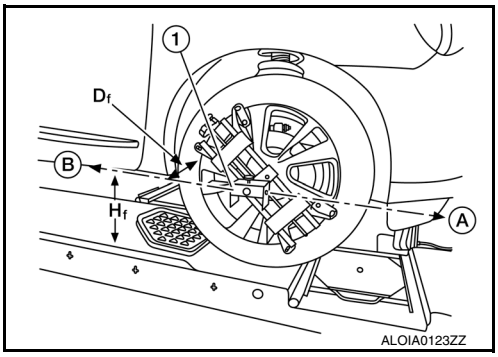
>> GO TO 3.

3. SETTING UP STATIONARY TARGET

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 (D_r) 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 (H_r) between the laser beam (1) on the stationary target and ground level (vertical line).



5. Measure and record the distance (D_f) between the edge of the right front wheel and the laser beam signal/opening (1) on the laser assembly (horizontal line).
6. Measure and record the height (H_f) between the laser beam signal/opening (1) on the laser assembly and ground level (vertical line).
NOTE:
- Horizontal adjustment [front distance (D_f) and rear distance (D_r)] is accomplished by slowly turning the steering wheel until the 2 distances are the same.
- Vertical adjustment [front height (H_f) and rear height (H_r)] 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-76, "Setting The Distance Sensor Target Board".

Setting The Distance Sensor Target Board

INFOID:0000000010250297

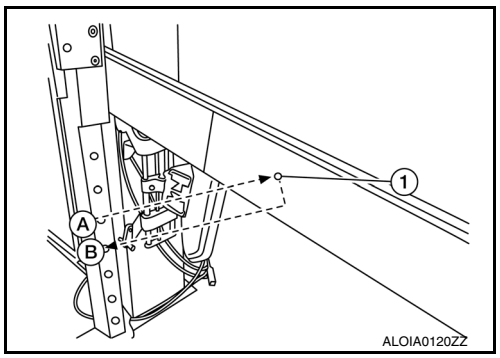
DESCRIPTION

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

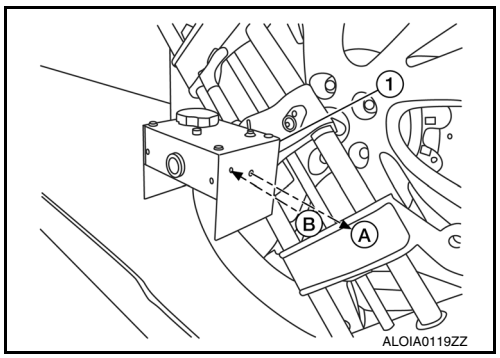
CAUTION:
If the radar alignment is adjusted with the distance sensor target board in the incorrect position, the distance system will not function properly or the alignment procedure may not be completed successfully.

1. DISTANCE SENSOR TARGET BOARD FINAL SETTING

1. 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.



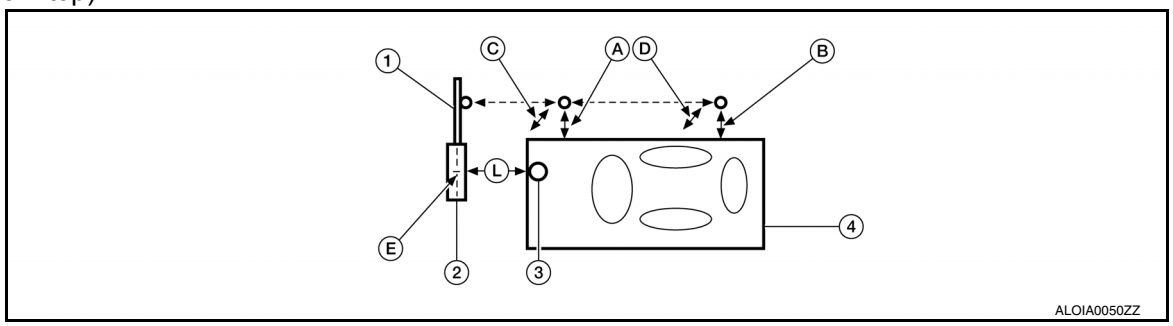
4. The figure shown illustrates the laser beam (A) emitted by the laser assembly (1) and its reflection (B) off of the distance sensor target board arm.



>> 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. Distance sensor target board arm
2. Distance sensor target board
3. Distance sensor
4. Vehicle
A. Distance between front wheel and laser beam (D_f)
B. Distance between rear wheel and laser beam (D_r)
C. Height between front laser beam and ground (H_f)
D. Height between rear laser beam and ground (H_r)
E. Distance sensor target board center position (Position 2)
L. 750 - 2000 mm (29.5 - 78.7 in)

>> Refer to DAS-77, "Distance Sensor Adjustment".

Distance Sensor Adjustment

INFOID:0000000010250298

DESCRIPTION

The radar alignment is performed automatically with CONSULT.

CAUTION:
Perform all necessary work for radar alignment until the adjustment completes as shown in the procedure. If the procedure does not complete, the FCW system is inoperable.

1.PERFORM RADAR ALIGNMENT

1. Start the engine.
2. Connect CONSULT and select “Work support” of “LASER/RADAR”.
3. Select “MILLIWAVE RADAR ADJUST” after the “Work support” screen is displayed.
   NOTE:
   Confirm the following items;
   • The target should be accurately placed.
   • The vehicle should be stopped.
4. Select “Start” after the “MILLIWAVE RADAR ADJUST” screen is displayed.
   CAUTION:
   Never select “Start” when the target is not accurately placed.
5. Select “Start” after the preparation information is displayed.
6. Select “Next” after the “Starting alignment.” screen is displayed.
   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.	• DTC is detected (Except C1A12). • The position of the Distance sensor target board is not correct. • Vehicle is moving.	Check the vehicle condition and perform radar 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.	• A target is not-yet-placed. (The Distance sensor cannot detect target) • The position of the Distance sensor target board is not correct. • The position of the Distance sensor is not correct.	Check the target board condition and perform radar alignment again.
Sensor malfunction.	Distance sensor malfunction.	Check the vehicle condition and perform radar alignment again.

NOTE:
Replace Distance sensor if “Sensor malfunction.” is repeatedly indicated.

8. Confirm displayed value.

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

LDW

LDW : Description

INFOID:0000000010282430

- Perform action test to verify the customer's concern.
- Perform action test and check the system operation after system diagnosis.

WARNING:
Be careful of traffic conditions and safety around the vehicle when performing road test.
CAUTION:
• Fully understand the following items well before the road test;
- Precautions: Refer to DAS-9, "Precautions for Driver Assistance Systems".
- System description for LDW: Refer to DAS-16, "LDW : System Description".
- System description for BSW: Refer to DAS-20, "BSW : System Description".
- System description for MOD: Refer to DAS-26, "MOD : System Description".
- Handling precaution: Refer to DAS-36, "Precautions for Lane Departure Warning".

LDW : Inspection Procedure

INFOID:0000000010282431

WARNING:
Be careful of traffic conditions and safety around the vehicle when performing road test.
CAUTION:
• Fully understand the following items well before the road test;
- Precautions: Refer to DAS-9, "Precautions for Driver Assistance Systems".
- System description for LDW: Refer to DAS-16, "LDW : System Description".
- System description for BSW: Refer to DAS-20, "BSW : System Description".
- System description for MOD: Refer to DAS-26, "MOD : System Description".
- Handling precaution: Refer to DAS-36, "Precautions for Lane Departure Warning".

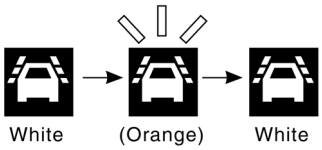
1.CHECK LDW SYSTEM SETTING

1. Start the engine.
2. Check that the LDW 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.ACTION TEST FOR LDW

1. Enable the setting of the LDW system on the vehicle information display.
2. Turn warning systems switch ON (warning systems ON indicator is ON).
3. Check the LDW operation according to the following table.

Vehicle condition/ Driver's operation		Action	Warning systems ON indicator	Indication on the combination meter	Buzzer
Less than Approx. 60 km/h (40 MPH)	Close to lane marker	No action	ON	 White ALOIA0191GB	—
Approx. 70 km/h (45 MPH) or more	Close to lane marker	Warning • Buzzer sounds • Warning lamp blinks	ON	 White (Orange) Blink White ALOIA0190GB	Short continuous beeps
	• Close to lane marker • Turn signal ON (Deviate side)	No action	ON	 White ALOIA0191GB	—

NOTE:
After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (40 MPH). Refer to DAS-16, "LDW : System Description".

>> Inspection End.

BSW

BSW : Description

INFOID:0000000010282432

- Perform action test to verify the customer's concern.
- Perform action test and check the system operation after system diagnosis.

WARNING:
Be careful of traffic conditions and safety around the vehicle when performing road test.
CAUTION:
- **Fully understand the following items well before the road test;**
- **Precautions: Refer to DAS-9, "Precautions for Driver Assistance Systems".**
- **System description for LDW: Refer to DAS-20, "BSW : System Description".**
- **System description for BSW: Refer to DAS-20, "BSW : System Description".**
- **System description for MOD: Refer to DAS-26, "MOD : System Description".**
- **Handling precaution: Refer to DAS-37, "Precautions for Blind Spot Warning".**

BSW : Inspection Procedure

INFOID:0000000010282433

WARNING:
Be careful of traffic conditions and safety around the vehicle when performing road test.
CAUTION:
- **Fully understand the following items well before the road test;**
- **Precautions: Refer to DAS-9, "Precautions for Driver Assistance Systems".**
- **System description for LDW: Refer to DAS-16, "LDW : System Description".**
- **System description for BSW: Refer to DAS-20, "BSW : System Description".**
- **System description for MOD: Refer to DAS-26, "MOD : System Description".**

- Handling precaution: Refer to DAS-37, "Precautions for Blind Spot Warning".

1.CHECK BSW SYSTEM SETTING

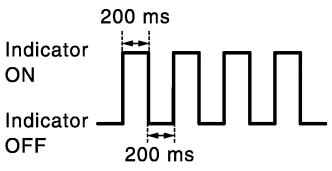
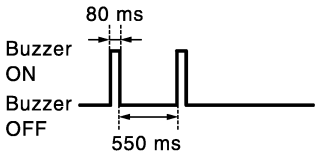
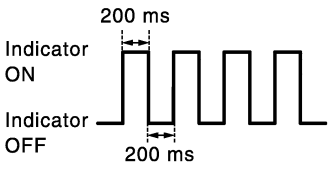
1. Start the engine.
2. Check that the BSW system setting can be enabled/disabled on the vehicle information display.
3. Turn OFF the ignition switch and wait for 30 seconds or more.
4. Check that the previous setting is saved when the engine starts again.

>> GO TO 2.

2.ACTION TEST FOR BSW

1. Enable the setting of the BSW system on the vehicle information display.
2. Turn warning systems switch ON (warning systems ON indicator is ON).
3. Check the BSW operation according to the following table.

Vehicle condition/Driver's operation

Warning systems ON indicator	Vehicle speed (Approx.) [km/h (MPH)]	Turn signal condition	Status of vehicle detection within detection area	Indication on the combination meter	Buzzer
ON	Less than Approx. 29 km/h (18 MPH)	—	—	OFF	OFF
	Approx. 32 km/h (20 MPH) or more	—	Vehicle is absent	OFF	OFF
		OFF	Vehicle is detected	ON	OFF
		ON (vehicle detected direction)	Before turn signal operates vehicle is detected	Blink  JSOIA0251GB	Short continuous beeps  JSOIA0252GB
			Vehicle is detected after turn signal operates	Blink  JSOIA0251GB	OFF

NOTE:
After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (40 MPH). Refer to DAS-20, "BSW : System Description".

>> Inspection End.

MOD

MOD : Description

INFOID:0000000010282434

- Perform action test to verify the customer's concern.
- Perform action test and check the system operation after system diagnosis.

WARNING:
Be careful of traffic conditions and safety around the vehicle when performing road test.
CAUTION:
- **Fully understand the following items well before the road test;**

- Precautions: Refer to DAS-9, "Precautions for Driver Assistance Systems".

- **System description for LDW: Refer to DAS-16, "LDW : System Description".**
- **System description for BSW: Refer to DAS-20, "BSW : System Description".**
- **System description for MOD: Refer to DAS-26, "MOD : System Description".**
- **Handling precaution: Refer to DAS-37, "Precautions for Moving Objects Detection".**

MOD : Inspection Procedure

INFOID:0000000010282435

WARNING:
Be careful of traffic conditions and safety around the vehicle when performing road test.
CAUTION:
• Fully understand the following items well before the road test;
- **Precautions: Refer to DAS-9, "Precautions for Driver Assistance Systems".**
- **System description for LDW: Refer to DAS-16, "LDW : System Description".**
- **System description for BSW: Refer to DAS-20, "BSW : System Description".**
- **System description for MOD: Refer to DAS-26, "MOD : System Description".**
- **Handling precaution: Refer to DAS-37, "Precautions for Moving Objects Detection".**

1. CHECK MOD SYSTEM SETTING

1. Start the engine.
2. Check that the MOD 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. ACTION TEST FOR MOD

1. Enable the setting of the MOD system on the vehicle information display.
2. Turn warning systems switch ON (warning systems ON indicator is ON).
3. Check the MOD operation according to the following table.

Vehicle condition/ Driver's operation			Vehicle response	
Moving Object Detection ON indicator	Vehicle speed (Approx.) [km/h (MPH)]	Status of vehicle detection within detection area	Indication on the Moving Object Detection indicator	Buzzer
OFF	—	—	OFF	OFF
Blue	Less than approx. 8 km/h (5 MPH)	Vehicle is detected	ON	ON
	Approx. 8 km/h (5 MPH) or more	Vehicle is absent	ON	OFF
		Vehicle is detected	ON	OFF
		Vehicle is not detected	ON	OFF

NOTE:
After the operating conditions of warning are satisfied, the warning continues until the vehicle reaches a higher speed. Refer to DAS-26, "MOD : System Description".

>> Inspection End.

ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT

Description

INFOID:0000000010284132

BEFORE REPLACEMENT

When replacing around view monitor control unit, save or print current vehicle specification with CONSULT configuration before replacement.

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing around view monitor control unit.

AFTER REPLACEMENT

CAUTION:

When replacing around view monitor control unit, you must perform “After Replace ECU” with CONSULT.

- **Complete the procedure of “After Replace ECU” in order.**
- **If you set incorrect “After Replace ECU”, incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**

Work Procedure

INFOID:0000000010284133

1.SAVING VEHICLE SPECIFICATION

-CONSULT

Enter “Re/Programming, Configuration” and perform “Before Replace ECU” to save or print current vehicle specification.

NOTE:

If “Before Replace ECU” cannot be used, use the “After Replace ECU” or “Manual Configuration” after replacing around view monitor control unit.

>> GO TO 2.

2.REPLACE AROUND VIEW MONITOR CONTROL UNIT

Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT

1. Enter "Re/Programming, Configuration".
2. If “Before Replace ECU” operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press “Confirm” to write vehicle specification. Refer to DAS-86, "Work Procedure".
3. If “Before Replace ECU” operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to DAS-86, "Work Procedure".

>> GO TO 4.

4.REAR VIEW CAMERA CALIBRATION

Perform rear view camera calibration. Refer to DAS-89, "Description".

>> GO TO 5.

5.AROUND VIEW MONITOR CALIBRATION

Perform around view monitor calibration. Refer to DAS-93, "Description".

>> GO TO 6.

6. OPERATION CHECK

Check that the operation of the around view monitor control unit and camera images (fixed guide lines and predictive course lines) are normal.

>> Work End.

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)

Description

INFOID:0000000010284129

Vehicle specification needs to be written with CONSULT because it is not written after replacing around view monitor control unit.
Configuration has three functions as follows:

Function	Description
"Before Replace ECU"	• Reads the vehicle configuration of current around view monitor control unit. • Saves the read vehicle configuration.
"After Replace ECU"	Writes the vehicle configuration with manual selection.
"Select Saved Data List"	Writes the vehicle configuration with saved data.

CAUTION:
- **When replacing around view monitor control unit, you must perform “Select Saved Data List” or "After Replace ECU" with CONSULT.**
- **Complete the procedure of “Select Saved Data List” or "After Replace ECU" in order.**
- **If you set incorrect “Select Saved Data List” or "After Replace ECU", incidents might occur.**
- **Configuration is different for each vehicle model. Confirm configuration of each vehicle model.**
- **Never perform “Select Saved Data List” or "After Replace ECU" except for new around view monitor control unit.**

Work Procedure

INFOID:0000000010284130

1.WRITING MODE SELECTION

CONSULT
Select “Reprogramming, Configuration” of around view monitor control unit.

When writing saved data>>GO TO 2.
When writing manually>>GO TO 3.

2.PERFORM “SAVED DATA LIST”

CONSULT
Automatically “Operation Log Selection” window will display if “Before Replace ECU” was performed. Select applicable file from the “Save Data List” and press “Confirm”.

>> Work End.

3.PERFORM “AFTER REPLACE ECU” OR “MANUAL CONFIGURATION”

CONSULT
1. Select “After Replace ECU” or “Manual Configuration”.
2. Identify the correct model and configuration list. Refer to DAS-87, "Configuration List".
3. Confirm and/or change setting value for each item.
   CAUTION:
   Thoroughly read and understand the vehicle specification. ECU control may not operate normally if the setting is not correct.
4. Select “Next”.
   CAUTION:
   Make sure to select “Next”, confirm each setting value and press “OK” even if the indicated configuration of brand new around view monitor control unit is same as the desirable configuration. If not, configuration which is set automatically by selecting vehicle model can not be memorized.
5. When "Completed", select "End".

>> GO TO 4.

4.OPERATION CHECK

Confirm that each function controlled by around view monitor control unit operates normally.

>> Work End.

Configuration List

INFOID:0000000010284131

CAUTION:
Thoroughly read and understand the vehicle specification. Incorrect settings may result in abnormal control of ECU.

MANUAL SETTING ITEM	
Items	Setting value
BCI FUNCTION	WITH ⇔ WITHOUT

⇔: Items which confirm vehicle specifications

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT

Description

INFOID:0000000010286877

Adjust the center position of the predictive course line of the rear view monitor if it is shifted.

Work Procedure

INFOID:0000000010286878

1.DRIVING

Drive the vehicle straight ahead 100 m (328.1 ft) or more at a speed of 30 km/h (18.6 MPH) or more.

>> END

REAR VIEW CAMERA CALIBRATION

Description

INFOID:0000000010351316

Always perform the calibration after removing and installing or replacing the rear view camera:
- AVM control unit
- Rear view camera

CAUTION:
- **Place the vehicle on level ground when the calibration is performed.**
- **Follow the CONSULT when performing the calibration. (Rear view camera calibration cannot be operated without CONSULT).**

Work Procedure (Preparation)

INFOID:0000000010351317

1.PERFORM SELF-DIAGNOSIS

Perform “Self-Diagnosis” of the “AVM” control unit.

Is any DTC detected?

Except "U1308">> Perform diagnosis on the detected DTC and repair or replace the applicable item. Refer to DAS-47, "DTC Index".

"U1308" or no DTC>>GO TO 2.

2.PREPARATION BEFORE REAR VIEW CAMERA CALIBRATION

NOTE:

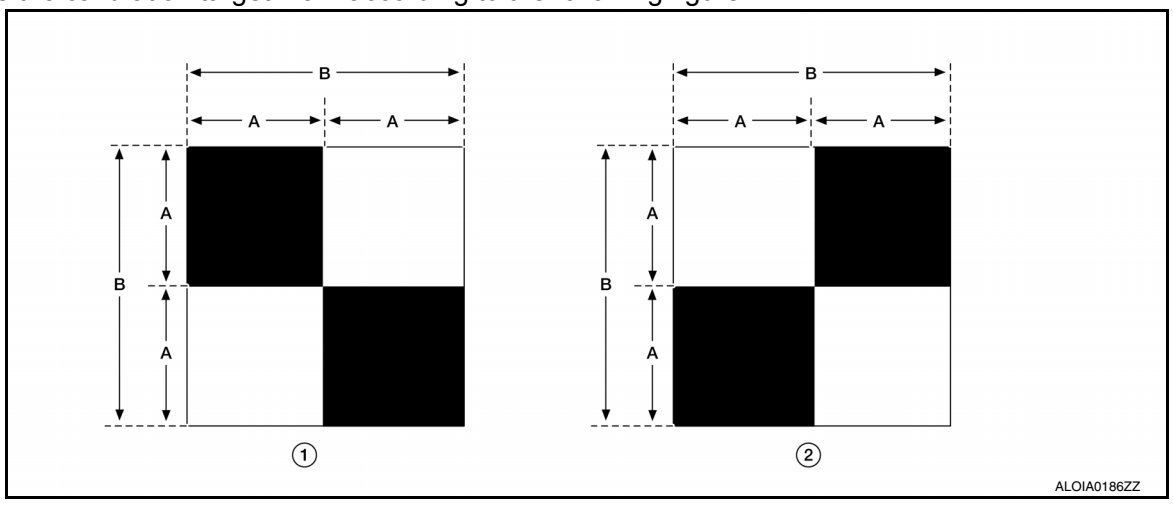
Select the "AVM" to diagnose the AVM control unit by CONSULT.

1. Perform pre-inspection for diagnosis. Refer to DAS-67, "Inspection Procedure".
2. Adjust the tire pressure to the specified pressure value.
3. Maintain no-load in vehicle.
4. Check if coolant and engine oil are filled up to correct level and fuel tank is full.
5. Situate vehicle where the camera is exposed at an atmosphere temperature between 0°C (32°F) and 30°C (86°F)
6. Move the shift selector to P (Park) and release the parking brake.
7. Clean the rear view camera.

>> GO TO 3.

3.PREPARATION OF CALIBRATION TARGET MARK

Prepare the calibration target mark according to the following figure:



(1) : Left and right targets

(2) : Center target

(A) : Side of the black or white area = 200 mm (7.87 in)
(B) : Side of the square target = 400 mm (15.75 in)

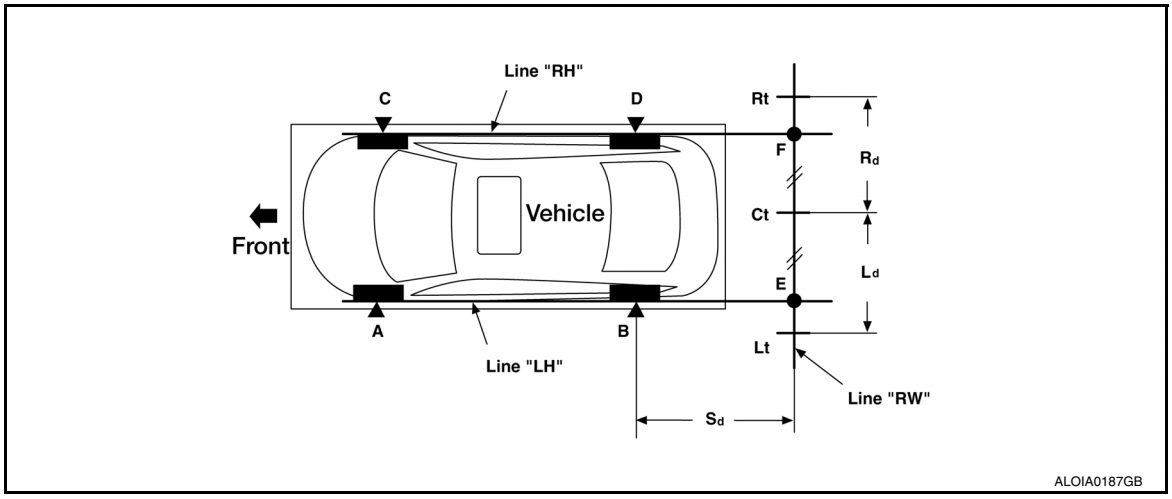
>> Refer to DAS-90, "Work Procedure (Target Setting)".

Work Procedure (Target Setting)

INFOID:0000000010351318

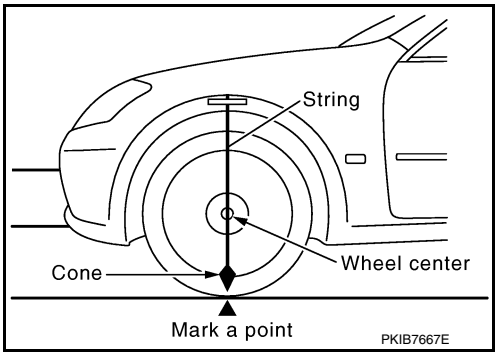
CAUTION:
- **Perform this operation in a horizontal position where there is a clear view for 3 m (9.84 ft) backward and 4 m (13.12 ft) wide.**
- **Place the target in a well-lighted location. (Poor lighting may make it hard to adjust.)**
- **The target may not be detected when it shines by the reflected light of the sun or lighting.**
- **The target may not be detected when there is the same pattern of black and white as the target when the pattern is within 0.5 m (1.64 ft) from either side and upward/downward position from the target. (It is desirable that the vehicle is positioned on a single-color floor.)**

1. TARGET SETTING



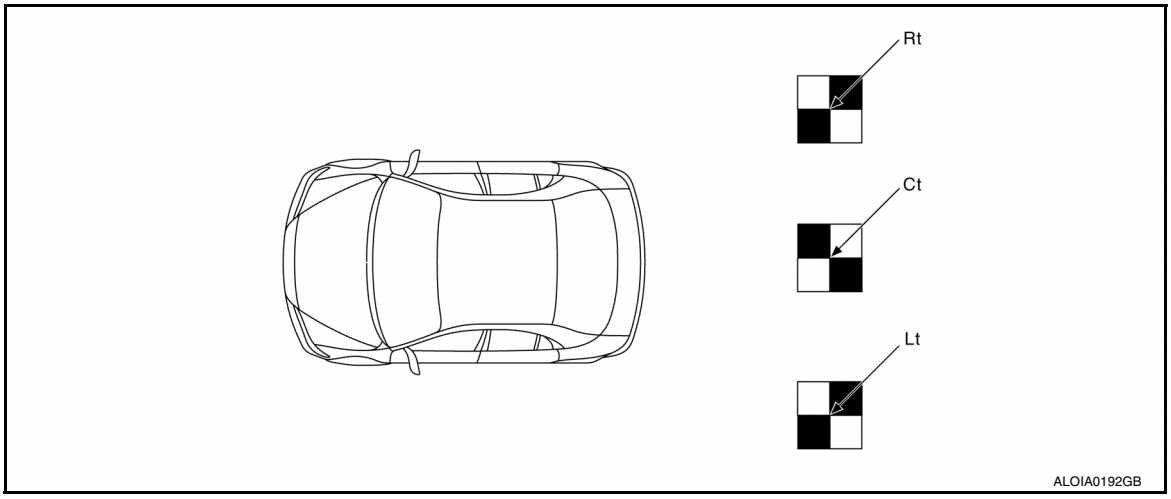
Side distance (S_d): "B"–"E" ("D"–"F") : 2125 mm (83.66 in)
Left distance (L_d): "C_t"–"L_t" : 1500 mm (59.06 in)
Right distance (R_d): "C_t"–"R_t" : 1500 mm (59.06 in)

1. Mark points "A", "B", "C" and "D" at the center of the lateral surface of each wheel.
   NOTE:
   Hang a string with a cone from the fender so as to pass through the center of wheel, and then mark a point at the center of the lateral surface of the wheel.
2. Draw line "LH" passing through points "A" and "B" on the left side of vehicle.
   NOTE:
   Approximately 2.2 m (7.22 ft) or more at the rear from the rear axle.
3. Mark point "E" on the line "LH" at the positions 2125 mm (83.66 in) from point "B".
4. Draw line "RH" passing through points "C" and "D" on the right side of vehicle in the same way as step 2.
5. Mark point "F" on the line "RH" at the positions 2125 mm (83.66 in) from point "D".
6. Draw line "RW" passing through the points "E" and "F" on the rear of the vehicle.
   NOTE:
   Approximately 1.8 m (5.91 ft) or more at both left and right sides from vehicle center.
7. Mark point "C_t" at the center of point "E" and "F" on the line "RW".
   CAUTION:



Make sure that “E” to “Ct” is equal to “F” to “Ct”.

8. Mark point "Lt" and "Rt" on the line "RW" at the positions 1500 mm (59.06 in) from point "Ct".
9. Position the center of the target mark to point of “Ct”.



CAUTION:
Make sure that the black/white pattern of the center target is rotated as compared with the left and right targets.

>> Go to DAS-91, "Work Procedure (Rear View Camera Calibration)".

Work Procedure (Rear View Camera Calibration)

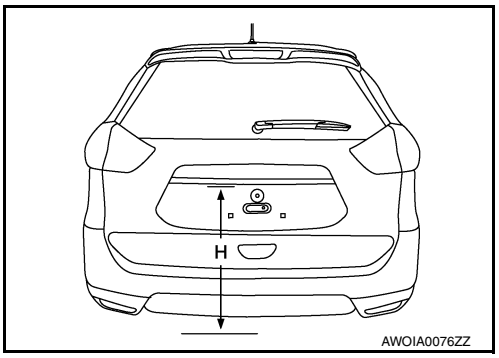
INFOID:0000000010351319

CAUTION:
Perform the calibration under the specified vehicle condition (fuel full, no-load, specified tire pressure, etc.). Refer to DAS-89, "Work Procedure (Preparation)".

1.CHECK REAR VIEW CAMERA HEIGHT

Measure the rear view camera height “H”.

>> GO TO 2.



2.REAR VIEW CAMERA CALIBRATION

1. Select “Work Support” on “AVM” with CONSULT.
2. Select “REAR CAMERA ITS”.
3. Select "OK".

CAUTION:
- **Perform the calibration after the ignition or engine has been kept on for at least 10 minutes to stabilize camera.**
- **Operate CONSULT outside the vehicle, and close all doors to retain appropriate vehicle altitude.**

4. Input the rear view camera height "H", and then touch "APPLY".
5. Confirm that the same value is displayed on the center display.
6. Confirm the following items:

- The target should be accurately placed.
- The vehicle should be stopped.
- The vehicle should be under the specified vehicle condition.

7. Select “Start” to perform calibration.

8. Confirm the displayed item.
- “Completed”: Select “Completion”.
- Otherwise, perform the following services:

Displayed item		Possible cause	Service procedure
SUSPENSION	—	Temporary malfunction in internal processing of the rear view camera.	Go back to Step 1
	00H Routine not activated	Rear view camera unit malfunction.	Position the target appropriately again. Perform the aiming again. Refer to DAS-90, "Work Procedure (Target Setting)".
	10H Writing error	• Temporary malfunction in internal processing of the rear view camera. • Rear view camera malfunction.	
X AIMING NG Y (X: 0 - 7, Y: 1 - 8)	—	• A target is not-yet-placed. (The rear view camera cannot detect a target.) • The position of the rear view camera is not correct. • Inappropriate work environment. • Inappropriate vehicle condition.	Position the target appropriately again. Perform the aiming again. Refer to DAS-89, "Work Procedure (Preparation)".
ABNORMALLY COMPLETED	—		

NOTE:
Replace camera unit if “00H Routine not activated” or “10H Writing error” are repeatedly indicated during the above two services are performed.

9. Confirm that “Completed” is displayed and then select “End” to close the calibration procedure.

>> GO TO 3.

3. PERFORM SELF-DIAGNOSIS

Perform “Self-diagnosis” of “AVM” control unit with CONSULT.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the applicable item. Refer to DAS-47, "DTC Index".

NO >> GO TO 4.

4. ACTION TEST

Test the system operation by action test. Refer to DAS-80, "LDW : Description".

>> Work End.

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)

Description

INFOID:0000000010284127

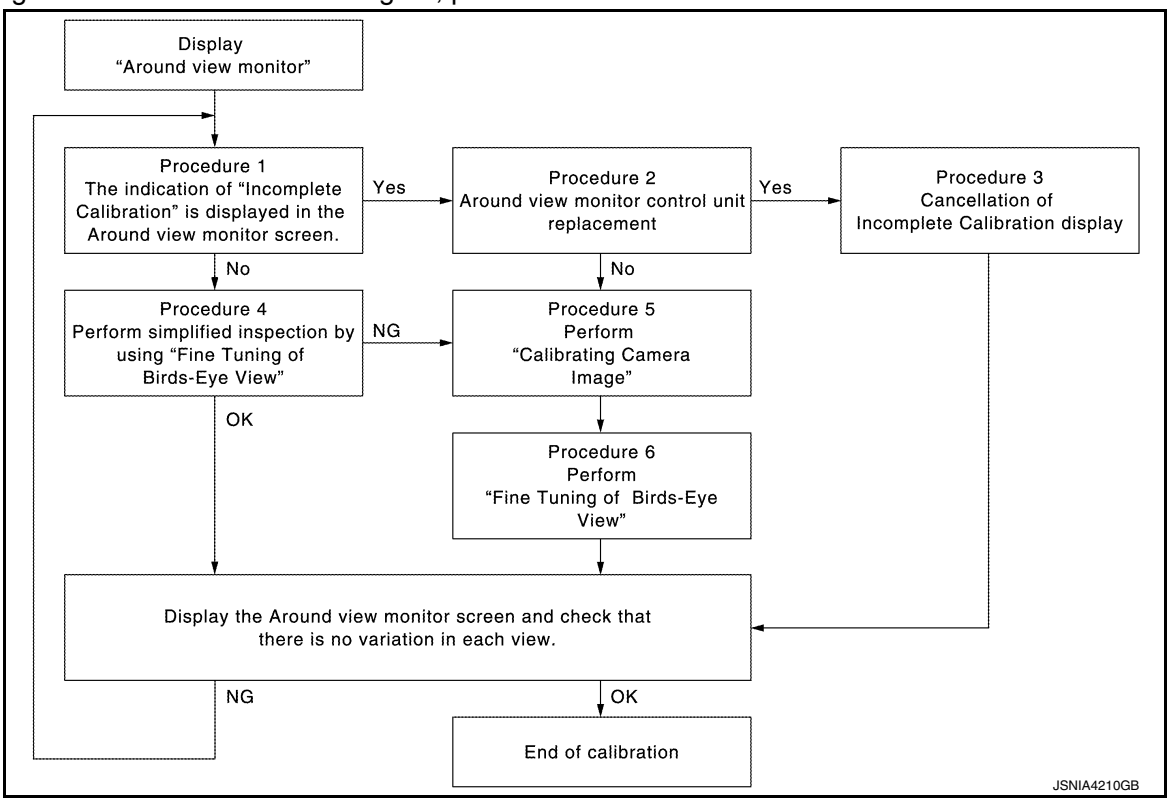
- Calibration must be performed after removing/replacing the cameras, removing parts (e.g. front grille, door mirror, and others) mounted on the cameras, or replacing the Around view monitor control unit.
- The use of CONSULT is required to perform calibration or writing of calibration results to the Around view monitor control unit.
- Align the white lines on the road near the vehicle at the boundary of each camera image by this camera calibration. The white lines far from the vehicle may not be aligned at the boundary of each camera image. The farther the line, the greater the difference is.

Work Procedure

INFOID:0000000010284128

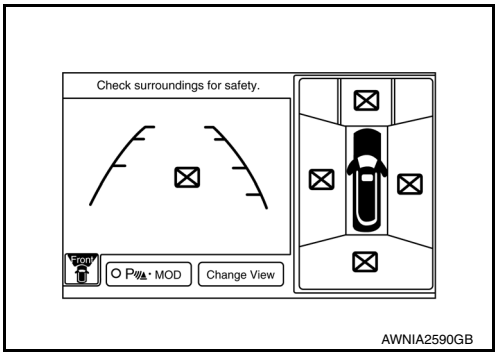
CALIBRATION FLOWCHART

Following the flowchart shown in the figure, perform the calibration.



NOTE:

View in the incomplete calibration state is indicated by “⊠” on the around view monitor.



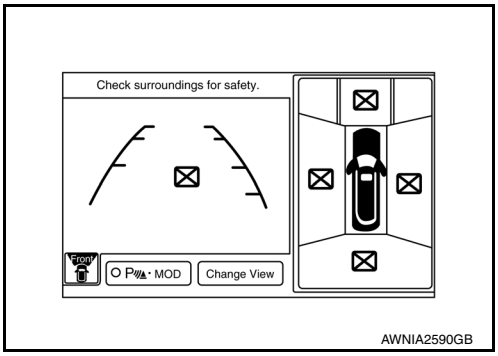
CALIBRATION PROCEDURE

1. AROUND VIEW MONITOR SCREEN CONFIRMATION

Check that there is no indication of “Incomplete calibration”.

Is the “Incomplete calibration” display visible?

YES >> GO TO 2.
NO >> GO TO 4.



2. CHECK THAT AROUND VIEW MONITOR CONTROL UNIT IS REPLACED

Check that the around view monitor control unit is replaced.

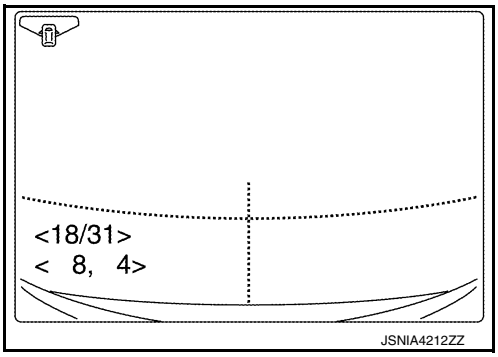
Is the around view monitor control unit replaced?

YES >> GO TO 3.
NO >> GO TO 5.

3. CANCEL THE INDICATION OF INCOMPLETE CALIBRATION (PERFORM THIS ONLY AFTER REPLACING AROUND VIEW MONITOR CONTROL UNIT.)

CONSULT work support

1. On the CONSULT screen, touch “CALIBRATING CAMERA IMAGE (FRONT CAMERA)”, “CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)”, “CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)”, or “CALIBRATING CAMERA IMAGE (REAR CAMERA)” to accept the selection.
   NOTE:
   To cancel the indication of Incomplete calibration, select items based on the target camera.
2. On the adjustment screen of each camera, touch “APPLY” button. After this, touch “OK” button.
   CAUTION:
   - **Never perform operations other than those mentioned above.**
   - **Never perform “Initialize Camera Image Calibration”.**
3. Display the around view monitor screen to check that there is no errors, such as deviations among the camera images.



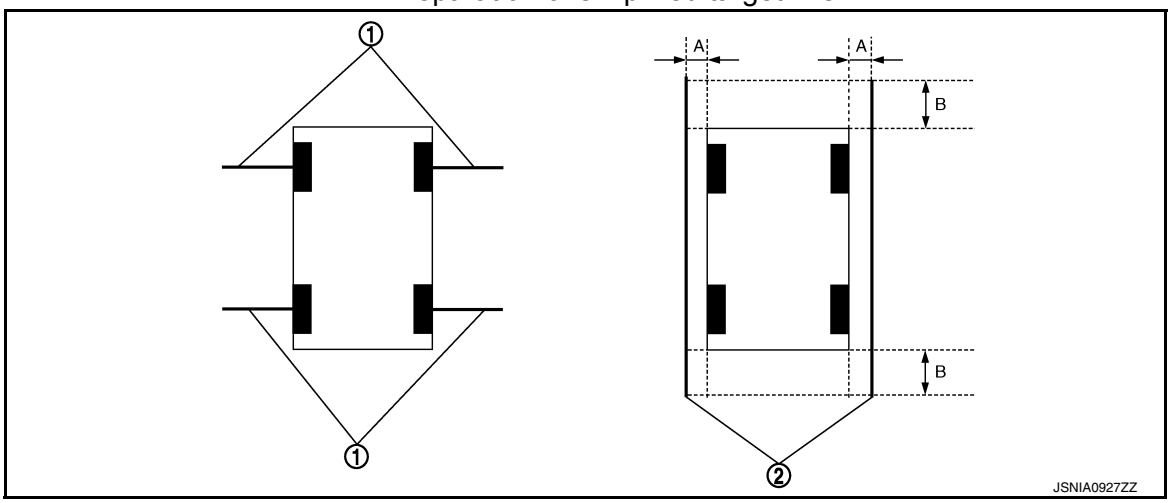
Is there a malfunction?

YES >> Calibration End.
NO >> GO TO 1.

4. PERFORM SIMPLIFIED CONFIRMATION/ADJUSTMENT BY “FINE TUNING OF BIRDS-EYE VIEW”

1. Put target line 1 on the ground beside each axle using packing tape, etc.
2. Put target lines 2 equal to the vehicle total length + approximately 1.0 m (39.3 in) from the vehicle side (right and left) at approximately 30 cm (11.8 in) away from the vehicle (make the line as parallel with the vehicle as possible)

Preparation of simplified target line



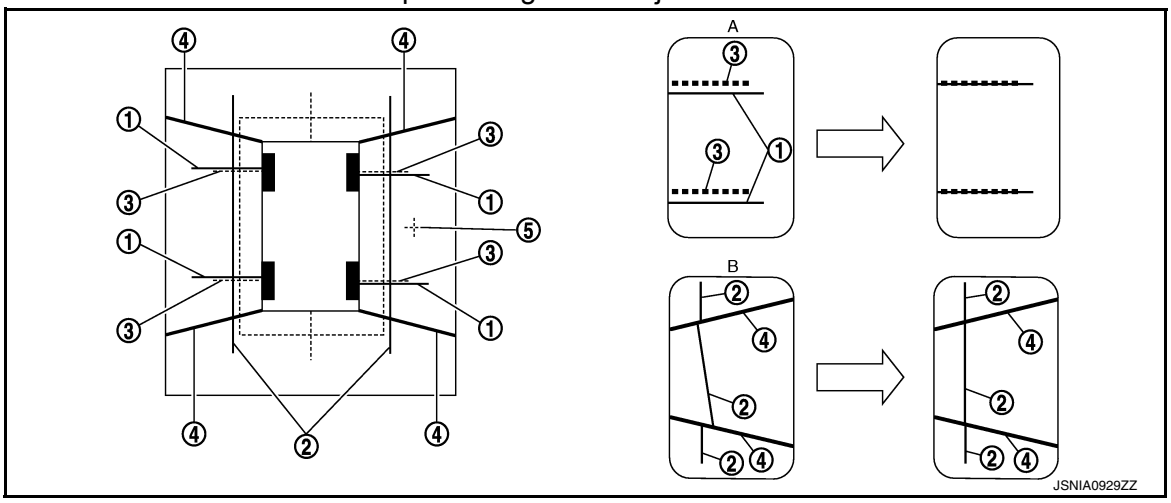
1. Target lines 1
2. Target lines 2
A. Approx. 30 cm (11.8 in)
B. Approx. 1.0 m (39.3 in)

3. CONSULT work support
   Touch “FINE TUNING OF BIRDS-EYE VIEW” on the CONSULT screen.
4. On the CONSULT screen, touch “SELECT” button to select right or left camera and perform camera calibration as instructed below:

- If the marker on the screen deviates from Target line 1, touch “AXIS X” button and “AXIS Y” button to adjust so that the marker is placed on the Target line 1.
- If Target line 2 is misaligned among the cameras, adjust each camera image to bring Target line 2 into a straight line.

CAUTION:
Never adjust the front camera and rear camera. Only adjust the right and left cameras.

Simplified target line adjustment method



1. Target lines 1
2. Target lines 2
3. Marker for target line 1
4. Boundary between cameras
5. Crosshairs cursor (mark indicated the selected camera)
A. Adjustment method for target lines 1 (right)
B. Adjustment method for target lines 2 (right)

5. Adjust right and left cameras. Touch "APPLY" on the CONSULT screen to display adjustment results.
6. After adjusting right and left cameras, check that the marker is properly placed on the screen and there is no deviation in Target line 1.
   NOTE:
   • It can be initialized to the NISSAN factory default condition with “Initialize Camera Image Calibration”.
   • The adjustment value is cancelled on this mode by performing “Initialize Camera Image Calibration”.

Is the difference corrected?

YES >> On the CONSULT screen, touch “OK” button to complete writing to the around view monitor control unit.

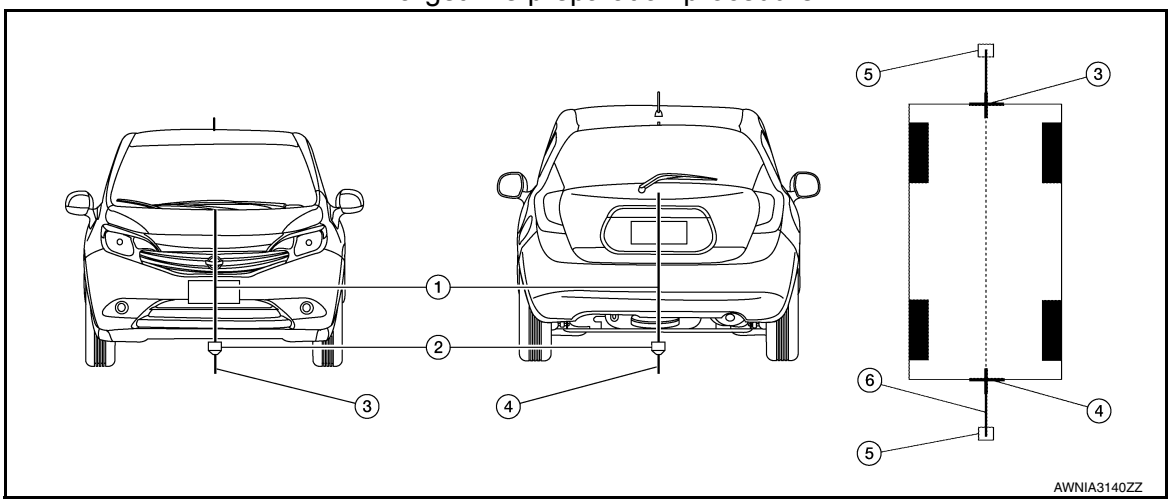
NO >> GO TO 5.

5. PERFORM “CALIBRATING CAMERA IMAGE”

Preparation of target line

1. Hang a string with a weight as shown in the figure. Put the points FM0, RM0 (mark) on the ground at the center of the vehicle front end and rear end with white packing tape or a pen.
2. Route the vinyl string under the vehicle, and then pull and fix it on the point approximately 1.0 m (39.9 in) to the front and rear of the vehicle through the points FM0 and RM0 using packing tape.

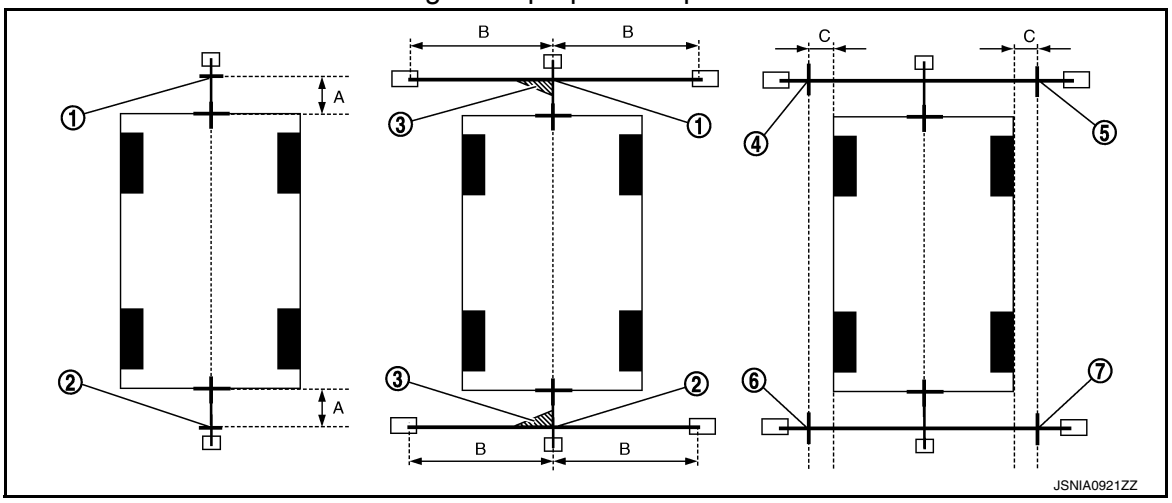
Target line preparation procedure 1



1. Thread
2. Weight
3. Point FM0 (mark)
4. Point RM0 (mark)
5. Packing tape (to fix the vinyl string)
6. Vinyl string

3. Put the points FM and RM (mark) 75 cm (29.5 in) from the points FM0 and RM0 individually.
4. Route the vinyl string through the points FM and RM using a triangle scale, and then fix it at approximately 1.5 m (59 in) on both sides with packing tape.
5. Put the points FL, FR, RL, and RR (mark) to both right and left [vehicle width / 2 + 30 cm (11.8 in)] from the points FM and RM.

Target line preparation procedure 2



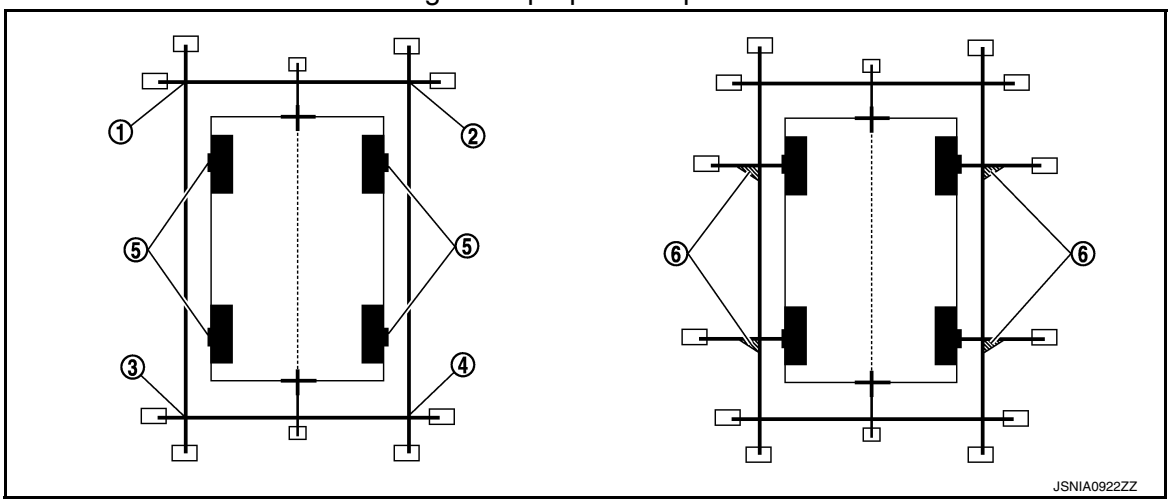
1. Point FM
2. Point RM
3. Triangle scale
4. Point FL (mark)
5. Point FR (mark)
6. Point RL (mark)

7. Point RR (mark)

A. 75 cm (29.5 in) B. Approx. 1.5 m (59 in) C. 30 cm (11.8 in) [Vehicle width/ 2 + 30 cm (11.8 in) from the points FM and RM]

6. Draw the lines of the points FL – RL and FR – RR with vinyl string, and fix it with packing tape.
7. Put a mark on the center of each axle, draw vertical lines to the lines of the points FL – RL and FR – RR from the marks on the center of the axle using a triangle scale, and then fix the lines using packing tape.

Target line preparation procedure 3

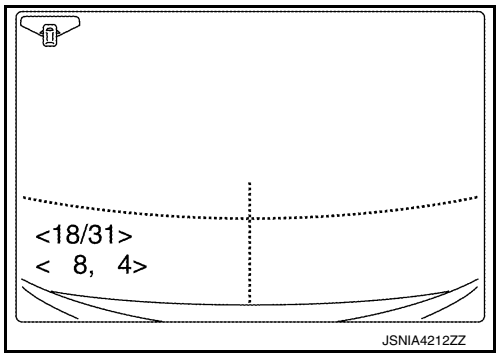


1. Point FL 2. Point FR 3. Point RL
4. Point RR 5. Center position of axle 6. Triangle scale

Perform “Calibrating Camera Image”

CONSULT work support

1. On the CONSULT screen, touch “CALIBRATING CAMERA IMAGE (FRONT CAMERA)”, “CALIBRATING CAMERA IMAGE (PASS-SIDE CAMERA)”, “CALIBRATING CAMERA IMAGE (DR-SIDE CAMERA)”, or “CALIBRATING CAMERA IMAGE (REAR CAMERA)” to accept the selection.
NOTE:
To cancel the indication of Incomplete calibration, select items based on the target camera.
2. On the adjustment screen of each camera, adjust the parameter by touching the “AXIS X” button, “AXIS Y” button, and “ROTATE” button to place the calibration marker shown on the camera screen on the target line drawn on the ground.



Adjustment range	
Rotation direction (Center dial)	: 31 patterns (16 on the center)
Upper/lower direction (upper/lower switch)	: –22 – 22
Left/right direction (left/right switch)	: –22 – 22

3. Touch “APPLY” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are shown on the camera screen.
CAUTION:
Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.
4. Touch “OK” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are written to the around view monitor control unit.
CAUTION:
Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.

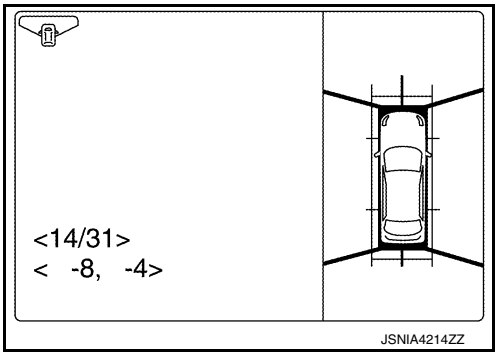
>> GO TO 6.

6. PERFORM “FINE TUNING OF BIRDS-EYE VIEW”

This mode is designed to align the boundary between each camera image that could not be aligned in the “Calibrating Camera Image” mode.

CONSULT work support

1. Select “FINE TUNING OF BIRDS-EYE VIEW” by touching CONSULT screen.
2. On the adjustment screen of each camera, adjust the parameter by touching the “AXIS X” button, “AXIS Y” button”, and “ROTATE” button to place the calibration marker shown on the camera screen on the target line drawn on the ground.
   NOTE:
   Touch “SELECT” button on the CONSULT screen to select the target camera.
3. Touch “APPLY” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are shown on the camera screen.
   CAUTION:
   Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.



4. Touch “OK” button on the CONSULT screen. “PRCSNG” is displayed and adjustment results are written to the around view monitor control unit.
   CAUTION:
   - **Check that “PRCSNG” is displayed. Never perform other operations while “PRCSNG” is displayed.**
   - **After pressing the “OK” button, never press buttons other than the “BACK” button.**

   NOTE:
   - It can be initialized to the NISSAN factory default condition with “Initialize Camera Image Calibration”.
   - The adjustment value is cancelled in this mode by performing “Initialize Camera Image Calibration”.

>> Calibration End.

DTC/CIRCUIT DIAGNOSIS

U0121 VDC CAN 2

DTC Logic

INFOID:0000000010275633

DTC DETECTION LOGIC

NOTE:
If DTC U0121 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-106, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
VDC CAN CIR1 [U0121]	Distance sensor receives an error signal from ABS actuator and electric unit (control unit) via CAN communication.	• ABS actuator and electric unit (control unit). • Distance sensor.

DTC CONFIRMATION PROCEDURE

1. PERFORM SELF DIAGNOSTIC RESULT

1. Start the engine.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is display history of DTC U0121 CRNT?

YES >> Refer to DAS-99, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010275634

1. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace the distance sensor. Refer to DAS-160, "Removal and Installation".

U0122 VDC P-RUN DIAG

DTC Logic

INFOID:0000000010275600

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
VDC CAN CIR1(LDP) [U0122]	Around view monitor control unit receives incorrect signal (P-RUN) from ABS actuator and electric unit (control Unit) via CAN communication.	• ABS actuator and electric unit (control unit). • Around view monitor control unit.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition ON.
2. Perform “Self Diagnostic Result” of “AVM” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-100, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010275601

1.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to DAS-163, "Removal and Installation".

U0126 STRG SEN CAN 1

DTC Logic

INFOID:0000000010275635

DTC DETECTION LOGIC

NOTE:
If DTC U0126 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-106, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
ST ANG SEN SIG [U0126]	Distance sensor receives an error signal from steering angle sensor via CAN communication.	• Steering angle sensor. • Distance sensor.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Start the engine.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-101, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010275636

1.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace the distance sensor. Refer to DAS-160, "Removal and Installation".

U0401 ECM CAN 1

DTC Logic

INFOID:0000000010275637

DTC DETECTION LOGIC

NOTE:
If DTC U0401 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-106, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
ECM CAN CIR2 [U0401]	Distance sensor receives an error signal from ECM via CAN communication.	• ECM. • Distance sensor.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Start the engine.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-102, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010275638

1.CHECK ECM SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ENGINE” using CONSULT.

Are any DTCs detected?

YES >> Refer to EC-93, "DTC Index".
NO >> Replace the distance sensor. Refer to DAS-160, "Removal and Installation".

U0415 VDC CAN 1

DTC Logic

INFOID:0000000010275639

DTC DETECTION LOGIC

NOTE:
If DTC U0415 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-106, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
VDC CAN CIR2 [U0415]	Distance sensor receives an error signal from ABS actuator and electric unit (control unit) via CAN communication.	• ABS actuator and electric unit (control unit). • Distance sensor.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Start the engine.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is display history of DTC U0415 CRNT?

YES >> Refer to DAS-103, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010275640

1.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace the distance sensor. Refer to DAS-160, "Removal and Installation".

U0416 VDC CHECKSUM DIAG

DTC Logic

INFOID:0000000010275602

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
VDC CAN CIR2(LDP) [U0416]	Around view monitor control unit receives incorrect signal (P-RUN) from ABS actuator and electric unit (control unit) via CAN communication.	• ABS actuator and electric unit (control unit). • Around view monitor control unit.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition ON.
2. Perform “Self Diagnostic Result” of “AVM” using CONSULT.

Are any DTCs displayed?

YES >> Refer to DAS-104, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010275603

1.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to DAS-163, "Removal and Installation".

U0428 STEERING ANGLE SENSOR

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010284257

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ST ANG SEN CALIB [U0428]	Predictive course line center position adjustment of steering angle sensor is incomplete.	Adjust predictive course line center position adjustment of steering angle sensor.

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010284258

1.ADJUST PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT OF STEERING ANGLE SENSOR

When U0428 is detected, the predictive course line center position of steering angle sensor needs to be adjusted.

>> Adjust the predictive course line center position of steering angle sensor. Refer to AV-291, "PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010284279

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ST ANG SEN CALIB [U0428]	Predictive course line center position adjustment of steering angle sensor is incomplete.	Adjust predictive course line center position adjustment of steering angle sensor.

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010284280

1.ADJUST PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT OF STEERING ANGLE SENSOR

When U0428 is detected, the predictive course line center position of steering angle sensor needs to be adjusted.

>> Adjust the predictive course line center position of steering angle sensor. Refer to DAS-88, "Work Procedure".

U1000 CAN COMM CIRCUIT

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010284261

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	Around view monitor control unit is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010284262

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform “Self Diagnostic Result” for “AVM”.

Is CAN COMM CIRCUIT displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-41, "Intermittent Incident".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010284259

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAN COMM CIRCUIT [U1000]	Distance sensor is not transmitting or receiving CAN communication signal for 2 seconds or more.	CAN communication system.

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010284260

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform “Self Diagnostic Result” for “LASER/RADAR”

Is CAN COMM CIRCUIT displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-41, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010284264

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the Around view monitor control unit if the malfunction occurs constantly. Refer to AV-387, "Removal and Installation".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010284263

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the distance sensor if the malfunction occurs constantly. Refer to DAS-160, "Removal and Installation".

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010284265

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Rear display output signal diagnosis (Harness disconnection) [U111A]	Rear view camera image signal circuit open or short.	Check rear view camera image signal circuit.

Diagnosis Procedure

INFOID:0000000010284266

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK REAR VIEW CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.
3. Check continuity between around view monitor control unit connector M114 and rear view camera connector D514.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	50	D514	8	Yes
	52		7	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	50		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK REAR VIEW CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	50	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

3.CHECK REAR VIEW CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and rear view camera connectors.

3. Check continuity between around view monitor control unit connector M114 and rear view camera connector D514.

Around view monitor control unit		Rear view camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	53	D514	5	Yes
	54		1	

4. Check continuity between around view monitor control unit connector M114 and ground.

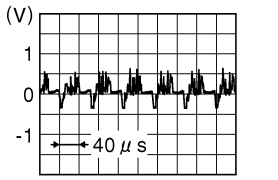
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	53		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4. CHECK REAR VIEW CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and rear view camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

Around view monitor control unit connector M114		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
53	54	CAMERA switch is ON or selector lever in R (reverse).	 JSNIA0834GB

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> Replace rear view camera. Refer to DAS-166, "Removal and Installation".

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010284267

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Right side display output signal diagnosis (Harness disconnection) [U111B]	Right side camera image signal circuit open or short.	Check right side camera image signal circuit.

Diagnosis Procedure

INFOID:0000000010284268

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK RH SIDE CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and RH side camera connectors.
3. Check continuity between around view monitor control unit connector M114 and RH side camera connector D107.

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	62	D107	7	Yes
	64		8	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	62		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK RH SIDE CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	62	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

3.CHECK RH SIDE CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and RH side camera connectors.

3. Check continuity between around view monitor control unit connector M114 and RH side camera connector D107.

Around view monitor control unit		RH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	65	D107	16	Yes
	66		15	

4. Check continuity between around view monitor control unit connector M114 and ground.

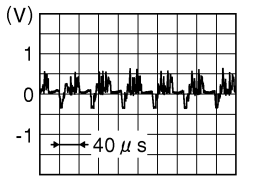
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	65		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4. CHECK RH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and RH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

Around view monitor control unit connector M114		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
65	66	CAMERA switch is ON or selector lever in R (reverse).	

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Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> Replace RH side camera. Refer to DAS-161, "Removal and Installation".

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010284269

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Front display output signal diagnosis (Harness disconnection) [U111C]	Front camera image signal circuit open or short.	Check front camera image signal circuit.

Diagnosis Procedure

INFOID:0000000010284270

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK FRONT CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.
3. Check continuity between around view monitor control unit connector M114 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	68	E226	2	Yes
	70		1	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	68		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK FRONT CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	68	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

3.CHECK FRONT CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and front camera connectors.

3. Check continuity between around view monitor control unit connector M114 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	71	E226	4	Yes
	72		5	

4. Check continuity between around view monitor control unit connector M114 and ground.

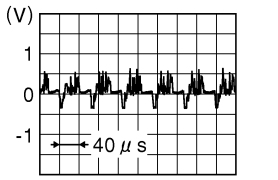
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	71		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4. CHECK FRONT CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and front camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

Around view monitor control unit connector M114		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
71	72	CAMERA switch is ON or selector lever in R (reverse).	

JSNIA0834GB

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> Replace front camera. Refer to DAS-159, "Removal and Installation".

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010284271

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Left side display output signal diagnosis (Harness disconnection) [U111D]	Left side camera image signal circuit open or short.	Check left side camera image signal circuit.

Diagnosis Procedure

INFOID:0000000010284272

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK LH SIDE CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and LH side camera connectors.
3. Check continuity between around view monitor control unit connector M114 and LH side camera connector D4.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	56	D4	7	Yes
	58		8	

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	56		No

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK LH SIDE CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	56	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

3.CHECK LH SIDE CAMERA IMAGE SIGNAL AND IMAGE SIGNAL GROUND CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit and LH side camera connectors.

3. Check continuity between around view monitor control unit connector M114 and LH side camera connector D4.

Around view monitor control unit		LH side camera		Continuity
Connector	Terminals	Connector	Terminals	
M114	59	D4	16	Yes
	60		15	

4. Check continuity between around view monitor control unit connector M114 and ground.

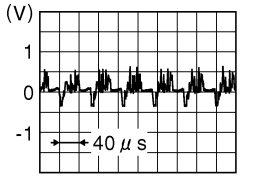
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	59		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4. CHECK LH SIDE CAMERA IMAGE SIGNAL

1. Connect around view monitor control unit and LH side camera connectors.
2. Turn ignition switch ON.
3. Check signal between the terminals of around view monitor control unit connector M114.

Around view monitor control unit connector M114		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
59	60	CAMERA switch is ON or selector lever in R (reverse).	

JSNIA0834GB

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> Replace LH side camera. Refer to DAS-161, "Removal and Installation".

U1232 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000010285557

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ST ANG SEN CALIB [U1232]	Predictive course line center position adjustment of steering angle sensor is incomplete.	Adjust predictive course line center position adjustment of steering angle sensor.

Diagnosis Procedure

INFOID:0000000010285558

1.ADJUST PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT OF STEERING ANGLE SENSOR

When U1232 is detected, the predictive course line center position of steering angle sensor needs to be adjusted.

>> Adjust the predictive course line center position of steering angle sensor. Refer to AV-291, "PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure".

U1302 CAMERA POWER VOLT

DTC Logic

INFOID:0000000010275656

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Camera supply power supply voltage abnormality [U1302]	Short in camera power supply circuit.	• Harness or connectors. • Camera. • Around view monitor control unit.

Diagnosis Procedure

INFOID:0000000010275657

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK AVM CAMERA DATA MONITOR ITEMS

Check “F-CAMERA IMAGE SIGNAL”, “REAR CAMERA IMAGE SIGNAL”, “DR-SIDE CAMERA IMAGE SIG” and “PA-SIDE CAMERA IMAGE SIG” in “DATA MONITOR” of “AVM” using CONSULT.

Is “OK” displayed for all cameras?

YES >> Refer to GI-41, "Intermittent Incident".
NO-1 (Front camera)>>GO TO 2.
NO-2 (Rear camera)>>GO TO 5.
NO-3 (LH side camera)>>GO TO 8.
NO-4 (RH side camera)>>GO TO 11.

2.CHECK FRONT CAMERA POWER SUPPLY (CAMERA)

1. Turn ignition switch ON.
2. Check voltage between front camera connector E226 and ground.

Front camera		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
E226	2	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace front camera. Refer to DAS-159, "Removal and Installation".
NO >> GO TO 3.

3.CHECK FRONT CAMERA POWER SUPPLY (AROUND VIEW MONITOR CONTROL UNIT)

Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	68	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

4.CHECK FRONT CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M114 and front camera connector.
3. Check continuity between around view monitor control unit connector M114 and front camera connector E226.

Around view monitor control unit		Front camera		Continuity
Connector	Terminal	Connector	Terminal	
M114	68	E226	2	Yes

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	68	—	No

Is the inspection result normal?

YES >> Replace front camera. Refer to DAS-159, "Removal and Installation".
NO >> Repair or replace harness or connectors.

5. CHECK REAR CAMERA POWER SUPPLY (CAMERA)

1. Turn ignition switch ON.
2. Check voltage between rear camera connector D514 and ground.

Rear camera		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D514	8	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace rear camera. Refer to DAS-166, "Removal and Installation".
NO >> GO TO 6.

6. CHECK REAR CAMERA POWER SUPPLY (AROUND VIEW MONITOR CONTROL UNIT)

Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	50	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

7. CHECK REAR CAMERA POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M114 and rear camera connector.
3. Check continuity between around view monitor control unit connector M114 and rear camera connector D514.

Around view monitor control unit		Rear camera		Continuity
Connector	Terminal	Connector	Terminal	
M114	50	D514	8	Yes

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	50	—	No

Is the inspection result normal?

YES >> Replace rear camera. Refer to DAS-166, "Removal and Installation".
NO >> Repair or replace harness or connectors.

8.CHECK SIDE CAMERA LH POWER SUPPLY (CAMERA)

1. Turn ignition switch ON.
2. Check voltage between side camera LH connector D14 and ground.

Side camera LH		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D14	7	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace side camera LH. Refer to DAS-161, "Removal and Installation".
NO >> GO TO 9.

9.CHECK SIDE CAMERA LH POWER SUPPLY (AROUND VIEW MONITOR CONTROL UNIT)

Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	56	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> GO TO 10.
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

10.CHECK SIDE CAMERA LH POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M114 and side camera LH connector.
3. Check continuity between around view monitor control unit connector M114 and side camera LH connector D14.

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminal	Connector	Terminal	
M114	56	D14	7	Yes

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	56	—	No

Is the inspection result normal?

YES >> Replace side camera LH. Refer to DAS-161, "Removal and Installation".
NO >> Repair or replace harness or connectors.

11.CHECK SIDE CAMERA RH POWER SUPPLY (CAMERA)

1. Turn ignition switch ON.
2. Check voltage between side camera RH connector D107 and ground.

Side camera RH		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D107	7	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace side camera RH. Refer to DAS-161, "Removal and Installation".
NO >> GO TO 12.

12.CHECK SIDE CAMERA RH POWER SUPPLY (AROUND VIEW MONITOR CONTROL UNIT)

Check voltage between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M114	62	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> GO TO 13.
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

13. CHECK SIDE CAMERA RH POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M114 and side camera RH connector.
3. Check continuity between around view monitor control unit connector M114 and side camera RH connector D107.

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminal	Connector	Terminal	
M114	62	D107	7	Yes

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	62	—	No

Is the inspection result normal?

YES >> Replace side camera RH. Refer to DAS-161, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U1303 LED POWER SUPPLY VOLT

DTC Logic

INFOID:0000000010275658

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
LED supply power supply voltage abnormality [U1303]	Open or short in blind spot warning indicator power supply circuit.	• Harness or connectors. • Around view monitor control unit.

Diagnosis Procedure

INFOID:0000000010275659

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK BLIND SPOT WARNING POWER SUPPLY CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M113 and blind spot warning indicators connectors.
3. Check continuity between around view monitor control unit connector M113 and blind spot warning indicators connectors.

Around view monitor control unit		Blind spot warning indicator		Continuity
Connector	Terminal	Connector	Terminal	
M113	7	D5 (LH)	1	Yes
	8	D108 (RH)	1	

4. Check continuity between around view monitor control unit connector M113 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M113	7	—	No
	8		

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U1304 CAMERA IMAGE CALIBRATION

DTC Logic

INFOID:0000000010284275

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Non-completion of the calibration [U1304]	Camera image calibration is incomplete.	Perform calibration of camera image.

Diagnosis Procedure

INFOID:0000000010284276

1.PERFORM CALIBRATION

When U1304 is detected, perform calibration of camera image.

>> Refer to AV-292, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

U1305 CONFIG UNFINISH

DTC Logic

INFOID:0000000010284277

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Non-completion of the configuration [U1305]	Configuration of around view monitor control unit is incomplete.	Perform configuration of around view monitor control unit.

Diagnosis Procedure

INFOID:0000000010284278

1.PERFORM CONFIGURATION

When U1305 is detected, perform configuration of around view monitor control unit.

>> Refer to AV-290, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Work Procedure".

U1308 CAMERA CONFIG

DTC Logic

INFOID:0000000010275598

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Rear camera judgement [U1308]	Around view monitor control unit camera calibration is incomplete.	Perform Around view monitor control unit camera calibration.

Diagnosis Procedure

INFOID:0000000010275599

1.PERFORM AROUND VIEW MONITOR CAMERA CALIBRATION

When U1308 is detected, the rear view camera needs to be calibrated.

>> Calibrate the rear view camera. Refer to DAS-89, "Description".

U1309 PUMP UNIT CURRENT

DTC Logic

INFOID:0000000010275604

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
PUMP UNIT CURRENT [U1309]	Around view monitor control unit detects incorrect pump current from rear view camera washer control unit.	• Harness • Rear view camera washer control unit • Around view monitor control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” of “AVM” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-125, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010275605

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK REAR VIEW CAMERA WASHER CONTROL UNIT POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between rear view camera washer control unit connector B67 and ground.

Rear view camera washer control unit		Ground	Voltage
Connector	Terminal		
B67	12	—	Battery voltage

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK REAR VIEW CAMERA WASHER CONTROL UNIT GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera washer control unit connector.
3. Check continuity between rear view camera washer control unit connector B67 and ground.

Rear view camera washer control unit		Ground	Continuity
Connector	Terminal		
B67	5	—	Yes

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3.CHECK REAR VIEW CAMERA WASHER CONTROL UNIT CIRCUITS CONTINUITY

1. Disconnect around view monitor control unit connector M113.
2. Check continuity between around view monitor control unit connector M113 and rear view camera washer control unit connector B67.

Around view monitor control unit		Rear view camera washer control unit		Continuity
Connector	Terminal	Connector	Terminal	
M113	36	B67	8	Yes
	37		6	
	38		7	

3. Check continuity between around view monitor control unit connector M113 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M113	36	—	No
	38		

Is inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness or connectors.

4. CHECK CONTINUITY REAR VIEW CAMERA WASHER CONTROL UNIT TO PUMP

1. Disconnect rear view camera air pump motor connector.
2. Check continuity between rear view camera washer control unit connector B67 and rear view camera air pump motor connector B72.

Rear view camera washer control unit		Rear view camera air pump motor		Continuity
Connector	Terminal	Connector	Terminal	
B67	1	B72	1	Yes
	2		2	

3. Check for continuity between rear view camera washer control unit connector and ground.

Rear view camera washer control unit		Ground	Continuity
Connector	Terminal		
B67	1	—	No
	2		

Is inspection result normal?

YES >> Replace the rear view camera air pump motor. Refer to DAS-168, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U130A PUMP CONTROL UNIT

DTC Logic

INFOID:0000000010275763

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
PUMP ECU JUDGE [U130A]	Rear view camera washer control unit malfunction.	Rear view camera washer control unit.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Start the engine.
2. Perform “Self Diagnostic Result” of “AVM” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-127, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010275764

1.CHECK REAR VIEW CAMERA WASHER CONTROL UNIT POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between rear view camera washer control unit connector B67 and ground.

Rear view camera washer control unit		Ground	Voltage
Connector	Terminal		
B67	12	—	Battery voltage

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connectors.

2.CHECK REAR VIEW CAMERA WASHER CONTROL UNIT GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera washer control unit connector.
3. Check continuity between rear view camera washer control unit connector B67 and ground.

Rear view camera washer control unit		Ground	Continuity
Connector	Terminal		
B67	5	—	Yes

Is the inspection result normal?

YES >> Replace rear view camera washer control unit. Refer to DAS-169, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U130B REAR CAMERA COMM ERROR

DTC Logic

INFOID:0000000010275606

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
Rear Camera Serial Communication [U130B]	Around view monitor control unit receives incorrect communication signal from rear view camera.	• Rear view camera. • Harness. • Around view monitor control unit.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” of “AVM” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-128, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010275607

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK REAR VIEW CAMERA SERIAL SIGNAL CIRCUIT CONTINUITY

1. Turn ignition switch OFF.
2. Disconnect around view monitor control unit connector M114 and rear camera connector.
3. Check continuity between around view monitor control unit connector M114 and rear camera connector D514.

Around view monitor control unit		Rear camera		Continuity
Connector	Terminal	Connector	Terminal	
M114	49	D514	4	Yes

4. Check continuity between around view monitor control unit connector M114 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M114	49	—	No

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> Repair or replace harness or connectors.

C10B7 YAW RATE SENSOR

DTC Logic

INFOID:0000000010275660

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
YAW RATE SENSOR [C10B7]	Yaw rate/side/decel G sensor calibration incorrect.	• Calibration of yaw rate/side/decel G sensor not performed. • Interruption in yaw rate/side/decel G sensor calibration.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Start the engine.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-129, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010275661

1.PERFORM YAW RATE/SIDE/DECEL G SENSOR CALIBRATION

1. Perform calibration of yaw rate/side/decel G sensor. Refer to BRC-72, "Work Procedure".
2. Erase DTCs using CONSULT.
3. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Replace the distance sensor. Refer to DAS-160, "Removal and Installation".
NO >> Inspection End.

C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

DTC Logic

INFOID:0000000010275621

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
POWER SUPPLY CIR [C1A01]	Distance sensor battery voltage is less than 7.9 V for 5 seconds.	• Harness • Distance sensor
POWER SUPPLY CIR 2 [C1A02]	Distance sensor battery voltage is greater than 19.3 V for 5 seconds.	

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-130, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010275622

1.CHECK DISTANCE SENSOR POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of distance sensor. Refer to DAS-144, "DISTANCE SENSOR : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the distance sensor. Refer to DAS-160, "Removal and Installation".
NO >> Repair or replace harness or connectors.

C1A03 VEHICLE SPEED SENSOR
AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010275610

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
VHCL SPEED SE CIRC [C1A03]	Around view monitor control unit detects a velocity calculation error.	• ABS actuator and electric unit (control unit). • Around view monitor control unit.

DTC CONFIRMATION PROCEDURE

1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition ON.
2. Perform “Self Diagnostic Result” of “AVM” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-131, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010275611

1. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010284470

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
VHCL SPEED SE CIRC [C1A03]	Distance sensor detects a velocity calculation error.	• ABS actuator and electric unit (control unit). • Distance sensor.

DTC CONFIRMATION PROCEDURE

1. PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition ON.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-131, "DISTANCE SENSOR : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010284471

1. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-160, "Removal and Installation".

C1A04 ABS/TCS/VDC SYSTEM

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010275614

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
ABS/TCS/VDC CIRC [C1A04]	Around view monitor control unit receives VDC failed message from ABS actuator and electric unit (control unit).	• ABS actuator and electric unit (control unit). • Around view monitor control unit.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition ON.
2. Perform “Self Diagnostic Result” of “AVM” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-132, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Inspection End.

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010275615

1.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010284472

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
ABS/TCS/VDC CIRC [C1A04]	Distance sensor receives VDC failed message from ABS actuator and electric unit (control unit).	• ABS actuator and electric unit (control unit). • Distance sensor.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition ON.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-132, "DISTANCE SENSOR : Diagnosis Procedure".
NO >> Inspection End.

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010284473

1.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-160, "Removal and Installation".

C1A05 BRAKE SW/STOP LAMP SW

DTC Logic

INFOID:0000000010275641

DTC DETECTION LOGIC

NOTE:
If DTC C1A05 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-106, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
BRAKE SW/STOP L SW [C1A05]	Mismatch between stop lamp switch signal and ICC brake switch signal received from ECM and stop lamp switch signal received from ABS actuator and electric unit (control unit) that continues for 10 seconds or more with vehicle speeds at approximately 40 km/h or more.	• ECM. • ABS actuator and electric unit (control unit). • Distance sensor.

Diagnosis Procedure

INFOID:0000000010275642

1.CHECK SELF DIAGNOSTIC RESULT OF ECM

1. Perform “Self Diagnostic Result” of “ENGINE” using CONSULT.

Are any DTCs detected?

YES >> Refer to EC-93, "DTC Index".
NO >> GO TO 2.

2.CHECK SELF DIAGNOSTIC RESULT OF ABS

1. Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-160, "Removal and Installation".

C1A12 LASER BEAM OFF CENTER

DTC Logic

INFOID:0000000010275623

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
LASER BEAM OFFCNTR [C1A12]	Distance sensor is off the aiming point.	Distance sensor.

Diagnosis Procedure

INFOID:0000000010275624

1.PERFORM DISTANCE SENSOR SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Replace distance sensor. Refer to DAS-160, "Removal and Installation".
NO >> Inspection End.

C1A14 ECM

DTC Logic

INFOID:0000000010275645

DTC DETECTION LOGIC

NOTE:
If DTC C1A14 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-106, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC detecting condition	Possible causes
ECM CIRCUIT [C1A14]	ECM is malfunctioning.	• Accelerator pedal position sensor. • ECM. • Distance sensor.

1.PERFORM SELF DIAGNOSTIC RESULT

1. Start the engine.
2. Drive the vehicle.
3. Stop the vehicle.
4. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-135, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010275646

1.PERFORM SELF DIAGNOSTIC RESULT OF ECM

Perform “Self Diagnostic Result” of “ENGINE” using CONSULT.

Are any DTCs detected?

YES >> Refer to EC-93, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-160, "Removal and Installation".

C1A15 GEAR POSITION

DTC Logic

INFOID:0000000010275648

DTC DETECTION LOGIC

NOTE:

If DTC C1A15 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-106, "DISTANCE SENSOR : DTC Logic".
If DTC C1A15 is displayed with DTC C1A03, first perform the trouble diagnosis for DTC U1000. Refer to DAS-131, "DISTANCE SENSOR : DTC Logic".
If DTC C1A15 is displayed with DTC C1A04, first perform the trouble diagnosis for DTC U1000. Refer to DAS-132, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC detecting condition	Possible causes
GEAR POSITION [C1A15]	A mismatch between current gear position signal transmitted from TCM via CAN communication and gear position calculated by distance sensor continues for approximately 11 minutes or more.	• Input speed sensor. • Vehicle speed sensor CVT (output speed sensor). • TCM.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Start the engine.
2. Drive the vehicle at 10 km/h (6 MPH) or faster for approximately 15 minutes or more.
3. Stop the vehicle.
4. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-136, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010275649

1.CHECK SELF DIAGNOSTIC RESULT OF TCM

Perform “Self Diagnostic Result” of “TRANSMISSION” using CONSULT.

Are any DTCs detected?

YES >> Refer to TM-63, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-160, "Removal and Installation".

C1A16 RADAR BLOCKED

DTC Logic

INFOID:0000000010275625

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
RADAR STAIN [C1A16]	If any stain occurs to distance sensor body window.	• Stain or foreign materials deposited. • Cracks or scratches exist.

NOTE:
DTC C1A16 may be detected under the following conditions. (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 a malfunction.)
- When contamination or foreign materials adhere to the ICC sensor area of the front bumper
- When driving while it is snowing or when frost forms on the ICC sensor area of the front bumper
- When ICC sensor area of the front bumper is temporarily fogged

Diagnosis Procedure

INFOID:0000000010275626

1.VISUAL CHECK

1. Check for contamination and foreign material on the distance sensor area of the front bumper.
2. Check distance sensor for contamination and foreign materials.
3. Check distance sensor for cracks and scratches.

Is the inspection result normal?

YES >> Replace the distance sensor. Refer to DAS-160, "Removal and Installation".
NO >> Repair as necessary.

C1A17 DISTANCE SENSOR

DTC Logic

INFOID:0000000010275650

DTC DETECTION LOGIC

NOTE:
If DTC C1A17 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-106, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC detecting condition	Possible causes
LASER SENSOR FAIL [C1A17]	Distance sensor is malfunctioning.	Distance sensor.

Diagnosis Procedure

INFOID:0000000010275651

1.REPLACE DISTANCE SENSOR

>> Replace distance sensor. Refer to DAS-160, "Removal and Installation".

C1A18 RADAR AIMING INCMP

DTC Logic

INFOID:0000000010275629

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
LASER AIMING INCMP [C1A18]	Distance sensor not adjusted.	• Distance sensor aiming adjustment not performed. • Distance sensor aiming adjustment interrupted.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Start the engine.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-139, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010275630

1.ADJUST DISTANCE SENSOR

Perform Distance Sensor Initial Vertical Alignment and Distance Sensor Alignment.

>> Refer to DAS-70, "Description" and DAS-72, "Description".

C1A21 UNIT HIGH TEMP

DTC Logic

INFOID:0000000010275627

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
UNIT HIGH TEMP [C1A21]	Distance sensor judges high temperature abnormality.	Temperature around distance sensor high.

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch OFF.
2. Wait for 10 minutes or more to cool the distance sensor.
3. Start the engine.
4. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Replace distance sensor. Refer to DAS-160, "Removal and Installation".
NO >> Refer to GI-41, "Intermittent Incident".

C1A24 NP RANGE

DTC Logic

INFOID:0000000010275652

DTC DETECTION LOGIC

NOTE:
If DTC C1A24 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-106, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
NP RANGE [C1A24]	A mismatch between shift position signal and a current gear position signal transmitted from TCM via CAN communication that continues for 60 seconds or more.	• TCM. • Transmission range switch.

DTC CONFIRMATION PROCEDURE

1.CHECK SELF DIAGNOSTIC RESULT (1)

1. Start the engine.
2. Shift selector lever to P position and wait for approximately 5 minutes or more.
3. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-141, "Diagnosis Procedure".
NO >> GO TO 2.

2.CHECK SELF DIAGNOSTIC RESULT (2)

1. Shift selector lever to N position and wait for approximately 5 minutes or more.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-141, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010275653

1.CHECK SELF DIAGNOSTIC RESULT OF TCM

Perform “Self Diagnostic Result” of “TRANSMISSION” using CONSULT.

Are any DTCs detected?

YES >> Refer to TM-63, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-160, "Removal and Installation".

C1A39 STEERING ANGLE SENSOR
AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010275612

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
STRG SEN CIR [C1A39]	control unit receives steering angle sensor failed message from steering angle sensor.	• Steering angle sensor. • Around view monitor control unit.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition ON.
2. Perform “Self Diagnostic Result” of “AVM” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-142, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010275613

1.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace around view monitor control unit. Refer to DAS-163, "Removal and Installation".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010284474

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
STRG SEN CIR [C1A39]	Distance sensor receives steering angle sensor failed message from steering angle sensor.	• Steering angle sensor. • Distance sensor.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition ON.
2. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Is DTC detected?

YES >> Refer to DAS-142, "DISTANCE SENSOR : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010284475

1.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “ABS” using CONSULT.

Are any DTCs detected?

YES >> Refer to BRC-55, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-160, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT
AROUND VIEW MONITOR CONTROL UNIT
AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010408908

Regarding Wiring Diagram information, refer to AV-262, "Wiring Diagram".

WITHOUT DRIVER ASSISTANCE SYSTEM

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
2	Battery power supply	15 (20A)

Are the fuses 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 around view monitor control unit connector M103.
3. Check voltage between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M103	2	—	Ignition switch: OFF	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between around view monitor control unit connector M103 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M103	1	—	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace harness or connectors.

WITH DRIVER ASSISTANCE SYSTEM

1.CHECK FUSE

Check that the following fuses are not blown.

Terminal No.	Signal name	Fuse No.
2	Battery power supply	15 (20A)

Are the fuses 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 around view monitor control unit connector M113.
3. Check voltage between around view monitor control unit connector M113 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M113	2	—	Ignition switch: OFF	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between around view monitor control unit connector M113 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M113	1	—	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace harness or connectors.

DISTANCE SENSOR

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010284476

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK FUSE

Check that the following fuse is not blown.

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

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 distance sensor connector E21.
3. Check voltage between distance sensor connector E21 and ground.

Distance sensor		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
E21	1	—	Ignition switch: ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness or connectors.

3.CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between distance sensor connector E21 and ground.

Distance sensor		Ground	Continuity
Connector	Terminal		
E21	8	—	Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace harness or connectors.

WARNING SYSTEMS SWITCH CIRCUIT

Diagnosis Procedure

INFOID:0000000010275681

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK WARNING SYSTEMS SWITCH SIGNAL INPUT

1. Turn the ignition switch ON.
2. Check voltage between around view monitor control unit harness connector and ground.

Terminals			Condition	Voltage (Approx.)
(+)		(−)		
AVM control unit		Ground	Warning systems switch	
Connector	Terminal			
M113	17		Pressed	0 V
			Released	Battery voltage

Is the inspection result normal?

YES >> Replace the around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> GO TO 2.

2.CHECK WARNING SYSTEMS SWITCH

1. Turn ignition switch OFF.
2. Remove warning system switch.
3. Check warning system switch. Refer to DAS-147, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace the warning system switch. Refer to DAS-164, "Removal and Installation".

3.CHECK WARNING SYSTEM SWITCH GROUND CIRCUIT

Check continuity between warning system switch harness connector terminal and ground.

Warning system switch		Ground	Continuity
Connector	Terminal		
M253	8		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 around view monitor control unit control unit connector.
2. Check continuity between the around view monitor control unit harness connector and warning system switch harness connector.

Around view monitor control unit		Warning system switch		Continuity
Connector	Terminal	Connector	Terminal	
M113	17	M253	6	Yes

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair the harnesses or connectors.

5.CHECK WARNING SYSTEM SWITCH SIGNAL INPUT CIRCUIT FOR SHORT

Check continuity between the around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M113	17		No

Is the inspection result normal?

YES >> Replace the around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> Repair the harnesses or connectors.

Component Inspection

INFOID:0000000010275682

1. CHECK WARNING SYSTEMS SWITCH

Check continuity of warning system switch.

Terminal		Condition	Continuity
6	8	When warning system switch is pressed	Yes
		When warning system switch is released	No

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace the warning system switch. Refer to DAS-164, "Removal and Installation".

WARNING SYSTEMS ON INDICATOR CIRCUIT

Diagnosis Procedure

INFOID:0000000010275684

Regarding Wiring Diagram information, refer to DAS-53, "Wiring Diagram".

1.CHECK WARNING SYSTEM ON INDICATOR POWER SUPPLY CIRCUIT

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

Terminals			Voltage (Approx.)
(+)		(−)	
Warning system switch		Ground	
Connector	Terminal		
M253	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 around view monitor control unit harness connector.
3. Check continuity between the around view monitor control unit harness connector and warning system switch harness connector.

Around view monitor control unit		Warning system switch		Continuity
Connector	Terminal	Connector	Terminal	
M113	15	M253	3	Yes

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the harnesses or connectors.

3.CHECK WARNING SYSTEMS ON INDICATOR SIGNAL CIRCUIT FOR SHORT

Check continuity between the around view monitor control unit harness connector and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M113	15		No

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair the harnesses or connectors.

4.CHECK WARNING SYSTEMS ON INDICATOR

Check the warning systems ON indicator. Refer to DAS-149, "Component Inspection".

Is the inspection result normal?

YES >> Replace the around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> Replace warning systems switch. DAS-164, "Removal and Installation".

Component Inspection

INFOID:0000000010275685

1.CHECK WARNING SYSTEMS ON INDICATOR

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

Terminals		Condition	Warning system switch ON indicator
(+)	(-)		
5	3	When the battery voltage is applied	On
		When the battery voltage is not applied	Off

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace the warning systems switch. Refer to DAS-164, "Removal and Installation".

WARNING BUZZER CIRCUIT

Component Function Check

INFOID:0000000010275686

1.CHECK WARNING BUZZER

1. Turn the ignition switch ON.
2. Select the “Active Test” item “BUZZER” of “BCM” with CONSULT.
3. While operating the test item, check the operation.

On : Warning buzzer is activated.

Off : Warning buzzer is not activated.

Is the inspection result normal?

YES >> Inspection End.
NO >> Refer to DAS-150, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000010275687

1.CHECK WARNING BUZZER OPERATION

While activating the buzzer with CONSULT, listen for the buzzer sound.

Does warning buzzer sound?

YES >> Replace the around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> Replace the combination meter (buzzer).

REAR VIEW CAMERA WASHER MOTOR CIRCUIT

Component Function Check

INFOID:0000000010275765

1.CHECK REAR VIEW CAMERA WASHER MOTOR CIRCUIT

1. Turn ignition switch ON.
2. Select “WASH ACTIVE” of “AVM” with CONSULT.
3. Check operation while operating the test item.

On : Rear view camera washer motor is activated.

Off : Rear view camera washer motor is not activated.

Is the inspection result normal?

YES >> Rear view camera washer motor circuit is normal.
NO >> Refer to DAS-151, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000010275766

1.CHECK REAR VIEW CAMERA WASHER MOTOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera washer motor connector.
3. Turn ignition switch ON.
4. Select “WASH ACTIVE” of “AVM” with CONSULT.
5. Check voltage between rear view camera washer motor connector E55 and ground.

Rear view camera washer motor		Ground	Voltage
Connector	Terminal		
E55	2	—	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace harness or connector.

2.CHECK REAR VIEW CAMERA WASHER MOTOR GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera washer control unit connector.
3. Check continuity between rear view camera washer motor connector E55 and rear view camera washer control unit connector B67.

Rear view camera washer motor		Rear view camera washer control unit		Continuity
Connector	Terminal	Connector	Terminal	
E55	1	B67	3	Yes

Is the inspection result normal?

YES >> Replace rear view camera washer motor. Refer to DAS-167, "Removal and Installation".
NO >> Repair or replace harness or connector.

SYMPTOM DIAGNOSIS

DRIVER ASSISTANCE SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000010227323

LANE DEPARTURE WARNING SYSTEM SYMPTOMS

NOTE:

Refer to the following the operation condition of the Lane Departure Warning system.

- Lane Departure Warning system: DAS-16, "LDW : System Description".

Symptom		Possible cause	Inspection item/Reference page
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON	LDW warning does not illuminate.	• Combination meter • Around view monitor control unit	Combination meter. Refer to MWI-21, "CONSULT Function (METER/M&A)". Around view monitor control unit. Refer to DAS-39, "CONSULT Function".
	LDW ON indicator does not illuminate.	• Combination meter • Around view monitor control unit	
	Warning systems ON indicator does not illuminate.	• Harness between around view monitor control unit and warning systems switch • Warning systems switch • Around view monitor control unit	Warning systems ON indicator circuit. Refer to DAS-149, "Component Inspection".
	LDW warning or LDW ON indicator does not illuminate.	• Combination meter	Combination meter. Refer to MWI-19, "Description".
	All of indicator/warning lamps does not illuminate; • LDW warning • LDW ON indicator • Warning systems ON indicator	• Power supply and ground circuit of around view monitor control unit • Around view monitor control unit	Power supply and ground circuit of around view monitor control unit. Refer to DAS-143, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
LDW system is not activated. (Indicator/warning lamps illuminate when ignition switch OFF ⇒ ON)	LDW ON indicator is not turned ON ⇔ OFF when operating warning systems switch	• Harness between around view monitor control unit and warning systems switch • Harness between warning systems switch and ground • Warning systems switch • Around view monitor control unit	• Warning systems switch circuit. Refer to DAS-146, "Diagnosis Procedure". • LDW system setting can not be turned ON/OFF on the information display. Refer to DAS-155, "Diagnosis Procedure".
	Warning buzzer is not sounding. (LDW warning is activated.)	• Around view monitor control unit	Meter buzzer circuit. Refer to DAS-150, "Component Function Check".
Warning functions are not timely (Example) • Does not function when driving on lane markers • Functions when driving in a lane • Functions in a different position from the actual position		• Camera calibration • Rear camera • Around view monitor control unit	Camera calibration. Refer to DAS-89, "Description".
Rear view camera washer is not activated		Rear view camera washer motor	Rear view camera washer motor circuit. Refer to DAS-151, "Diagnosis Procedure".
Rear view camera wash is insufficient		• Washer tube (include check valve) • Air tube • Washer/Air nozzle (Rear view camera)	Rear view camera washer/air blower function. Refer to DAS-68, "Inspection Procedure".

BLIND SPOT WARNING SYSTEM SYMPTOMS

NOTE:

Refer to the following the operation condition of the Blind Spot Warning system.

- Blind Spot Warning system: DAS-20, "BSW : System Description".

Symptom		Possible cause	Inspection item/Reference page
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON.	BSW warning does not illuminate	• Combination meter • Around view monitor control unit	Combination meter. Refer to MWI-21, "CONSULT Function (METER/M&A)". Around view monitor control unit. Refer to DAS-39, "CONSULT Function".
	BSW ON indicator does not illuminate	• Combination meter • Around view monitor control unit	
	Warning systems ON indicator (on the warning systems switch) does not illuminate	• Harness between around view monitor control unit and warning systems switch • Warning systems switch • Around view monitor control unit	Warning systems ON indicator circuit. Refer to DAS-148, "Diagnosis Procedure".
	BSW ON indicator or BSW warning do not illuminate	• Combination meter • Around view monitor control unit	Combination meter. Refer to MWI-19, "Description".
	All of indicator/warning lamps do not illuminate; • BSW warning • BSW ON indicator • Warning systems ON indicator	• Power supply and ground circuit of around view monitor control unit • Around view monitor control unit • Combination meter	Power supply and ground circuit of around view monitor control unit. Refer to DAS-143, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
	BSW indicator does not turn ON	• Harness between around view monitor control unit and BSW indicator • Around view monitor control unit • BSW indicator	Around view monitor control unit. Refer to DAS-39, "CONSULT Function".
BSW system is not activated. (Indicator/warning lamps illuminate when ignition switch OFF ⇒ ON.)	Warning systems ON indicator is not turned ON ⇔ OFF when operating warning systems switch	• Harness between around view monitor control unit and waning systems switch • Harness between warning systems switch and ground • Around view monitor control unit • Warning systems switch	• Warning systems switch circuit. Refer to DAS-146, "Diagnosis Procedure". • BSW system setting cannot be turned ON/OFF on the information display. Refer to DAS-155, "Diagnosis Procedure".
	Buzzer is not sounding	• Warning system buzzer • Around view monitor control unit	Buzzer circuit. Refer to DAS-150, "Component Function Check".
BSW functions are not are not timely (Example) • Does not function when approaching a adjacent vehicle while BSW ON indicator lamp is illuminated		• Rear camera calibration • Rear camera • Around view monitor control unit	Rear camera calibration. Refer to DAS-89, "Description".
Rear view camera washer is not activated		Rear view camera washer motor	Rear view camera washer motor circuit. Refer to DAS-151, "Component Function Check".
Rear camera wash is insufficient		• Washer tube (include check valve) • Air tube • Washer/Air nozzle (Rear camera)	Refer to DAS-68, "Inspection Procedure". Rear view camera washer/air blower function.

MOVING OBJECT DETECTION SYSTEM SYMPTOMS

NOTE:
Refer to the following the operation condition of the Moving Object Detection system.
• Moving Object Detection system: DAS-26, "MOD : System Description".

Symptom		Possible cause	Inspection item/Reference page
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON.	All of indicator/warning lamps do not illuminate; • Moving Object Detection warning lamp • Moving Object Detection ON indicator • Warning systems ON indicator	• Power supply and ground circuit of around view monitor control unit • Around view monitor control unit • Combination meter	Power supply and ground circuit of around view monitor control unit. Refer to DAS-143, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
	Buzzer is not sounding	• Warning system buzzer	Buzzer circuit. Refer to DAS-150, "Component Function Check".

FORWARD COLLISION WARNING SYSTEM SYMPTOMS

NOTE:
Refer to the following the operation condition of the Forward Collision Warning system.
• Forward Collision Warning system: DAS-29, "FCW : System Description".

Symptom		Possible cause	Inspection item/Reference page
Operation	FCW system is not activated	Warning system switch	Warning system switch. Refer to DAS-146, "Diagnosis Procedure".
	FCW system setting cannot be turned ON/OFF on the information display	Steering switch	Steering switch. Refer to DAS-155, "Description".

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

Description

INFOID:0000000010227324

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

Diagnosis Procedure

INFOID:0000000010227325

1.CHECK DRIVER ASSISTNCE 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 MWI-69, "Diagnosis Procedure".

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-69, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-82, "Removal and Installation".
NO >> Replace steering switch. Refer to AV-211, "Removal and Installation".

SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

Description

INFOID:0000000010227328

The switch does not turn ON
- The driver assistance system does not turn On when the warning system switch is pressed.

The switch does not turn OFF
- The driver assistance system does not turn Off when the warning system switch is pressed.

Diagnosis Procedure

INFOID:0000000010227329

1.CHECK WARNING SYSTEM SWITCH CIRCUIT

Check the warning system switch circuit. Refer to DAS-146, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness or connector.

2.CHECK WARNING SYSTEM SWITCH

Check the warning system switch. Refer to DAS-147, "Component Inspection".

Is the inspection result normal?

YES >> Replace the around view monitor control unit. Refer to DAS-163, "Removal and Installation".
NO >> Replace the warning system switch. Refer to DAS-164, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000010227338

PRECAUTIONS FOR FORWARD COLLISION WARNING (FCW)

- The forward collision warning system is designed to warn 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 LANE DEPARTURE WARNING (LDW)

- The LDW system is only a warning device to inform the driver of a potential unintended lane departure. It will not steer the vehicle or 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 the vehicle at all times.
- The rear view camera may not detect properly under the following conditions:
- When towing a trailer.
- When strong light enters the rear view camera. (For example, direct sunlight or headlight from the rear)
- When ambient brightness changes instantly. (For example, when the vehicle enters or exits a tunnel or passes under a bridge.)
- Automatic washer and blower may not be able to secure detection capability when excessive dirt adheres on the camera lens.
- LDW system may not function properly under the following conditions:
- Excessive noise (e.g. audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- The rear view camera may not be able to detect properly under the following conditions:
- On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; non-standard lane markers; or lane markers covered with water, dirt, snow, etc.
- On roads where the discontinued lane markers are still detectable.
- On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs. (The LDW system could detect these items as lane markers.)
- On roads where the traveling lane merges or separates.
- When the vehicle′s traveling direction does not align with the lane marker.
- When the road surface is very dark due to scarce ambient light or impaired tail lamp.
- When driving on curved road, warning will be late on the outside of the curve due to the nature of the system.

PRECAUTIONS FOR BLIND SPOT WARNING (BSW)

- The BSW 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 you will move to ensure it is safe to change lanes. Never rely solely on the BSW system.
- The rear camera may not detect properly under the following conditions:
- When towing a trailer.
- When strong light enters the rear camera. (For example, direct sunlight or headlight from the rear)
- When ambient brightness changes instantly. (For example, when the vehicle enters or exits a tunnel or passes under a bridge.)

- Automatic washer and blower may not be able to secure detection capability when excessive dirt adheres on the camera lens.
- The camera unit may not be able to detect when certain objects are present such as:
- Pedestrians, bicycles, animals
- Several types of vehicles such as motorcycles
- Oncoming vehicles
- A vehicle approaching rapidly from behind.
- A vehicle which your vehicle overtakes rapidly.
- The rear camera may not be able to detect properly when your vehicle travels beside the middle section of a vehicle with long wheelbase(e.g. trailer truck, semi-trailer, tractor).
- The rear camera detection zone is designed based on a standard lane width. When driving in a wider lane, the camera unit may not detect vehicles in an adjacent lane. When driving in a narrow lane, the camera unit may detect vehicles driving two lanes away.
- The rear camera 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.
- The rear camera may detect reflection image of vehicles or roadside objects that are not actually in the detection zone, especially when the road is wet.

MOVING OBJECT DETECTION

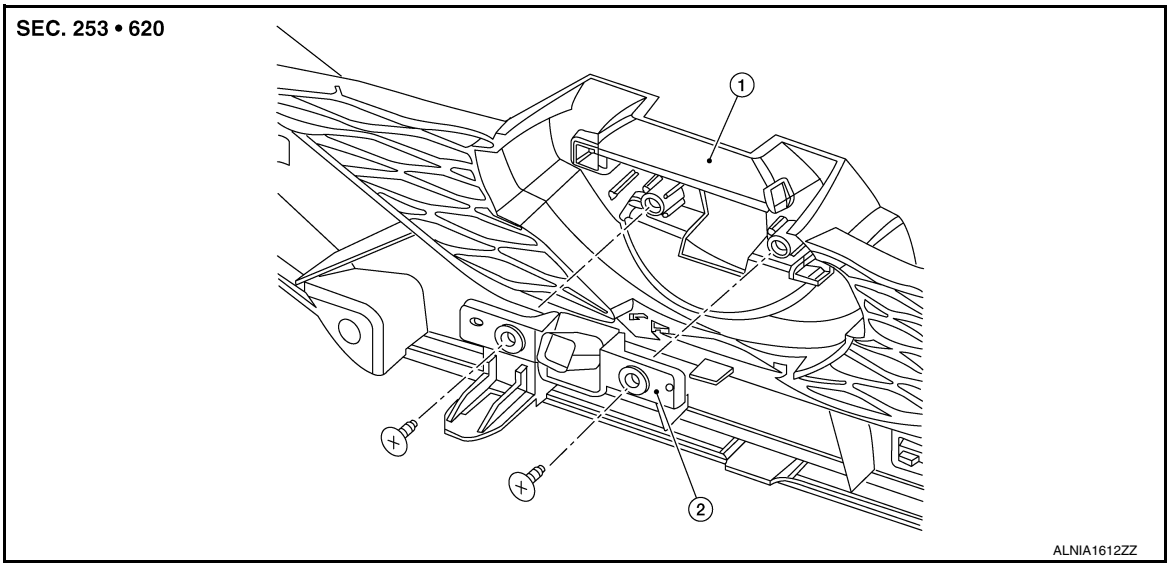
- The Moving Object Detection system is not a replacement for proper driving procedure and is not designed to prevent contact with vehicles or objects. When backing up, always look in the direction the driver will move to ensure it is safe to proceed. Never rely solely on the Moving Object Detection system.
- Using the Moving Object Detection system under some road or weather condition could lead to improper system operation. Always rely on driver's own steering and braking operation to avoid accidents.
- The Moving Object Detection system may not provide a warning for vehicles that pass through the detection zone quickly.
- Do not use the Moving Object Detection system when towing a trailer.
- Excessive noise (e.g., audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- A rear view camera may not detect approaching vehicles in certain situations:
- When a vehicle parked alongside obstructs the beam of the rear view camera.
- When the vehicle is parked in an angled parking space.
- When the vehicle is parked on an incline.
- When a vehicle turns into your vehicle’s aisle.
- When the angle formed by your vehicle and approaching vehicle is small.
- Severe weather or road spray conditions may reduce the ability of the radar to detect other vehicles.
- The rear view camera system may not detect:
- Small or moving object.
- Wedge-shaped objects.
- Object closer to the bumper than 30 cm (10 inch).
- Thin objects such as rope, wire, chain, etc.
- Do not use the MOD system under the following conditions because the system may not function properly:
- When driving with a tire that is not the within normal tire condition (example: tire wear, low pressure, spare tire, chain, non-standard wheels).
- When the vehicle is equipped with non-original brake parts or suspension parts.

REMOVAL AND INSTALLATION

FRONT CAMERA

Exploded View

INFOID:0000000010283553



1. Front grille
2. Front camera

Removal and Installation

INFOID:0000000010283554

REMOVAL

1. Remove the front grille. Refer to EXT-23, "Removal and Installation".
2. Remove screws and front camera.

INSTALLATION

Installation is in the reverse order of removal.

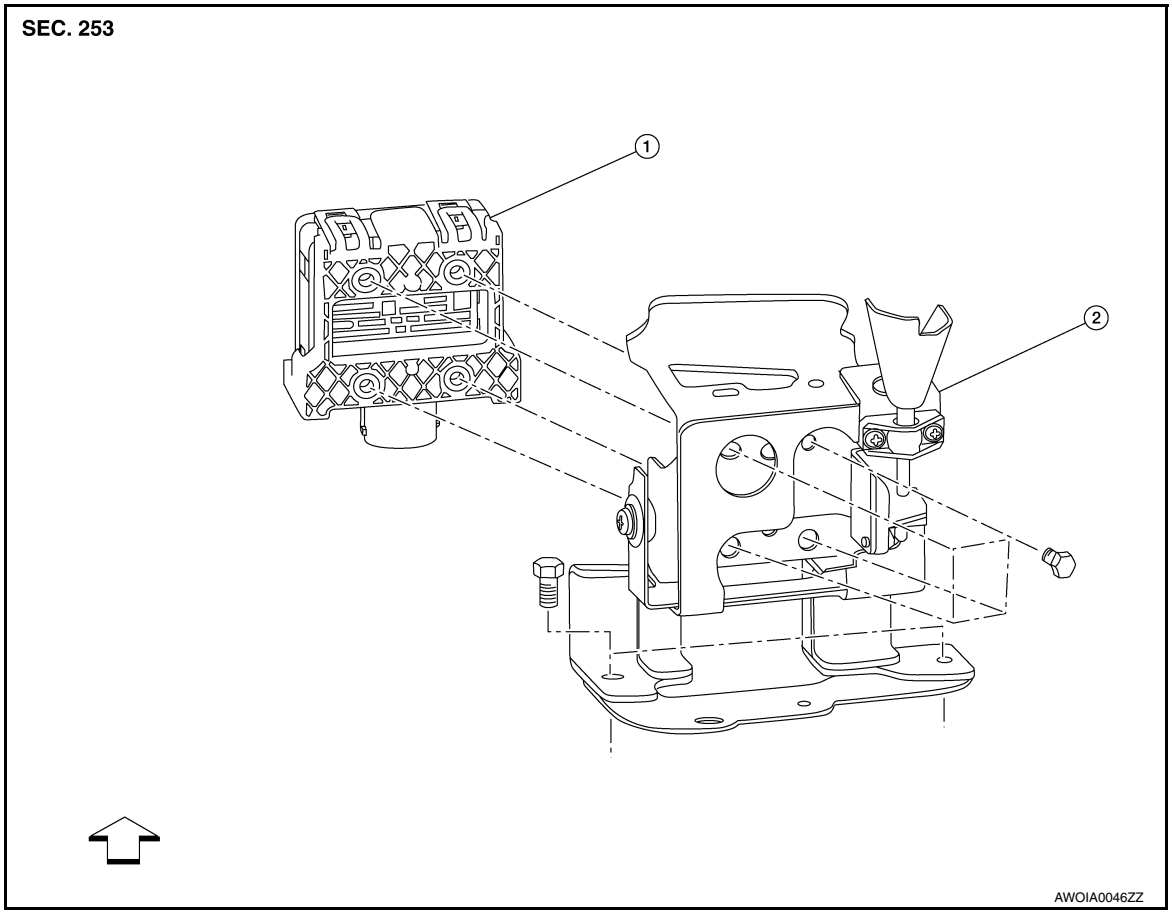
NOTE:

Perform camera image calibration. Refer to AV-292, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

DISTANCE SENSOR

Exploded View

INFOID:0000000010283578



1. Distance sensor
2. Bracket
⇦ Front

Removal and Installation

INFOID:0000000010227341

REMOVAL

1. Remove the front bumper fascia. Refer to EXT-20, "Removal and Installation".
2. Remove distance sensor bolts and the distance sensor.
   CAUTION:
   Do not drop or shock distance sensor.
3. Remove bolts and distance sensor bracket (if necessary).

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Perform additional service when replacing distance sensor. Refer to DAS-69, "Work Procedure".

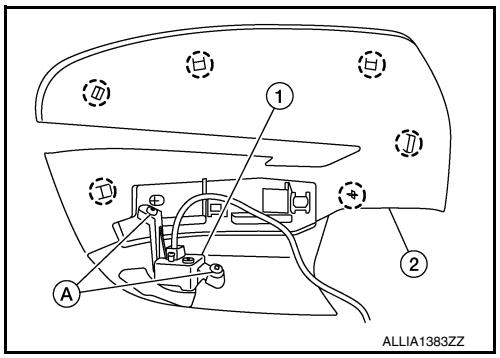
SIDE CAMERA

Removal and Installation

INFOID:0000000010283555

REMOVAL

1. Remove door mirror rear finisher (2). Refer to MIR-25, "Removal and Installation".
2. Remove screws (A) and side camera (1).
   ◌: Pawl



INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Perform camera image calibration (if equipped with around view camera). Refer to AV-135, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Description".

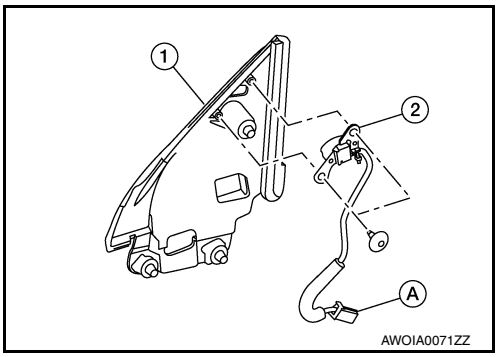
BSW INDICATOR

Removal and Installation

INFOID:0000000010227342

REMOVAL

1. Remove the front door finisher. Refer to INT-15, "Removal and Installation".
2. Release the door mirror corner finisher using a 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 blind spot warning indicator (2).



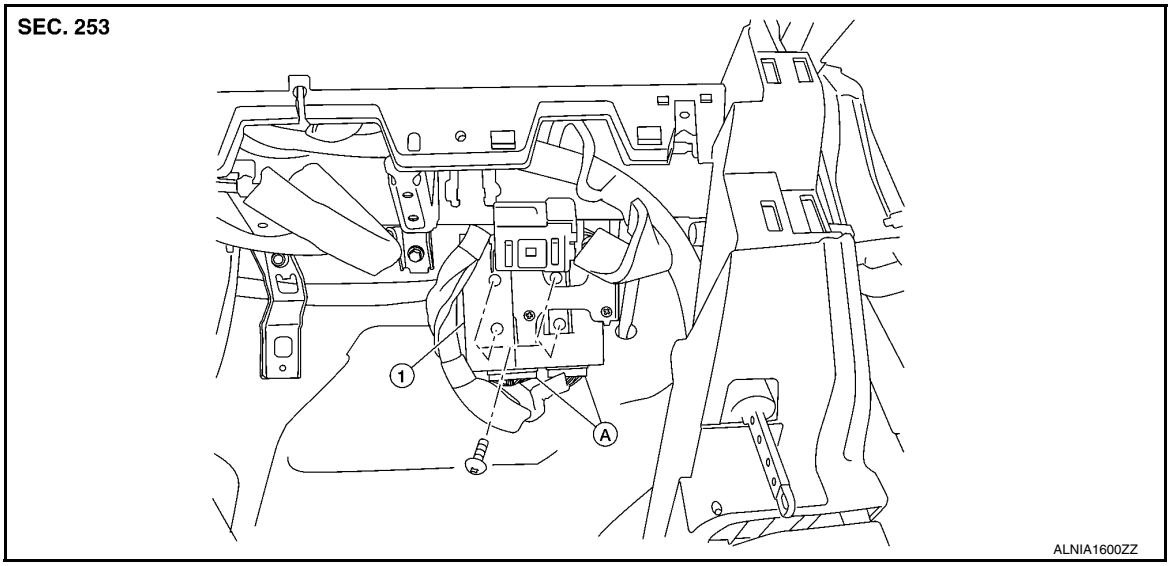
INSTALLATION

Installation is in the reverse order of removal.

AROUND VIEW MONITOR CONTROL UNIT

Exploded View

INFOID:0000000010283558



1. Around view monitor control unit A. Harness connector

Removal and Installation

INFOID:0000000010283559

REMOVAL

CAUTION:

Before replacing around view monitor control unit, save or print current vehicle specification with CONSULT configuration before replacement. Refer to AV-288, "ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure".

1. Remove glove box assembly. Refer to IP-23, "Removal and Installation".
2. Remove around view monitor control unit screws.
3. Disconnect the harness connector from the around view monitor control unit and remove.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

- **Replace the around view monitor control unit if it has been dropped or sustained an impact.**
- **When replacing around view monitor control unit, you must perform "After Replace ECU" with CONSULT. Refer to AV-288, "ADDITIONAL SERVICE WHEN REPLACING AROUND VIEW MONITOR CONTROL UNIT : Work Procedure".**

NOTE:

Perform camera image calibration. Refer to AV-292, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

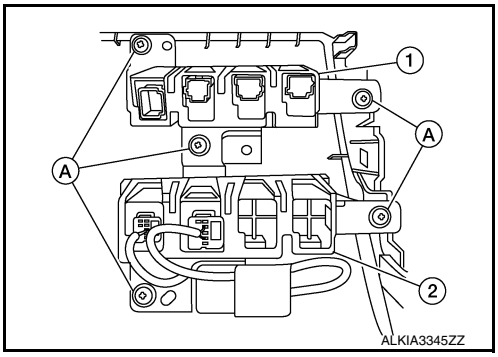
WARNING SYSTEMS SWITCH

Removal and Installation

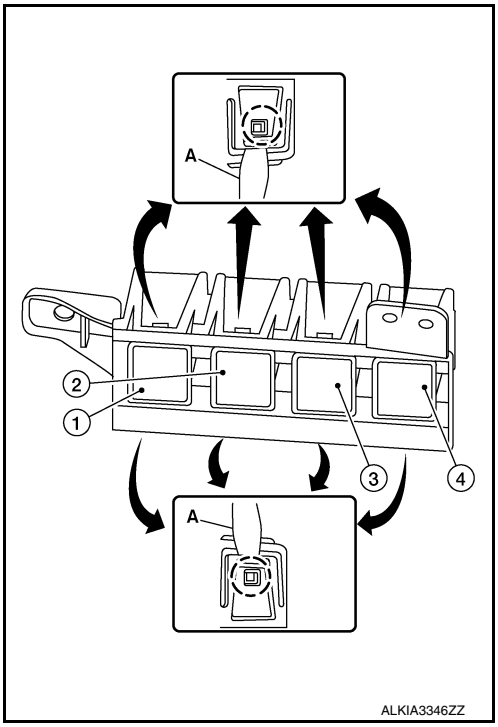
INFOID:0000000010269651

REMOVAL

1. Remove the instrument lower panel LH. Refer to IP-14, "Exploded View".
2. Remove the screws (A) that retain the upper (1) and lower (2) switch carriers.



3. Release pawls using a suitable tool (A), then remove the warning systems switch (2) from the lower switch carrier.
   (1): Blank
   (3): AWD LOCK switch (if equipped)
   (4): Hill descent control switch (if equipped)



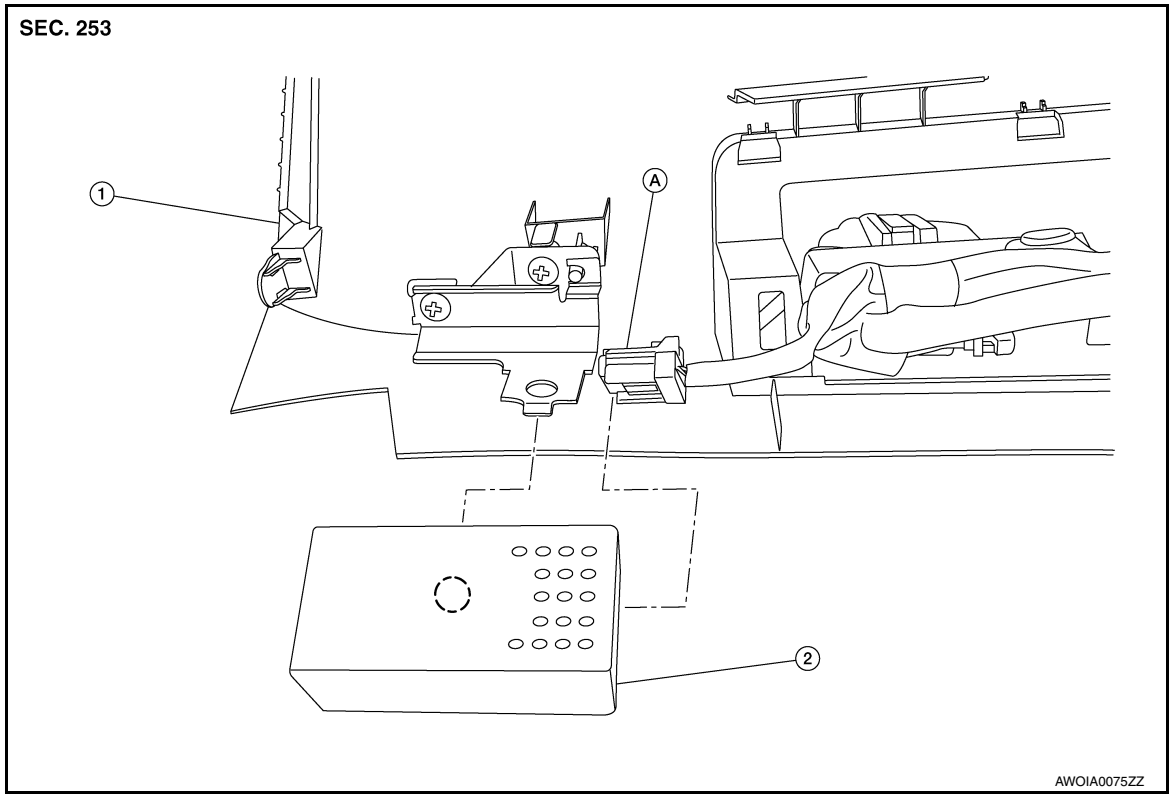
INSTALLATION

Installation is in the reverse order of removal.

WARNING SYSTEMS BUZZER

Exploded View

INFOID:0000000010288646



1. Instrument lower panel LH
2. Warning systems buzzer
A. Harness connector
Pawl

Removal and Installation

INFOID:0000000010227344

REMOVAL

1. Remove instrument lower panel LH. Refer to IP-14, "Exploded View".
2. Remove warning systems buzzer from bracket on the back of the instrument lower panel LH.

INSTALLATION

Installation is in the reverse order of removal.

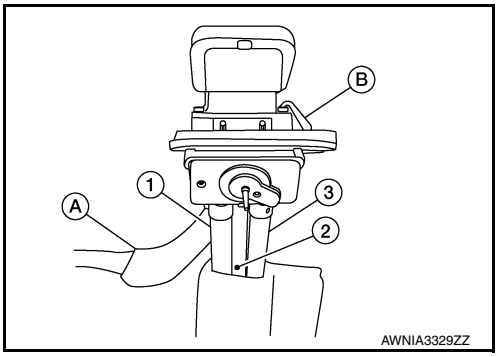
REAR VIEW CAMERA

Removal and Installation

INFOID:0000000010283557

REMOVAL

1. Remove the back door outer finisher. Refer to EXT-50, "Removal and Installation".
2. Disconnect washer tubes (1,3) and air tube (2) (if equipped).
3. Release pawl (B), disconnect harness connector (A) from rear view camera and remove.



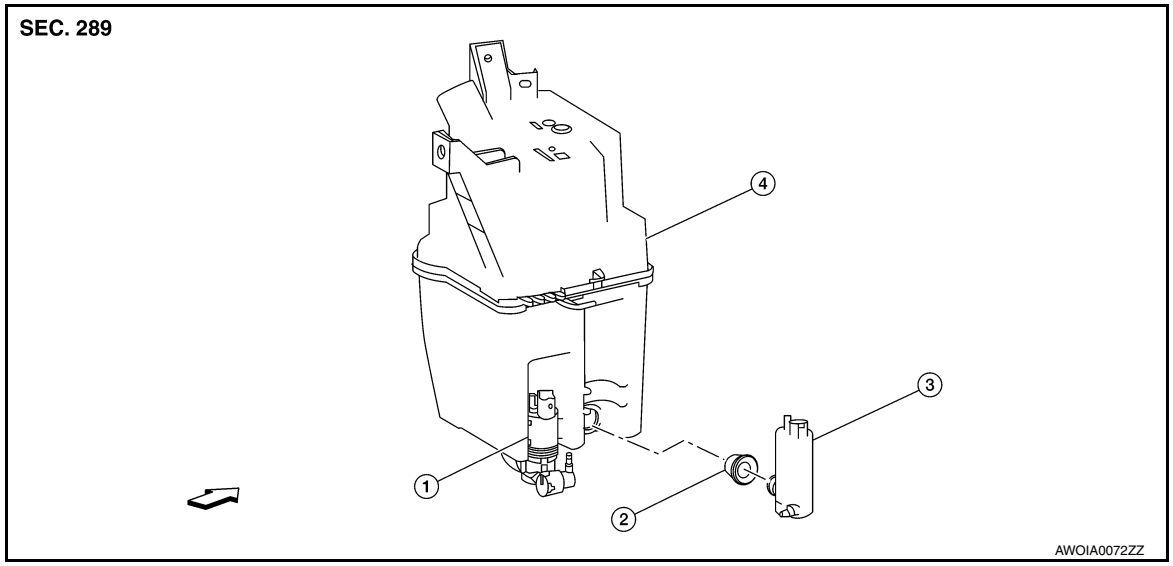
INSTALLATION

Installation is in the reverse order of removal.

REAR VIEW CAMERA WASHER MOTOR

Exploded View

INFOID:0000000010290336



1. Front and rear wiper motor
2. Seal
3. Rear view camera washer motor
4. Washer tank
⇦ Front

Removal and Installation

INFOID:0000000010283566

REMOVAL

1. Drain the washer fluid.
2. Remove the front under cover. Refer to EXT-16, "Exploded View".
3. Remove engine side cover. Refer to EXT-28, "FENDER PROTECTOR : Exploded View".
4. Disconnect the harness connector from the rear view camera washer motor.
5. Disconnect the washer tube from the rear view camera washer motor.
6. Remove the rear view camera washer motor.
7. Remove the washer tank seal (if necessary).

INSTALLATION

Installation is in the reverse order of removal.

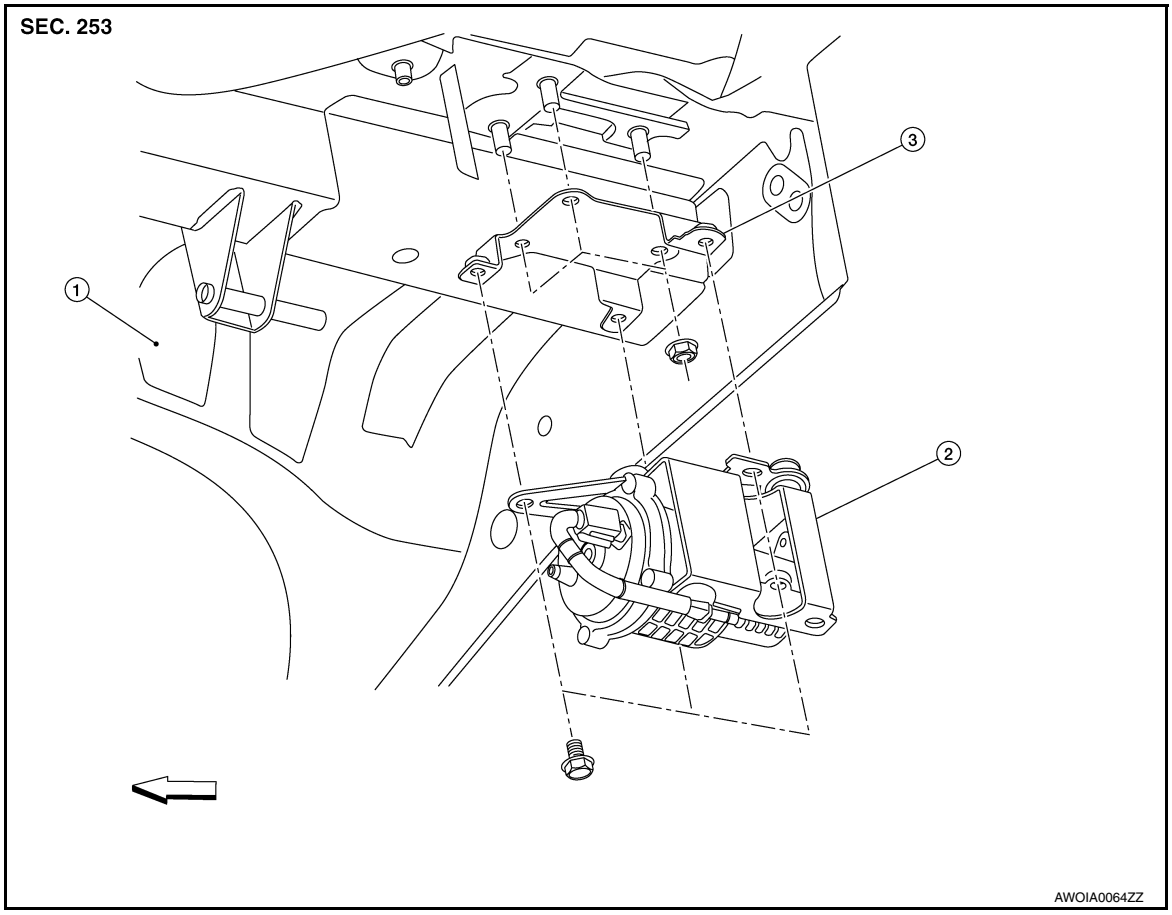
CAUTION:

Add water to the top of washer tank inlet after installing. Check that no leaks exist.

REAR VIEW CAMERA AIR PUMP MOTOR

Exploded View

INFOID:0000000010269645



1. Rear floor
2. Rear view camera air pump motor
3. Bracket

⇦ Front

Removal and Installation

INFOID:0000000010269646

REMOVAL

1. Remove the rear bumper fascia under cover (LH). Refer to EXT-20, "Exploded View".
2. Disconnect the air tubes from the rear view camera air pump motor.
3. Disconnect the harness connector from the rear view camera air pump motor.
4. Remove bolts and rear view camera air pump motor.
5. Remove nuts and remove bracket (if necessary).

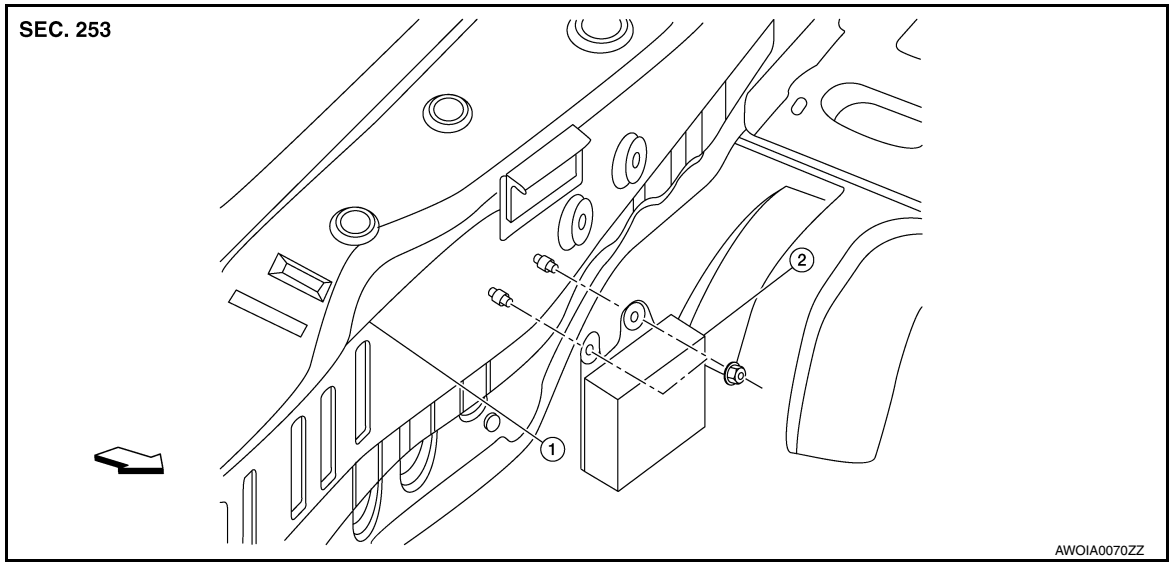
INSTALLATION

Installation is in the reverse order of removal.

REAR VIEW CAMERA WASHER CONTROL UNIT

Exploded View

INFOID:0000000010269647



1. Body panel
2. Rear view camera washer control unit

Removal and Installation

INFOID:0000000010269648

REMOVAL

1. Remove the luggage rear plate. Refer to INT-37, "LUGGAGE REAR PLATE : Removal and Installation".
2. Disconnect the harness connector from the rear view camera washer control unit.
3. Remove the rear view camera washer control unit nuts.
4. Remove the rear view camera washer control unit.

INSTALLATION

Installation is in the reverse order of removal.

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010246043

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:0000000010287284

- 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:

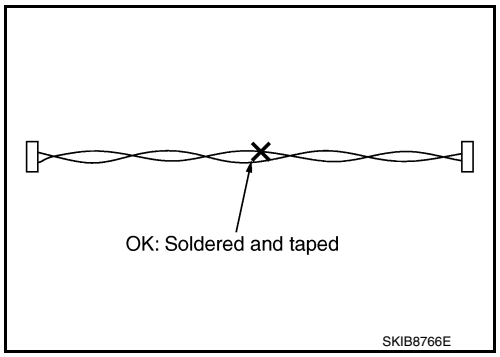
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

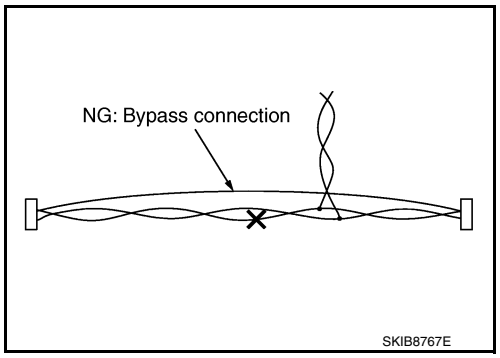
Precautions for Harness Repair

INFOID:0000000010227346

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



- Bypass connection is never allowed at the repaired area.
  NOTE:
  Bypass connection may cause CAN communication error. The spliced wire becomes separated and the characteristics of twisted line are lost.



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

Precautions for Chassis control

INFOID:0000000010227347

- 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 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.

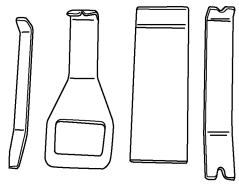
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000010246044

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

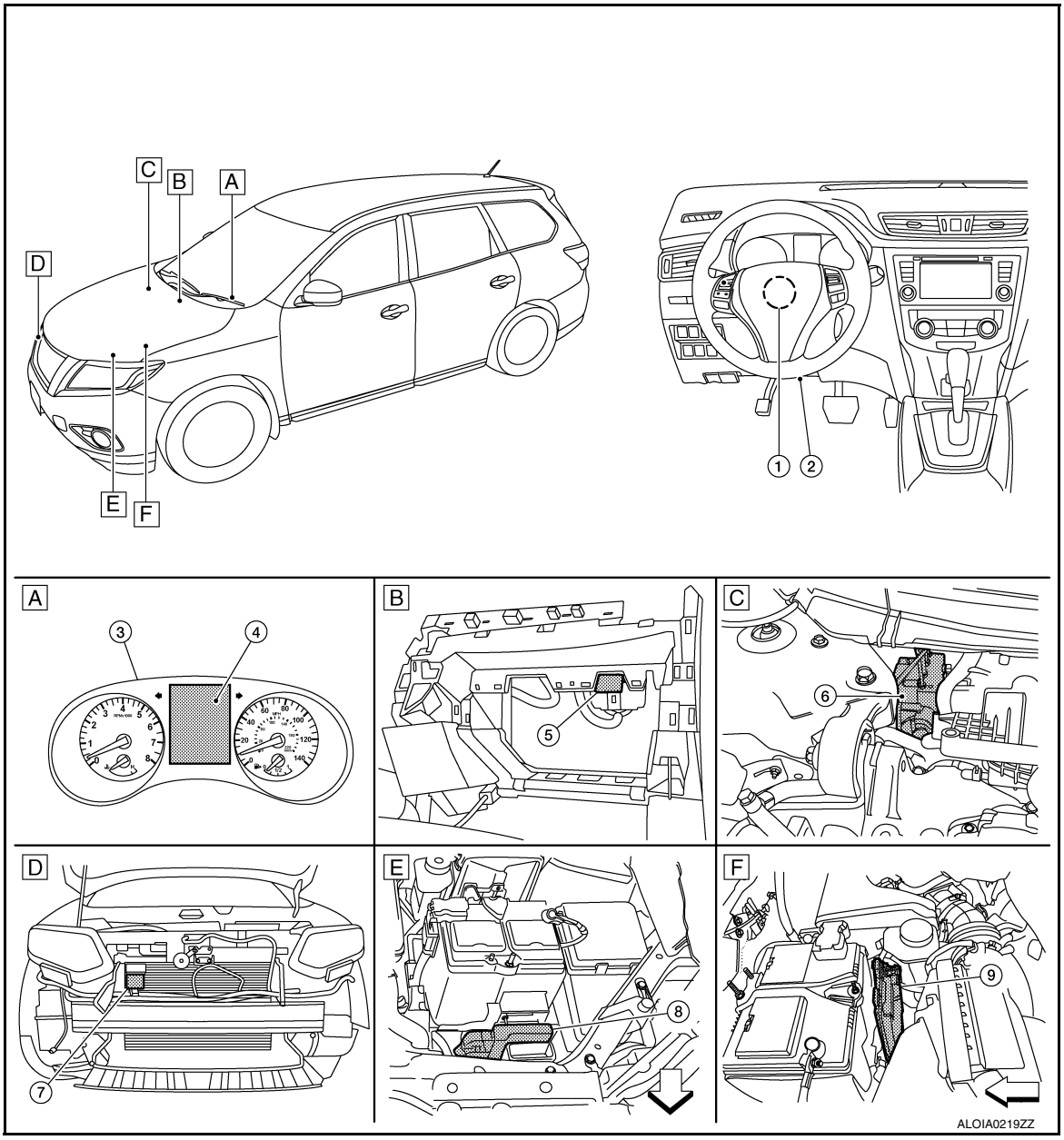
Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010227348



⇦ Front of vehicle

A Instrument panel LH

B View with glove box removed

C Rear of engine compartment RH

D RH front of vehicle

E Front of engine compartment LH

F Rear of battery

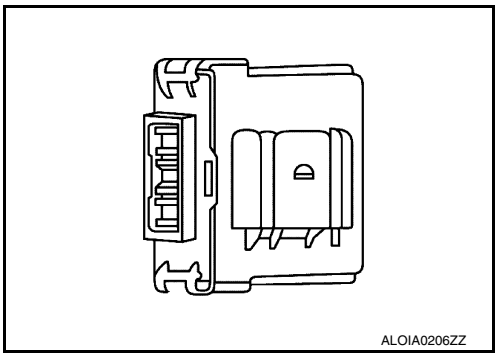
No.	Component parts	Function
①	Steering angle sensor	BRC-14, "System Description"
②	Data link connector	LAN-26, "CAN COMMUNICATION SYSTEM : System Description"
③	Combination meter	MWI-8, "METER SYSTEM : System Description"

No.	Component parts	Function
④	Vehicle information display	MWI-15, "INFORMATION DISPLAY : System Description"
⑤	Chassis control module	DAS-174, "Chassis Control Module"
⑥	ABS actuator and electric unit (control unit)	BRC-14, "System Description"
⑦	Distance sensor	DAS-16, "LDW : System Description"
⑧	Engine control module	EC-31, "ENGINE CONTROL SYSTEM : System Description"
⑨	Transmission control module	TM-31, "CVT CONTROL SYSTEM : System Description"

Chassis Control Module

INFOID:0000000010227349

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



SYSTEM

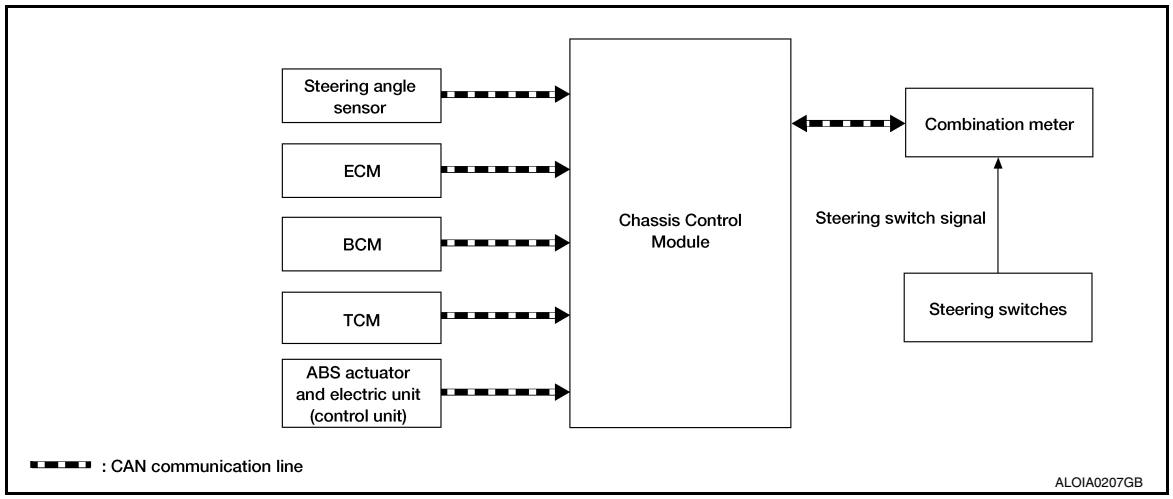
System Description - Chassis Control

INFOID:0000000010227350

- 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-175, "System Description - Active Engine Brake"
Active Ride Control	DAS-176, "System Description - Active Ride Control"
Active Trace Control	DAS-176, "System Description - Active Trace Control"

SYSTEM DIAGRAM

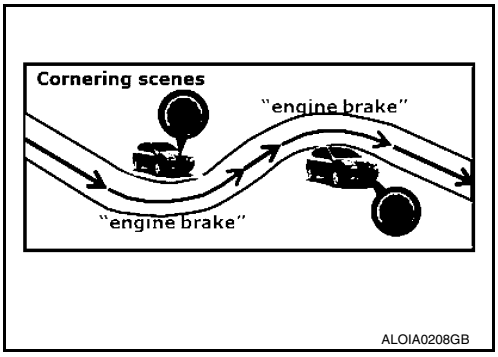


System Description - Active Engine Brake

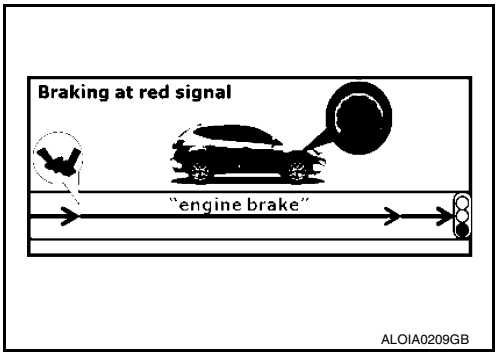
INFOID:0000000010287268

Active Engine Brake function can be switched ON/OFF through the "Chassis Control" settings on the vehicle 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.



- 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.

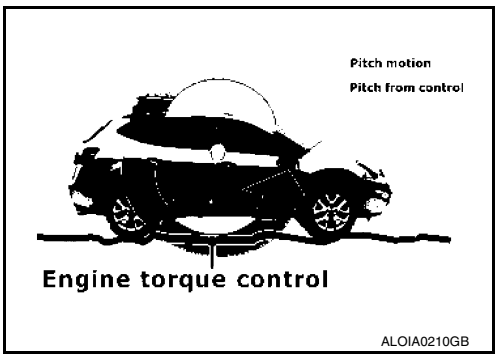


System Description - Active Ride Control

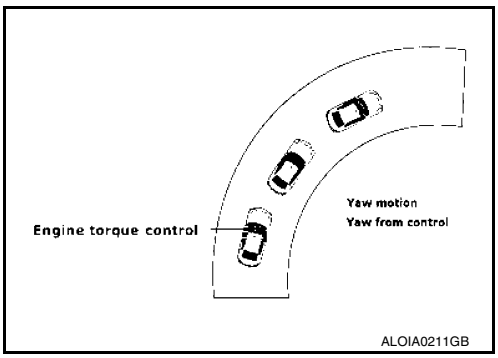
INFOID:0000000010287270

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

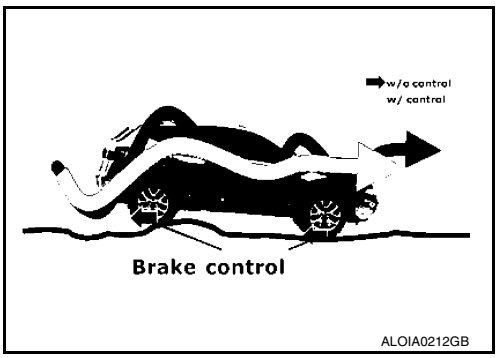
- Engine control - Enhances ride comfort by adding/subtracting engine torque in an effort to control the front and rear wheel load balance.



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



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



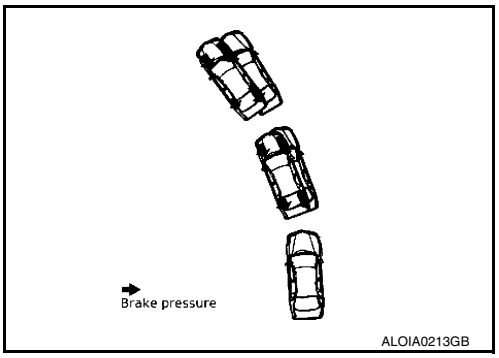
System Description - Active Trace Control

INFOID:0000000010287269

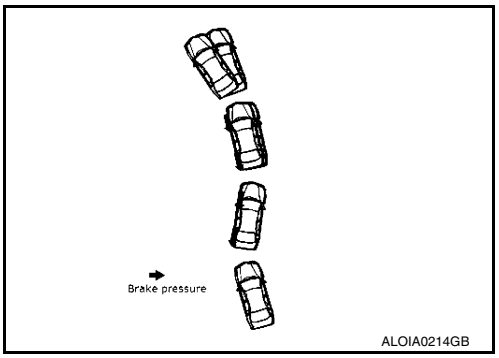
Active Trace Control function controls the braking utilizing the ABS actuator and electric unit (control unit), depending on cornering condition calculated from driver's steering input and plural sensors. Active Trace Control function is aimed to enhance traceability at corners and smooth the vehicle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

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.

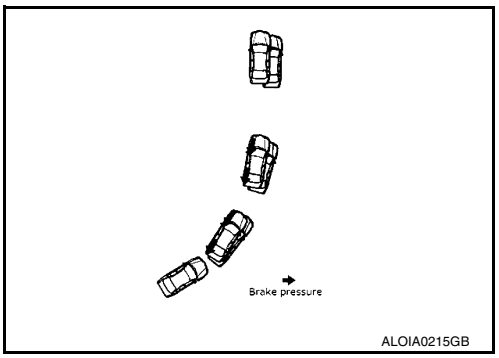
- Steady cornering - The change of forward and lateral acceleration is smoothened by applying the necessary amount of brake pressure.



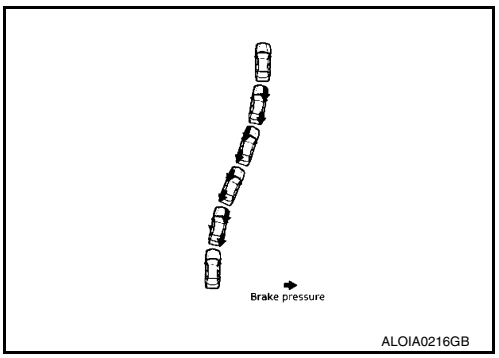
- Transient steering input - Reduces lag of yaw rate against steering operation.



- 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.



Fail-Safe (Chassis Control Module)

INFOID:0000000010227352

- 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.

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

DTC	Vehicle condition
C1BC6-00	The following functions are suspended. • Active Trace Control • Active Ride Control (brake)
U1A34-00 U1A35-00 U1A36-00	The following functions are suspended. • Active Trace Control • Active Ride Control • 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 U1A43-00	The following functions are suspended. • Active Trace Control • Active Ride Control (engine)
U1A48-00 U1A4A-00 U1A4B-00	The following functions are suspended. • Active Trace Control • Active Ride Control • Active Engine Brake
U1A4E-00	The following function is suspended. • Active Ride Control

INFORMATION DISPLAY (COMBINATION METER)

INFORMATION DISPLAY (COMBINATION METER) : Chassis Control Display

INFOID:0000000010227353

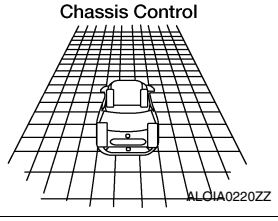
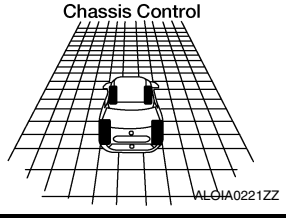
DESIGN/PURPOSE

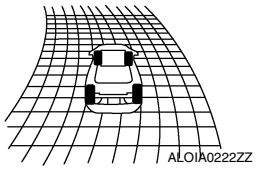
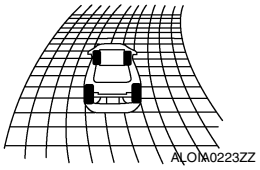
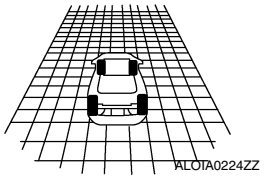
- The warning message is displayed on the vehicle information display when chassis control module detects an error in the chassis control system architecture. Please check the DTCs and investigate the cause of error.
- Each chassis control system information is displayed on the vehicle information display.

Warning Message

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

System Information

Design	Description
 ALOIA0220ZZ	Active Engine Brake inactive Active Ride Control inactive Active Trace Control inactive
 ALOIA0221ZZ	Active Engine Brake (assist at corners). Active Trace Control is active. (Steering angle is less than the specified angle)

Design	Description
Chassis Control  ALOIA0222ZZ	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  ALOIA0223ZZ	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  ALOIA0224ZZ	Active Ride Control is active (assist).

Indicator operating
- Active Engine Brake: Refer to DAS-175, "System Description - Active Engine Brake".
- Active Ride Control: Refer to DAS-176, "System Description - Active Ride Control".
- Active Trace Control: Refer to DAS-176, "System Description - Active Trace Control".

HANDLING PRECAUTION

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

INFOID:0000000010385678

CHASSIS CONTROL

- 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.
- 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.
- 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.
- When Chassis Control is operating, avoid excessive or sudden steering maneuvers. Otherwise, you could lose control of the vehicle.
- Engine Brake Control is designed to enhance braking feel and traceability at corners.
- Active Ride Control is designed to enhance handling and drive comfort.
- Active Trace Control is designed to enhance traceability at corners and smooth vehicle movement for more confident driving.
- Chassis Control may not function properly under the following conditions:
- During bad weather (rain, fog, snow, wind, etc.).
- When driving on slippery roads, such as on ice or snow, etc.
- 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).
- When the vehicle is equipped with non-original steering parts or suspension parts.
- The functions of Chassis Control may or may not operate properly under the following conditions:
- On roads covered with water, dirt or snow, etc.
- On roads where there are sharp curves.

DIAGNOSIS SYSTEM (CHASSIS CONTROL MODULE)

CONSULT Function

INFOID:0000000010227354

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	• Read and save the vehicle specification (TYPE ID). • Write the vehicle specification (TYPE ID) when replacing Chassis Control Module.

*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-194, "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.

Item name	Indication/Unit	Display item
SHIFT POSITION	Off / P / R / N / D (A) / S / L / B / 1– 6 / M 1 –M 8 / A 1 – A 6	Displayed but not used.
PRESS SENSOR	bar	Displays the brake fluid pressure.

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.

Item [Unit]		Description
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.
SHIFT POSITION	[Off / P / R / N / D (A) / S / L / B / 1– 6 / M 1 –M 8 / A 1 – A 6]	Displayed but not used.
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).
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.
ACCELE PEDAL MALF	[NORMAL / ABNOR]	Displays the accelerator pedal 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.
PARKING BRAKE	[Off / On]	Displayed but not used.
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.

Item [Unit]		Description
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 increase/decrease drive torque.
AEB	[Off / On]	Displays the Active Engine Brake (corner) function operating status
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.
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.
ARC BRAKE	[Off / On]	Displays the brake control effect of Active Trace Control function on the information display in the combination meter.
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.
ALC LEVEL	[0]	Displayed but not used.
ALC STATUS	[ACTIVE / INACT]	Displayed but not used.
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.
CVT ENABLE	[Off / On]	Displays the CVT authorized state for Active Engine Brake.
ADA SW	[Off / On]	Displays the Active Engine Brake status.
COMMAND(REL)	[0.0000]	Displays the relative command value of Active Engine Brake.
COMMAND(ABS)	[0.0000]	Displays absolute command value of Active Engine Brake.
SLIP RATE	[%]	Displays slip ratio of Active Engine Brake.
ASA CHARACTERISTIC	[Off / On]	Displays Active Trace Control state on METER.
ADA CHARACTERISTIC	[Off / On]	Displays Active Engine Brake state on METER.

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.
MASTER WARNING ACTIVE	On	If touching “On” with the master warning lamp not illuminated, the master warning lamp illuminates. Stops in approximately 1 minute.
	Off	The master warning lamp turns OFF. (vehicle in normal state)
FL TIRE DISP	On	Displays the front LH tire on the information display in the combination meter.
	Off	Does not display the front LH tire on the information display in the combination meter.
FR TIRE DISP	On	Displays the front RH tire on the information display in the combination meter.
	Off	Does not display the front RH tire on the information display in the combination meter.
RL TIRE DISP	On	Displays the rear LH tire on the information display in the combination meter.
	Off	Does not display the rear LH tire on the information display in the combination meter.
RR TIRE DISP	On	Displays the rear RH tire on the information display in the combination meter.
	Off	Does not display the rear RH tire on the information display in the combination meter.
TURN DISP	NO DISP	Does not display the turning status on the information display in the combination meter.
	LH	Displays the LH turning status on the information display in the combination meter.
	RH	Displays the RH turning status on the information display in the combination meter.
	ROUND	Displayed but not used.
ATC 1 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.
ATC 2 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.
HDC DISP	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.

Test item	Operation	Description
BRAKE HOLD DISP	INACT	Displays inactive status of controls on the information display on the combination meter.
	READY	Displays ready status of Hill Start Assist on the information display on the combination meter.
	ACTIVE	Displays active status of Hill Start Assist on the information display on the combination meter.
	ERROR	Displays inactive status of controls on the information display on the combination meter.
AEB DISP	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.
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 combination 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.

Function		Description
Read/Write Configuration	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

INFOID:0000000010227355

CONSULT DATA MONITOR STANDARD VALUE

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	Reference values in normal operation
IGN VOLT	Ignition switch ON	10 – 16 V
CONTROL MODULE MALF	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
STP LAMP OFF RELAY 1	Displayed but not used.	—
STP LAMP OFF RELAY 2	Displayed but not used.	—
ESS RELAY	Displayed but not used.	—
VEHICLE SPEED	Vehicle Stopped	0 km/h (0 MPH)
	Driving*	Almost same reading as speedometer (within ±10%)
FR WHEEL SPEED	Vehicle stopped	0 rpm
	Driving*	Increases according to vehicle speed
FL WHEEL SPEED	Vehicle stopped	0 rpm
	Driving*	Increases according to vehicle speed
RR WHEEL SPEED	Vehicle stopped	0 rpm
	Driving*	Increases according to vehicle speed
RL WHEEL SPEED	Vehicle stopped	0 rpm
	Driving*	Increases according to vehicle speed
STEERING ANG SENSOR	When driving straight	0±3.5 deg
	When steering wheel is steered to RH by 90°	Approx. +90 deg
	When steering wheel is steered to LH by 90°	Approx. –90 deg
DECEL G SENSOR	Vehicle stopped	Approx. 0 G
	When during acceleration	Positive value
	When during deceleration	Negative value
SIDE G SENSOR	Vehicle stopped	Approx. 0 G
	When right turn	Negative value
	When left turn	Positive value
YAW RATE SENSOR	Vehicle stopped	Approx. 0 deg/s
	When right turn	Negative value
	When left turn	Positive value
ACCELE PEDAL POSITION	When accelerator pedal is released	0%
	When accelerator pedal is depressed	0 – 100%

Monitor item	Condition	Reference values in normal operation
THROTTLE CONTROL	When electric throttle control actuator is normal	NORMAL
	When the electric throttle control actuator does not achieve the requirement (measured value is inaccurate)	INCORR
	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
SHIFT POSITION	Selector lever in any position	Displayed but not used
BRAKE SWITCH 2	When brake pedal is not depressed	Off
	When brake pedal is depressed	On
BRAKE SWITCH 1	When brake pedal is depressed	Off
	When brake pedal is not depressed	On
PRESS SENSOR	When brake pedal is not depressed	Approx. 0 bar
	when brake pedal is depressed	0 – 255 bar
ABS	When ABS function is normal	NORMAL
	When ABS function malfunction is detected	ABNOR
ABS MALF	When ABS function is normal	NORMAL
	When ABS function malfunction is detected	ABNOR
EBD	When EBD function is normal	NORMAL
	When EBD function malfunction is detected	ABNOR
ACCELE PEDAL MALF	When accelerator pedal is normal	NORMAL
	When accelerator pedal malfunction is detected	ABNOR
TCS	When TCS function is normal	NORMAL
	When TCS function malfunction is detected	ABNOR
TCS MALF	When TCS function is normal	NORMAL
	When TCS function malfunction is detected	ABNOR
VDC	When VDC function is normal	NORMAL
	When VDC function malfunction is detected	ABNOR
VDC MALF	When VDC function is normal	NORMAL
	When VDC function malfunction is detected	ABNOR
VDC OFF SWITCH	When VDC OFF switch is OFF	Off
	When VDC OFF switch is ON	On
PARKING BRAKE	When parking brake is inactive	Displayed but not used
	When parking brake is active	Displayed but not used
DRV TRQ CTRL MODE	When correction coefficients are initialized	INITIAL
	When correction is executed	NORMAL
	When correction is stopped (computing is impossible)	STOP 1
	When correction is stopped (computing is possible)	STOP 2
	When correction is limited	LIMIT 1
	When correction is prohibited	PROHIBI

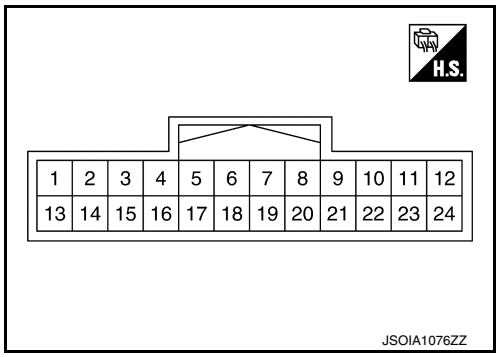
Monitor item	Condition	Reference values in normal operation
DRV TRQ CTRL PERMIS 1	When correction is permitted (basic requirement)	PERMIS
	When correction is not permitted (basic requirement)	NO PER
DRV TRQ CTRL PERMIS 2	When correction is permitted (system requirement)	PERMIS
	When correction is not permitted (system requirement)	NO PER
DRV TRQ CTRL STOP	When correction is requested to stop	REQ
	When correction is not requested to stop	NO REQ
DRV TRQ CTRL PROHIBIT	When prohibition of correction is requested	REQ
	When prohibition of correction is not requested	NO REQ
AEB	When Active Engine Brake (corner) function is active	On
	When Active Engine Brake (corner) function is inactive	Off
ATC 1	When active trace control function is inactive	Off
	When active trace control function is active	On
ATC 2	When active trace control function is inactive	Off
	When active trace control function is active	On
ATC 3	When active trace control function is inactive	Off
	When active trace control function is active	On
ATC 4	When active trace control function is inactive	Off
	When active trace control function is active	On
ATC 5	When active trace control function is inactive	Off
	When active trace control function is active	On
BRAKE HOLD	When Hill Start Assist function is inactive.	INACT
	When Hill Start Assist function is ready.	ACT
	When Hill Start Assist function is active.	RELEA
FL TIRE DISP	When the front LH tire is not displayed on the information display in the combination meter	DEF
	When the front LH tire is displayed on the information display in the combination meter	1
FR TIRE DISP	When the front RH tire is not displayed on the information display in the combination meter	DEF
	When the front RH tire is displayed on the information display in the combination meter	1
RL TIRE DISP	When the rear LH tire is not displayed on the information display in the combination meter	DEF
	When the rear LH tire is displayed on the information display in the combination meter	1
RR TIRE DISP	When the rear RH tire is not displayed on the information display in the combination meter	DEF
	When the rear RH tire is displayed on the information display in the combination meter	1

Monitor item	Condition	Reference values in normal operation
VEHICLE DISP	When active ride control (brake) effect is not displayed on the information display in the combination meter	Off
	When active ride control (brake) effect is displayed on the information display in the combination meter	On
INTERRUPT DISP	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 information display in the combination meter	HOLD1
	When Hill Start Assist function (active) is displayed on the information display in the combination meter	HOLD2
	When Hill Descent Control function is displayed on the information display in the combination meter	HDC
TURN DISP	When the straight-ahead status is displayed on the information display in the combination meter	N STEER
	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
ALC LEVEL	When Active Lane Control is turned ON.	Displayed but not used
	When Active Lane Control is operational or is operating.	Displayed but not used
ALC STATUS	When Active Lane Control is OFF	Displayed but not used
	When Active Lane Control is ON	Displayed but not used
BRAKE HOLD DISP	When Hill Start Assist function is not displayed on the information display in the combination meter	INACT
	When Hill Start Assist function (ready) is displayed on the information display in the combination meter	ACT
	When Hill Start Assist function (active) is displayed on the information display in the combination meter	RELEA
ATC DISP	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
ARC BRAKE DISP	When Active Ride Control (Brake) function is not displayed on the information display in the combination meter	Off
	When Active Ride Control (Brake) function is displayed on the information display in the combination meter	On

Monitor item	Condition	Reference values in normal operation
HDC DISP	When Hill Descent Control function is not displayed on the information display in the combination meter	Off
	When Hill Descent Control function is displayed on the information display in the combination meter	On

*: Check tire pressure under normal conditions.

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
3 (P)	Ground	CAN-L	—	—	—	—
4 (L)		CAN-H	—	—	—	—
10 (SB)		IGN	Input	Ignition switch ON		6.4 – 16 V
12 (B)		GROUND	—	Ignition switch ON	—	0 V

Fail-Safe (Chassis Control Module)

INFOID:0000000010227356

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

DTC	Vehicle condition
C1B92-00	The following functions are suspended. • Active Trace Control • Active Ride Control • Active Engine Brake
C1B93-00	The following functions are suspended. • Active Trace Control • Active Ride Control (engine) • Active Engine Brake
C1B94-00	The following functions are suspended. • Active Trace Control • Active Ride Control (engine)
C1B95-00	The following functions are suspended. • Active Trace Control • Active Ride Control (brake)

DTC	Vehicle condition
C1B99-00	The following functions are suspended. • Active Trace Control • Active Ride Control • Active Engine Brake
C1BA0-00	The following functions are suspended. • Active Trace Control • Active Ride Control (brake)
C1BA2-00	The following functions are suspended. • Active Trace Control • Active Ride Control (engine)
C1BA5-00	Normal control
C1BAB-00	The following functions are suspended. • Active Trace Control • Active Ride Control (engine)
C1BB2-00	The following functions are suspended. • Active Trace Control • Active Ride Control • Active Engine Brake
C1BB3-00	
C1BB4-00	
C1BB5-00	
C1BB6-00	Normal control
C1BB7-00	The following functions are suspended. • Active Trace Control • Active Ride Control • Active Engine Brake
C1BB8-00	
C1BB9-00	
C1BBA-00	
C1BBB-00	
C1BBC-00	Normal control
C1BBD-00	The following functions are suspended. • Active Trace Control • Active Ride Control • Active Engine Brake
C1BC0-00	The following functions are suspended. • Active Trace Control • Active Ride Control
C1BC1-00	
C1BC2-00	
C1BC3-00	
C1BC4-00	The following functions are suspended. • Active Ride Control (brake)
C1BC5-00	The following functions are suspended. • Active Trace Control
C1BC6-00	The following functions are suspended. • Active Trace Control • Active Ride Control (brake)
U1A34-00	The following functions are suspended. • Active Trace Control • Active Ride Control • Active Engine Brake
U1A35-00	
U1A36-00	
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. • Active Trace Control • Active Ride Control (engine)
U1A43-00	

DTC	Vehicle condition
U1A48-00	The following functions are suspended. • Active Trace Control • Active Ride Control • Active Engine Brake
U1A4A-00	
U1A4B-00	
U1A4E-00	The following functions are suspended. • Active Ride Control

DTC Inspection Priority Chart

INFOID:0000000010227357

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

Priority	Detected item (DTC)
1	• U1000-00 CAN COMM CIRCUIT
2	• U1A34-00 BRAKE CONTROL COMM • U1A35-00 BRAKE CONTROL COMM • U1A36-00 BCM/IPDM COMM • U1A39-00 COMBINATION METER COMM • U1A3B-00 TCM COMM • U1A3F-00 AV COMM • U1A42-00 STEERING ANGLE SENSOR COMM • U1A43-00 STEERING ANGLE SENSOR COMM • U1A48-00 ECM/HPCM COMM • U1A4A-00 CONTROL MODULE (CAN) • U1A4B-00 CONTROL MODULE (CAN) • U1A4E-00 ECM/HPCM COMM
3	• C1BBD-00 VARIANT CODING
4	• C1B92-00 BRAKE CONTROL SYSTEM • C1B93-00 ENGINE/HEV SYSTEM • C1B94-00 TM SYSTEM • C1BA0-00 ADAS/CHASSIS CTRL BRAKE SYS • C1BA2-00 STEERING ANGLE SENSOR • C1BA5-00 ADAS/CHASSIS CTRL ENGINE SYS • C1BAB-00 STOP LAMP SW • C1BC0-00 FR WHEEL SENSOR • C1BC1-00 FL WHEEL SENSOR • C1BC2-00 RR WHEEL SENSOR • C1BC3-00 RL WHEEL SENSOR • C1BC4-00 DECEL G SENSOR • C1BC5-00 SIDE G SENSOR • C1BC6-00 PRESSURE SENSOR
5	• C1BB5-00 IGN POWER SUPPLY • C1BB6-00 IGN POWER SUPPLY
6	• C1B95-00 CONTROL MODULE • C1B99-00 CONTROL MODULE • C1BB2-00 CONTROL MODULE • C1BB3-00 CONTROL MODULE • C1BB4-00 CONTROL MODULE • C1BB7-00 CONTROL MODULE • C1BB8-00 CONTROL MODULE • C1BB9-00 CONTROL MODULE • C1BBA-00 CONTROL MODULE • C1BBB-00 CONTROL MODULE • C1BBC-00 CONTROL MODULE

DTC Index

INFOID:0000000010227358

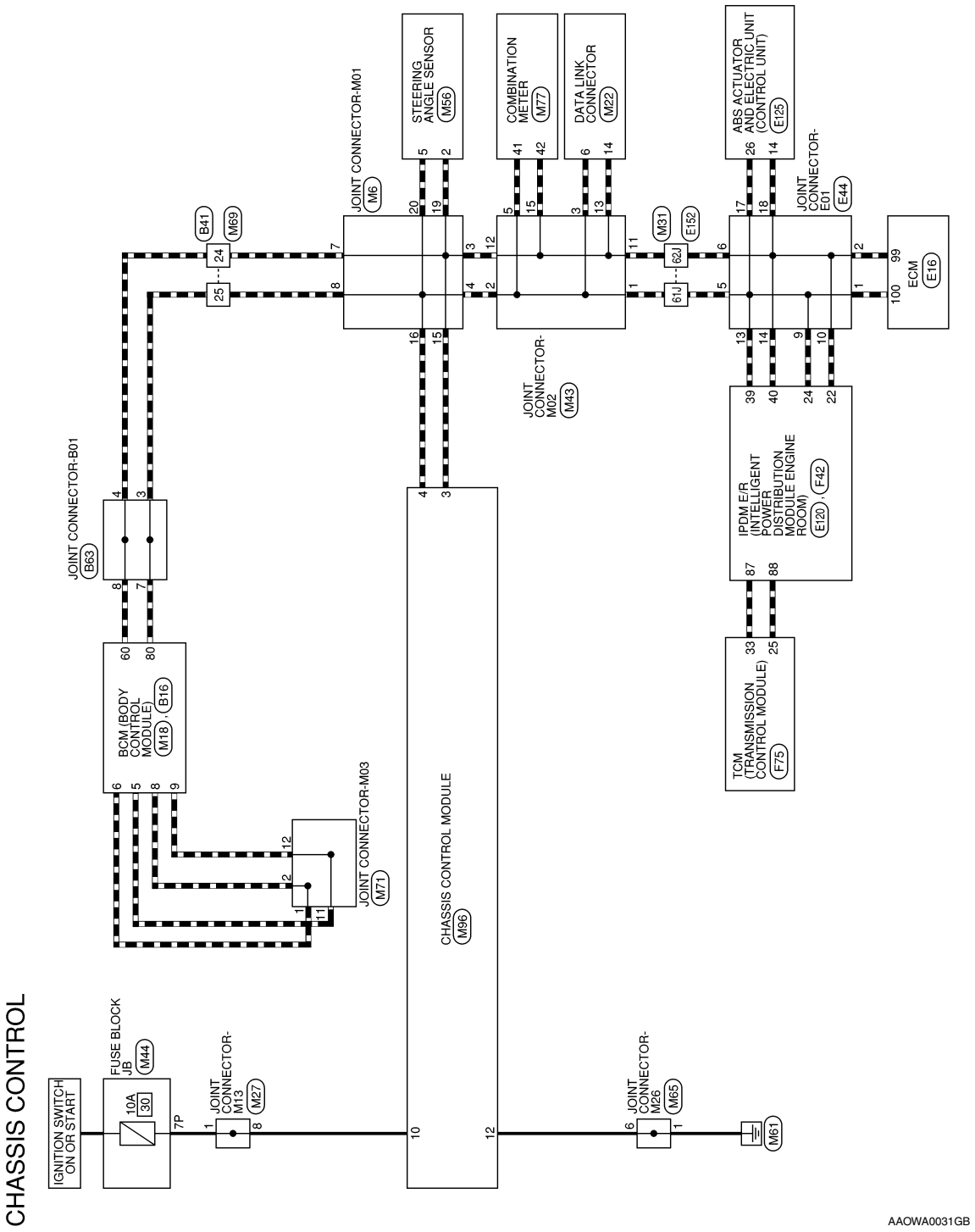
DTC	Display item	Refer to
C1B92-00	BRAKE CONTROL SYSTEM	DAS-207, "DTC Description"
C1B93-00	ENGINE/HEV SYSTEM	DAS-209, "DTC Description"
C1B94-00	TM SYSTEM	DAS-211, "DTC Description"
C1B95-00	CONTROL MODULE	DAS-213, "DTC Description"
C1B99-00	CONTROL NODULE	DAS-214, "DTC Description"
C1BA0-00	ADAS/CHASSIS CTRL BRAKE SYS	DAS-215, "DTC Description"
C1BA2-00	STEERING ANGLE SENSOR	DAS-217, "DTC Description"
C1BA5-00	ADAS/CHASSIS CTRL ENGINE SYS	DAS-219, "DTC Description"
C1BAB-00	STOP LAMP SW	DAS-220, "DTC Description"
C1BB2-00	CONTROL MODULE	DAS-222, "DTC Description"
C1BB3-00	CONTROL MODULE	DAS-223, "DTC Description"
C1BB4-00	CONTROL MODULE	DAS-224, "DTC Description"
C1BB5-00	IGN POWER SUPPLY	DAS-225, "DTC Description"
C1BB6-00	IGN POWER SUPPLY	DAS-228, "DTC Description"
C1BB7-00	CONTROL MODULE	DAS-230, "DTC Description"
C1BB8-00	CONTROL MODULE	DAS-231, "DTC Description"
C1BB9-00	CONTROL MODULE	DAS-232, "DTC Description"
C1BBA-00	CONTROL MODULE	DAS-233, "DTC Description"
C1BBB-00	CONTROL MODULE	DAS-234, "DTC Description"
C1BBC-00	CONTROL MODULE	DAS-235, "DTC Description"
C1BBD-00	VARIANT CODING	DAS-236, "DTC Description"
C1BC0-00	FR WHEEL SENSOR	DAS-237, "DTC Description"
C1BC1-00	FL WHEEL SENSOR	DAS-239, "DTC Description"
C1BC2-00	RR WHEEL SENSOR	DAS-241, "DTC Description"
C1BC3-00	RL WHEEL SENSOR	DAS-243, "DTC Description"
C1BC4-00	DECEL G SENSOR	DAS-245, "DTC Description"
C1BC5-00	SIDE G SENSOR	DAS-247, "DTC Description"
C1BC6-00	PRESSURE SENSOR	DAS-249, "DTC Description"
U1000-00	CAN COMMUNICATION	DAS-252, "DTC Description"
U1A34-00	BRAKE CONTROL COMM	DAS-252, "DTC Description"
U1A35-00	BRAKE CONTROL COMM	DAS-254, "DTC Description"
U1A36-00	BCM/IPDM COMM	DAS-256, "DTC Description"
U1A39-00	COMBINATION METER COMM	DAS-258, "DTC Description"
U1A3B-00	TCM COMM	DAS-260, "DTC Description"
U1A42-00	STEERING ANGLE SENSOR COMM	DAS-262, "DTC Description"
U1A43-00	STEERING ANGLE SENSOR COMM	DAS-264, "DTC Description"
U1A48-00	ECM/HPCM COMM	DAS-266, "DTC Description"
U1A4A-00	CONTROL MODULE (CAN)	DAS-268, "DTC Description"
U1A4B-00	CONTROL MODULE (CAN)	DAS-269, "DTC Description"
U1A4E-00	ECM/HPCM COMM	DAS-270, "DTC Description"

WIRING DIAGRAM

CHASSIS CONTROL

Wiring Diagram

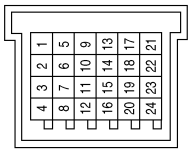
INFOID:0000000010227359



CHASSIS CONTROL CONNECTORS

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY

H.S.

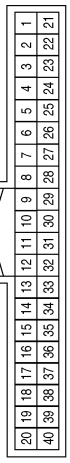


Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

Terminal No.	Color of Wire	Signal Name
15	P	–
16	L	–
19	P	–
20	L	–

Connector No.	M18
Connector Name	BODY CONTROL MODULE
Connector Color	GRAY

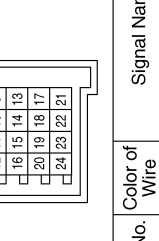
H.S.



Terminal No.	Color of Wire	Signal Name
5	R	CAN-L
6	L	CAN-H
8	L	CAN-H
9	R	CAN-L

Connector No.	M22
Connector Name	DATA LINK CONNECTOR
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
6	L	–
14	P	–

Connector No.	M27
Connector Name	JOINT CONNECTOR-M13
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
8	SB	–

AAOIA0125GB

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE

H.S.

9	8	7	6	5	4	3	2	1
20	19	18	17	16	15	14	13	12	11	10

Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
3	L	–
5	L	–
11	P	–
12	P	–
13	P	–
15	P	–

Connector No.	M65
Connector Name	JOINT CONNECTOR-M26
Connector Color	WHITE

H.S.

8	7	6	5	4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	B	–
6	B	–

Terminal No.	Color of Wire	Signal Name
61J	L	–
62J	P	–

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

5J	4J	3J	2J	1J
10J	9J	8J	7J	6J

21J	20J	19J	18J	17J	16J	15J	14J	13J	12J	11J
30J	29J	28J	27J	26J	25J	24J	23J	22J		
41J	40J	39J	38J	37J	36J	35J	34J	33J	32J	31J
50J	49J	48J	47J	46J	45J	44J	43J	42J		
61J	60J	59J	58J	57J	56J	55J	54J	53J	52J	51J
70J	69J	68J	67J	66J	65J	64J	63J	62J		
81J	80J	79J	78J	77J	76J	75J	74J	73J	72J	71J
90J	89J	88J	87J	86J	85J	84J	83J	82J		
95J	94J	93J	92J	91J						
100J	99J	98J	97J	96J						

Connector No.	M56
Connector Name	STEERING ANGLE SENSOR
Connector Color	GRAY

H.S.

1	2	3	4
5	6	7	8

Terminal No.	Color of Wire	Signal Name
2	P	–
5	L	–

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

Terminal No.	Color of Wire	Signal Name
7P	Y	–

AAOIA0126GB

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	M71
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE

H.S.

9	8	7	6	5	4	3	2	1
20	19	18	17	16	15	14	13	12	11	10
---	---	---	---	---	---	---	---	---	---	---

Terminal No.	Color of Wire	Signal Name
1	L	–
2	L	–
11	R	–
12	R	–

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

41	42	43	44	45	46
47	48	49	50	51	52

Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L

Connector No.	M96
Connector Name	CHASSIS CONTROL UNIT
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color of Wire	Signal Name
3	P	CAN-L
4	L	CAN-H
10	SB	IGN
12	B	GND

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK

H.S.

97	101	105	109	113	117	121	125
98	102	106	110	114	118	122	126
99	103	107	111	115	119	123	127
100	104	108	112	116	120	124	128

Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H

AAOIA0127GB

Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
22	P	CAN-L
24	L	CAN-H
39	L	CAN-H
40	P	CAN-L

Terminal No.	Color of Wire	Signal Name
61J	L	–
62J	P	–

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	P	–
5	L	–
6	P	–
9	L	–
10	P	–
13	L	–
14	P	–
17	L	–
18	P	–

Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Color	WHITE

H.S.

Connector No.	E125
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
14	P	CAN-L
26	L	CAN-H

AAOIA0128GB

Connector No.	F42
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

98	97	96	95	94	93	92	91	90	89	88	87
110	109	108	107	106	105	104	103	102	101	100	99

Terminal No.	Color of Wire	Signal Name
87	L	CAN-H
88	P	CAN-L

Connector No.	F75
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

H.S.

31	32	33	34	35	36	37	38	39	40	47	48
21	22	23	24	25	26	27	28	29	30	45	46
11	12	13	14	15	16	17	18	19	20	43	44
1	2	3	4	5	6	7	8	9	10	41	42

Terminal No.	Color of Wire	Signal Name
23	P	CAN-L
33	L	CAN-H

Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
60	L	CAN-H
80	P	CAN-L

Connector No.	B41
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal No.	Color of Wire	Signal Name
24	P	–
25	L	–

Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY

H.S.

4	3	2	1
8	7	6	5
12	11	10	9
16	15	14	13
20	19	18	17
24	23	22	21

Terminal No.	Color of Wire	Signal Name
3	P	–
4	L	–
7	P	–
8	L	–

AAOIA0141GB

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000010227360

DETAILED FLOW

1.INTERVIEW FROM THE CUSTOMER

Clarify customer complaints before inspection. First of all, perform an interview utilizing DAS-202, "Diagnostic Work Sheet" and reproduce the symptom as well as fully understand it. Ask customer about his/her complaints carefully. Check symptoms by driving vehicle with customer, if necessary.

CAUTION:

Customers are not professional. Never guess easily like “maybe the customer means that...,” or “maybe the customer mentions this symptom”.

>> GO TO 2.

2.CHECK SYMPTOM

Reproduce the symptom that is indicated by the customer, based on the information from the customer obtained by the interview. Also check that the symptom is not caused by fail-safe mode. Refer to DAS-191, "Fail-Safe (Chassis Control Module)".

CAUTION:

When the symptom is caused by normal operation, fully inspect each portion and obtain the understanding of customer that the symptom is not caused by a malfunction.

>> GO TO 3.

3.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Perform “Self Diagnostic Result“ for “CHASSIS CONTROL“.

Is DTC detected?

YES >> Record or print self-diagnosis results and freeze frame data (FFD). GO TO 4.
NO >> Inspection End.

4.RECHECK THE SYMPTOM

With CONSULT

Perform DTC confirmation procedures for the malfunctioning system.

NOTE:

If some DTCs are detected at the some time, determine the order for performing the diagnosis based on DAS-193, "DTC Inspection Priority Chart".

Is DTC detected?

YES >> GO TO 5.
NO >> Check harness and connectors based on the information obtained by the interview. Refer to DAS-171, "Precautions for Harness Repair".

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“ for “CHASSIS CONTROL”.

>> GO TO 6.

6.FINAL CHECK

With CONSULT

1. Check the reference value for “CHASSIS CONTROL”.
2. Recheck the symptom and check that the symptom is not reproduced on the same conditions.

Is the symptom reproduced?

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

Diagnostic Work Sheet

INFOID:0000000010227361

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 name	MR/MS	Registration number		Initial year registration	
		Vehicle type		VIN	
Storage date		Engine, Traction motor		Mileage	km (Mile)
Symptom		☐ Does not operate ( ) function			
		☐ Warning lamp for ( ) turns ON.			
		☐ Noise ☐ Vibration			
		☐ Other ( )			
First occurrence		☐ Recently ☐ Other ( )			
Frequency of occurrence		☐ Always ☐ Under a certain conditions of ☐ Sometimes (time(s)/day)			
Climate conditions		☐ Irrelevant			
	Weather	☐ Fine ☐ Cloud ☐ Rain ☐Snow ☐ Others ( )			
	Temperature	☐ Hot ☐Warm ☐ Cool ☐ Cold ☐ Temperature [Approx. °C (°F)]			
	Relative humidity	☐ High ☐ Moderate ☐ Low			
Road conditions		☐ Urban area ☐ Suburb area ☐ Highway ☐ Mountainous road (uphill or downhill) ☐ Rough road			
Operating condition, etc.		☐Irrelevant ☐When traction motor starts ☐ During idling ☐ During driving ☐ During acceleration ☐ At constant speed driving ☐ During deceleration ☐ During cornering (right curve or left curve) ☐ When steering wheel is steered (to right or to left)			
Other conditions					

Interview sheet

Customer name	MR/MS	Registration number		Initial year registration	
		Vehicle type		VIN	
Storage date		Engine, Traction motor		Mileage	km (Mile)

Vehicle equipment

Memo

ADDITIONAL SERVICE WHEN REPLACING CHASSIS CONTROL MODULE

Description

INFOID:0000000010227362

When replaced the chassis control module, configuration of the chassis control module is required. Refer to DAS-205, "Work Procedure".

CONFIGURATION (CHASSIS CONTROL MODULE)

Work Procedure

INFOID:0000000010227363

CAUTION:
- **Use “Manual Configuration” only when “TYPE ID” of the chassis control module cannot be read.**
- **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.**
- **If an error occurs during configuration, start over from the beginning.**

1.CHECKING TYPE ID (1)

Use FAST (service parts catalogue) to search the chassis control module of the applicable vehicle and find “Type ID”.

Is “Type ID” displayed?

YES >> Print out “Type ID” and GO TO 2.
NO >> “Configuration” is not required for the chassis control module. Replace in the usual manner. Refer to DAS-277, "Removal and Installation".

2.CHECKING TYPE ID (2)

CONSULT Configuration
1. Select “Before Replace ECU” of “Read/Write Configuration”.
2. Check that “Type ID” is displayed on the CONSULT screen.

Is “Type ID” displayed?

YES >> GO TO 3.
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 CHASSIS CONTROL MODULE (1)

Replace the chassis control module. Refer to DAS-277, "Removal and Installation".

>> GO TO 6.

6.WRITING (AUTOMATIC WRITING)

CONSULT Configuration
1. Select “After Replace ECU” of “Re/programming, Configuration” or that of “Read / Write Configuration”.
2. 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.
   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 CHASSIS CONTROL MODULE (2)

Replace the chassis control module. Refer to DAS-277, "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.
2. 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 DAS-182, "CONSULT Function".

11. PERFORMING SUPPLEMENTARY WORK

1. Perform the self-diagnosis of all systems.
2. Erase self-diagnosis results.

>> End of work.

DTC/CIRCUIT DIAGNOSIS

C1B92-00 BRAKE CONTROL SYSTEM

DTC Description

INFOID:0000000010227368

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.

POSSIBLE CAUSE

- ABS actuator and electric unit (control unit) system
- 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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1B92-01” detected?

YES >> Proceed to DAS-207, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227369

1. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 2.

2. PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1B92”, “U1000” or other DTC detected?

YES (“C1B92-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1B93-00 ENGINE/HEV SYSTEM

DTC Description

INFOID:0000000010227370

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1B93-00	ENGINE/HEV SYSTEM (Engine/HEV system)	When a malfunction is detected in ECM system.

POSSIBLE CAUSE

- Engine system
- ECM
- Chassis control module

FAIL-SAFE

The following functions are suspended.

- Active Ride Control (engine) 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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1B93-00” detected?

YES >> Proceed to DAS-209, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227371

1.CHECK ECM SYSTEM

With CONSULT
Perform self-diagnosis for “ENGINE”.

Is DTC detected?

YES >> Check the DTC. Refer to EC-93, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1B93”, “U1000” or other DTC detected?

YES (“C1B93-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".

YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1B94-00 TRANSMISSION SYSTEM

DTC Description

INFOID:0000000010227372

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1B94-00	TM SYSTEM (Transmission system)	When a malfunction is detected in transmission system.

POSSIBLE CAUSE

- Transmission system
- TCM
- 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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1B94-00” detected?

YES >> Proceed to DAS-211, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227373

1.CHECK TRANSMISSION SYSTEM

With CONSULT

Perform self-diagnosis for “TRANSMISSION”.

Is DTC detected?

YES >> Check the DTC. Refer to TM-63, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1B94-00”, “U1000-00” or other DTC detected?

YES (“C1B94-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".

YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1B95-00 CONTROL MODULE

DTC Description

INFOID:0000000010227374

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.

POSSIBLE CAUSE

- 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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1B95-00” detected?

YES >> Proceed to DAS-213, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227375

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1B95” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1B99-00 CONTROL MODULE

DTC Description

INFOID:0000000010227380

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1B99-00” detected?

YES >> Proceed to DAS-214, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227381

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1B99” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1BA0-00 ADAS/CHASSIS CONTROL BRAKE SYSTEM

DTC Description

INFOID:0000000010227382

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
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.

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BA0-00” and/or “C1BA7-00”detected?

YES (“C1BA0-00”)>>Proceed to DAS-215, "Diagnosis Procedure".
YES (“C1BA0-00” and “C1BA7-00”)>>Perform self-diagnosis for “ICC/ADAS”.
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227383

1.CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1BA0-00”, “U1000-00” or other DTC detected?

YES (“C1BA0-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BA2-00 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000010227384

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BA2-00	STEERING ANGLE SENSOR (Steering angle sensor)	When a malfunction is detected in steering angle sensor system.

POSSIBLE CAUSE

- Steering angle sensor
- 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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BA2-00” detected?

YES >> Proceed to DAS-217, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227385

1.CHECK STEERING ANGLE SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1BA2-00”, “U1000-00” or other DTC detected?

YES (“C1BA2-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.

NO >> INSPECTION END

C1BA5-00 ADAS/CHASSIS CONTROL ENGINE SYSTEM

DTC Description

INFOID:0000000010227386

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BA5-00	ADAS/CHASSIS CTRL ENGINE SYS (ADAS/Chassis control engine system)	• When receiving from ECM that the value of the engine system signal transmitted from the chassis control module to ECM is malfunctioning.

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BA5-00” detected?

YES >> Proceed to DAS-219, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227387

1.CHECK ADAS CONTROL UNIT SYSTEM

With CONSULT

Perform self-diagnosis for “ECM”.

Is DTC detected?

YES >> Check the DTC. Refer to EC-93, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1BA5-00”, “U1000-00” or other DTC detected?

YES (“C1BA5-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BAB-00 STOP LAMP SWITCH

DTC Description

INFOID:0000000010227396

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BAB-00” detected?

YES >> Proceed to DAS-220, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227397

1.CHECK STOP LAMP SWITCH SYSTEM

With CONSULT

Perform self-diagnosis for “BCM”.

Is DTC detected?

YES >> Check the DTC. Refer to BCS-48, "DTC Index" (with Intelligent Key) or BCS-108, "DTC Index" (without Intelligent Key).
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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-277, "Removal and Installation".

YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BB2-00 CONTROL MODULE

DTC Description

INFOID:0000000010227408

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB2-00” detected?

YES >> Proceed to DAS-222, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227409

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB2-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1BB3-00 CONTROL MODULE

DTC Description

INFOID:0000000010227410

DTC DETECTION 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 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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB3-00” detected?

YES >> Proceed to DAS-223, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227411

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB3-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1BB4-00 CONTROL MODULE

DTC Description

INFOID:0000000010227412

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB4-00” detected?

YES >> Proceed to DAS-224, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227413

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB4-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1BB5-00 IGNITION POWER SUPPLY

DTC Description

INFOID:0000000010227414

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BB5-00	IGN POWER SUPPLY (Ignition power supply)	Ignition power supply voltage of chassis control module is as shown below. • Ignition power supply voltage: 6.4 V ≥ Ignition power supply voltage

POSSIBLE CAUSE

- Harness or connector
- Fuse
- Ignition power supply system
- Battery
- 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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB5-00” detected?

YES >> Proceed to DAS-225, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000010227415

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect chassis control module harness connector
3. Check the connector for disconnection or looseness.
4. Check the pin terminals for damage or loose connection with harness connector.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace error-detected parts, securely lock the harness connector, and GO TO 2.

2.PERFORM DELF-DIAGNOSIS (1)

1. Connect chassis control module harness connector.
2. Perform “Self Diagnostic Result” for “CHASSIS CONTROL”.

Is DTC “C1BB5-00” detected?

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

3.CHECK CHASSIS CONTROL MODULE IGNITION POWER SUPPLY (1)

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

Chassis control module		—	Voltage (Approx.)
Connector	Terminal		
M96	10	Ground	0 V

4. Turn the ignition switch ON.
   CAUTION:
   Never start engine.
5. Check the voltage between chassis control module harness connector and ground.

Chassis control module		—	Voltage (Approx.)
Connector	Terminal		
M96	10	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 4.

4.CHECK CHASSIS CONTROL MODULE IGNITION POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.
2. Check the 10A fuse (#30).
3. Check the continuity and for short circuit between chassis control module harness connector terminal (10) and 10A fuse (#30).
4. Check the continuity between chassis control module harness connector and the ground.

Chassis control module		—	Continuity
Connector	Terminal		
M96	10	Ground	No

Is the inspection result normal?

YES >> Perform trouble diagnosis for ignition power supply.
NO >> Repair or replace malfunctioning parts.

5.CHECK CHASSIS CONTROL MODULE GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Check the continuity between chassis control module harness connector and ground.

Chassis control module		—	Continuity
Connector	Terminal		
M96	12	Ground	Yes

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace malfunctioning parts.

6.PERFORM SELF-DIAGNOSIS (2)

1. Connect chassis control module harness connector.
2. Perform “Self Diagnostic Result” for “CHASSIS CONTROL”.

Is DTC “C1BB5-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> Inspection End.

C1BB6-00 IGNITION POWER SUPPLY

DTC Description

INFOID:0000000010227416

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BB6-00	IGNITION POWER SUPPLY (ignition power supply)	Ignition power supply voltage of chassis control module is as shown below. • Ignition power supply voltage: 16 V ≤ Ignition power supply voltage

POSSIBLE CAUSE

- Harness or connector
- Fuse
- Ignition power supply system
- Battery
- 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

1. 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” for “CHASSIS CONTROL”.

Is DTC “C1BB6-00” detected?

YES >> Proceed to DAS-228, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000010227417

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Disconnect chassis control module harness connector
3. Check the connector for disconnection or looseness.
4. Check the pin terminals for damage or loose connection with harness connector.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning parts, securely lock the harness connector, and GO TO 2.

2.PERFORM SELF-DIAGNOSIS (1)

1. Connect chassis control module harness connector.
2. Perform “Self Diagnostic Result” for “CHASSIS CONTROL”.

Is DTC “C1BB6-00” detected?

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

3.CHECKCHASSIS CONTROL MODULE IGNITION POWER SUPPLY (1)

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

Chassis control module		—	Voltage (Approx.)
Connector	Terminal		
M96	10	Ground	0 V

4. Turn the ignition switch ON.
   CAUTION:
   Never start engine.
5. Check the voltage between chassis control module harness connector and ground.

Chassis control module		—	Voltage (Approx.)
Connector	Terminal		
M96	10	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 4.

4.CHECK CHASSIS CONTROL MODULE IGNITION POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.
2. Check the 10A fuse (#30).
3. Check the continuity and for short circuit between chassis control module harness connector terminal (10) and 10A fuse (#30).
4. Check the continuity between chassis control module harness connector and the ground.

Chassis control module		—	Continuity
Connector	Terminal		
M96	10	Ground	No

Is the inspection result normal?

YES >> Perform trouble diagnosis for ignition power supply.
NO >> Repair or replace the malfunctioning parts.

5.CHECK CHASSIS CONTROL MODULE GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Check the continuity between chassis control module harness connector and ground.

Chassis control module		—	Continuity
Connector	Terminal		
M96	12	Ground	Yes

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace the malfunctioning parts.

6.PERFORM DELF-DIAGNOSIS (1)

1. Connect chassis control module harness connector.
2. Perform “Self Diagnostic Result” for “CHASSIS CONTROL”.

Is DTC “C1BB6-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> Inspection End.

C1BB7-00 CONTROL MODULE

DTC Description

INFOID:0000000010227418

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BB7-00	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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB7-00” detected?

YES >> Proceed to DAS-230, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227419

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB7-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1BB8-00 CONTROL MODULE

DTC Description

INFOID:0000000010227420

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB8-00” detected?

YES >> Proceed to DAS-231, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227421

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB8-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1BB9-00 CONTROL MODULE

DTC Description

INFOID:0000000010227422

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 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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB9-00” detected?

YES >> Proceed to DAS-232, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227423

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BB9-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1BBA-00 CONTROL MODULE

DTC Description

INFOID:0000000010227424

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BBA-00” detected?

YES >> Proceed to DAS-233, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227425

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BBA-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1BBB-00 CONTROL MODULE

DTC Description

INFOID:0000000010227426

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BBB-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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BBB-00” detected?

YES >> Proceed to DAS-234, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227427

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BBB-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1BBC-00 CONTROL MODULE

DTC Description

INFOID:0000000010227428

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BBC-00” detected?

YES >> Proceed to DAS-235, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227429

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BBC-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

C1BBD-00 VARIANT CODING

DTC Description

INFOID:0000000010227430

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
C1BBD-00	VARIANT CODING (Variant coding)	When variant coding is incomplete.

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BBD-00” detected?

YES >> Proceed to DAS-236, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227431

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BBD-00” detected?

YES >> Perform configuration. Refer to DAS-205, "Work Procedure".
NO >> INSPECTION END

C1BC0-00 FRONT RIGHT WHEEL SENSOR

DTC Description

INFOID:0000000010227432

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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BC0-00” detected?

YES >> Proceed to DAS-237, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227433

1.CHECK FRONT RH WHEEL SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1BC0-00”, “U1000-00” or other DTC detected?

YES (“C1BC0-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BC1-00 FRONT LEFT WHEEL SENSOR

DTC Description

INFOID:0000000010227434

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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BC1-00” detected?

YES >> Proceed to DAS-239, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227435

1.CHECK FRONT LH WHEEL SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1BC1-00”, “U1000-00” or other DTC detected?

YES (“C1BC1-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BC2-00 REAR RIGHT WHEEL SENSOR

DTC Description

INFOID:0000000010227436

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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BC2-00” detected?

YES >> Proceed to DAS-241, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227437

1.CHECK REAR RH WHEEL SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1BC2-00”, “U1000-00” or other DTC detected?

YES (“C1BC2-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BC3-00 REAR LEFT WHEEL SENSOR

DTC Description

INFOID:0000000010227438

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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BC3-00” detected?

YES >> Proceed to DAS-243, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227439

1.CHECK REAR LH WHEEL SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1BC3-00”, “U1000-00” or other DTC detected?

YES (“C1BC3-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BC4-00 DECEL G SENSOR

DTC Description

INFOID:0000000010227440

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BC4-00” detected?

YES >> Proceed to DAS-245, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227441

1.CHECK DECEL G SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1BC4-00”, “U1000-00” or other DTC detected?

YES (“C1BC4-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.

NO >> INSPECTION END

C1BC5-00 SIDE G SENSOR

DTC Description

INFOID:0000000010227442

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BC5-00” detected?

YES >> Proceed to DAS-247, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227443

1.CHECK SIDE G SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1BC5-00”, “U1000-00” or other DTC detected?

YES (“C1BC5-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.

NO >> INSPECTION END

C1BC6-00 PRESSURE SENSOR

DTC Description

INFOID:0000000010227444

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “C1BC6-00” detected?

YES >> Proceed to DAS-249, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227445

1.CHECK BRAKE FLUID PRESSURE SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “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 “C1BC6-00”, “U1000-00” or other DTC detected?

YES (“C1BC6-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-251, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.

NO >> INSPECTION END

U1000-00 CAN COMM CIRCUIT

DTC Logic

INFOID:0000000010355424

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000010355425

1.PERFORM SELF DIAGNOSTIC RESULT

1. Turn ignition switch ON and wait for 2 seconds or more.
2. Perform Self Diagnostic Result for CHASSIS CONTROL.

Is CAN COMM CIRCUIT displayed?

YES >> Refer to LAN-17, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-41, "Intermittent Incident".

U1A34-00 BRAKE CONTROL COMMUNICATION

DTC Description

INFOID:0000000010227456

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
U1A34-00	BRAKE CONTROL COMM (Brake control communication)	When chassis control module is not receiving CAN communication signal [between chassis control module and ABS actuator and electric unit (control unit)] for 2 seconds or more.

POSSIBLE CAUSE

- ABS actuator and electric unit (control unit)
- Chassis control module
- CAN communication line

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A34-00” detected?

YES >> Proceed to DAS-252, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227457

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CAN DIAGNOSIS SUPPORT MONITOR

With CONSULT

1. Select “CAN Diagnosis Support Monitor”. of “CHASSIS CONTROL”.
2. Check malfunction between each control unit connected to chassis control module.

Check the result of “PRESENT”?

Refer to>> LAN-9, "CAN Communication Control Circuit".
“TRANSMIT DIAG” is other than “OK”>>GO TO 2.
“ABS” other than “OK”>>GO TO 3.

2.CHECK TRANSMITTING SIDE UNIT

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 LAN-7, "Precautions for Harness Repair", and GO TO 5.

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 LAN-7, "Precautions for Harness Repair", and GO TO 4.

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-diagnosis result for “ABS”.
3. Turn the ignition switch OFF and wait for 10 seconds or more.
4. Turn the ignition switch ON.
5. Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 5.

5. PERFORM SELF-DIAGNOSIS

With CONSULT
1. Connect chassis control module harness connector.
2. Erase self-diagnosis result for “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-251, "Diagnosis Procedure".
YES (“U1A34-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A35-00 BRAKE CONTROL COMMUNICATION

DTC Description

INFOID:0000000010227458

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
U1A35-00	BRAKE CONTROL COMM (Brake control communication)	A calculated signal value differs between a signal transmitted from the ABS actuator and electric unit (control unit) and a signal received from chassis control module via CAN communication.

POSSIBLE CAUSE

- ABS actuator and electric unit (control unit)
- Chassis control module
- CAN communication line

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A35-00” detected?

YES >> Proceed to DAS-254, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227459

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CAN DIAGNOSIS SUPPORT MONITOR

With CONSULT

1. Select “CAN Diagnosis Support Monitor” of “CHASSIS CONTROL”.
2. Check malfunction between each control unit connected to chassis control module.

Check the result of “PRESENT”?

>> Refer to LAN-9, "CAN Communication Control Circuit".
“TRANSMIT DIAG” is other than “OK”>>GO TO 2.
“ABS” other than “OK”>>GO TO 3.

2.CHECK TRANSMITTING SIDE UNIT

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 DAS-171, "Precautions for Harness Repair", and GO TO 5.

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 DAS-171, "Precautions for Harness Repair", and GO TO 4.

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-diagnosis result for “ABS”.
3. Turn the ignition switch OFF and wait for 10 seconds or more.
4. Turn the ignition switch ON.
5. Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 5.

5. PERFORM SELF-DIAGNOSIS

With CONSULT
1. Connect chassis control module harness connector.
2. Erase self-diagnosis result for “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-251, "Diagnosis Procedure".
YES (“U1A35-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A36-00 BCM/IPDM COMMUNICATION

DTC Description

INFOID:0000000010227460

DTC DETECTION LOGIC

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 (between chassis control module and BCM) for 2 seconds or more.

POSSIBLE CAUSE

- BCM
- Chassis control module
- CAN communication line

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A36-00” detected?

YES >> Proceed to DAS-256, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227461

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CAN DIAGNOSIS SUPPORT MONITOR

With CONSULT

1. Select “CAN Diagnosis Support Monitor” of “CHASSIS CONTROL”.
2. Check malfunction between each control unit connected to chassis control module.

Check the result of “PRESENT”?

>> Refer to LAN-9, "CAN Communication Control Circuit".
“TRANSMIT DIAG” is other than “OK”>>GO TO 2.
“BCM” other than “OK”>>GO TO 3.

2.CHECK TRANSMITTING SIDE UNIT

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 LAN-7, "Precautions for Harness Repair", and GO TO 5.

3.CHECK BCM

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 LAN-7, "Precautions for Harness Repair", and GO TO 4.

4.PFEFORM SELF-DIAGNOSIS (BCM)

With CONSULT
1. Connect BCM harness connector.
2. Erase self-diagnosis result for “BCM”.
3. Turn the ignition switch OFF and wait for 10 seconds or more.
4. Turn the ignition switch ON.
5. Perform self-diagnosis for “BCM”.

Is DTC detected?

YES >> Check the DTC. Refer to BCS-108, "DTC Index".
NO >> GO TO 5.

5.PERFORM SELF-DIAGNOSIS

With CONSULT
1. Connect chassis control module harness connector.
2. Erase self-diagnosis result for “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-251, "Diagnosis Procedure".
YES (“U1A36-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A39-00 COMBINATION METER COMMUNICATION

DTC Description

INFOID:0000000010227462

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
U1A39-00	COMBINATION METER COMM (Combination meter communication)	When chassis control module is not receiving CAN communication signal (between chassis control module and combination meter) for 2 seconds or more.

POSSIBLE CAUSE

- Combination meter
- Chassis control module
- CAN communication line

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. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A39-00” detected?

YES >> Proceed to DAS-258, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227463

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CAN DIAGNOSIS SUPPORT MONITOR

With CONSULT

1. Select “CAN Diagnosis Support Monitor” of “CHASSIS CONTROL”.
2. Check malfunction between each control unit connected to chassis control module.

Check the result of “PRESENT”?

>> Refer to LAN-9, "CAN Communication Control Circuit".
“TRANSMIT DIAG” is other than “OK”>>GO TO 2.
“METER/M&A” other than “OK”>>GO TO 3.

2.CHECK TRANSMITTING SIDE UNIT

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 LAN-7, "Precautions for Harness Repair", 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 LAN-7, "Precautions for Harness Repair", and GO TO 4.

4.PFEFORM SELF-DIAGNOSIS (COMBINATION METER)

With CONSULT
1. Connect combination meter harness connector.
2. Erase self-diagnosis result for “MATER/M&A”.
3. Turn the ignition switch OFF and wait for 10 seconds or more.
4. Turn the ignition switch ON.
5. Perform self-diagnosis for “METER/M&A”.

Is DTC detected?

YES >> Check the DTC. Refer to MWI-30, "DTC Index".
NO >> GO TO 5.

5.PERFORM SELF-DIAGNOSIS

With CONSULT
1. Connect chassis control module harness connector.
2. Erase self-diagnosis result for “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-251, "Diagnosis Procedure".
YES (“U1A39-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A3B-00 TCM COMMUNICATION

DTC Description

INFOID:0000000010227464

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
U1A3B-00	TCM COMM (TCM communication)	When chassis control module is not receiving CAN communication signal (between chassis control module and TCM) for 2 seconds or more.

POSSIBLE CAUSE

- TCM
- Chassis control module
- CAN communication line

FAIL-SAFE

The following functions are suspended.

- Active Trace Control function
- Active Ride Control (engine) function
- Active Engine Brake

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. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A3B-00” detected?

YES >> Proceed to DAS-260, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227465

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CAN DIAGNOSIS SUPPORT MONITOR

With CONSULT

1. Select “CAN Diagnosis Support Monitor” of “CHASSIS CONTROL”.
2. Check malfunction between each control unit connected to chassis control module.

Check the result of “PRESENT”?

>> Refer to LAN-9, "CAN Communication Control Circuit".
“TRANSMIT DIAG” is other than “OK”>>GO TO 2.
“TRANSMISSION” other than “OK”>>GO TO 3.

2.CHECK TRANSMITTING SIDE UNIT

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 LAN-7, "Precautions for Harness Repair", and GO TO 5.

3.CHECK TCM

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 LAN-7, "Precautions for Harness Repair", and GO TO 4.

4.PFEFORM SELF-DIAGNOSIS (TCM)

With CONSULT
1. Connect TCM harness connector.
2. Erase self-diagnosis result for “TRANSMISSION”.
3. Turn the ignition switch OFF and wait for 10 seconds or more.
4. Turn the ignition switch ON.
5. Perform self-diagnosis for “TRANSMISSION”.

Is DTC detected?

YES >> Check the DTC. Refer to TM-63, "DTC Index".
NO >> GO TO 5.

5.PERFORM SELF-DIAGNOSIS

With CONSULT
1. Connect chassis control module harness connector.
2. Erase self-diagnosis result for “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-251, "Diagnosis Procedure".
YES (“U1A3B-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A42-00 STEERING ANGLE SENSOR COMMUNICATION

DTC Description

INFOID:0000000010227472

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
U1A42-00	STEERING ANGLE SENSOR COMM (Steering angle sensor communication)	When chassis control module is not receiving CAN communication signal (between chassis control module and steering angle sensor) for 2 seconds or more.

POSSIBLE CAUSE

- Steering angle sensor
- Chassis control module
- CAN communication line

FAIL-SAFE

The following functions are suspended.

- Active Trace Control function
- 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.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A42-00” detected?

YES >> Proceed to DAS-262, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227473

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CAN DIAGNOSIS SUPPORT MONITOR

With CONSULT

1. Select “CAN Diagnosis Support Monitor” of “CHASSIS CONTROL”.
2. Check malfunction between each control unit connected to chassis control module.

Check the result of “PRESENT”?

>> Refer to LAN-9, "CAN Communication Control Circuit".
“TRANSMIT DIAG” is other than “OK”>>GO TO 2.
“STRG” other than “OK”>>GO TO 3.

2.CHECK TRANSMITTING SIDE UNIT

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 LAN-7, "Precautions for Harness Repair", 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 LAN-7, "Precautions for Harness Repair", and GO TO 4.

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

With CONSULT
1. Connect steering angle sensor harness connector.
2. Erase self-diagnosis result for “ABS”.
3. Turn the ignition switch OFF and wait for 10 seconds or more.
4. Turn the ignition switch ON.
5. Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 5.

5.PERFORM SELF-DIAGNOSIS

With CONSULT
1. Connect chassis control module harness connector.
2. Erase self-diagnosis result for “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-251, "Diagnosis Procedure".
YES (“U1A42-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A43-00 STEERING ANGLE SENSOR COMMUNICATION

DTC Description

INFOID:0000000010227474

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
U1A43-00	STEERING ANGLE SENSOR COMM (Steering angle sensor communication)	A calculated signal value differs between a signal transmitted from the steering angle sensor and a signal received from chassis control module via CAN communication.

POSSIBLE CAUSE

- Steering angle sensor
- Chassis control module
- CAN communication line

FAIL-SAFE

The following functions are suspended.

- Active Trace Control function
- 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.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A43-00” detected?

YES >> Proceed to DAS-264, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227475

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CAN DIAGNOSIS SUPPORT MONITOR

With CONSULT

1. Select “CAN Diagnosis Support Monitor” of “CHASSIS CONTROL”.
2. Check malfunction between each control unit connected to chassis control module.

Check the result of “PRESENT”?

>> Refer to LAN-9, "CAN Communication Control Circuit".
“TRANSMIT DIAG” is other than “OK”>>GO TO 2.
“STRG” other than “OK”>>GO TO 3.

2.CHECK TRANSMITTING SIDE UNIT

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 LAN-7, "Precautions for Harness Repair", 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 LAN-7, "Precautions for Harness Repair", and GO TO 4.

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

With CONSULT
1. Connect steering angle sensor harness connector.
2. Erase self-diagnosis result for “ABS”.
3. Turn the ignition switch OFF and wait for 10 seconds or more.
4. Turn the ignition switch ON.
5. Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-55, "DTC Index".
NO >> GO TO 5.

5. PERFORM SELF-DIAGNOSIS

With CONSULT
1. Connect chassis control module harness connector.
2. Erase self-diagnosis result for “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-251, "Diagnosis Procedure".
YES (“U1A43-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A48-00 ECM/HPCM COMMUNICATION

DTC Description

INFOID:0000000010227478

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
U1A48-00	ECM/HPCM COMM (ECM/HPCM communication)	When chassis control module is not receiving CAN communication signal (between chassis control module and ECM) for 2 seconds or more.

POSSIBLE CAUSE

- ECM
- Chassis control module
- CAN communication line

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A48-00” detected?

YES >> Proceed to DAS-266, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227479

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CAN DIAGNOSIS SUPPORT MONITOR

With CONSULT

1. Select and “CAN Diagnosis Support Monitor” of “CHASSIS CONTROL”.
2. Check malfunction between each control unit connected to chassis control module.

Check the result of “PRESENT”?

>> Refer to LAN-9, "CAN Communication Control Circuit".
“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.
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 LAN-7, "Precautions for Harness Repair", and GO TO 5.

3.CHECK ECM

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 LAN-7, "Precautions for Harness Repair", and GO TO 4.

4.PFEFORM SELF-DIAGNOSIS (ECM)

With CONSULT
1. Connect ECM harness connector.
2. Erase self-diagnosis result for “ENGINE”.
3. Turn the ignition switch OFF and wait for 10 seconds or more.
4. Turn the ignition switch ON.
5. Perform self-diagnosis for “ENGINE”.

Is DTC detected?

YES >> Check the DTC. Refer to EC-93, "DTC Index".
NO >> GO TO 5.

5.PERFORM SELF-DIAGNOSIS

With CONSULT
1. Connect chassis control module harness connector.
2. Erase self-diagnosis result for “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-251, "Diagnosis Procedure".
YES (“U1A48-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A4A-00 CONTROL MODULE (CAN)

DTC Description

INFOID:0000000010227480

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
U1A4A-00	CONTROL MODULE (CAN) [Control module (CAN)]	• When a malfunction is detected in chassis control module (transmission via CAN communication is impossible)

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A4A-00” detected?

YES >> Proceed to DAS-268, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227481

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A4A-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

U1A4B-00 CONTROL MODULE (CAN)

DTC Description

INFOID:0000000010227482

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

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A4B-00” detected?

YES >> Proceed to DAS-269, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227483

1.PERFORM SELF-DIAGNOSIS

With CONSULT

1. Erase self-diagnosis result for “CHASSIS CONTROL”.
2. Turn the ignition switch OFF and wait for 10 seconds or more.
3. Turn the ignition switch ON.
4. Perform self-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A4B-00” detected?

YES >> Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
NO >> INSPECTION END

U1A4E-00 ECM/HPCM COMMUNICATION

DTC Description

INFOID:0000000010227486

DTC DETECTION LOGIC

DTC	Display Item (Trouble diagnosis content)	Malfunction detected condition
U1A4E-00	ECM/HPCM COMM (ECM/HPCM communication)	A calculated signal value differs between a signal transmitted from the ECM and a signal received from chassis control module via CAN communication.

POSSIBLE CAUSE

- ECM
- Chassis control module
- CAN communication line

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.

>> GO TO 2.

2.CHECK DTC DETECTION

With CONSULT

1. 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-diagnosis for “CHASSIS CONTROL”.

Is DTC “U1A4E-00” detected?

YES >> Proceed to DAS-270, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-41, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010227487

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CAN DIAGNOSIS SUPPORT MONITOR

With CONSULT

1. Select “CAN Diagnosis Support Monitor” of “CHASSIS CONTROL”.
2. Check malfunction history between each control unit connected to chassis control module.

Check the result of “PAST”?

All items are “OK”>>Refer to GI-41, "Intermittent Incident".
“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.

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 LAN-7, "Precautions for Harness Repair", and GO TO 5.

3.CHECK ECM

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 LAN-7, "Precautions for Harness Repair", and GO TO 4.

4.PFEFORM SELF-DIAGNOSIS (ECM)

With CONSULT
1. Connect ECM harness connector.
2. Erase self-diagnosis result for “ENGINE”.
3. Turn the ignition switch OFF and wait for 10 seconds or more.
4. Turn the ignition switch ON.
5. Perform self-diagnosis for “ENGINE”.

Is DTC detected?

YES >> Check the DTC. Refer to EC-93, "DTC Index".
NO >> GO TO 5.

5.PERFORM SELF-DIAGNOSIS

With CONSULT
1. Connect chassis control module harness connector.
2. Erase self-diagnosis result for “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-251, "Diagnosis Procedure".
YES (“U1A4E-00”)>>Replace the chassis control module. Refer to DAS-277, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000010227488

Regarding Wiring Diagram information, refer to DAS-195, "Wiring Diagram".

1.CHECK CHASSIS CONTROL MODULE IGNITION POWER SUPPLY

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

Chassis control module		—	Voltage
Connector	Terminal		
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 and ground.

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

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK CHASSIS CONTROL MODULE IGNITION POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.
2. Check the 10A fuse (#30).
3. Check the continuity and short circuit between chassis control module harness connector terminal (10) and 10A fuse (#30).

Is the inspection result normal?

YES >> Perform trouble diagnosis for ignition power supply.

3.CHECK CHASSIS CONTROL MODULE GROUND CIRCUIT

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

Chassis control module		—	Continuity
Connector	Terminal		
M96	12	Ground	Yes

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the malfunctioning parts.

4.CHECK TERMINAL

Check the chassis control module pin terminals for damage or loose connection with harness connector.

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace the malfunctioning parts.

SYMPTOM DIAGNOSIS

CHASSIS CONTROL

Active Engine Brake

INFOID:0000000010385726

NOTE:
- For the operational conditions of Active Engine Brake, refer to DAS-175, "System Description - Active Engine Brake".
- Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symptom			Possible cause	Inspection item
Active Engine Brake inoperative/ineffective.	No CVT gear ratio assist.		Active Engine Brake selected OFF in the vehicle information display.	Change Active Engine Brake selection in the vehicle information display to ON.
			Certain roads, inclement weather or driving conditions.	System is functioning normally. Confirm the condition with the customer. Refer to DAS-181, "Precautions for Chassis Control (Engine Brake, Active Ride, and Active Trace)".
			• Road wheel tire condition is abnormal • Road wheel tire size is abnormal.	Check the road wheel tire.
	Lower CVT gear ratio not achieved.	Continuously	Active Engine Brake selected OFF in the vehicle information display.	Change Active Engine Brake selection in the vehicle information display to ON.
		At cornering	• Wheel alignment • Steering malfunction	Refer to “STEERING WHEEL TURNING FORCE IS HEAVY OR LIGHT”STC-31, "Description".
		While coming to a complete stop	Certain roads, inclement weather or driving conditions.	System is functioning normally. Confirm the condition with the customer. Refer to DAS-181, "Precautions for Chassis Control (Engine Brake, Active Ride, and Active Trace)".

Active Ride Control

INFOID:0000000010405793

NOTE:
- For the operational conditions of Active Ride Control, refer to DAS-176, "System Description - Active Ride Control".
- Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symptom			Possible cause	Inspection item
Active Ride Control inoperative/ineffective.	No Active Ride Control assist.		VDC OFF switch is engaged.	Turn VDC OFF switch to the OFF position.
			Engine or transmission DTCs present.	Refer to EC DTCs EC-93, "DTC Index", or TM DTCs TM-63, "DTC Index" as necessary.
	Bumpy ride on bumpy road.		Certain roads, inclement weather or driving conditions.	System is functioning normally. Confirm the condition with the customer. Refer to DAS-181, "Precautions for Chassis Control (Engine Brake, Active Ride, and Active Trace)".
			• Road wheel tire condition is abnormal • Road wheel tire size is abnormal.	Check the road wheel tire.
	High vehicle pitch on bumps.	Ineffective pitch control	• Wheel alignment • Steering malfunction	Change Active Engine Brake selection in the vehicle information display to ON.
		No pitch control	Brake system malfunction	Refer to BRC-54, "DTC Inspection Priority Chart".
		No engine torque control on curves	Certain roads, inclement weather or driving conditions.	System is functioning normally. Confirm the condition with the customer. Refer to DAS-181, "Precautions for Chassis Control (Engine Brake, Active Ride, and Active Trace)".

Active Trace Control

INFOID:0000000010405794

NOTE:
- For the operational conditions of Active Trace Control, refer to DAS-176, "System Description - Active Trace Control".
- Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symptom			Possible cause	Inspection item
Active Trace Control inoperative/ineffective.	No Active Trace Control assist.		Active Trace Control selected OFF in the vehicle information display.	Change Active Trace Control selection 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 conditions.	System is functioning normally. Confirm the condition with the customer. Refer to DAS-181, "Precautions for Chassis Control (Engine Brake, Active Ride, and Active Trace)".
			• Road wheel tire condition is abnormal • Road wheel tire size is abnormal.	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” STC-31, "Description".
		With quick lane change	Certain roads, inclement weather or driving conditions.	System is functioning normally. Confirm the condition with the customer. Refer to DAS-181, "Precautions for Chassis Control (Engine Brake, Active Ride, and Active Trace)".

NORMAL OPERATING CONDITION

Description

INFOID:0000000010406112

CHASSIS CONTROL

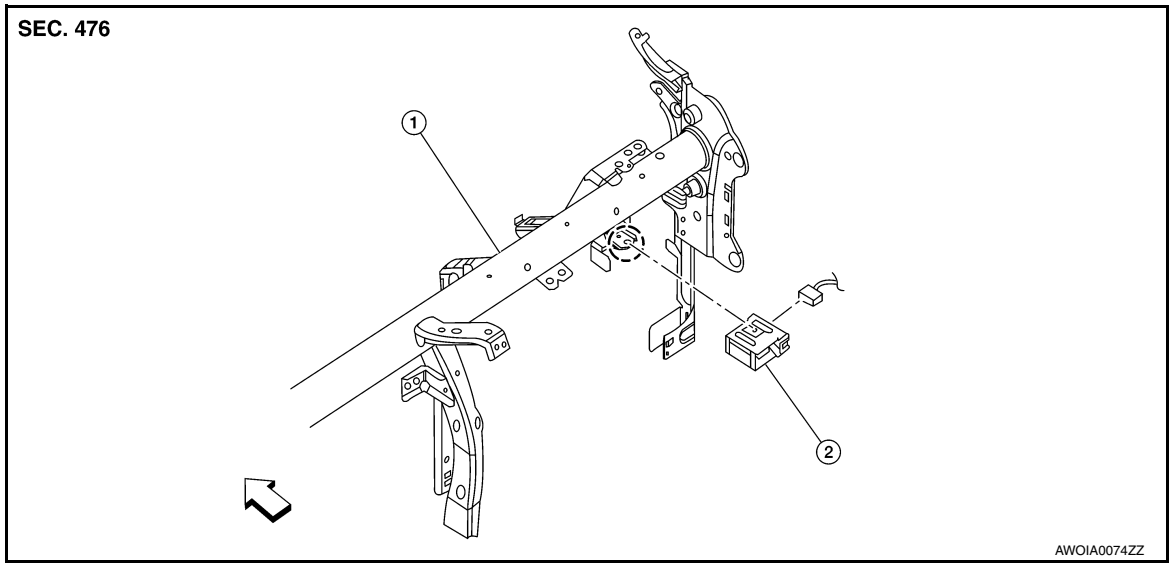
- Chassis Control will not provide all the necessary controls to replace driver intervention. It is not designed to prevent loss of control. It is the driver’s responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of vehicle at all times.
- Chassis Control is primarily intended for use on well-developed freeways or highways. It may not perform satisfactorily in certain roads, weather or driving conditions.
- 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.
- When Chassis Control is operating, avoid excessive or sudden steering maneuvers. Otherwise, you could lose control of the vehicle.
- Engine Brake Control is designed to enhance braking feel and traceability at corners.
- Active Ride Control is designed to enhance handling and drive comfort.
- Active Trace Control is designed to enhance traceability at corners and smooth vehicle movement for more confident driving.
- Chassis Control may not function properly under the following conditions:
- During bad weather (rain, fog, snow, wind, etc.).
- When driving on slippery roads, such as on ice or snow, etc.
- 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).
- When the vehicle is equipped with non-original steering parts or suspension parts.
- The functions of Chassis Control may or may not operate properly under the following conditions:
- On roads covered with water, dirt or snow, etc.
- On roads where there are sharp curves.

REMOVAL AND INSTALLATION

CHASSIS CONTROL MODULE

Exploded View

INFOID:0000000010227489



1. Steering member
2. Chassis control module
⇦ Front

Removal and Installation

INFOID:0000000010227490

CAUTION:
When replacing chassis control module, configuration of chassis control module is required. Refer to DAS-205, "Work Procedure".

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 the glove box assembly. Refer to IP-23, "Removal and Installation".
2. Release the pawl and remove the chassis control module.
   CAUTION:
   Do not drop the chassis control module.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:
When replacing the chassis control module, perform the configuration of chassis control module. Refer to DAS-205, "Work Procedure".