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PRECAUTION

PRECAUTIONS

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

INFOID:0000000010417374

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 “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

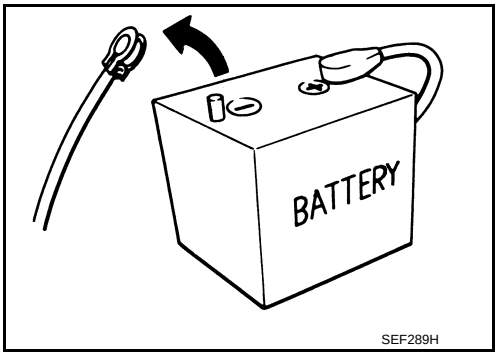
Always observe the following items for preventing accidental activation.

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

Precautions for Removing Battery Terminal

INFOID:0000000010519313

- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing “How to disconnect 12V battery terminal” described below.
  NOTE:
  Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.



SEF289H

HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to Instruction 1 or Instruction 2 described below.
For vehicles parked by ignition switch OFF, refer to Instruction 2.

INSTRUCTION 1

1. Open the hood.

2. Turn key switch to the OFF position with the driver side door opened.
3. Get out of the vehicle and close the driver side door.
4. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

D4D engine	: 20 minutes
HRA2DDT	: 12 minutes
K9K engine	: 4 minutes
M9R engine	: 4 minutes
R9M engine	: 4 minutes
V9X engine	: 4 minutes

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

5. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

INSTRUCTION 2 (FOR VEHICLES PARKED BY IGNITION SWITCH OFF)

1. Unlock the door with intelligent key or remote keyless entry.
NOTE:
At this moment, ACC power is supplied.
2. Open the driver side door.
3. Open the hood.
4. Close the driver side door.
5. Wait at least 3 minutes.
CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.
6. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

Precaution for Work

INFOID:0000000010416770

- 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.

Precaution for LDW System Service

INFOID:0000000010868543

WARNING:
Be careful of traffic conditions and safety around the vehicle when performing road test.
CAUTION:
- **Never perform the active test while driving.**
- **Never change LDW initial state ON ⇒ OFF without the consent of the customer.**

Precaution for BSW System Service

INFOID:0000000010868544

WARNING:
Be careful of traffic conditions and safety around the vehicle when performing road test.
CAUTION:
- **Never perform the active test while driving.**
- **Never change BSW initial state ON ⇒ OFF without the consent of the customer.**

Precautions for Driver Assistance Systems

INFOID:0000000010619951

CAUTION:
- **Do not use or disassemble the distance sensor removed from the vehicle.**
- **Erase DTC when replacing parts of FEB system, then check the operation of FEB 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

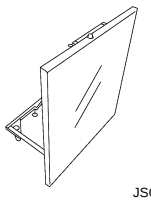
The rear view camera for the DAS system is located in the back door. To keep the DAS system operating properly and prevent a malfunction, be sure to observe the following:
- Always keep the camera lens area clean.
- Do not attach bumper stickers (including transparent materials) or install an accessory 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:0000000010416774

Tool number (SPX - North America No.) Tool name	Description
KV99112700 (—) ICC target board  JSOIA1012ZZ	Uses for radar alignment

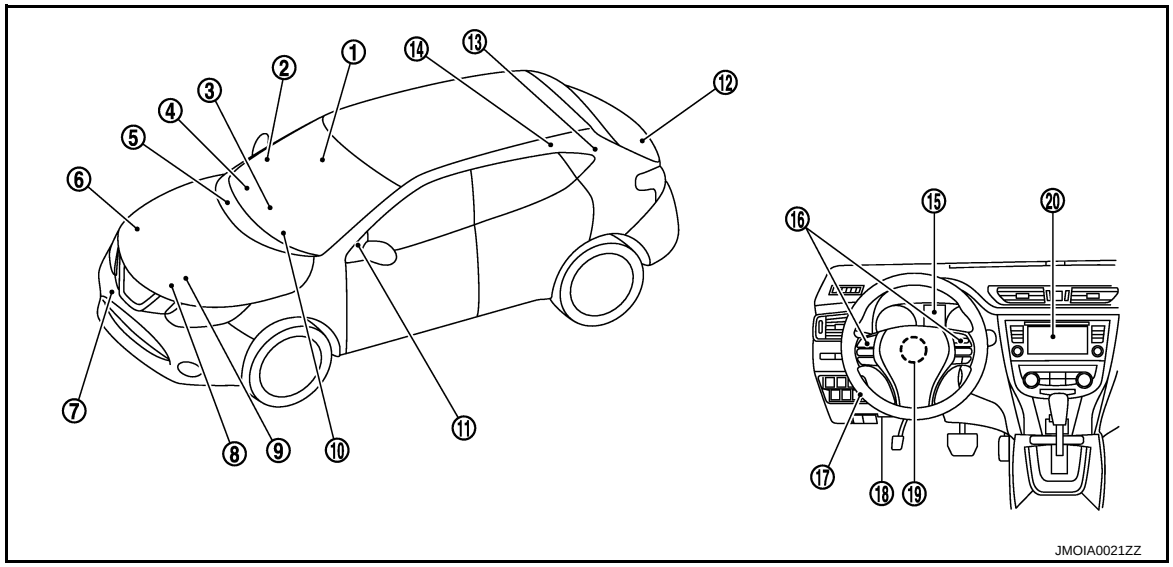
NOTE:
For radar alignment, KV99112700 or a set of Kent-Moore No. SST are to be used.

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010416775



No.	Component	Function
①	Front camera unit	• Front camera unit is installed above the inside mirror. • Detects the lane marker, the lighting condition in front of the vehicle and traffic sign in travel lane.
②	Blind spot warning indictor RH	• Installed on the front door corner finisher, the blind spot warning indicator warns the driver by lighting/blinking. • Receives a blind spot warning indicator operation signal from the around view monitor control unit.
③	Sonar control unit	• The warning buzzer outputs by inputting the sensor signal from sonar sensors. • Sensor signal that corresponds to the detected distance to an obstacle is transmitted to around view monitor control unit via can communication. • Refer to SN-58, "Component Parts Location" for detailed installation location.
④	Around view monitor control unit	• 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.
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 view camera washer motor	Pumps washer fluid to the rear view camera.
⑦	Distance sensor	• Distance sensor is installed to the back of the front bumper and detects a vehicle ahead by using millimeter waves. • Distance sensor detects radar reflected from a vehicle ahead by irradiating radar forward and calculates a distance from the vehicle ahead and relative speed, based on the detected signal. • Distance sensor transmits the presence/absence of vehicle ahead and the distance from the vehicle to around view monitor control unit via CAN communication.
⑧	TCM	Refer to TM-217, "CVT CONTROL SYSTEM : Component Parts Location" (RE0F10D) or TM-430, "CVT CONTROL SYSTEM : Component Parts Location" (RE0F10G) for detailed installation location.

No.	Component	Function
⑨	ECM	• Transmits engine speed signal to around view monitor control unit via CAN communication. • Refer to ECH-12, "Component Parts Location" (HRA2DDT), ECM-14, "ENGINE CONTROL SYSTEM : Component Parts Location" (MR20DD), ECK-12, "Component Parts Location" (K9K) or EC9-12, "Component Parts Location" (R9M) for detailed installation location.
⑩	BCM	• Transmits the turn indicator signal, dimmer signal, and back door switch signal to around view monitor via CAN communication. • Refer to BCS-7, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location:
⑪	Blind spot warning indictor LH	• 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.
⑫	Rear view camera	• 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.
⑬	Rear view camera air pump motor	• 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.
⑭	Rear view camera washer control unit	• 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.
⑮	Combination meter	• Displays the system status according to a signal received. • Operates the buzzer according to the signal from the distance sensor. • Refer to MWI-6, "Component Parts Location" for detailed installation location.
⑯	Steering switch	Receives the various systems and camera signals via CAN communication and routes them to the NAVI control unit display. • 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.
⑰	Warning system switch	• Installed to the back of the instrument lower panel LH, the warning system switch is used to activate/deactivate the driver assistance system. • Transmits a warning system switch signal to the around view monitor control unit.
⑱	Warning system buzzer	• 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.
⑲	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.
⑳	NAVI control unit	• Receives the various systems and camera signals via CAN communication and routes them to the NAVI control unit display. • Receives speed limit information in navigation data. • Refer to AV-128, "Component Parts Location" for detailed installation location.

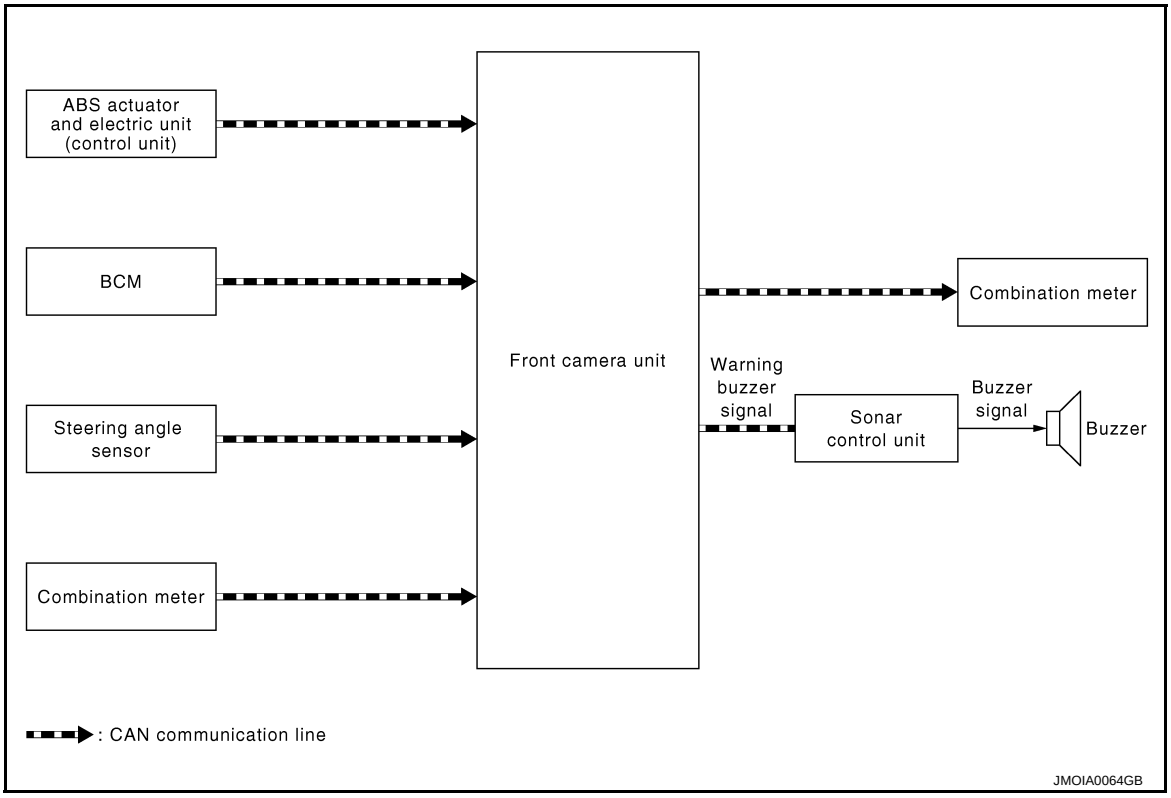
SYSTEM

LDW

LDW : System Description

INFOID:0000000010416788

SYSTEM DIAGRAM



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
ABS actuator and electric unit (control unit)	CAN communication	Vehicle speed signal (ABS)	Receives the wheel speed of the four wheels

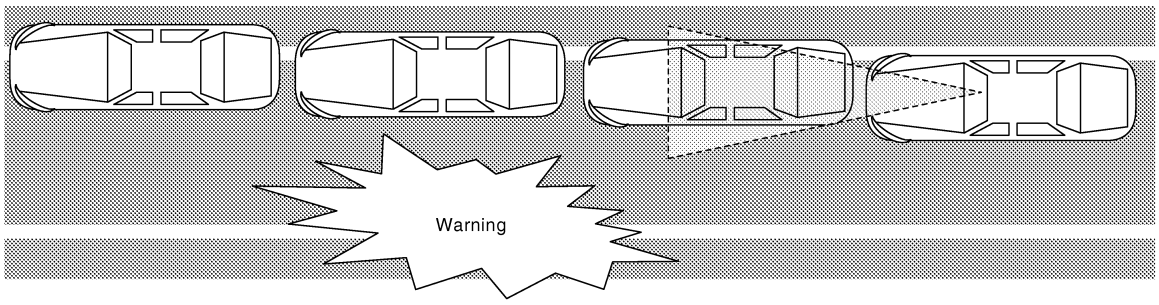
Output Signal Item

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
Sonar control unit	CAN communication	Buzzer signal		Transmits signals and outputs LDW buzzer sound

FUNCTION DESCRIPTION

- Lane Departure Warning (LDW) system provides a lane departure warning function when the vehicle is driven at speeds of approximately 60 km/h (37 MPH) or more.
- When the vehicle approaches either the left or the right side of the traveling lane, a warning will sound and LDW system display 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



JPOIA0014GB

When the vehicle approaches the right lane marker, the driver is alerted by the buzzer and the blinking of LDW system display.

OPERATION DESCRIPTION

- When the system is turned ON by operating the warning systems switch, front camera unit turns ON the LDW ON indicator.
- Front camera unit monitors the traveling lane.
- When judging from a camera image signal that the vehicle is approaching the lane marker, front camera unit controls the following item to alert the driver.
- Activates warning buzzer in the combination meter or transmits warning buzzer signal to sonar control unit.
- Front camera 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
- Vehicle speed: approximately 60 km/h (37 MHP) or more
- Turn indicator signal: After 2 seconds or more from turned 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 55 km/h (34 MHP).
- The LDW system may not function properly, depending on the situation. Refer to DAS-31, "Precautions for Lane Departure Warning".

Fail-safe Indication

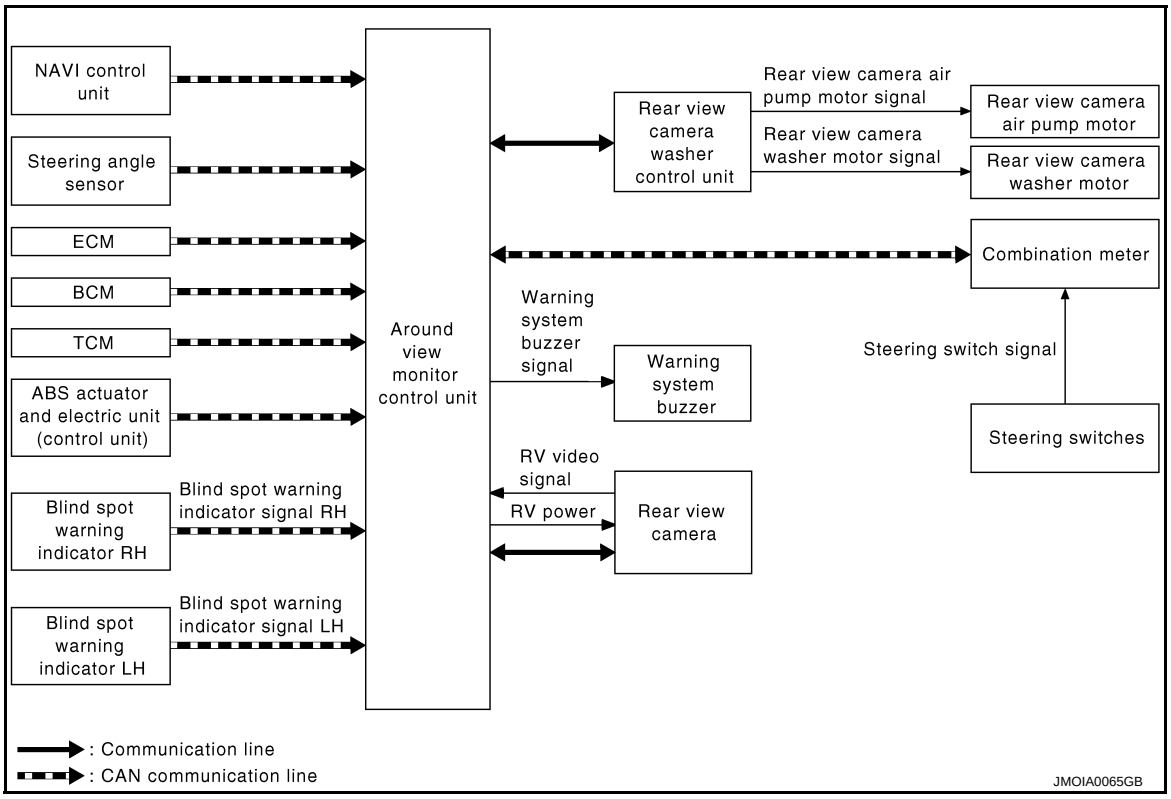
Vehicle condition/ Driver's operation	LDW ON indicator	Indication on the combination meter
When DTC is detected (Except “C1B03”)	ON	The message of LDW malfunction
Camera aiming is not completed (“C1B01” is detected) **NOTE:** This is detected while driving the vehicle and the indication remains ON until the ignition switch is turned OFF	ON	
Temporary disabled status at high temperature (“C1B3” is detected)	OFF	The message of Camera High Temp

BSW

BSW : System Description

INFOID:0000000010416789

SYSTEM DIAGRAM



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

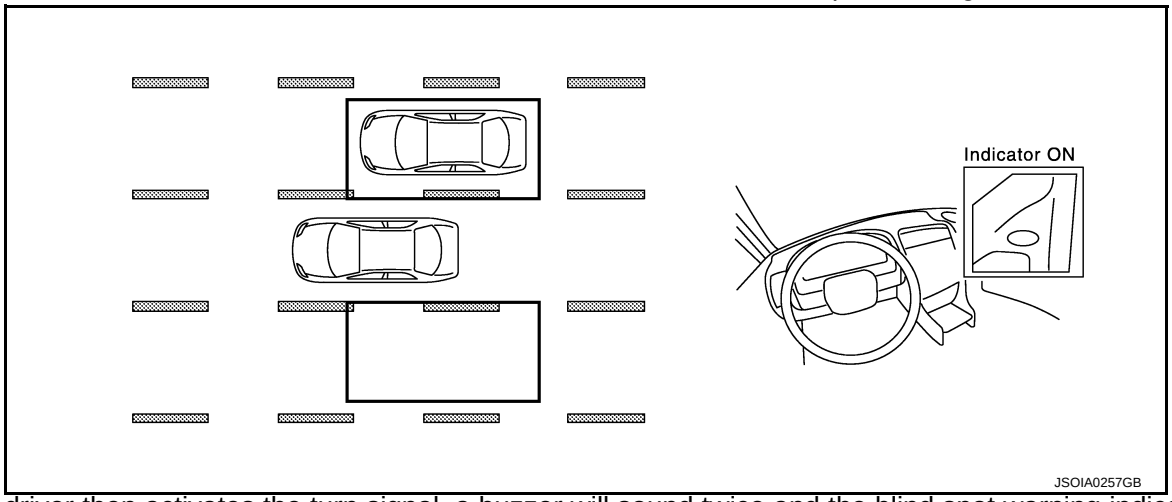
Transmit unit	Signal name		Description
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp.
		Back door switch signal	Receives a state of the back door switch.
Combination meter	CAN communication	System selection signal	Receives a selection 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.

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

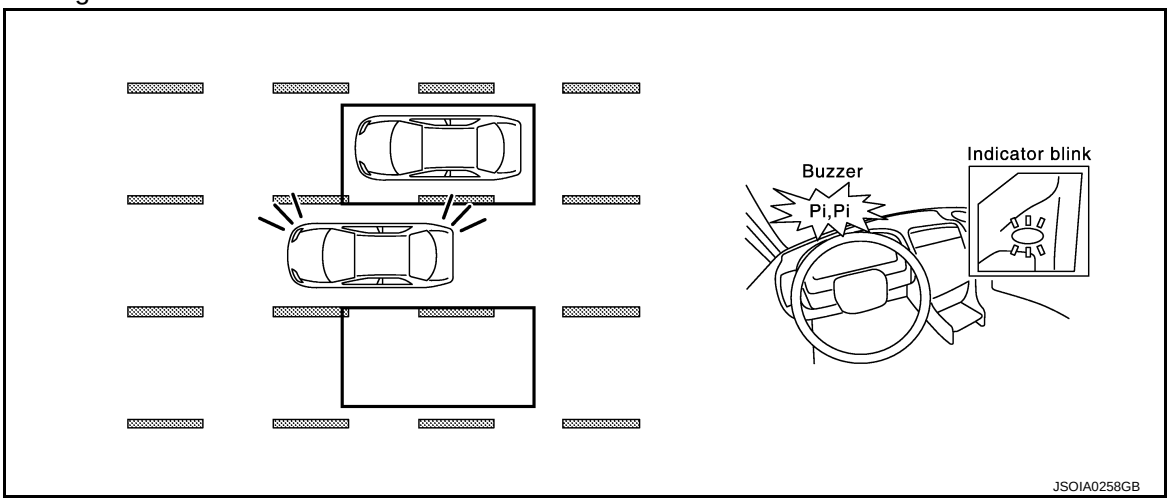
- The BSW system can help alert the driver of other vehicles in adjacent lanes when changing lanes.
- The BSW system uses rear view camera near the rear bumper to detect vehicles in an adjacent lane.
- The rear view camera can detect vehicles on either side of vehicle within the detection zone shown as illustrated.
- This detection zone starts from the back of the vehicle and extends approximately 3.0 m (10.0 ft) behind the rear bumper, and approximately 3.0 m (10.0 ft) sideways.
- The BSW system operates above approximately 32 km/h (20 MPH).
- 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.



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 32 km/h (20 MPH) or more in the forward direction.

NOTE:

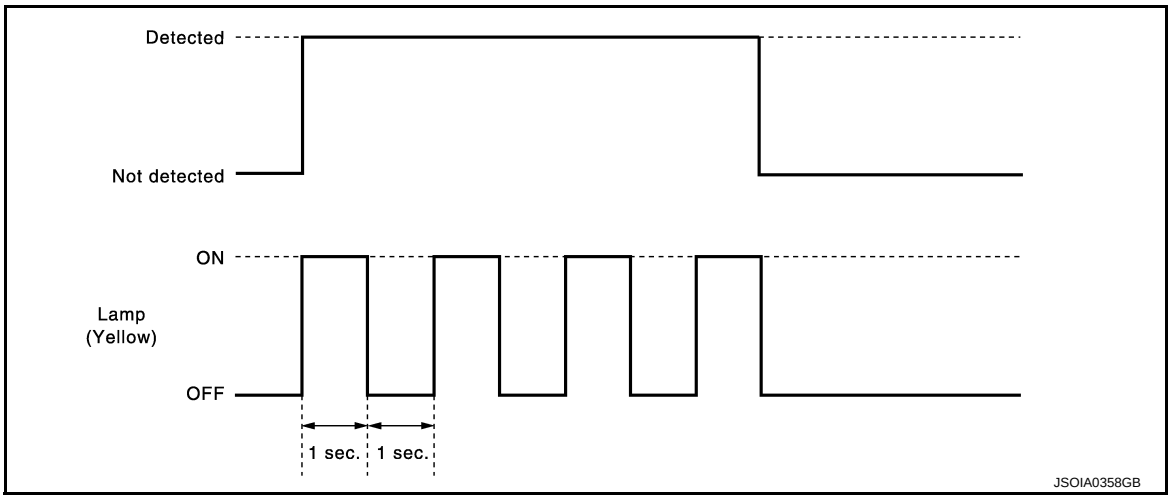
*: When the BSW system setting on the vehicle information display screen is ON.

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

BULB CHECK ACTION AND FAIL-SAFE INDICATION

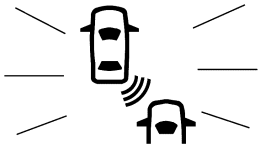
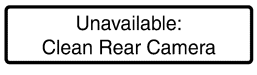
Vehicle condition/Driver's operation	BSW indicator	BSW ON indicator	Indication on the combination meter
When DTC is detected.	OFF	ON	OFF → Orange  ALOIA0172GB
Temporary disabled status.	OFF	ON	BSW light (white) will blink
When rear view camera needs cleaning.	OFF	ON	Unavailable: Clean Rear Camera
When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

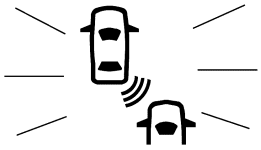
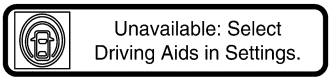
*: Blinking cycle when there is a rear view camera blockage condition or lane camera unit high temperature condition



NOTE:
Time shown in the figure is approximate.

FAIL-SAFE INDICATION

Vehicle condition/Driver's operation	BSW indicator	BSW ON indicator	Indication on the combination meter
When DTC is detected	OFF	ON	 JSOIA1423ZZ
When vehicles cannot be detected due to dirt on the rear view camera	OFF	ON	 JSOIA1425ZZ  JSOIA0738ZZ
When the washer fluid level is low (Low washer warning ON)	OFF	ON	Blinks at intervals of two seconds.  JSOIA1425ZZ

Vehicle condition/Driver's operation	BSW indicator	BSW ON indicator	Indication on the combination meter
When the back door is open (Back door open warning ON)	OFF	ON	Blinks at intervals of two seconds.  JSOIA1425ZZ
Blinks when the setting of BSW are "OFF" and the warning systems switch is pressed	OFF	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 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 32km/h (20 MPH) 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:

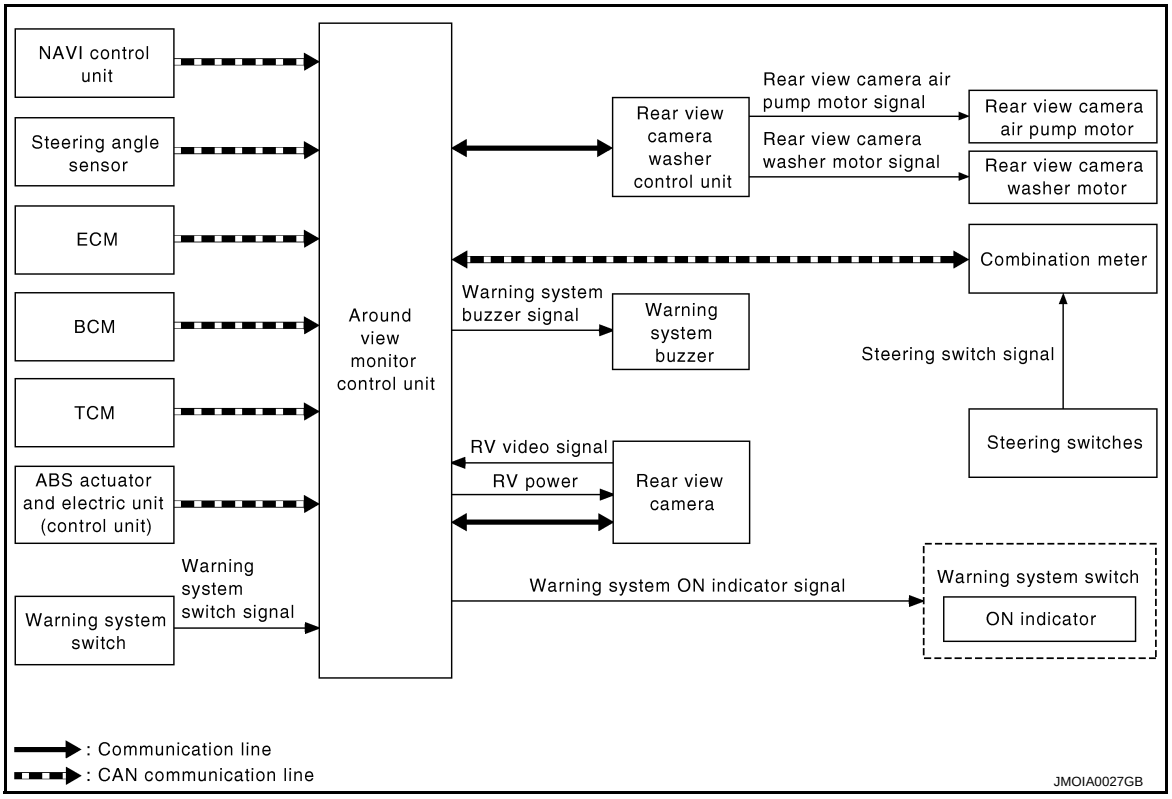
The camera is cleaned intermittently by spraying washer fluid and blowing air. When the around view monitor control unit judges that dirt on the camera cannot be removed even after approximately 5 minutes from the first detection of dirt, the activation of BSW is canceled.

MOD

MOD : System Description

INFOID:0000000010416790

SYSTEM DIAGRAM



INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

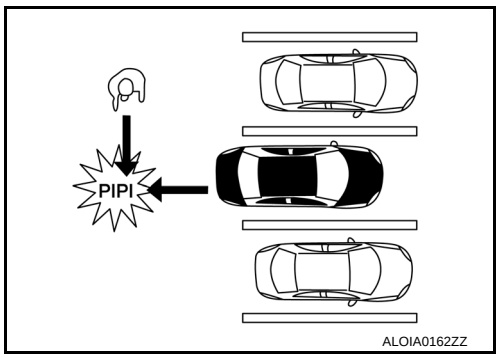
Transmit unit	Signal name		Description
ECM	CAN communication	Engine speed signal	Receives engine status
BCM	CAN communication	Back door open status signal	Receives back door open status
		Light status signal	Receives light status
		Turn signal	Receives turn signal status
ABS actuator and electric unit (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

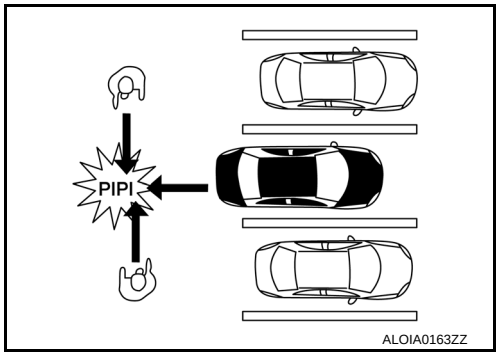
Reception unit	Signal name		Description
Warning system buzzer	Warning buzzer signal		Activates the warning buzzer
NAVI control unit display	CAN communication	Visual signal request	Transmits a visual signal request from the around view monitor control unit to display Rear View while the shift selector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

FUNCTION DESCRIPTION

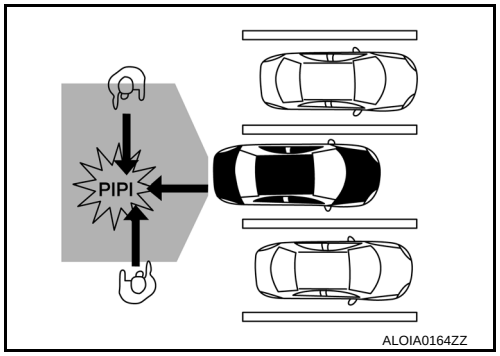
- The Moving Object Detection (MOD) system can help alert the driver of approaching vehicles or rear objects when the driver is backing out of a parking space.
- The MOD system comprises of the rear view camera as the main detection system, which is located on the trunk as illustrated.
- The MOD system operates at speeds below 8 km/h (5 MPH) 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 3.0 m (10.0 ft).



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 8 km/h (5 MPH) or less.

NOTE:

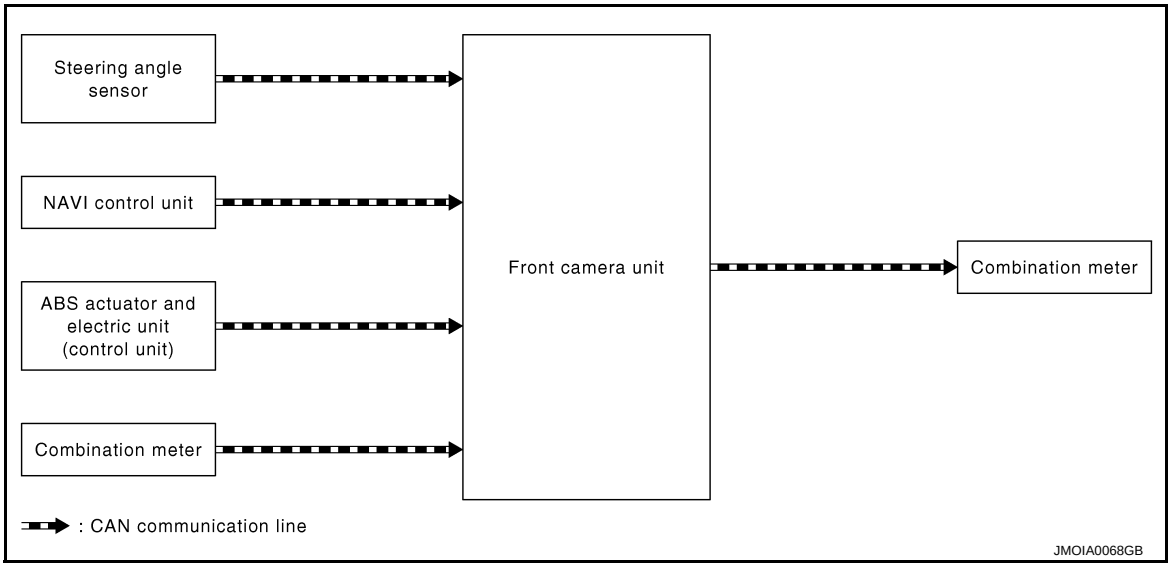
- When the Moving Object Detection system setting on the Vehicle Information Display is ON.
- Moving Object Detection braking will not operate or will stop operating and only a warning chime will sound under the following conditions:
  - When driving with a tire that is not within normal tire conditions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

TSR

TSR : System Description

INFOID:0000000010502948

SYSTEM DIAGRAM



INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name		Description
ABS actuator and electric unit (control unit)	CAN communication	Vehicle speed signal (ABS)	Receives the wheel speed of the four wheels
Combination meter	CAN communication	System selection signal	Receives the selection status of each item in “Driving Assistance selected using the combination meter
Steering angle sensor	CAN communication	Steering angle sensor signal	Receives the number of revolutions, turning direction of the steering wheel
NAVI control unit	CAN communication	Speed limit information signal	Receives speed limit information in navigation data

Output Signal Item

Reception unit	Signal name			Description
Combination meter	CAN communication	Meter display signal	Speed limit sign signal	Transmits a signal and displays the status on the vehicle information display
				Transmits the buzzer drive signal and sounds buzzer

FUNCTION DESCRIPTION

Displays the road conditions as identified by the front camera unit on the information display, and alerts the driver. Identifies the following information.

- Speed limit sign

OPERATION DESCRIPTION

- Traffic sign detection system is controlled by the front camera unit.

Operation Condition

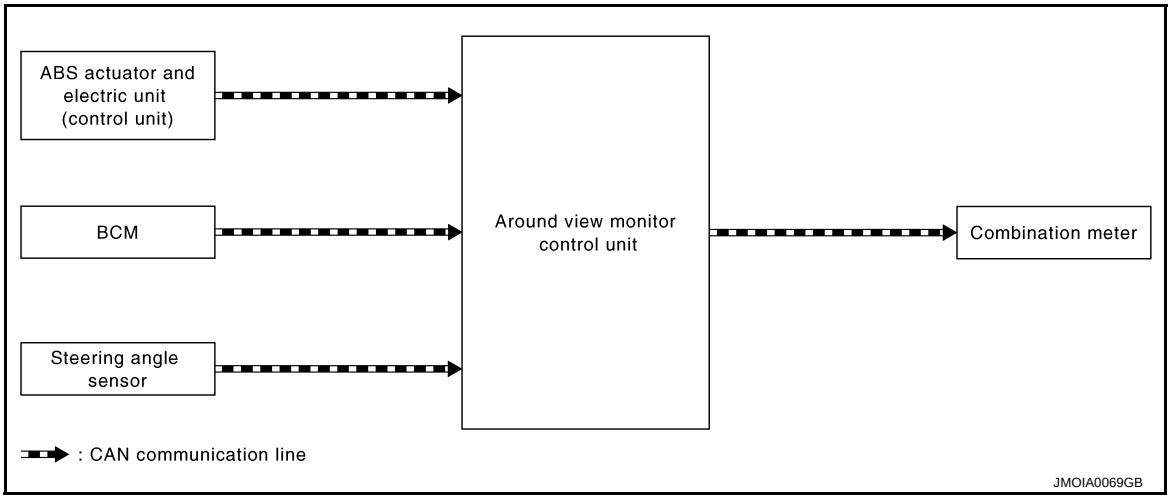
- TSR (Traffic Sign Recognition): ON

DAA

DAA : System Description

INFOID:0000000010502947

SYSTEM DIAGRAM



INPUT/OUTPUT SIGNAL ITEM

Reception unit unit	Transmit unit	Signal name			Description
Around view monitor control unit	ABS actuator and electric unit (control unit)	CAN communication	Vehicle speed signal (ABS)		Receives the vehicle speed signal
	BCM	CAN communication	Turn indicator signal		Receives the operation status of the turn signal lamps and hazard lamps
	Steering angle sensor	CAN communication	Steering angle sensor signal		Receives the amount of rotation, rotational angle, and rotational direction of the steering wheel
Combination meter	Around view monitor control unit	CAN communication	Meter display signal	System display	Transmits a signal and displays the status on the vehicle information display
			Buzzer signal		Operates the buzzer

FUNCTION DESCRIPTION

- Operates when the vehicle speed is 60 km/h (37 MPH) or higher.
- Detects the steering status and judges the attentiveness of the driver. The driver's attentiveness is shown on the vehicle information display in eight stages (level indicator).
- When it is judged from the degree of minor swerving in the steering operation that the vehicle is drifting, the driver is prompted to exert caution by the drift warning, which displays on the combination meter, and by a buzzer sound.
- When the engine is stopped, the system is reset.
- When the level indicator on the drift warning display becomes 1, the system warns the driver with a buzzer sound.

OPERATION DESCRIPTION

- The DAA (Driver Attention Alert) is controlled by the Around View Monitor control unit.
- ON/OFF of the Driver Attention Alert is performed by using the combination meter.
- The steering angle sensor detects the degree of swerving in the steering operation.
- When the Around View Monitor control unit judges that the steering operation is drifting (when the level indicator in the drift warning display becomes 1), the following control is performed and the driver is warned.

- Transmits the buzzer output signal to the combination meter and sounds the buzzer.

Operation Condition

- Driver Attention Alert: ON
- Vehicle speed approximately 60 km/h (37 MPH) or more

NOTE:

- Drift warning can be set to ON/OFF using the combination meter.
- When the engine is stopped, the system is reset.

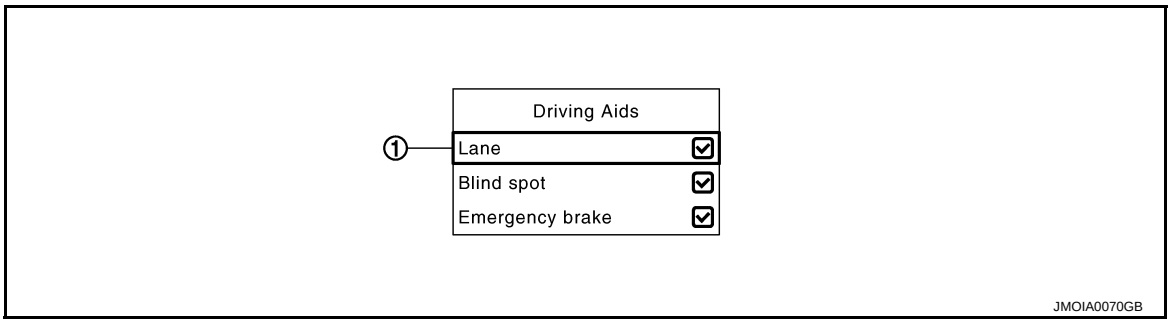
- Drift warning may not operate normally depending on the surrounding conditions, etc.

OPERATION

LDW

LDW : Switch Name and Function

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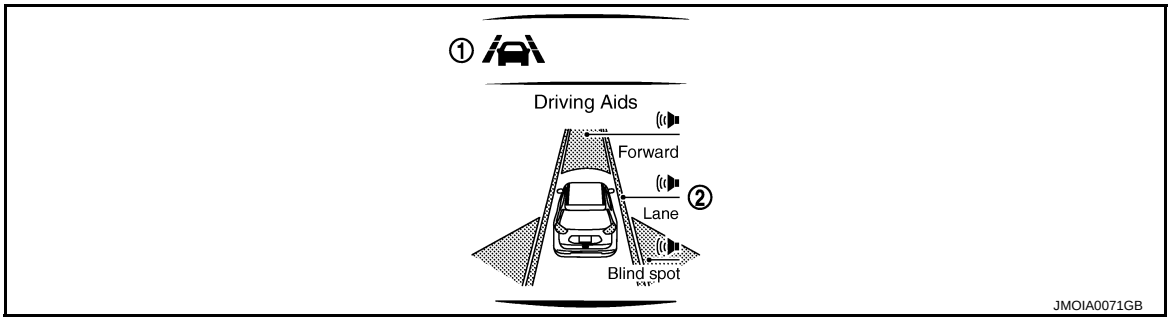


No.	Switch name	Description
1.	LDW setting display (Combination meter setting display)	Turns LDW system ON/OFF

LDW : Menu Displayed by Pressing Each Switch

INFOID:0000000010416795

INDICATOR LAMP AND WARNING LAMP



No.	Display item	Description
1.	LDW ON indicator	Indicates that the LDW system is ON
2.	LDW display “Lane” (Speaker icon)	Indicates that the LDW system is ON

DISPLAY AND WARNING

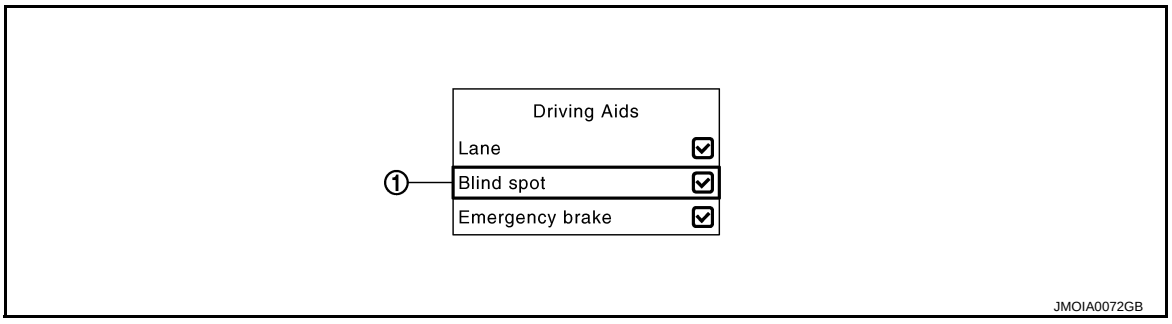
Vehicle condition/ Driver's operation		Action	LDW ON indicator	Indication on the combination meter	Buzzer
Less than Approx. 55 km/h (34 MPH)	Close to lane marker	No action	ON	White  JSOIA1422ZZ	OFF
Approx. 60 km/h (37 MPH) or more	Close to lane marker	Warning • Buzzer sounds • Warning lamp blinks (orange)	ON	OFF (orange) Blink  JSOIA1367ZZ	Short continuous beeps
	• Close to lane marker • Turn signal ON (Deviate side)	No action	ON	White  JSOIA1422ZZ	OFF

NOTE:
After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 55 km/h (34 MPH). Refer to DAS-15, "LDW : System Description".

BSW

BSW : Switch Name and Function

INFOID:0000000010416792

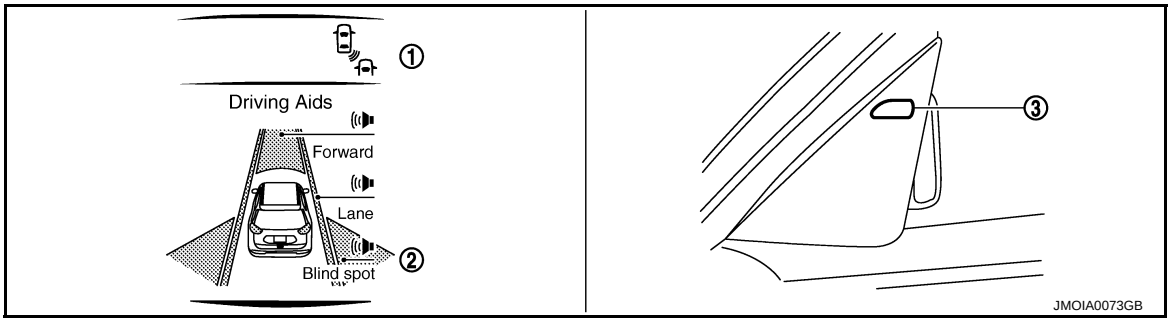


No.	Switch name	Description
1.	BSW setting display (Combination meter setting display)	Turns BSW system ON/OFF

BSW : System Display and Warning

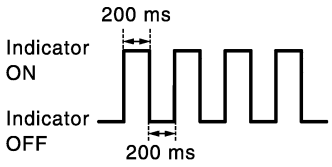
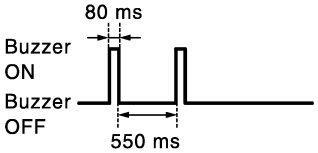
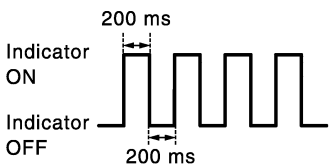
INFOID:0000000010416793

INDICATOR AND WARNING LAMP



No.	Display item	Description
1.	BSW ON indicator	Indicates that the BSW system is ON
2.	BSW display “Blind spot” (Speaker icon)	Indicates that the BSW system is ON
3.	BSW indicator	• Illuminates when detect other vehicles beside vehicle in an adjacent lane • Blinks when BSW system is warning to driver

DISPLAY AND WARNING OPERATION

Vehicle condition/ Driver's operation				Action	
BSW ON indicator	Vehicle speed (Approx.) [km/h (MPH)]	Turn signal condition	Status of vehicle detection within detection area	Indication on the BSW indicator	Buzzer
OFF	—	—	—	OFF	OFF
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 BSW system is turned off, the BSW ON indicator remains OFF.

MOD

MOD : System Display and Warning

INFOID:0000000010416796

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

HANDLING PRECAUTION

Precautions for Lane Departure Warning

INFOID:0000000010416800

LANE DEPARTURE WARNING (LDW)

- If the LDW system malfunctions, it will cancel automatically, and the LDW malfunction message will appear in the vehicle information display.
- 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.
- LDW system will not operate at speeds below approximately 60 km/h (37 MPH) or if it cannot detect lane markers.
- Excessive noise will interfere with the warning chime sound, and the chime may not be heard.
- LDW system may not function 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 a sudden change in brightness occurs. (For example, when the vehicle enters or exits a tunnel or under a bridge.)

Precautions for Blind Spot Warning

INFOID:0000000010416801

BLIND SPOT WARNING

- The Blind Spot Warning system is not a replacement for proper driving procedure and are not designed to prevent contact with vehicles or objects. When changing lanes, always use the side and rear mirrors and turn and look in the direction driver will move to ensure it is safe to change lanes. Never rely solely on the Blind Spot Warning system.
- The Blind Spot Warning system may not provide the warning or the control for vehicles that pass through the detection zone quickly.
- Excessive noise (for example, audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.

Precautions for Traffic Sign Recognition

INFOID:0000000010508335

HANDLING OF FRONT CAMERA UNIT

Refer to DAS-31, "Precautions for Lane Departure Warning".

TRAFFIC SIGN RECOGNITION

CAUTION:

- **There are limitations to the Traffic Sign Recognition. Be careful to observe traffic signs, etc. and drive safely.**
- **Detection may not be possible depending on the vehicle status, driving conditions, traffic environment, weather conditions, and the condition of the sign.**
- **Under conditions such as the following, detection of Traffic Sign Recognition is delayed and detection may not be possible.**
- **A portion of the sign is hidden and obscured by a tree, dirt, etc.**
- **The shape of the sign is changed due to the sign being bent, etc.**
- **The vehicle is traveling at a fast speed.**
- **Depending on certain conditions, it may not be possible to hear the warning sound due to outside noises.**

Precautions for Drive Attention Alert

INFOID:0000000010508336

DRIVE ATTENTION ALERT

CAUTION:

This is not a system to assist driving while tired. Driving while tired may lead to a serious accident. Be sure to have sufficient rest before driving, and drive safely.

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

CONSULT Function

INFOID:0000000010416802

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-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.

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.
ILL [On/Off]	Indicates status of dimmer 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.
STEERING 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/NG]	Indicates status of rear camera communication.
R-CAMERA COMM LINE [OK/NG]	Indicates condition of rear camera communication line.
F-CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
F-CAMERA COMM STATUS [OK/NG]	Indicates status of front camera communication.
F-CAMERA COMM LINE [OK/NG]	Indicates condition of front camera communication line.
DR-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of driver side camera image signal.
DR CAMERA COMM STATUS [OK/NG]	Indicates status of driver side camera communication.
DR-SIDE CAMERA COMM LINE [OK/NG]	Indicates condition of driver side camera communication line.
PA-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of passenger side camera image signal.
PA CAMERA COMM STATUS [OK/NG]	Indicates status of passenger side camera communication.
PA-SIDE CAMERA COMM LINE [OK/NG]	Indicates condition of passenger side camera communication line.

Monitor Item	Description
TURN SIGNAL [Left/N/Right]	Indicates status of turn signal output.
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.
ITS SW 2 [On/Off/No setting]	Indicates state of warning system switch. **NOTE:** For this vehicle, “No setting” is displayed.
ITS SW 2 IND [On/Off]	Indicates state of warning system switch indicator output. **NOTE:** For this vehicle, “Off” is displayed.
PUMP COMM STATUS [OK/NG]	Indicates state of communication signal from pump control unit.
ITS OFF SW [On/Off]	Indicates state of ITS off switch.
VEHICLE SPEED [km/h]	Indicates state of vehicle speed signal from ABS actuator and electric unit (control unit).
IDLE STOP STATUS [On/Off]	Indicates state of stop/start system.
TRAILER HITCH SW [On/Off]	Indicates state of trailer hitch. **NOTE:** For this vehicle, “Off” is displayed.
STEERING ANGLE [deg]	The steering angle is displayed.

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].
SONAR BUZZER CONTROL	This test is able to check sonar 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	

Support Item	Setting	Description
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	
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.

Display Items for The Cause of LDW/BSW Cancel

Cause of cancellation	Description
REAR CAMERA DIRTY	Rear camera lens is dirty.
TRUNK OPEN	Trunk lid is open.
TRAILER HITCH ON	Towing (by attaching a trailer).
R CAMERA COMM ERR	Communication error between around view monitor control unit and rear camera.
LOW WASH FLUID	Washer fluid level is low.
LO TMP(AIR WIPING)	Ambient temperature drops to -20 °C (-4 °F) or less.
LO TMP(WSH WIPING)	Ambient temperature drops to -20 °C (-4 °F) or less.
NO RECORD	—

Display Items for The Cause of IPA Cancel

Cause of cancellation	Description
STRG SEN CIRCUIT	A malfunction is detected in the steering angle sensor.
TRUNK OPEN	Trunk lid is open.
TRAILER HITCH ON	Towing (by attaching a trailer).
VDC CIRCUIT	VDC detects a malfunction.
VHCL SPD UNMATCH	Malfunction is detected in vehicle speed signal.
SHIFT POSITION	A shift position other than the established one is detected.

SONAR CIRCUIT	Malfunction status in sonar control unit.
CAN COMM ERROR	CAN communication signal required by Around View Monitor control unit cannot be received.
BCM CIRCUIT	BCM detects a malfunction.
EPS CIRCUIT	EPS control unit detects a malfunction.
CVT CIRCUIT	TCM detects a malfunction.
ECM CIRCUIT	ECM detects a malfunction.
DOOR OPEN	Door is opened.
VDC OFF	VDC OFF switch is pressed.

CONFIGURATION

Refer to AV-179, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-21, "CAN Diagnostic Support Monitor".

DIAGNOSIS SYSTEM (DISTANCE SENSOR)

CONSULT Function (LASER/RADAR)

INFOID:0000000010416803

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-53, "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 [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 [m]	Indicates the distance from the vehicle ahead.
RELATIVE SPD [m/s]	Indicates the relative speed of the vehicle ahead.
RADAR OFFSET [m]	**NOTE:** The item is indicated, but not used.
RADAR HEIGHT [m]	**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.
FCW SYSTEM ON [On/Off]	**NOTE:** The item is indicated, but not used.
FCW SELECT [On/Off]	**NOTE:** The item is indicated, but not used.
PFCW SYSTEM ON [On/Off]	**NOTE:** The item is indicated, but not used.

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

WORK SUPPORT

Work support items	Description
MILLIWAVE RADAR ADJUST	Outputs millimeter waves, calculates dislocation of the millimeter waves, and indicates adjustment direction.
FEB OPERATION MILEAGE	The mileage information for FEB operation is displayed.

Distance sensor alignment
Refer to DAS-90, "Description".

ACTIVE TEST

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

DIAGNOSIS SYSTEM (FRONT CAMERA UNIT)

CONSULT Function (LANE CAMERA)

INFOID:0000000010499203

APPLICATION ITEMS

CONSULT performs the following functions by communicating with the front camera unit.

Diagnosis mode	Description
Work Support	Performs the camera aiming.
Self Diagnostic Result	Displays the name of a malfunctioning system stored in the front camera unit
Data Monitor	Displays front camera unit input/output data in real time
ECU Identification	Displays front camera unit part number
CAN Diag Support Monitor	Displays a reception/transmission state of CAN communication

WORK SUPPORT

Work support items	Description
AUTO AIM	Outputs camera unit, calculates dislocation of the camera, and displays adjustment direction.

SELF DIAGNOSTIC RESULT

Refer to DAS-61, "DTC Index".

FREEZE FRAME DATA (FFD)

Front camera unit records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

CONSULT screen item (Indication/Unit)	Description
ODO/TRIP METER (km/h)	Vehicle speed of the moment a particular DTC is detected.

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
CAMRA HIGH TEMP (Normal/High)	Displays status of front camera unit high temperature judgment.
TURN SIGNAL (Off/LH/ RH/LH&RH)	Displays status of “Turn signal” received from BCM via CAN communication.
WIPER SIGNAL (OFF/LO/HI)	Displays status of “Wiper signal” received from BCM via CAN communication.
VEHICLE SPEED (km/h)	Displays vehicle speed received from ABS actuator and electric unit (control unit) via CAN communication.
DRIVER ASSIST SYSTEM SET (NO REQ/FCW Off/FCW On/LDW Off/LDW On/BSW Off/BSW On/ TSR Off/TSR On/FEB Off/FEB On)	Displays Driver Assist System setting status.
BRAKE OPERATION STATUS (Off/On/CNFRM/UNKWN)	Displays the brake operating status.
AIMING DOME (not finished/finished)	Displays status that camera aiming is done.
AIMING RESULT (NOK/OK)	Displays result of camera aiming.

Monitored item (Unit)	Description
STEERING ANGLE (deg)	Displays the steering angle from the steering angle sensor.
YAW RATE (deg/s)	Displays the yaw rate.
FCTRY AIM YAW (deg)	Displays the yaw angle result of camera aiming.
FCTRY AIM ROL (deg)	Displays the roll angle result of camera aiming.
FCTRY AIM PIT (deg)	Displays the pitch angle result of camera aiming.
FEB OPERATION DISP (0, 1, 2, 3)	Displays the control operation of Forward Emergency Braking.
BSW LEFT DISP (0, 1)	Displays Blind Spot Warning indicator LH status.
BSW RIGHT DISP (0, 1)	Displays Blind Spot Warning indicator RH status.
FCW STATUS DISPLAY (0, 1, 2, 3)	**NOTE:** The item is indicated, but not monitored.
BSW STATUS DISPLAY (0, 1, 2, 3)	Displays status Blind Spot Warning system.
FEB STATUS DISPLAY (0, 1, 2, 3)	Displays status Forward Emergency Blake system.
FCW BUZZER (0, 2, 4, 6, 7)	**NOTE:** The item is indicated, but not monitored.
FCW SETTING DISPLAY (0, 1, 2, 3)	**NOTE:** The item is indicated, but not monitored.
BSW SETTING DISPLAY (0, 1, 2, 3)	Displays Blind Spot Warning setting status.
MOD SETTING DISPLAY (0, 1, 2, 3)	Displays Moving Object Detection setting status.
FEB SETTING DISPLAY (0, 1, 2, 3)	Displays Forward Emergency Braking setting status.
DAA SETTING DISPLAY (0, 1, 2, 3)	Displays Driver Attention Assist setting status.
BSW IND BRIGHT DISP (0, 1, 2, 3)	**NOTE:** The item is indicated, but not monitored.
CLN RR CAMERA MSG (0, 1)	Displays the rear clean camera warning status.
FCW MALFUNCTION MSG (0, 1)	**NOTE:** The item is indicated, but not monitored.
DAA LEVEL DISPLAY (0, 4, 8, 12, 15)	Displays Driver Attention Assist level status.
DAA WARNING DISPLAY (0, 1)	Displays Driver Attention Assist warning indicator status.
LDW MALFUNCTION MSG (0, 1)	Displays Lane Departure Warning malfunction status.
BSW MALFUNCTION MSG (0, 1)	Displays Blind Spot Warning malfunction status.
CAMERA HI TEMP MSG (0, 1)	Displays status of front camera unit high temperature warning display output.
FCW BLOCK MSG (0, 1)	**NOTE:** The item is indicated, but not monitored.

Monitored item (Unit)	Description
FEB BLOCK MSG (0, 1)	Displays Forward Emergency Braking radar blockage status.
FEB MALFUNCTION MSG (0, 1)	Displays Forward Emergency Braking malfunction status.
LDW FUNCTION (NORMAL/MALFUNCTION)	Displays Lane Departure Warning function status.
LDW SETTING DISPLAY (NTHNG/Off/On)	Displays Lane Departure Warning setting status.
DRIVER ASSIST SYSTEM BZZR (NO REQ/BSW/LDW/MOD)	Displays Driver Assist System warning buzzer status.
LDW LEFT (Off/On)	Displays the deviating status on the LH side lane.
LDW RIGHT (Off/On)	Displays the deviating status on the RH side lane.
LDW STATUS DISPLAY (OFF/ON/TMP MF/ MF)	Displays status Lane Departure Warning system.
HBA FUNCTION (##/MALF/NORMAL/TP OFF)	Displays High Beam Assist system function status.
HBA REQUEST (NO REQ/LOW/HIGH/UNMBL)	Displays High Beam Assist request status.
LOW BEAM STATUS (Off/On)	Displays low beam status of the vehicle.
HIGH BEAM STATUS (Off/On)	Displays high beam status of the vehicle.
TSR STATUS (Nothing/StatusOFF/StatusON/)	Displays setting of the Traffic Sign Recognition.
TSR FUNCTION (NORMAL/MALFUNCTION)	Displays Traffic Sign Recognition function status.
TSR SPEED LIMIT SIGN 1 (km/h,mph)	Displays Traffic Sign Recognition 1 status.
TSR SPEED LIMIT SIGN 2 (km/h,mph)	Displays Traffic Sign Recognition 2 status.
TSR SUPPLEMENT SIGN 1 (Display OFF/RAIN1/RAIN2/ SNOW/TOWING/AROW L/AROW R/WHITE/TRUCK)	Displays the supplement traffic sign 1.
TSR SUPPLEMENT SIGN 2 (Display OFF/RAIN1/RAIN2/ SNOW/TOWING/AROW L/AROW R/WHITE/TRUCK)	Displays the supplement traffic sign 2.
TSR SUPPLEMENT SIGN 3 (Display OFF/RAIN1/RAIN2/ SNOW/TOWING/AROW L/AROW R/WHITE/TRUCK)	Displays the supplement traffic sign 3.

ECU DIAGNOSIS INFORMATION

AROUND VIEW MONITOR CONTROL UNIT

Reference Value

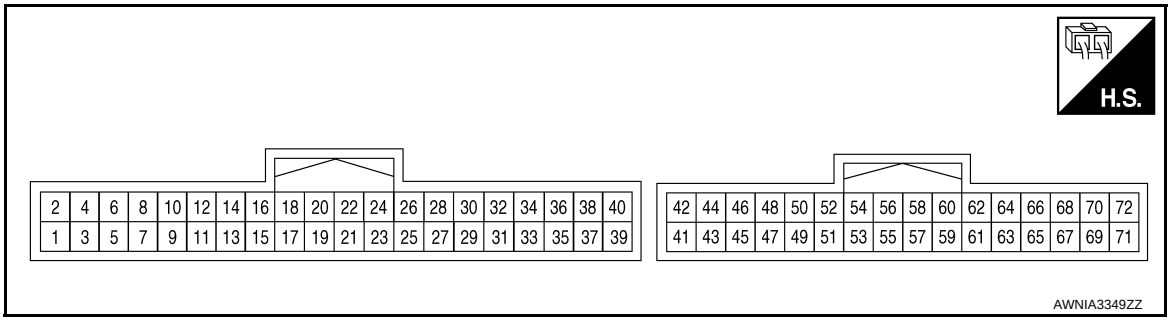
INFOID:0000000010416804

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
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
REVERSE SIGNAL	When selector lever is in any position other than R (reverse).	Off
	When selector lever in R (reverse).	On
VEHICLE SPEED SIGNAL	While driving, equivalent to speedometer reading	mph, km/h
ILL	Illumination is ON	On
	Illumination is OFF	Off
CAMERA SWITCH SIGNAL	CAMERA switch OFF.	Off
	CAMERA switch ON.	On
CAMERA OFF SIGNAL	CAMERA switch ON.	Off
	CAMERA switch OFF.	On
ST ANGLE SENSOR TYPE	Steering angle sensor type.	Absolute
STEERING GEAR RATIO TYPE	Steering gear ratio type.	Type O
STEERING POSITION	Left hand drive vehicle.	LHD
	Right hand drive vehicle.	RHD
REAR CAMERA IMAGE SIGNAL	Rear camera inoperative.	NG
	Rear camera operative.	OK
WASH SW	Wash switch signal is pressed	On
	Wash switch signal is not pressed	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
F-CAMERA IMAGE SIGNAL	Front camera inoperative.	NG
	Front camera operative.	OK
F-CAMERA COMM STATUS	Front camera serial status is OK	OK
	Front camera serial status is not OK	NG
F-CAMERA COMM LINE	Front camera serial communication signal is received	OK
	Front camera serial communication signal is not received	NG
DR-SIDE CAMERA IMAGE SIG	Driver side camera inoperative.	NG
	Driver side camera operative.	OK
DR CAMERA COMM STATUS	Driver side camera serial status is OK	OK
	Driver side camera serial status is not OK	NG
DR-SIDE CAMERA COMM LINE	Driver side camera serial communication signal is received	OK
	Driver side camera serial communication signal is not received	NG
PA-SIDE CAMERA IMAGE SIG	Passenger side camera inoperative.	NG
	Passenger side camera operative.	OK

Monitor Item	Condition	Value/Status
PA CAMERA COMM STATUS	Passenger side camera serial status is OK	OK
	Passenger side camera serial status is not OK	NG
PA-SIDE CAMERA COMM LINE	Passenger side camera serial communication signal is received	OK
	Passenger side camera serial communication signal is not received	NG
TURN SIGNAL	Turn signal left is received	Left
	Turn signal neutral is received	N
	Turn signal right is received	Right
ITS SW 1	ITS switch is pressed	On
	ITS switch is not pressed	Off
ITS SW 1 IND	Indicator of ITS switch is lighting	On
	Indicator of ITS switch 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	Off
PUMP COMM STATUS	Pump communication signal is received	On
	Pump communication signal is not received	Off
VEHICLE SPEED	Vehicle stopped	0 km/h
	Driving	Almost same reading as speedometer
IDLE STOP STATUS	Stop/start system operates	On
	Stop/start system not operates	Off
TRAILER HITCH SW	For this vehicle, the displaying is fixed	Off
STEERING ANGLE	The steering wheel is not steered	Approx. 0 deg
	The steering wheel is steered	Displays steering angle (deg)

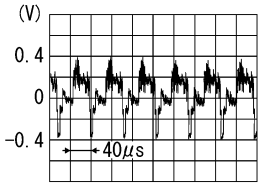
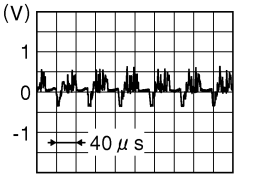
TERMINAL LAYOUT

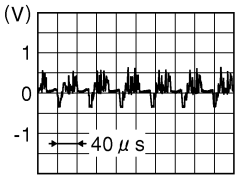
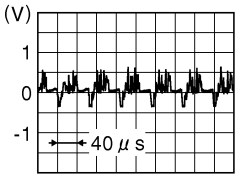
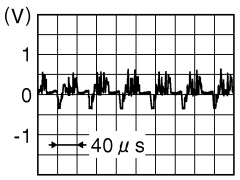


PHYSICAL VALUES

With Pump Control Unit

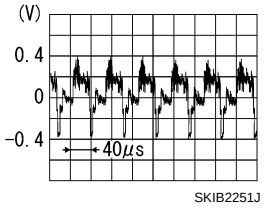
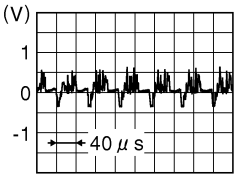
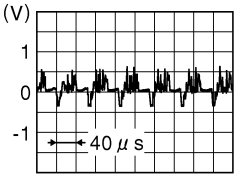
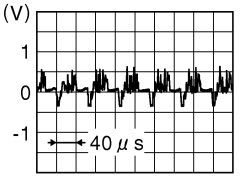
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (B)	Ground	Ground	—	ON	—	0 V
2 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
3 (SB)	Ground	Ignition signal	Input	ON	—	Battery voltage

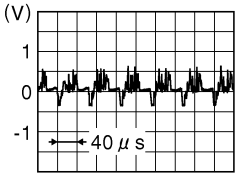
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
7 (R)	Ground	BSW LED signal L	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
8 (P)	Ground	BSW LED signal R	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
27 (L)	—	CAN (H)	Input/ Output	—	—	—
28 (R)	—	CAN (L)	Input/ Output	—	—	—
36 (BR)	Ground	Washer signal AVM to pump	Output	ON	Washer pump operated	5 V
37 (V)	Ground	Pump signal ground	Input	ON	—	0 V
38 (GR)	Ground	Washer signal pump to AVM	Input	ON	Washer pump operated	5 V
47 (G)	Ground	Camera image signal	Output	ON	When camera image display	 SKIB2251J
48 (Shield)	—	Camera image signal shield	—	—	—	—
49 (LG)	—	Rear camera 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 (driver side) power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
58 (Y)	Ground	Side camera (driver side) ground	—	ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
59 (G)	60 (Shield)	Side camera (driver side) image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
62 (B)	Ground	Side camera (passenger side) power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
64 (L)	Ground	Side camera (passenger side) ground	—	ON	—	0 V
65 (Y)	66 (Shield)	Side camera (passenger side) image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
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

Without Pump Control Unit

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
4 (SB)	Ground	Ignition signal	Input	ON	—	Battery voltage
10 (R)	—	CAN (L)	Input/ Output	—	—	—
12 (L)	—	CAN (H)	Input/ Output	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
23 (Shield)	—	Camera image signal shield	—	—	—	—
24 (G)	Ground	Camera image signal	Output	ON	When camera image display	 SKIB2251J
25 (B)	Ground	Rear camera ground	—	ON	—	0 V
26 (R)	Ground	Rear camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
28 (W)	27 (Shield)	Rear camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
29 (Y)	Ground	Side camera (driver side) ground	—	ON	—	0 V
30 (L)	Ground	Side camera (driver side) power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
32 (G)	31 (Shield)	Side camera (driver side) image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
33 (L)	Ground	Side camera (passenger side) ground	—	ON	—	0 V
34 (B)	Ground	Side camera (passenger side) power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
36 (Y)	35 (Shield)	Side camera (passenger side) image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
37 (V)	Ground	Front camera ground	—	ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
38 (L)	Ground	Front camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
40 (LG)	39 (Shield)	Front camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB

Fail-safe (Around View Monitor Control Unit)

INFOID:0000000010504464

If a malfunction occurs in the Around View Monitor control unit, display control unit performs fail-safe activation according to the detected malfunction.

Detection item		fail-safe	DTC
CONTROL UNIT (CAN)		The Around View Monitor system does not operate	U1010
POWER SUPPLY CIRCUIT		Stops Around View Monitor with park assist	C1A01
VHCL SPEED SE CIRC		• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	C1A03
ABS/TCS/VDC CIRC			C1A04
VDC P-RUN DIAGNOSIS		• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	U0122
VDC CHECKSUM		• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	U0416
ECM CIRCUIT		Stops Around View Monitor with park assist	C1A14
STRG SEN CIR		• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	C1A39
ST ANGLE SEN CALIB		• Predicted course lines are not displayed • Stops the MOD (Moving Object Detection) function • Stops BSW (Blind Spot Warning) • Stops Around View Monitor with park assist	U1232
ST ANGLE SENSOR CALIBRATION			U0428
CAM COMM CIRCUIT	Steering angle sensor	• Predicted course lines are not displayed • Stops the MOD (Moving Object Detection) function • Stops BSW (Blind Spot Warning) • Stops Around View Monitor with park assist	U1000
	ABS actuator and electric unit (control unit)	• Stops the MOD (Moving Object Detection) function • Stops BSW (Blind Spot Warning) • Stops Around View Monitor with park assist	
	TCM		
	BCM		
	ECM		
	EPS control unit	Stops Around View Monitor with park assist	
	NAVI control unit	Camera screen not displayed	

Detection item	fail-safe	DTC
REAR CAMERA IMAGE SIGNAL	Camera image is not displayed (gray screen display)	U111A
SIDE CAMERA RH IMAGE SIGNAL		U111B
FRONT CAMERA IMAGE SIGNAL		U111C
LSIDE CAMERA LH IMAGE SIGNA		U111D
CAMERA POWER VOLT	Camera power output is stopped	U1302
CAMERA IMAGE CALIB	• Unmatched icon ☒ display (red) is displayed (Applicable for unmatched camera only) • Stops Around View Monitor with park assist	U1304
R-CAMERA(R&L) CALIB JDGMNT	• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function	U1308
RR CAMERA COMM ERROR		U130B
CONFIG UNFINISH	• Operation is according to the vehicle setting value set as the default value • Stops Around View Monitor with park assist	U1305
PUMP INPUT CURRENT JUDGE	• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function	U1309
PUMP ECU JUDGE		U130A
		U1310
LED POWER SUPPLY VOLT	Stops Around View Monitor with park assist	U1303
When communications between the Around View Monitor control unit and each camera image line are affected by electromagnetic noise	On the corresponding camera screen, ☒ display (blue) is displayed	—

DTC Inspection Priority Chart

INFOID:0000000010504465

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

Priority	Detection items (DTC)
1	U1305:CONFIG UNFINISH
2	• U1000:CAN COMM CIRCUIT • U1010:CONTROL UNIT(CAN)
3	U130B:RR CAMERA COMM ERROR
4	U1308:REAR CAMERA(R&L) CALIB JDGMNT
5	• C1A01:POWER SUPPLY CIRCUIT • C1A04:ABS/TCS/VDC CIRC • C1A14:ECM CIRCUIT • C1A39:STRG SEN CIR • U0122:VDC P-RUN DIAGNOSIS • U0416:VDC CHECKSUM • U0428:ST ANGLE SENSOR CALIBRATION • U111A:REAR CAMERA IMAGE SIGNAL • U111B:SIDE CAMERA RH IMAGE SIGNAL • U111C:FRONT CAMERA IMAGE SIGNAL • U111D:SIDE CAMERA LH IMAGE SIGNAL • U1232:ST ANGLE SEN CALIB • U1302:CAMERA POWER VOLT • U1303:LED POWER SUPPLY VOLT • U1304:CAMERA IMAGE CALIB • U1309:PUMP INPUT CURRENT JUDGE • U130A, U1310:PUMP ECU JUDGE
6	• C1A03:VHCL SPEED SE CIRC

DTC Index

INFOID:0000000010416805

CONSULT Display	Reference Page
C1A01: POWER SUPPLY CIRCUIT	DAS-166, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A03: VHCL SPEED SE CIRC	DAS-168, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A04: ABS/TCS/VDC CIRC	DAS-169, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A14: ECM CIRCUIT	DAS-173, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A39: STRG SEN CIR	DAS-182, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U0122: VDC P-RUN DIAGNOSIS	DAS-115, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U0416: VDC CHECKSUM	DAS-122, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U0428: ST ANGLE SENSOR CALIBRATION	DAS-123, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U1000: CAN COMM CIRCUIT	DAS-126, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	DAS-128, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U111A: REAR CAMERA IMAGE SIGNAL	DAS-129, "DTC Logic"
U111B: SIDE CAMERA RH IMAGE SIGNAL	DAS-132, "DTC Logic"
U111C: FRONT CAMERA IMAGE SIGNAL	DAS-137, "DTC Logic"
U111D: SIDE CAMERA LH IMAGE SIGNAL	DAS-140, "DTC Logic"
U1232: ST ANGLE SEN CALIB	DAS-145, "DTC Logic"
U1302: CAMERA POWER VOLT	DAS-146, "DTC Logic"
U1303: LED POWER SUPPLY VOLT	DAS-155, "DTC Logic"
U1304: CAMERA IMAGE CALIB	DAS-157, "DTC Logic"
U1305: CONFIG UNFINISH	DAS-157, "DTC Logic"
U1308: REAR CAMERA (R&L) CALIB JDGMNT	DAS-158, "DTC Logic"
U1309 PUMP INPUT CURRENT JUDGE	DAS-159, "DTC Logic"
U130A, U1310: PUMP ECU JUDGE	DAS-161, "DTC Logic"
U130B: RR CAMERA COMM ERROR	DAS-162, "DTC Logic"

DISTANCE SENSOR

Reference Value

INFOID:0000000010416806

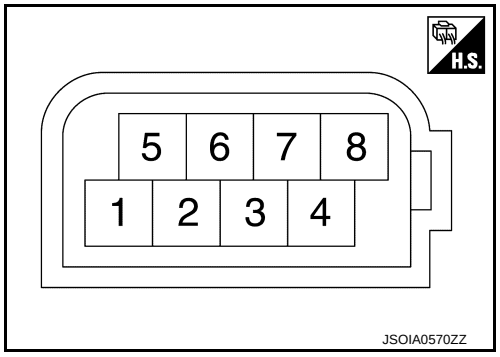
VALUES ON THE DIAGNOSIS TOOL

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
LASER OFFSET	**NOTE:** The item is indicated, but not used		—
LASER 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
FCW SYSTEM ON	**NOTE:** The item is indicated, but not used		Off
FCW SELECT	**NOTE:** The item is indicated, but not used		Off
PFCW SYSTEM ON	**NOTE:** The item is indicated, but not used		Off
PFCW SELECT	**NOTE:** The item is indicated, but not used		Off
FEB SW	Engine running	FEB system ON	On
		FEB system OFF	Off

Monitor item	Condition		Value/Status
FEB SELECT	Ignition switch ON	FEB system set with the integral switch is ON	On
		FEB system set with the integral switch is OFF	Off
BRAKE SW	Ignition switch ON	When brake pedal is depressed	On
		When brake pedal is not depressed	Off
IDLE SW	Engine running	Idling	On
		Except idling (depress accelerator pedal)	Off
THRTL SENSOR	**NOTE:** The item is indicated, but not used		Off
VEHICLE AHEAD DETECT	Drive the vehicle	When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
		When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off
STATIC OBSTACLE DETECT	Drive the vehicle	When a vehicle static obstacle is detected	On
		When a vehicle static obstacle is not detected	Off
BUZZER O/P	Engine running	When the buzzer of the following system operates • FEB system	On
		When the buzzer of the following system not operates • FEB system	Off
FUNC ITEM (FCW)	**NOTE:** The item is indicated, but not used		Off
FUNC ITEM (PFCW)	**NOTE:** The item is indicated, but not used		Off
FUNC ITEM (FEB)	Engine running	FEB system set with the integral switch ON	On
		FEB system set with the integral switch OFF	Off
FUNC ITEM (ICC)	**NOTE:** The item is indicated, but not used		Off
PRESS ORDER	When brake pedal is depressed		Approx. 0 bar
	When brake pedal is not depressed		0 – 255 bar

TERMINAL LAYOUT



PHYSICAL VALUES

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

Fail-safe (Distance Sensor)

INFOID:0000000010416807

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

DTC Inspection Priority Chart

INFOID:0000000010416808

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	• C10B7: YAW RATE SENSOR • C1A01: POWER SUPPLY CIR • C1A02: POWER SUPPLY CIR 2 • C1A03: VHCL SPEED SE CIRC • C1A04: ABS/TCS/VDC CIRC • C1A05: BRAKE SW/STOP L SW • C1A12: LASER BEAM OFF CNTR • C1A14: ECM CIRCUIT • C1A15: GEAR POSITION • C1A16: RADAR STAIN • C1A17: ICC SENSOR MALF • C1A18: LASER AIMING INCMP • C1A21: UNIT HIGH TEMP • C1A24: NP RANGE • C1A26: ECD MODE MALF • C1A39: STRG SEN CIR • C1B5D: FEB OPE COUNT LIMIT • U0121: VDC CAN CIR 2 • U0126: STRG SEN CAN CIR 1 • U0401: ECM CAN CIR 1 • U0415: VDC CAN CIR 1 • U0428: STRG SEN CAN CIR 2 • U1527: CCM CAN CIR 1 • U153F: CCM CAN CIR 2

DTC Index

INFOID:0000000010416809

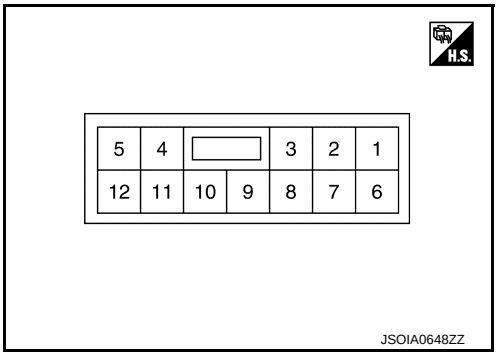
DTC CONSULT	CONSULT display	Reference
C10B7	YAW RATE SENSOR	DAS-165
C1A01	POWER SUPPLY CIR	DAS-166
C1A02	POWER SUPPLY CIR 2	DAS-166
C1A03	VHCL SPEED SE CIRC	DAS-168
C1A04	ABS/TCS/VDC CIRC	DAS-169
C1A05	BRAKE SW/STOP L SW	DAS-170
C1A07	CVT CIRCUIT	DAS-171
C1A12	LASER BEAM OFF CNTR	DAS-172
C1A14	ECM CIRCUIT	DAS-173
C1A15	GEAR POSITION	DAS-175
C1A16	RADAR STAIN	DAS-176
C1A17	ICC SENSOR MALF	DAS-177
C1A18	LASER AIMING INCMP	DAS-178
C1A21	UNIT HIGH TEMP	DAS-179
C1A24	NP RANGE	DAS-180
C1A26	ECD MODE MALF	DAS-181
C1A39	STRG SEN CIR	DAS-182
C1B5D	FEB OPE COUNT LIMIT	DAS-187
U0121	VDC CAN CIR 2	DAS-114
U0126	STRG SEN CAN CIR 1	DAS-116
U0401	ECM CAN CIR 1	DAS-120
U0415	VDC CAN CIR 1	DAS-121
U0428	STRG SEN CAN CIR 2	DAS-123
U1000	CAN COMM CIRCUIT	DAS-126
U1010	CONTROL UNIT (CAN)	DAS-128
U1527	CCM CAN CIR 1	DAS-163
U153F	CCM CAN CIR 2	DAS-164

PUMP CONTROL UNIT

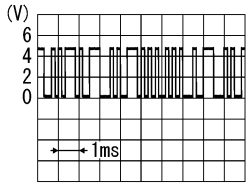
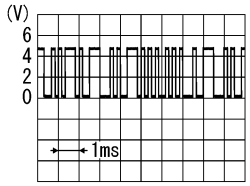
Reference Value

INFOID:0000000010416810

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 (L)		Air pump ground	—	Ignition switch ON	—	0 - 0.1 V	0 V
3 (L)		Washer pump ground		—	—	0 - 0.1 V	0 V
4 (LG)		Washer pump power supply	Output	Ignition switch ON	Washer pump operated	0 - 0.1 V	0 V
					Washer pump 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 (BG)		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 (P)		Ignition power supply	Input	Ignition switch ON	—	9.5 - 16 V	Battery voltage

FRONT CAMERA UNIT

Reference Value

INFOID:0000000010499271

VALUE ON THE DIAGNOSIS TOOL

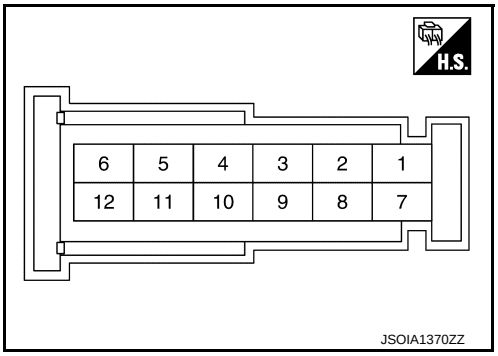
Monitor item	Condition	Value/Status
CAMERA HIGH TEMP	When the temperature around lane camera unit is adequate	Normal
	when the temperate around the lane camera unit is high	High
TURN SIGNAL	Turn signal lamp LH and RH blinking	LH&RH
	Turn signal lamp LH blinking	LH
	Turn signal lamp RH blinking	RH
	Turn signal lamps OFF	Off
WIPER SIGNAL	Wiper position is High	HI
	Wiper position is Low	LO
	Wiper position is OFF	OFF
VEHICLE SPEED	While drive	km/h
DRIVER ASSIST SYSTEM SET	When no operation in setting display on combination meter	NO REQ
	When FCW Off is selected in setting display on combination meter	FCW Off
	When FCW On is selected in setting display on combination meter	FCW On
	When LDW Off is selected in setting display on combination meter	LDW Off
	When LDW On is selected in setting display on combination meter	LDW On
	When BSW Off is selected in setting display on combination meter	BSW Off
	When BSW On is selected in setting display on combination meter	BSW On
	When TSR Off is selected in setting display on combination meter	TSR Off
	When TSR On is selected in setting display on combination meter	TSR On
	When FEB Off is selected in setting display on combination meter	FEB Off
	When FEB On is selected in setting display on combination meter	FEB On
BRAKE OPERATION STATUS	When brake pedal is depressed	Off
	When brake pedal is pressed	On
	When brake pedal is pressed	CFNRM
	When brake pedal operation is not judged	UNKWN
AIMING DONE	Camera aiming is completed	finished
	Camera aiming is not adjusted	not finished
AIMING RESULT	Camera aiming is completed	OK
	Camera aiming is not completed	NOK
STEERING ANGLE	When driving straight	0 ± 3.0 deg
YAW RATE	Vehicle stopped	0 ± 3.0 deg/s
FCTRY AIM YAW	Camera aiming is completed	0 ± 3.0 deg
FCTRY AIM ROL	Camera aiming is completed	0 ± 3.0 deg
FCTRY AIM PIT	Camera aiming is completed	0 ± 3.0 deg
FEB OPERATION DISP	No display	0
	Forward object is displayed	1
	Approach warning is displayed	2
	Collision warning is displayed	3

Monitor item	Condition	Value/Status
BSW LEFT DISP	BSW is not operated for left side	0
	BSW is operated for left side	1
BSW RIGHT DISP	BSW is not operated for right side	0
	BSW is operated for right side	1
FCW STATUS DISPLAY	**NOTE:** The item is indicated, but not monitored	0
		1
		2
		3
BSW STATUS DISPLAY	BSW is OFF	0
	BSW is ON	1
	BSW indicator is flashing	2
	BSW is malfunctioning	3
FEB STATUS DISPLAY	FEB is OFF	0
	FEB is ON	1
	FEB indicator is flashing	2
	FEB is malfunctioning	3
FCW BUZZER	**NOTE:** The item is indicated, but not monitored	0
		2
FCW SETTING DISPLAY	**NOTE:** The item is indicated, but not monitored	0
		1
		2
BSW SETTING DISPLAY	Nothing	0
	BSW is OFF	1
	BSW is ON	2
MOD SETTING DISPLAY	Nothing	0
	MOD is OFF	1
	MOD is ON	2
FEB SETTING DISPLAY	Nothing	0
	FEB is OFF	1
	FEB is ON	2
DAA SETTING DISPLAY	Nothing	0
	DAA is OFF	1
	DAA is ON	2
BSW IND BRIGHT DISP	**NOTE:** The item is indicated, but not monitored	0
		1
		2
		3
CLN RR CAMERA MSG	No display	0
	Rear camera clean message is displayed	1
FCW MALFUNCTION MSG	**NOTE:** The item is indicated, but not monitored	0
		1

Monitor item	Condition	Value/Status
DAA LEVEL DISPLAY	No display	0
	DAA OFF	1
	DAA level (1 – 8)	2 – 9
	DAA standby	14
	DAA malfunction	15
DAA WARNING DISPLAY	No warning	0
	DAA warning	1
LDW MALFUNCTION MSG	No display	0
	LDW malfunction message is displayed	1
BSW MALFUNCTION MSG	No display	0
	BSW malfunction message is displayed	1
CAMERA HI TEMP MSG	No display	0
	Front camera unit high temperature message is displayed	1
FCW BLOCK MSG	**NOTE:** The item is indicated, but not monitored	0
		1
FEB BLOCK MSG	No display	0
	Radar blockage message is displayed for FEB	1
FEB MALFUNCTION MSG	No display	0
	FEB malfunction message is displayed	1
LDW FUNCTION	When LDW function is ON	NORMAL
	When LDW function malfunction is detected	MALFUNCTION
LDW SETTING DISPLAY	Nothing	NTHNG
	LDW is OFF	Off
	LDW is ON	On
DRIVER ASSIST SYSTEM BZZR	No request	NO REQ
	BSW is requested	BSW
	LDW is requested	LDW
	MOD is requested	MOD
LDW LEFT	Left side lane maker is not detected	Off
	Left side lane maker is detected	On
LDW RIGHT	Right side lane maker is not detected	Off
	Right side lane maker is detected	On
LDW STATUS DISPLAY	LDW is OFF	OFF
	LDW is ON	ON
	LDW indicator is flashing	TPM MF
	LDW is malfunctioning	MF
HBA FUNCTION	HBA is malfunctioning	MALF
	HBA is normal	NORMAL
	HBA is unavailable	TP OFF
HBA REQUEST	No request	NO REQ
	Low beam is requested	LOW
	High beam is requested	HIGH
	HBA is unavailable	UNMBL

Monitor item	Condition	Value/Status
LOW BEAM STATUS	Low beam OFF	Off
	Low beam ON	On
HIGH BEAM STATUS	High beam OFF	Off
	High beam ON	On
TSR STATUS	Nothing	Nothing
	TSR is OFF	StatusOFF
	TSR is ON	StatusON
TSR FUNCTION	TSR is normal	NORMAL
	TSR is malfunctioning	MALFUNCTION
TSR SPEED LIMIT SIGN 1	Speed limit 1 is displayed	km/h mhp
TSR SPEED LIMIT SIGN 2	Speed limit 2 is displayed	km/h mhp
TSR SUPPLEMENT SIGN 1	No display	Display OFF
	Rain1 is displayed	RAIN1
	Rain2 is displayed	RAIN2
	Snow is displayed	SNOW
	Towing is displayed	TOWING
	Arrow L is displayed	AROW L
	Arrow R is displayed	AROW R
	White box is displayed	WHITE
	Truck is displayed	TRUCK
TSR SUPPLEMENT SIGN 2	No display	Display OFF
	Rain1 is displayed	RAIN1
	Rain2 is displayed	RAIN2
	Snow is displayed	SNOW
	Towing is displayed	TOWING
	Arrow L is displayed	AROW L
	Arrow R is displayed	AROW R
	White box is displayed	WHITE
	Truck is displayed	TRUCK
TSR SUPPLEMENT SIGN 3	No display	Display OFF
	Rain1 is displayed	RAIN1
	Rain2 is displayed	RAIN2
	Snow is displayed	SNOW
	Towing is displayed	TOWING
	Arrow L is displayed	AROW L
	Arrow R is displayed	AROW R
	White box is displayed	WHITE
	Truck is displayed	TRUCK

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Standard value (V)	Reference value (V)
+	–	Signal name	Input/ Output			
2 (L)	Ground	ITS communication - H	—	—	—	—
3 (R)		ITS communication - L	—	—	—	—
6 (R)		Ignition power supply	Input	Ignition switch ON	12 – 14	Battery voltage
7 (B)		Ground	—	—	0 – 0.1	Approx. 0

Fail-safe (Front Camera Unit)

INFOID:0000000010499272

FAIL-SAFE CONTROL BY DTC

LDW (Lane Departure Warning)
If a malfunction occurs in front camera unit, front camera unit cancels control, and turns ON the LDW malfunction in information display.

TSR (Traffic Sign Recognition)
If a malfunction occurs in front camera unit, front camera unit cancels control, and turns ON the TSR malfunction in information display.

FRONT CAMERA UNIT TEMPORARY OPERATION CANCELLATION

- Temporary disabled status at high temperature
  - If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the system malfunction in information display.
  - When interior temperature is reduced, the system will resume operation automatically.
- When vehicle front identification is difficult
  - When vehicle front identification is difficult due to soiling of windshield glass and strong light shining from the front, operation may be canceled temporarily. At this time, a warning is displayed on the vehicle information display in the combination meter.
  - Normal operation recovers when conditions improve.

DTC Inspection Priority Chart

INFOID:0000000010499273

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

Priority	Detected items (DTC)
1	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
2	• C1B01: CAM AIMING INCMP • C1B02: VHCL SPD DATA MALF • C1B03: ABNRML TEMP DETECT • C1B09: POWER SUPPLY CIRCUIT • C1B0A: POWER SUPPLY CIRCUIT 2 • U0122: VDC CAN CIR 1 (LDP) • U0126: STRG SEN CAN CIR 1 • U0155: METER CAN CIRC 1 • U0235: DIST SEN CAN CIRC 1 • U0416: VDC CAN CIR 2 (LDP) • U0428: STRG SEN CAN CIR 2 • U0433: DIST SEN CAN CIRC 2
3	C1B00: CAMERA UNIT MALF

DTC Index

INFOID:0000000010499274

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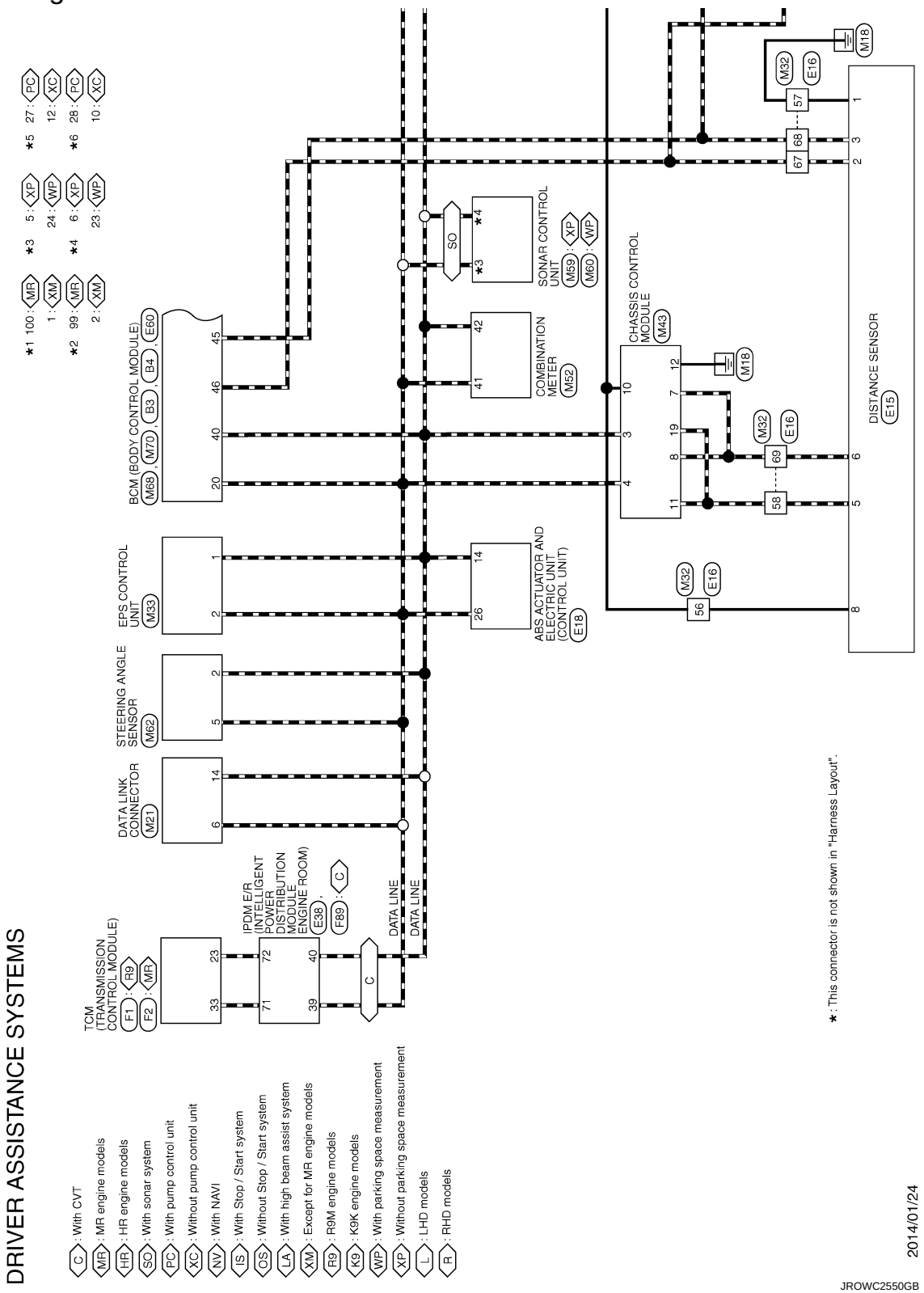
DTC		Display	Fail-safe		Refer-ence
		Lane departure warning lamp	LDW	TSR	
C1B00	CAMERA UNIT MALF	ON	×	×	DAS-183
C1B01	CAM AIMING INCMP	ON	×	×	DAS-184
C1B02	VHCL SPD DATA MALF	ON	×	×	DAS-185
C1B03	ABNRML TEMP DETECT	Message ↓ Blink	×	×	DAS-186
C1B09	POWER SUPPLY CIRCUIT 1	ON	×	×	DAS-188
C1B0A	POWER SUPPLY CIRCUIT 2	ON	×	×	DAS-188
U1000	CAN COMM CIRCUIT	ON	×	×	DAS-126
U1010	CONTROL UNIT (CAN)	ON	×	×	DAS-128
U0122	VDC CAN CIR 1 (LDP)	ON	×	×	DAS-115
U0126	STRG SEN CAN CIR 1	ON	×	×	DAS-116
U0155	METER CAN CIRC 1	ON	×	×	DAS-118
U0235	DIST SEN CAN CIRC 1	ON	×	×	DAS-119
U0416	VDC CAN CIR 2 (LDP)	ON	×	×	DAS-122
U0428	STRG SEN CAN CIR 2	–	–	–	DAS-123
U0433	DIST SEN CAN CIRC 2	–	–	–	DAS-125

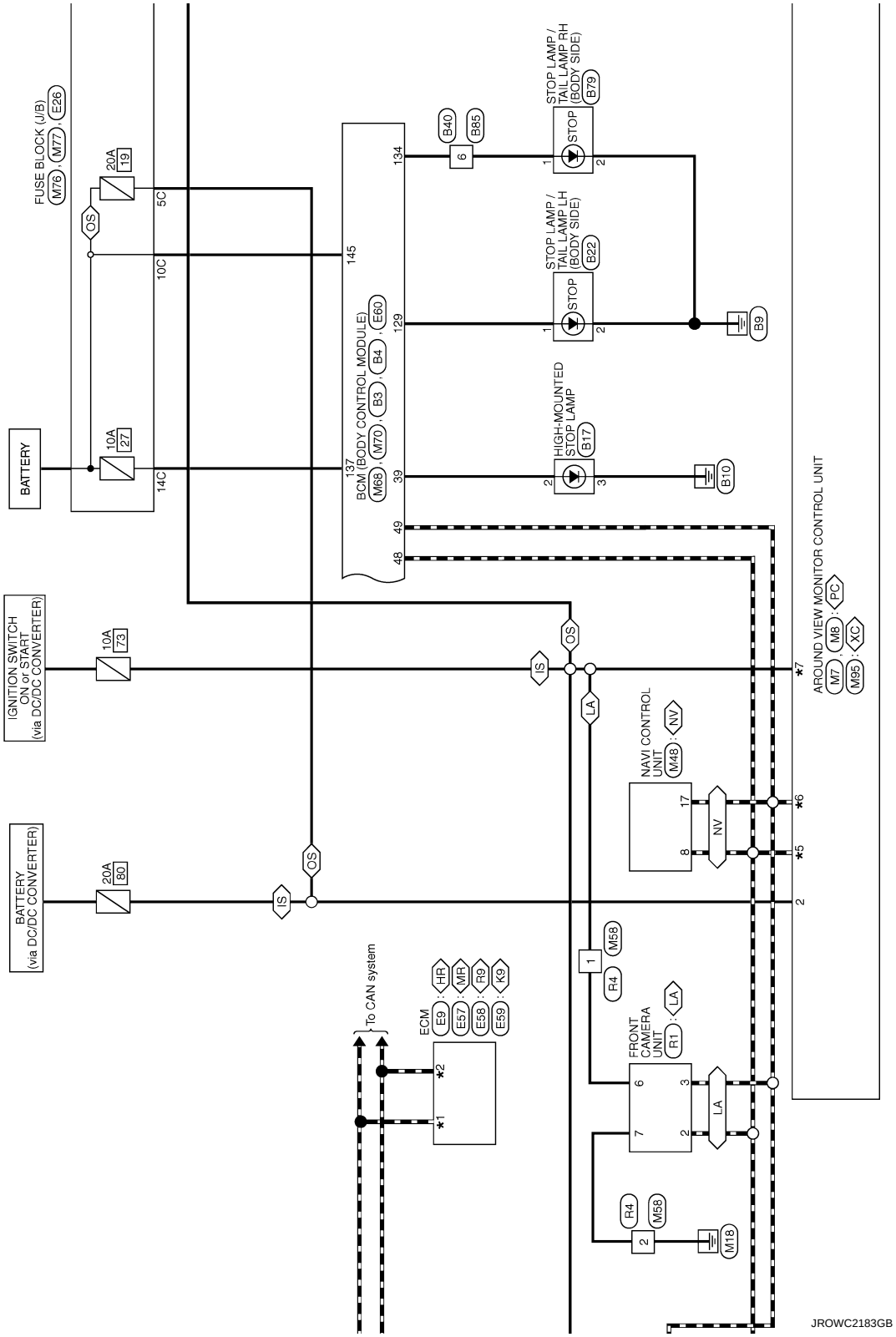
WIRING DIAGRAM

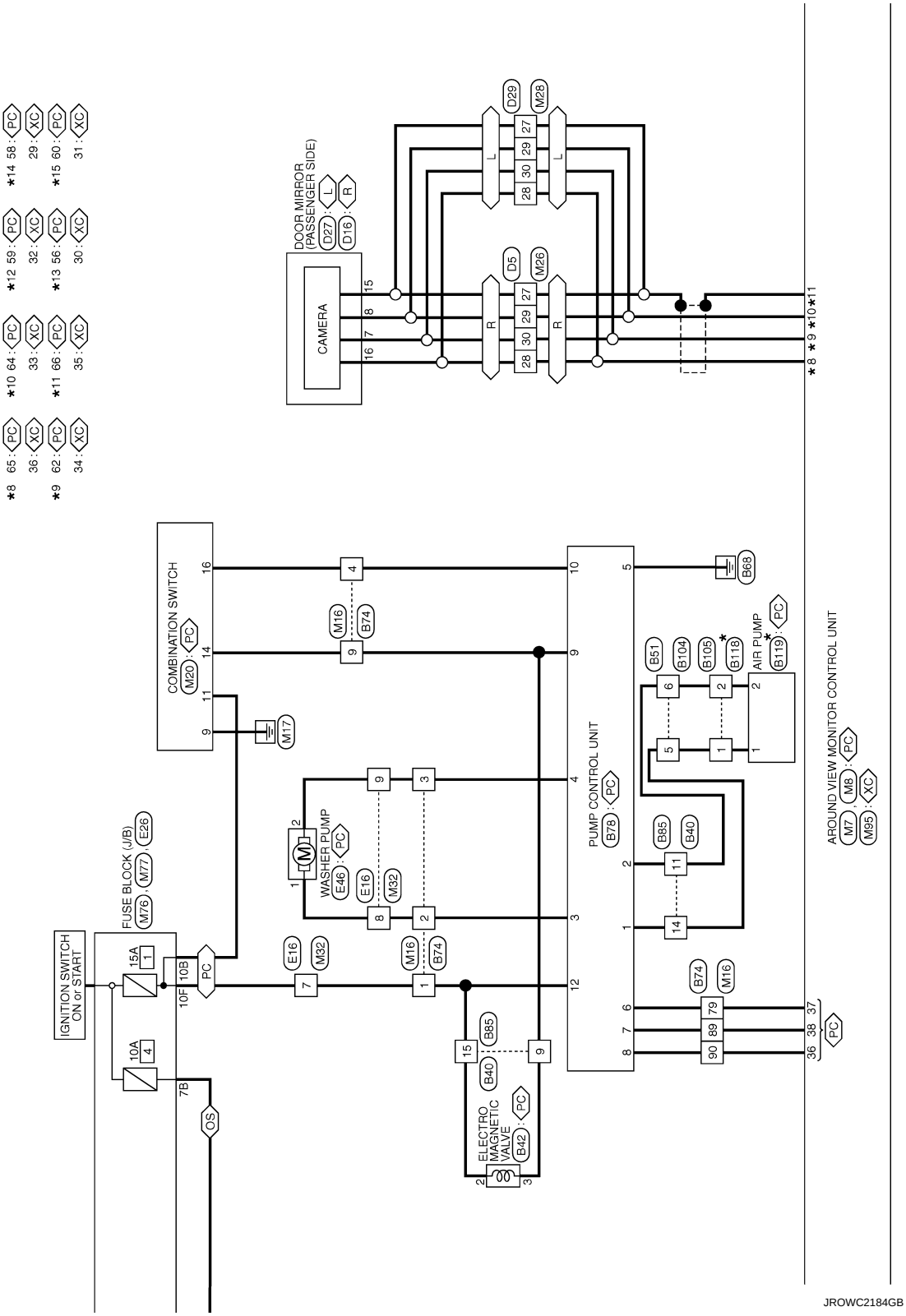
DRIVER ASSISTANCE SYSTEMS

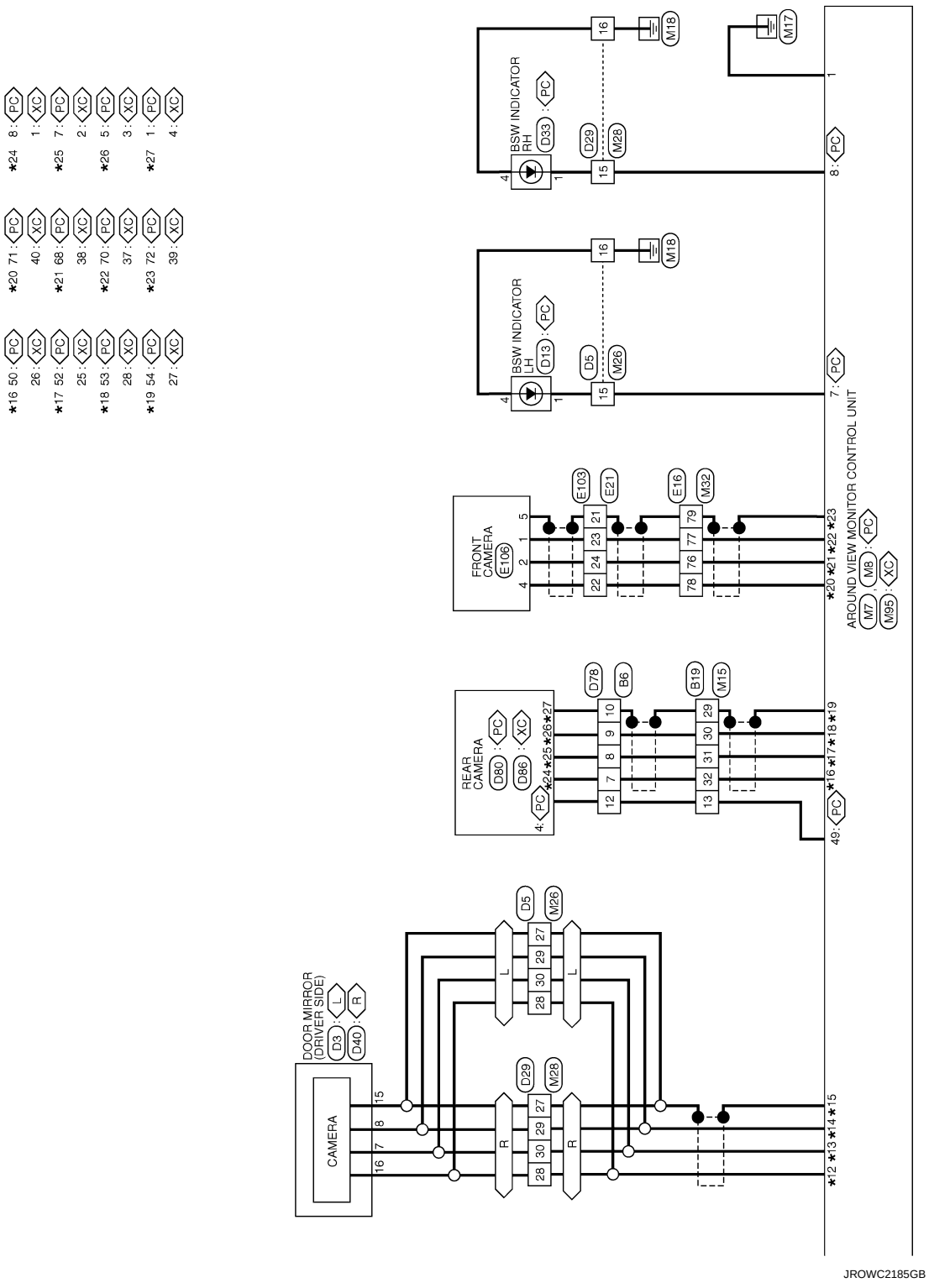
Wiring Diagram

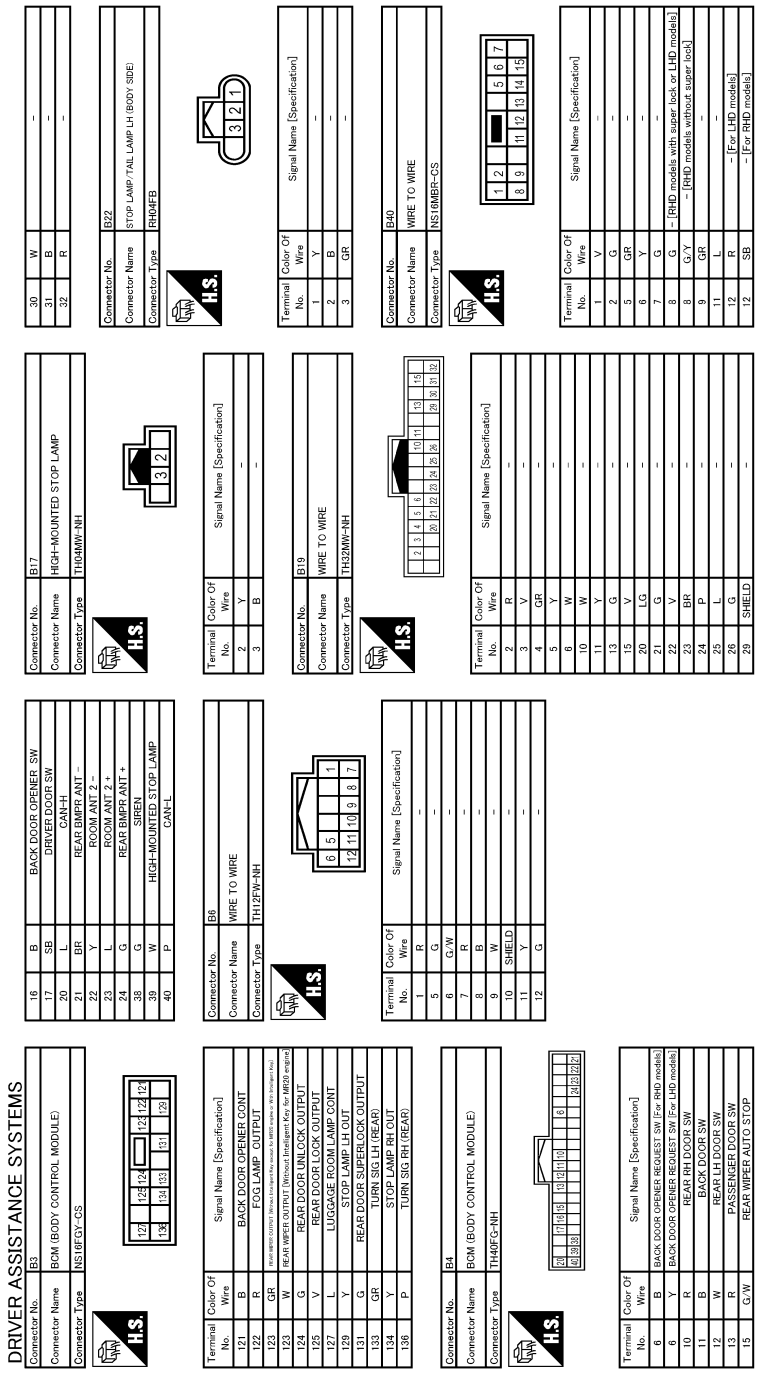
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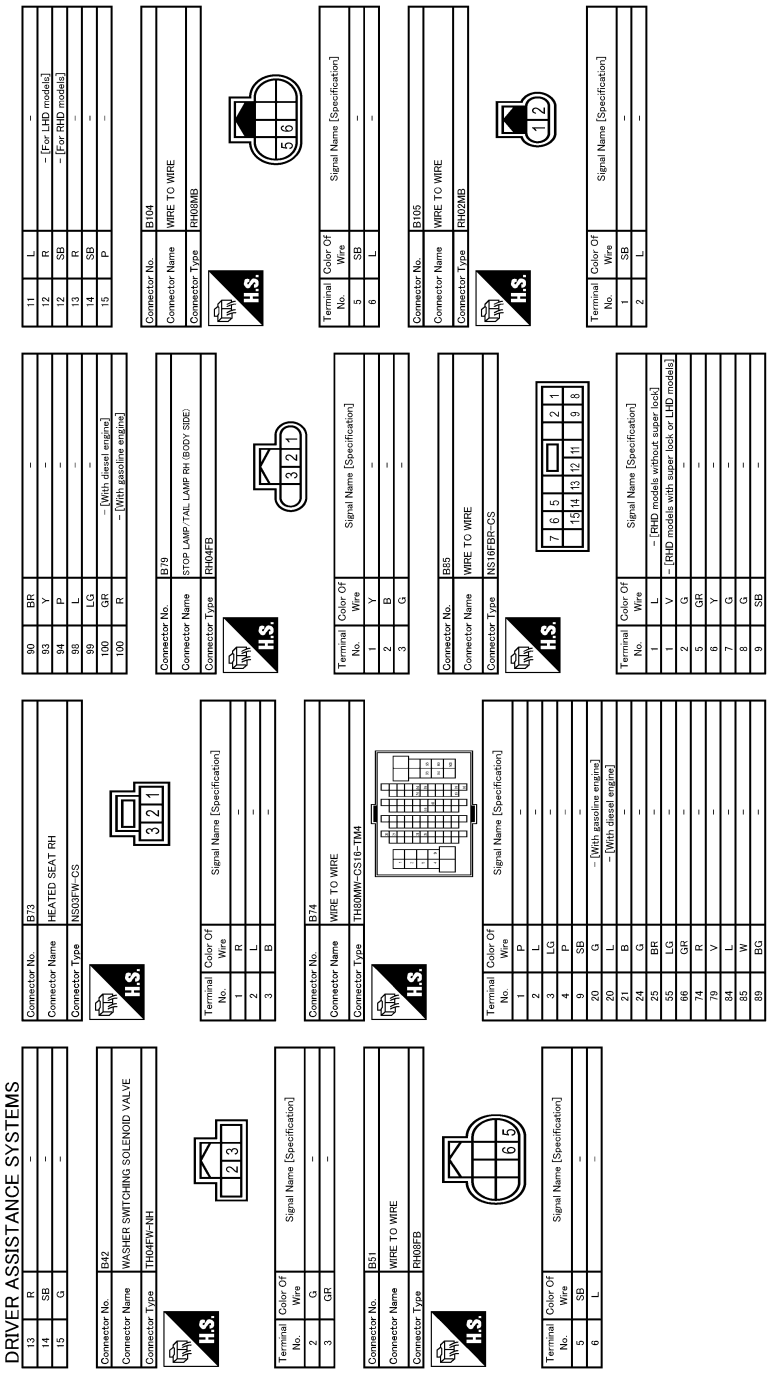

FUSE BLOCK (J/B)
M76 , M77 , E26
20A 19
10A 27
20A 30
10A 73
OS
IS
LA
NV
5C
10C
14C
BATTERY
IGNITION SWITCH ON or START (via DC/DC CONVERTER)
BATTERY (via DC/DC CONVERTER)
BCM (BODY CONTROL MODULE)
M68 , M70 , B3 , B4 , E60
137
145
134
129
39
49
48
B40
B85
6
STOP LAMP / TAIL LAMP RH (BODY SIDE) B79
STOP LAMP / TAIL LAMP LH (BODY SIDE) B22
HIGH-MOUNTED STOP LAMP B17
STOP
B9
B10
AROUND VIEW MONITOR CONTROL UNIT
M7 , M8 : PC
M95 : XC
*7
NAVI CONTROL UNIT M48
17
8
*6
*5
2
M58
1
R4
FRONT CAMERA UNIT R1
6
3
7
2
M18
To CAN system
ECM
E9 : HR
E57 : MR
E58 : R9
E59 : K9
*2
*1
JROWC2183GB


DOOR MIRROR (PASSENGER SIDE)
D27 : L
D16 : R
CAMERA
D29
M28
D5
M26
COMBINATION SWITCH
M20 : PC
M17
M16
B74
E46
E16
M32
WASHER PUMP
PC
PUMP CONTROL UNIT
B78 : PC
B68
B51
B104
B105
B118
B119
AIR PUMP
B85
B40
B42 : PC
ELECTRO MAGNETIC VALVE
FUSE BLOCK (J/B)
M76 : M77 : E26
IGNITION SWITCH ON or START
15A
10A
10B
10F
7B
OS
AROUND VIEW MONITOR CONTROL UNIT
M7 : M8 : PC
M95 : XC
JROWC2184GB


AROUND VIEW MONITOR CONTROL UNIT
FRONT CAMERA
REAR CAMERA
CAMERA
DOOR MIRROR (DRIVER SIDE)
BSW INDICATOR RH
BSW INDICATOR LH
JROWC2185GB



JROWC2198GB



JROWC2199GB

DRIVER ASSISTANCE SYSTEMS

Connector No.	B118
Connector Name	WIRE TO WIRE
Connector Type	RH02FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	–
2	L	–

Connector No.	B119
Connector Name	AIR PUMP
Connector Type	TK02FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	–
2	L	–

Connector No.	D3
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	TH16MW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	–
3	P	–
4	G	–
5	W	–
7	GR	–
8	G	–
10	B	–
11	SB	–
12	GR	–
13	G	–
14	B	–
15	B	–
16	Y	–

Connector No.	D5
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	–
2	R	– [For RHD models]
2	V	– [For LHD models]
3	P	– [For RHD models]
3	W	– [For LHD models]
4	B	–
5	G	–
6	Y	–
7	R	–
8	V	–
9	L	–
10	W	–
11	P	–
12	W	–
13	LG	–
14	B	–
15	R	–
16	B	–
17	B	–
18	R	–
19	G	–
20	SB	–
21	GR	–
22	BR	–
25	B	–
27	B	–
28	Y	–
29	G	– [For LHD models]
29	V	– [For RHD models]
30	GR	– [For LHD models]
30	L	– [For RHD models]
31	GR	–
32	BR	–

Connector No.	D13
Connector Name	BSW INDICATOR LH
Connector Type	TH04MW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	–
4	B	–

Connector No.	D16
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH16MW-NH

H.S.

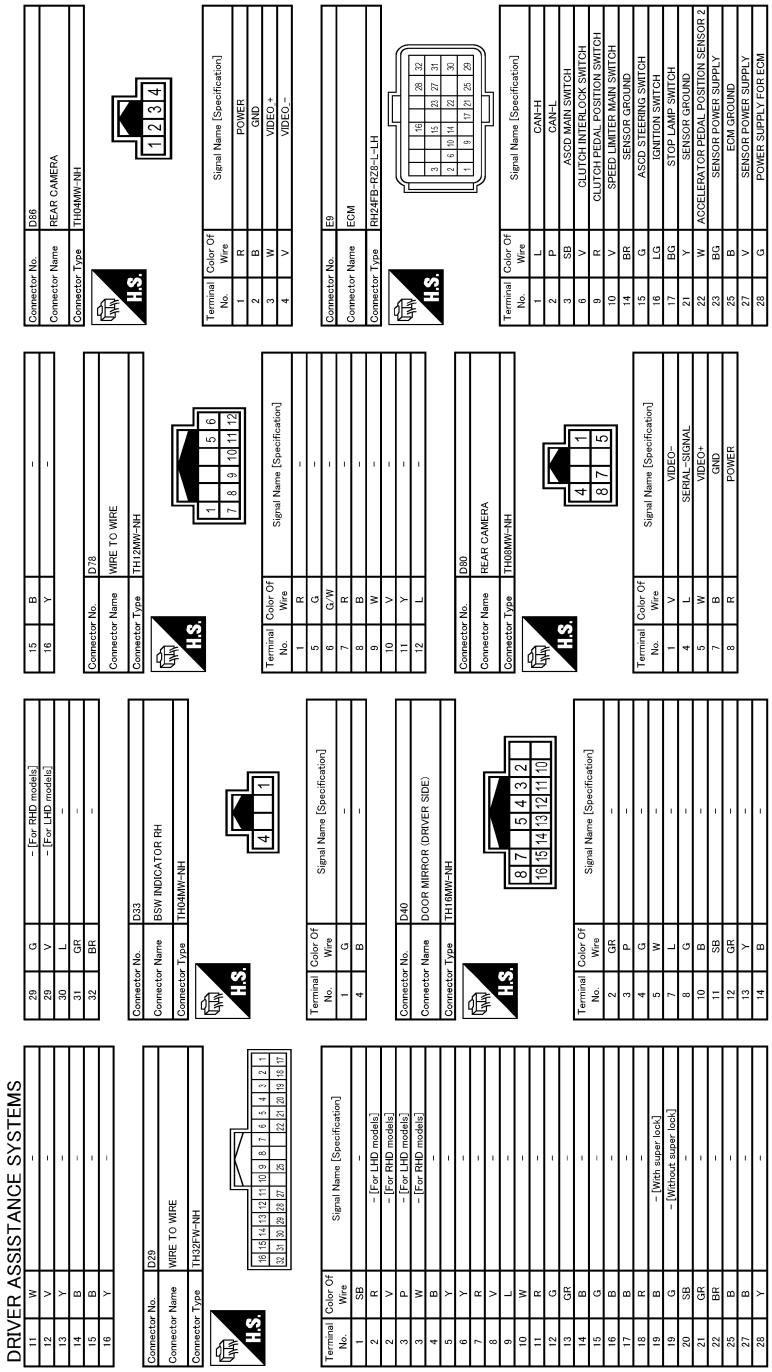
Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	–
3	L	–
4	R	–
5	Y	–
7	L	–
8	V	–
10	B	–
11	W	–
12	V	–
13	G	–
14	B	–
15	B	–
16	Y	–

Connector No.	D27
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH16MW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	–
3	L	–
4	R	–
5	Y	–
7	L	–
8	V	–
10	B	–

JROWC2200GB



JROWC2201GB

DRIVER ASSISTANCE SYSTEMS

29	B	ECM GROUND
30	GR	SENSOR GROUND
31	R	ACCELERATOR PEDAL POSITION SENSOR 1
32	B	ECM GROUND

Connector No.	E15
Connector Name	DISTANCE SENSOR
Connector Type	AAZ08FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	BG	CAN1-H(Vehicle)
3	R	CAN1-L(Vehicle)
5	L	CAN2-H(Local)
6	W	CAN2-L(Local)
8	P	IGN

Connector No.	E16
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	–
5	V	–
7	BG	–
8	L	–
9	LG	–
10	W	–
14	BG	–
20	L	–
21	P	–
22	SHIELD	–
24	W	–
31	V	–
32	W	–
33	SB	–
34	LG	–
35	BG	–
36	LG	–
37	V	–
38	G	–
39	BR	–
40	L	–
41	P	–
42	G	–
43	R	–
44	Y	–
45	BR	–
46	L	–
47	GR	–
48	Y	–
49	P	–
51	P	–
52	W	–
53	R	–
55	BR	–
56	P	–
57	B	–
58	L	–
59	Y	–
60	G	–
61	SB	–
62	V	–
63	BR	–
64	SB	–
65	LG	–
66	Y	–
67	BG	–
68	R	–
69	W	–
70	G	–
71	Y	–
72	L	–
73	R	–
76	L	–
77	V	–
78	LG	–
79	SHIELD	–
80	GR	–
82	Y	–
83	SB	–
84	L	–
85	G	–
86	Y	–
87	B	–
88	B	–
90	Y	–
91	R	–
93	Y	–
96	GR	–
97	W	–
98	V	–
99	GR	–

Connector No.	E18
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type	BE234FB-BH Y2-BJ22-RH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	MOTOR
4	SB	FR-RH SENSOR SIGNAL
5	V	VACP
8	P	FR-LH SENSOR SIGNAL
12	LG	VACS [With stop/start system]
12	Y	VACS [Without stop/start system]
13	B	GND M
14	P	CAN L
15	BR	VDC OFF SW
16	R	FR-RH SENSOR POWER
17	BG	RR-RH SENSOR POWER
18	G	RR-LH SENSOR SIGNAL
19	W	FR-LH SENSOR POWER
24	SHIELD	VAC(GND)
25	BR	ACTR
26	L	CAN H
28	GR	BAT_TEMPO
29	SB	RR-RH SENSOR SIGNAL
31	BR	RR-LH SENSOR POWER
38	B	GND A

Connector No.	E21
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	R	–
3	Y	–
4	BR	–
5	L	–
6	GR	–
12	V	–
16	BG	–
17	W	–
21	SHIELD	–
22	LG	–
23	V	–
24	L	–

Connector No.	E26
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10F	BG	– [With stop/start system]
10F	L	– [Without stop/start system]
1F	W	–
5F	V	–
6F	GR	–

JROWC2202GB

DRIVER ASSISTANCE SYSTEMS

Connector No.	E38
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH24FGY-NH

H.S.

30	29	28	27	26	25	24	23	22	21	20	19
42	41	40	39							33	32	31

Terminal No.	Color Of Wire	Signal Name [Specification]
19	LG	–
21	SB	–
22	P	–
24	L	–
25	G	–
26	B	–
27	BG	–
28	LG	–
29	V	–
30	Y	–
31	GR	–
32	SB	–
33	BR	–
39	L	–
40	P	–
41	W	–
42	R	–

Connector No.	E46
Connector Name	WASHER PUMP
Connector Type	FEA02FB-LC

H.S.

1 2

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
2	LG	–

Connector No.	E57
Connector Name	ECM
Connector Type	RH24FB-R28-L-LH

H.S.

97	101	105	109	113	117	121	125
			110	114	118	122	126
98	102	106	111	115	119	123	127
100	103	107	108	116	120	124	128

Terminal No.	Color Of Wire	Signal Name [Specification]
97	W	ATMOSPHERIC PRESSURE SENSOR
99	P	CAN-L
100	L	CAN-H
101	Y	SENSOR POWER SUPPLY (ATMOSPHERIC PRESSURE SENSOR
108	R	CLUTCH PEDAL POSITION SENSOR
109	LG	IGNITION SWITCH
110	G	ASCD STEERING SWITCH
111	BR	SENSOR GROUND
115	V	STOP LAMP SWITCH
116	GR	ASCD BRAKE SWITCH
118	BG	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
119	W	ACCELERATOR PEDAL POSITION SENSOR 2
120	Y	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
121	BR	POWER SUPPLY FOR ECM
122	V	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
123	B	ECM GROUND
124	R	SENSOR GROUND (ATMOSPHERIC PRESSURE SENSOR)
125	B	ECM GROUND
126	R	ACCELERATOR PEDAL POSITION SENSOR 1
127	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
128	B	ECM GROUND

Connector No.	E58
Connector Name	ECM
Connector Type	RH24FB-R28-L-LH

H.S.

3	7	11	15	19	23	27	31
2	6	10	14	18	22	26	30
1	5	9	13	17	21	25	29

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
3	SB	ASCD MAIN SWITCH
6	V	CLUTCH INTERLOCK SWITCH
9	R	CLUTCH PEDAL POSITION SWITCH
10	V	SPEED LIMITER MAIN SWITCH
11	G	FUEL PUMP CONTROL MODULE (DIAGNOSIS)
13	BR	FUEL PUMP CONTROL MODULE (COMMAND)
14	BR	ASCD STEERING SWITCH GROUND
15	G	ASCD STEERING SWITCH
16	LG	IGNITION SWITCH
17	BG	STOP LAMP SWITCH [With M/T]
17	R	STOP LAMP SWITCH [With CVT]
21	P	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
22	V	ACCELERATOR PEDAL POSITION SENSOR 2
23	L	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
24	L	WATER IN FUEL LEVEL SENSOR
25	B	ECM GROUND
27	G	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
28	G	POWER SUPPLY FOR ECM
29	B	ECM GROUND
30	Y	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
31	W	ACCELERATOR PEDAL POSITION SENSOR 1
32	B	ECM GROUND

Connector No.	E59
Connector Name	ECM
Connector Type	RH24FB-R28-L-LH

H.S.

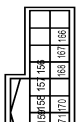
3	7	11	15	19	23	27	31
2	6	10	14	18	22	26	30
1	5	9	13	17	21	25	29

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
3	SB	ASCD MAIN SWITCH
6	V	CLUTCH INTERLOCK SWITCH
9	R	CLUTCH PEDAL POSITION SWITCH
10	V	SPEED LIMITER MAIN SWITCH
11	G	FUEL PUMP CONTROL MODULE (DIAGNOSIS)
13	BR	FUEL PUMP CONTROL MODULE (COMMAND)
14	BR	ASCD STEERING SWITCH GROUND
15	G	ASCD STEERING SWITCH
16	LG	ECM POWER SUPPLY (IGNITION)
17	BG	STOP LAMP SWITCH
21	Y	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
22	W	ACCELERATOR PEDAL POSITION SENSOR 2
23	BG	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
24	L	FUEL HEATER AND WATER IN FUEL SENSOR
25	B	ECM GROUND
26	B	ECM GROUND
27	V	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
29	B	ECM GROUND
30	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
31	R	ACCELERATOR PEDAL POSITION SENSOR 1
32	B	ECM GROUND

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Connector No.	E60
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH24FB-NH





Terminal No.	Color Of Wire	Signal Name [Specification]
156	V	CLUTCH INTERLOCK SW
157	LG	STOP LAMP SW 2
158	W	STOP LAMP SW 1
159	R	CLUTCH PEDAL POSITION SWITCH
164	Y	INTELLIGENT KEY WARNING BUZZER
166	P	STEERING LOCK UNIT POWER SUPPLY
167	BR	TURN SIG LH (FRONT)
168	GR	TURN SIG RH (FRONT)
170	L	PTC RLY-3 CONT
171	G	STARTER RELAY CONT
172	W	PTC RLY-1 CONT
173	BG	PTC RLY-2 CONT

Connector No.	E103
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	R	–
3	Y	–
4	BR	–
5	L	–
6	GR	–
12	V	–
16	BG	–
17	W	–
21	SHIELD	–
22	LG	–
23	V	–
24	L	–

Connector No.	E106
Connector Name	FRONT CAMERA
Connector Type	RH06FB-1V

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	–
2	L	–
4	LG	–
5	SHIELD	–

Connector No.	F1
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	RH40FB-RZ8-L-LH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	ELECTRIC OIL PUMP RELAY
2	SB	–
4	Y	D RANGE SW
5	P	N RANGE SW
6	G	R RANGE SW
7	V	P RANGE SW
11	LG	SENSOR GROUND
12	BR	CVT FLUID TEMPERATURE SENSOR
14	P	G SENSOR
16	L	SECONDARY PRESSURE SENSOR
17	P	PRIMARY PRESSURE SENSOR
23	P	CAN-L
24	LG	INPUT SPEED SENSOR
25	GR	ELECTRIC OIL PUMP COMMAND SIGNAL
26	BG	SENSOR POWER SUPPLY
30	GR	LINE PRESSURE SOLENOID VALVE
32	SB	ELECTRIC OIL PUMP STATUS SIGNAL
33	L	CAN-H
34	W	OUTPUT SPEED SENSOR
35	R	PRIMARY SPEED SENSOR
37	SB	SELECT SOLENOID VALVE
38	G	TORQUE CONVERTER CLUTCH SOLENOID VALVE
39	V	SECONDARY PRESSURE SOLENOID VALVE
40	V	PRIMARY PRESSURE SOLENOID VALVE
41	B	GROUND
42	B	GROUND
45	V	BATTERY POWER SUPPLY (MEMORY BACK-UP)
46	V	BATTERY POWER SUPPLY (MEMORY BACK-UP)
47	BR	IGNITION POWER SUPPLY
48	BR	IGNITION POWER SUPPLY

Connector No.	F2
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Type	RH40FB-RZ8-L-RH

Terminal No.	Color Of Wire	Signal Name [Specification]
2	SB	–
4	Y	D RANGE SW
5	R	N RANGE SW
6	G	R RANGE SW
7	V	P RANGE SW
11	LG	SENSOR GROUND
12	BR	CVT FLUID TEMPERATURE SENSOR
16	L	SECONDARY PRESSURE SENSOR
17	P	PRIMARY PRESSURE SENSOR
23	P	CAN-L
24	LG	INPUT SPEED SENSOR
26	BG	SENSOR POWER SUPPLY
30	GR	LINE PRESSURE SOLENOID VALVE
33	L	CAN-H
34	W	OUTPUT SPEED SENSOR
35	R	PRIMARY SPEED SENSOR
37	SB	SELECT SOLENOID VALVE
38	G	TORQUE CONVERTER CLUTCH SOLENOID VALVE
39	Y	SECONDARY PRESSURE SOLENOID VALVE
40	V	PRIMARY PRESSURE SOLENOID VALVE
41	B	GROUND
42	B	GROUND
45	V	BATTERY POWER SUPPLY (MEMORY BACK-UP)
46	V	BATTERY POWER SUPPLY (MEMORY BACK-UP)
47	BR	IGNITION POWER SUPPLY
48	BR	IGNITION POWER SUPPLY

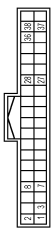
Connector No.	F39
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH24FB-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
71	L	–
72	P	–
73	W	–
74	R	–
76	GR	–
77	G	– [With diesel engine]
77	P	– [With gasoline engine]
78	SB	–
79	LG	–
80	W	–
81	P	–
82	Y	–
83	LG	–
84	W	–
85	P	–
86	Y	–
89	SB	– [With diesel engine]
89	W	– [With gasoline engine]
90	L	–
94	SB	–

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DRIVER ASSISTANCE SYSTEMS

Connector No.	M7
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	Y	BATTERY
3	SB	IGN
7	R	INDICATOR L
8	P	INDICATOR R
27	L	V-CAN-H
28	R	V-CAN-L
36	BR	FROM C/U TO PUMP
37	V	SIGNAL GND
38	GR	FROM PUMP TO C/U

Connector No.	M8
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH32FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
47	G	COMP. OUT+
48	SHIELD	COMP. OUT−
49	LG	RV−SERIAL−SIGNAL
50	R	RV−POWER
52	B	RV−GND
53	W	RV−VIDEO+
54	SHIELD	RV−VIDEO−
56	L	SIDE−DR POWER
58	Y	SIDE−DR GND
59	G	SIDE−DR GND

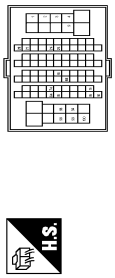
60	SHIELD	SIDE−DR VIDEO−
62	B	SIDE−AS POWER
64	L	SIDE−AS GND
65	Y	SIDE−AS VIDEO+
66	SHIELD	SIDE−AS VIDEO−
68	L	FV−POWER
70	V	FV−GND
71	LG	FV−VIDEO+
72	SHIELD	FV−VIDEO−

Connector No.	M15
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH



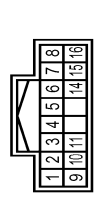
Terminal No.	Color Of Wire	Signal Name [Specification]
2	SB	–
3	V	–
4	GR	–
5	BR	–
6	W	–
10	R	–
11	L	–
13	LG	–
15	V	–
20	BG	–
21	BG	–
22	GR	–
23	GR	–
24	P	–
25	L	–
26	G	–
29	SHIELD	–
30	W	–
31	B	–
32	R	–

Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



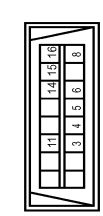
Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	–
2	P	–
3	SB	–
4	P	–
9	SB	–
20	G	–
21	B	–
24	G	–
25	BR	–
55	LG	–
66	GR	–
74	R	–
79	V	–
84	L	–
85	W	–
89	GR	–
90	BR	–
93	Y	–
94	P	–
98	L	–
99	LG	–
100	R	–

Connector No.	M20
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	INPUT 1
2	Y	OUTPUT 5
3	W	INPUT 2
4	G	INPUT 3
5	BG	OUTPUT 4
6	GR	INPUT 4
7	L	OUTPUT 1
8	LG	INPUT 5
9	B	GND
10	R	OUTPUT 3
11	V	IGN
14	SB	FR WASH MOTOR
15	BR	OUTPUT 2
16	P	RR WASH MOTOR

Connector No.	M21
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	–
4	B	–
5	B	–
6	L	–
8	Y	–
11	SB	–

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DRIVER ASSISTANCE SYSTEMS

14	P	–
15	BR	–
16	W	–

Connector No.	M26
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	– [For LHD models]
1	LG	– [For RHD models]
2	P	– [For RHD models]
2	V	– [For LHD models]
3	GR	– [For LHD models]
3	W	– [For RHD models]
4	B	–
5	G	–
6	Y	–
7	R	–
8	V	–
9	L	–
10	BG	–
11	V	–
12	L	–
13	LG	–
14	B	–
15	R	–
16	B	–
17	B	–
18	P	–
19	G	–
20	GR	–
21	GR	–
22	BR	–
25	B	–
27	SHIELD	–
28	G	– [For LHD models]
28	Y	– [For RHD models]
29	L	– [For RHD models]
29	Y	– [For LHD models]

30	B	– [For RHD models]
30	L	– [For LHD models]
31	GR	– [For RHD models]
32	BR	–

Connector No.	M28
Connector Name	WIRE TO WIRE
Connector Type	TH32MW-NH

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	– [For RHD models]
1	LG	– [For LHD models]
2	P	– [For LHD models]
2	V	– [For RHD models]
3	GR	– [For RHD models]
3	W	– [For LHD models]
4	B	–
5	Y	–
6	R	–
7	R	–
8	V	–
9	L	–
10	BG	–
11	R	–
12	G	–
13	LG	–
14	B	–
15	P	–
16	B	–
17	B	–
18	R	–
19	G	–
20	SB	–
21	GR	–
22	BR	–
25	B	–
27	SHIELD	–
28	G	– [For RHD models]
28	Y	– [For LHD models]
29	L	– [For LHD models]

29	Y	– [For RHD models]
30	B	– [For LHD models]
30	L	– [For RHD models]
31	GR	–
32	BR	–

Connector No.	M32
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

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	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	76	77	78	79	80	82	83
84	85	86	87	88	90	91	93	96	97	98	99								

Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	–
5	V	–
7	GR	–
8	P	–
9	SB	–
10	R	–
14	W	–
20	L	–
21	P	–
22	SHIELD	–
24	BR	–
31	V	–
32	GR	–
33	G	–
34	LG	–
35	BG	–
36	LG	–
37	V	–
38	G	–
39	BR	–
40	L	–
41	P	–
42	W	–
43	R	–
44	Y	–
45	LG	–
46	L	–
47	BG	–
48	V	–

49	P	–
51	BR	–
52	SB	–
53	LG	– [With Intelligent Key]
53	W	– [Without Intelligent Key]
55	BR	–
56	P	–
57	B	–
58	L	–
59	GR	–
60	G	–
61	SB	–
62	V	–
63	BR	–
64	Y	–
65	GR	–
66	P	–
67	L	–
68	R	–
69	W	–
70	G	–
71	Y	–
72	BG	–
73	R	–
76	L	–
77	V	–
78	LG	–
79	SHIELD	–
80	GR	–
82	Y	–
83	LG	–
84	SB	–
85	G	–
86	G	–
87	B	–
88	B	–
90	Y	–
91	L	–
93	W	–
96	LG	–
97	BR	–
98	V	–
99	R	–

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Connector No.	M33
Connector Name	EPS CONTROL UNIT
Connector Type	TH08FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	CAN-L
2	L	CAN-H
4	SB	V IGN

Connector No.	M43
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH24FW-NH

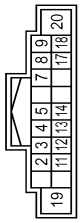
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
3	P	-
4	L	-
7	W	-
8	W	-
10	BR	-
11	L	-
12	B	-
19	L	-

Connector No.	M48
Connector Name	NAVI CONTROL UNIT
Connector Type	TH16FW-CS2

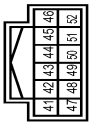
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	SOUND SIGNAL FRONT SPEAKER LH (+)
3	V	SOUND SIGNAL FRONT SPEAKER LH (−)
4	W	SOUND SIGNAL REAR SPEAKER LH (+)
5	Y	SOUND SIGNAL REAR SPEAKER LH (−)
7	W	AUTO-ACC
8	L	AV COMM (H)
9	BG	ILLUMINATION SIGNAL (+)
11	G	SOUND SIGNAL FRONT SPEAKER RH (+)
12	R	SOUND SIGNAL FRONT SPEAKER RH (−)
13	LG	SOUND SIGNAL REAR SPEAKER RH (+)
14	GR	SOUND SIGNAL REAR SPEAKER RH (−)
17	R	AV COMM (L)
18	P	VEHICLE SPEED SIGNAL (8-PULSE)
19	L	BATTERY
20	B	GROUND

Connector No.	M52
Connector Name	COMBINATION METER
Connector Type	TH12FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	V-CAN H
42	P	V-CAN L
43	R	ILL CONT OUTHF-SIDE)
44	B	FUEL SENSOR GND
45	W	BAT

46	BG	IGN
47	SB	M-CAN H
48	LG	M-CAN L
49	V	OIL LEVEL
50	P	OIL LEVEL GND
51	G	FUEL SENSOR
52	B	GND2

Connector No.	M58
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH

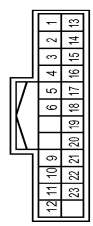
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-
3	R	-
4	V	-
6	SHIELD	-
7	W	-
8	O	-
13	L	-
14	R	-
16	L	-
17	R	-
18	SB	-
19	LG	-
20	BG	-
21	L	-
22	W	-
23	Y	-
24	B	-

Connector No.	M59
Connector Name	SONAR CONTROL UNIT
Connector Type	TH24FW-NH

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	FIR SENSOR SIGNAL
2	L	FIL SENSOR SIGNAL
3	R	CORNER SENSOR FR LH
4	LG	FOR SENSOR SIGNAL
5	L	V-CAN H
6	P	V-CAN L
9	G	RIR SENSOR SIGNAL
10	L	ROR SENSOR SIGNAL
11	W	FR SENSOR PWR
12	BR	IGN
13	Y	FR SENSOR GND
14	B	RR SENSOR GND
15	B	GND
16	V	SW INPUT
17	SB	STATUS LED
18	BG	SPEAKER FR SIGNAL
19	P	SPEAKER PWR
20	GR	SPEAKER RR SIGNAL
21	Y	RIL SENSOR SIGNAL
22	R	ROL SENSOR SIGNAL
23	W	RR SENSOR PWR

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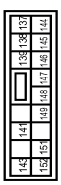
Connector No.	M80
Connector Name	SONAR CONTROL UNIT
Connector Type	Tyco 144935-1

Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	FR SPEAKER PWR
6	R	ROL SENSOR SIGNAL
7	G	RIR SENSOR SIGNAL
9	GR	SPEAKER RR SIGNAL
10	BG	FR SENSOR GND
13	B	FSR SENSOR SIGNAL
14	BR	IGN
15	P	RR SPEAKER PWR
16	V	SW INPUT
17	SB	STATUS LED
18	W	RR SENSOR PWR
20	Y	RIL SENSOR SIGNAL
21	L	ROR SENSOR SIGNAL
22	B	RR SENSOR GND
23	P	V-CAN L
24	L	V-CAN H

Connector No.	M62
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FGY-NH

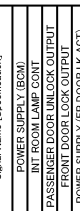
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	P	-
4	G	-
5	L	-

Connector No.	M68
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS16FBR-CS



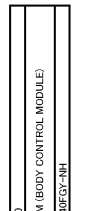
Terminal No.	Color Of Wire	Signal Name [Specification]
137	W	POWER SUPPLY (BCM)
138	R	INT ROOM LAMP CONT
139	Y	PASSENGER DOOR UNLOCK OUTPUT
141	GR	FRONT DOOR LOCK OUTPUT
143	V	POWER SUPPLY (FR DOOR LK ACT)
144	BG	POWER SUPPLY (TURN SIGNAL)
145	GR	POWER SUPPLY (STOP LAMP)
146	B	GROUND
147	B	GROUND
148	BR	DRIVER DOOR UNLOCK OUTPUT
149	W	FRONT DOOR SUPERLOCK OUTPUT
151	R	POWER SUPPLY (REAR DOOR LK ACT)
152	LG	POWER SUPPLY (REAR WIPER)

Connector No.	M70
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FGY-NH



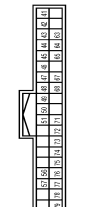
Terminal No.	Color Of Wire	Signal Name [Specification]
41	V	STEERING LK UNIT PWR SPLY OUT
42	G	TURN SIG LH (SIDE) [For LHD models]
43	Y	TURN SIG LH (SIDE) [For RHD models]
44	BR	INTERIOR ROOM LAMP RELAY CONT
45	R	CAN-H
46	L	CAN-H
47	BG	LIGHT & RAIN SENSOR
48	L	CAN-H
49	R	CAN-L
50	GR	DOOR LOCK SW
51	Y	HAZARD SW
56	P	DONGLE
57	BG	CVT SHIFT SELECT (DETENT SW) PWR
60	G	HEADLAMP WASHER SW
63	G	POWER WINDOW RELAY COIN
64	SB	REAR WINDOW DEFOGGER RELAY CONT
65	P	ACC RELAY
67	LG	IGN RELAY (F/B) CONT
68	L	BLOWER RELAY CONT
71	BR	ROOM LAMP (OPTION CONNECTOR)
72	R	CONSOLE LED CONT
73	LG	COMBI SW INPUT 5
74	Y	COMBI SW OUTPUT 5
75	BG	SECURITY IND LAMP CONT
76	G	COMBI SW INPUT 3
77	GR	COMBI SW INPUT 4
78	SB	COMBI SW INPUT 1
79	W	COMBI SW INPUT 2
80	BR	DOOR UNLOCK SW

Connector No.	M76
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS



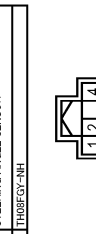
Terminal No.	Color Of Wire	Signal Name [Specification]
10B	V	-
13B	W	-
14B	GR	-
16B	L	-
1B	R	-
2B	G	-
3B	LG	-
4B	LG	-
9B	LG	-
6B	SB	-
7B	Y	-
8B	BG	-

Connector No.	M77
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FBR-CS



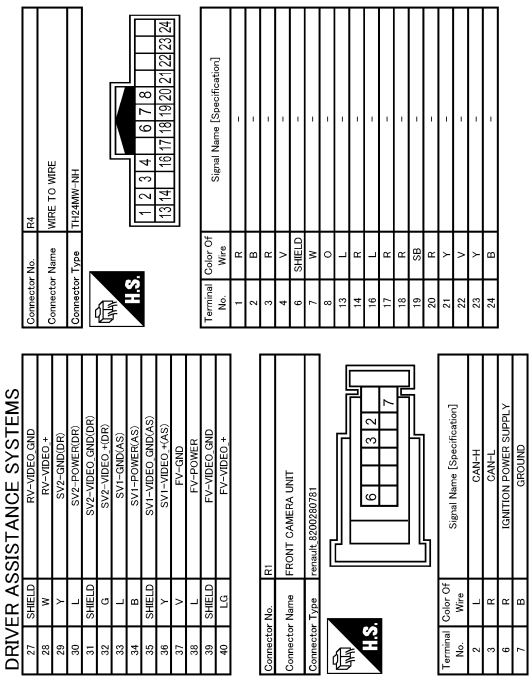
Terminal No.	Color Of Wire	Signal Name [Specification]
10C	GR	-
12C	BR	-
14C	W	-
15C	W	-
16C	GR	-
1C	R	-
2C	R	-
3C	V	-
5C	L	-
6C	GR	-
7C	V	-

Connector No.	M85
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH40FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	Y	BATTERY
4	SB	IGN
10	R	V-CAN L
12	L	V-CAN H
23	SHIELD	VIDEO OUTPUT-
24	G	VIDEO OUTPUT+
25	B	RV-GND
26	R	RV-POWER

JROWC2208GB



JROWC2209GB

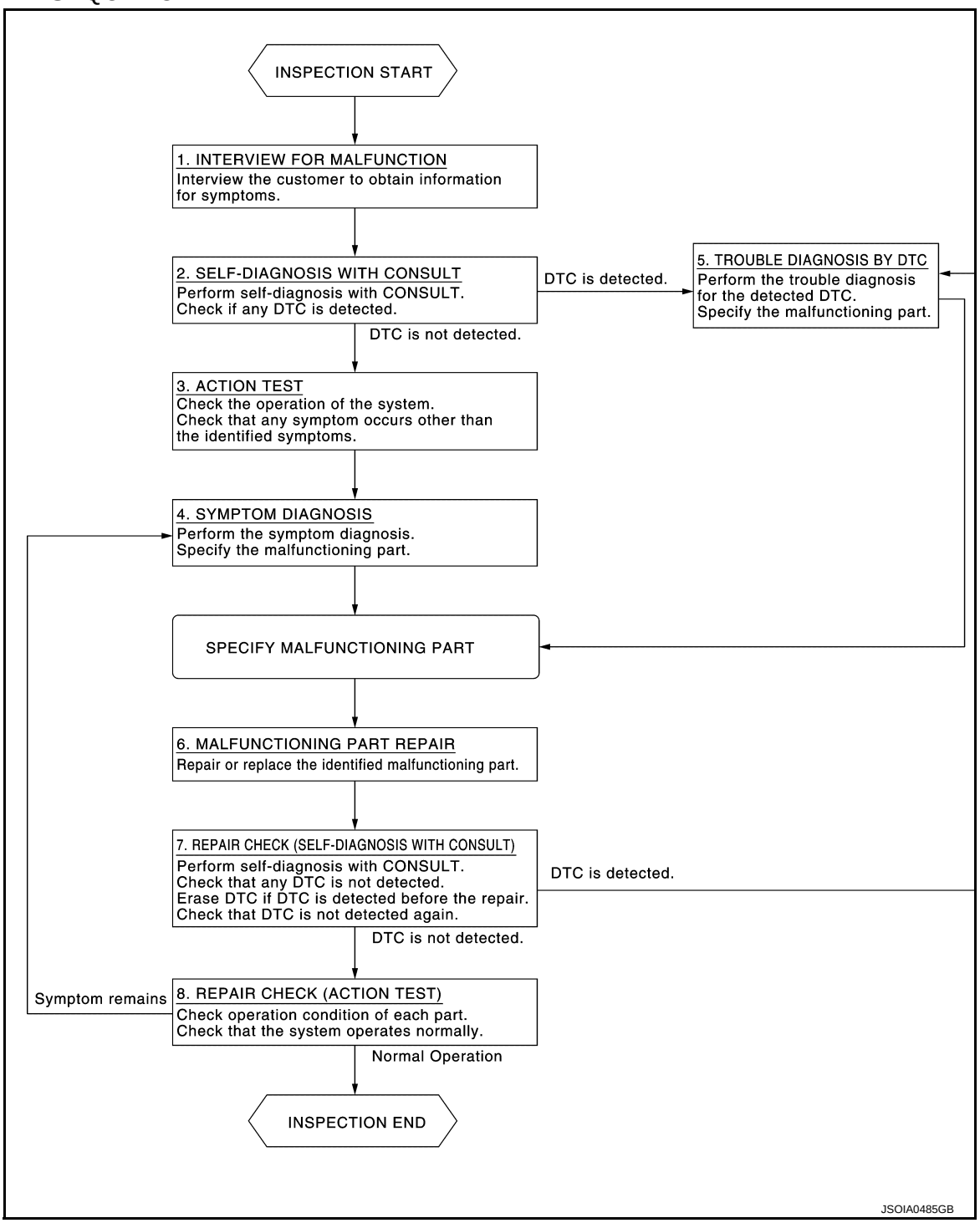
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000010416812

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:

- “LASER/RADAR”
- “AVM”
- “LANE CAMERA”

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-107, "LDW : Description".
- BSW refer to DAS-108, "BSW : Description".
- MOD refer to DAS-109, "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-195, "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:

- “LASER/RADAR”: Refer to DAS-53, "DTC Index".
- “AVM”: Refer to DAS-49, "DTC Index".
- “LANE CAMERA”: Refer to DAS-61, "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:

- “LASER/RADAR”
- “AVM”
- “LANE CAMERA”

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 (CAMERA AIMING ADJUSTMENT)

REAR VIEW CAMERA

REAR VIEW CAMERA : Inspection Procedure

INFOID:0000000010416813

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 liftgate lid).

Is it properly installed?

YES >> Inspection End.
NO >> Install rear view camera properly, and perform rear view camera calibration. Refer to DAS-101, "Description".

FRONT CAMERA UNIT

FRONT CAMERA UNIT : Inspection Procedure

INFOID:0000000010828196

1.CHECK CAMERA LENS AND WINDSHIELD

Are camera lens and windshield contaminated with foreign materials?

YES >> Clean camera lens and windshield.
NO >> GO TO 2.

2.CHECK FRONT CAMERA UNIT INSTALLATION CONDITION

Check front camera unit installation condition (installation position, properly tightened, a bent bracket).

Is it properly installed?

YES >> GO TO 3.
NO >> Install front camera unit properly, and perform camera aiming. Refer to DAS-95, "Description".

3.CHECK VEHICLE HEIGHT

Check vehicle height. Refer to FSU-24, "Wheelarch Height".

Is vehicle height appropriate?

YES >> Inspection End.
NO >> Repair vehicle to appropriate height.

PRE-INSPECTION FOR DIAGNOSIS (CALIBRATING CAMERA IMAGE)

Inspection Procedure

INFOID:0000000010593451

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 liftgate lid).

Is it properly installed?

YES >> Inspection End.
NO >> Install rear view camera properly, and perform rear view camera calibration. Refer to DAS-101, "Description".

REAR VIEW CAMERA WASHER/AIR BLOWER FUNCTION INSPECTION

Inspection Procedure

INFOID:0000000010416814

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 AROUND VIEW MONITOR CONTROL UNIT

Description

INFOID:0000000010416833

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:0000000010416834

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 AV-267, "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-111, "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-111, "Work Procedure".

>> GO TO 4.

4. REAR VIEW CAMERA CALIBRATION

Perform rear view camera calibration. Refer to DAS-101, "Description".

>> GO TO 5.

5. AROUND VIEW MONITOR CALIBRATION

Perform around view monitor calibration. Refer to AV-180, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : 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.

ADDITIONAL SERVICE WHEN REPLACING DISTANCE SENSOR

Description

INFOID:0000000010416815

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:0000000010416816

1. DISTANCE SENSOR INITIAL VERTICAL ALIGNMENT

Perform the distance sensor initial vertical alignment. Refer to DAS-88, "Description".

>> GO TO 2.

2. DISTANCE SENSOR ALIGNMENT

Perform the distance sensor alignment. Refer to DAS-90, "Description".

>> Work End.

ADDITIONAL SERVICE WHEN REPLACING FRONT CAMERA UNIT

Description

INFOID:0000000010609506

Always adjust the camera aiming after removing and installing or replacing the front camera unit.

CAUTION:

The system does not operate normally unless the camera aiming adjustment is performed. Always perform it.

Work Procedure

INFOID:0000000010609507

1.CAMERA AIMING ADJUSTMENT

Perform the camera aiming adjustment with CONSULT. Refer to DAS-95, "Description".

>> GO TO 2.

2.PERFORM SELF-DIAGNOSIS

Perform the self-diagnosis of front camera unit with CONSULT. Check if any DTC is detected.

Is any DTC detected?

YES >> Perform the trouble diagnosis for the detected DTC. Refer to DAS-61, "DTC Index".
NO >> GO TO 3.

3.LDW ACTION TEST

1. Perform the LDW action test. Refer to DAS-107, "LDW : Description".
2. Check that the LDW operates normally.

>> Work End.

DISTANCE SENSOR INITIAL VERTICAL ALIGNMENT

Description

INFOID:0000000010416817

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-88, "Required Tools".
2. Preparation, refer to DAS-88, "Preparation".
3. Distance sensor initial vertical alignment, refer to DAS-89, "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.**

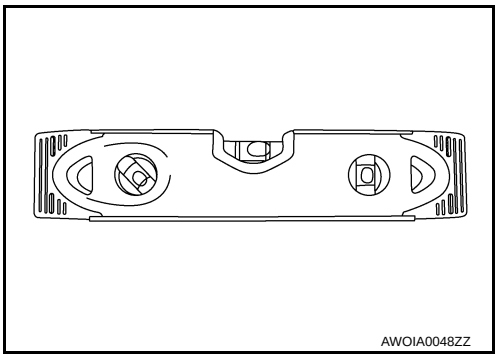
The Distance sensor requires alignment whenever the Distance sensor is removed and reinstalled and whenever front end structural repairs are performed. Distance sensor alignment consists of performing the mechanical vertical alignment (Distance sensor initial vertical alignment) described in the following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

Required Tools

INFOID:0000000010416818

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

- Carpenters level.



Preparation

INFOID:0000000010416819

1. PREPARATION FOR DISTANCE SENSOR INITIAL VERTICAL ALIGNMENT PROCEDURE

1. Verify correct vehicle suspension height. Refer to WT-75, "Road Wheel".
2. Repair or replace any damaged body components.
3. Verify proper tire inflation pressures. Refer to WT-75, "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-19, "Removal and Installation".

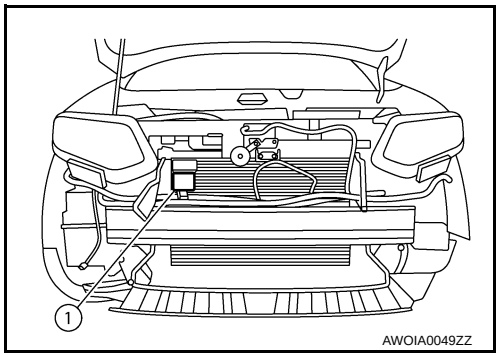
>> Refer to DAS-89, "Distance Sensor Initial Vertical Alignment".

Distance Sensor Initial Vertical Alignment

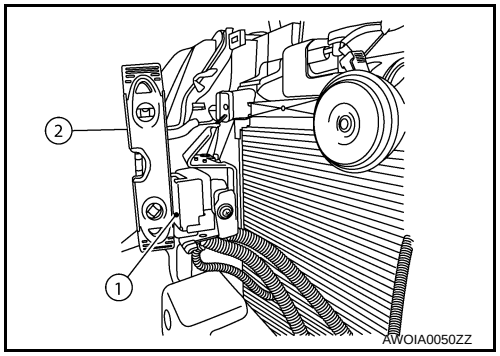
INFOID:0000000010416820

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

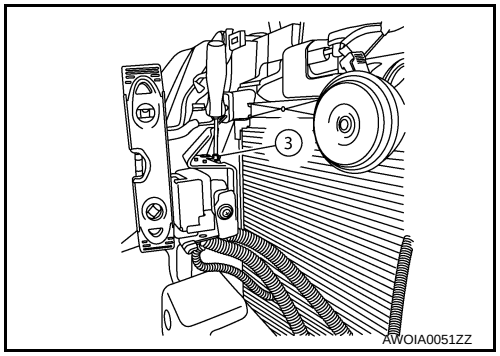
1. The Distance sensor (1) is located near the right front head lamp behind the front bumper fascia.



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-90, "Description".

DISTANCE SENSOR ALIGNMENT

Description

INFOID:0000000010608813

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.

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.

CAUTION:

The system does not operate normally unless the radar alignment is performed. Always perform it.

1. Preparation, refer to DAS-90, "Work Procedure (Preparation)".
2. Set the ICC target board (SST: KV99112700) to the correct position in front of the vehicle. Refer to DAS-92, "Work Procedure (Setting The ICC Target Board)".
3. Set the radar alignment mode (“MILLIWAVE RADAR ADJUST” on “Work support”) with CONSULT, and then perform the adjustment according to the display. Refer to DAS-93, "Work Procedure (Radar Alignment)".

CAUTIONARY POINT FOR RADAR ALIGNMENT PROCEDURE

CAUTION:

- **For radar alignment procedure, choose a level location with a few meter 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 ICC 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 ICC target board at any time during the alignment process.**
- **Accurate steering wheel setting is crucial. Once set, do not disturb the steering wheel for the remainder of the alignment procedure.**
- **For proper system operation and adjustment, all vehicle wheels must be of the same size.**

Work Procedure (Preparation)

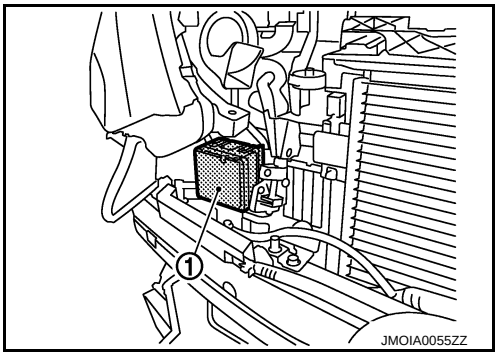
INFOID:0000000010608814

1. ADVANCE PREPARATION FOR RADAR ALIGNMENT

1. Adjust all tire pressure to the specified value.
2. Empty the vehicle. (Remove any luggage from the passenger compartment, trunk 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 the right front side of the fascia in front of the distance sensor ①.

   NOTE:

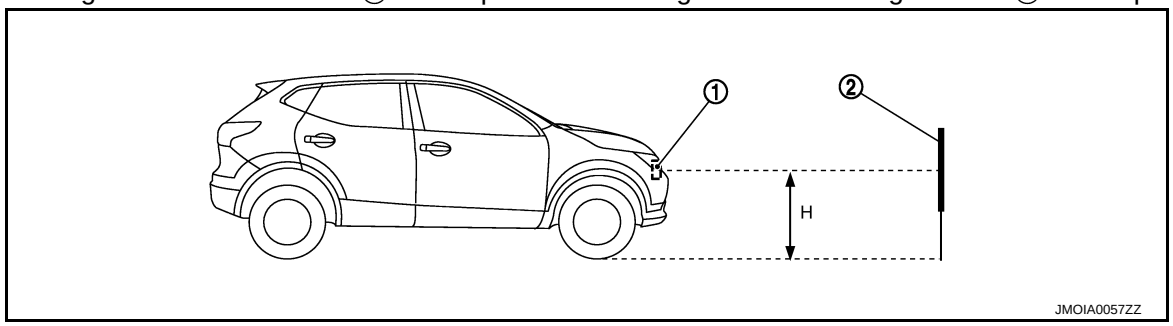
   Check the distance sensor surface is clean.



>> GO TO 2.

2.PREPOSITION TARGET BOARD

Adjust the height of distance sensor ① center position and height of the ICC target board ② center position.

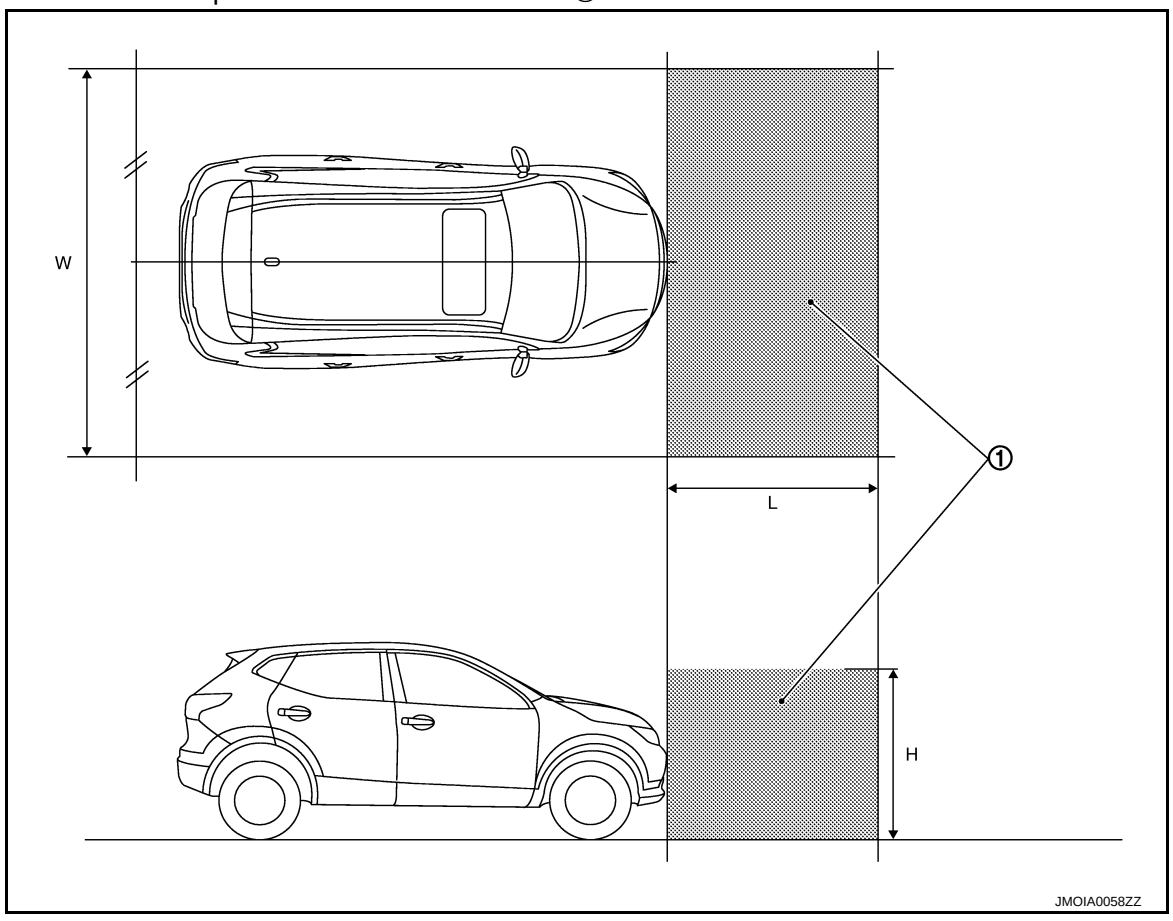


H : 709.2 mm (27.92 in)

>> GO TO 3.

3.RADAR ALIGNMENT OPERATION AREA

Position the vehicle in a place that is level and where ① area can be secured.



W : 3000 mm (118.11 in)
L : 2000 mm (78.74 in)
H : 2000 mm (78.74 in)

NOTE:
① is a no object zone.

>> Go to DAS-92, "Work Procedure (Setting The ICC Target Board)".

Work Procedure (Setting The ICC Target Board)

INFOID:0000000010608815

DESCRIPTION

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

CAUTION:

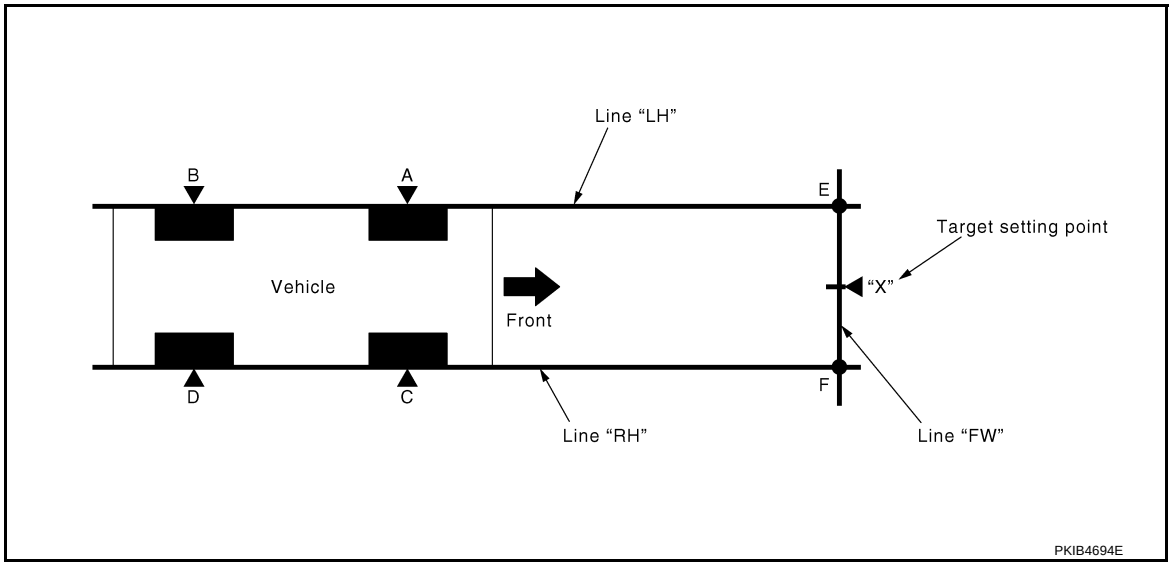
If the radar alignment is adjusted with the ICC target board in the incorrect position, the FEB system does not function normally.

1. ICC TARGET BOARD HEIGHT ADJUSTMENT

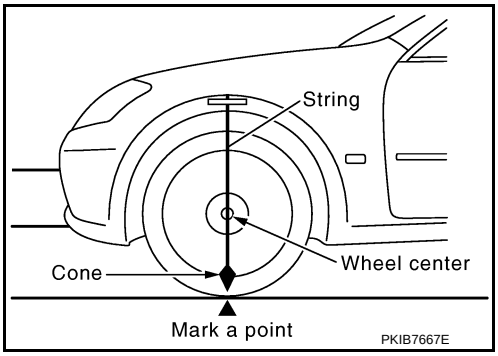
Adjust the base of ICC target board to approximately 30 mm from the ground.

>> GO TO 2.

2. PREPARATION OF SETTING ICC TARGET BOARD (1)



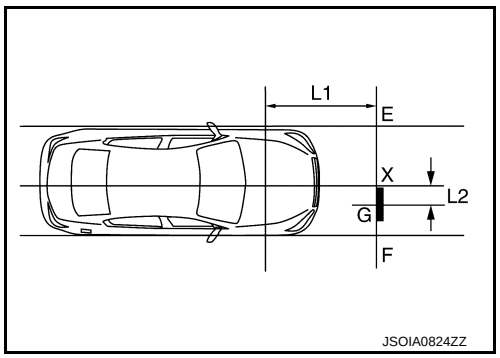
“A” – “E” (“C” – “F”) : 2032.1 mm (80.00 in)



1. Mark points “A”, “B”, “C” and “D”at the center of the lateral surface of each wheels.
   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 m (6.56 ft) or more from the front end of vehicle.
3. Mark point “E” on the line “LH” at the positions 2032.1 mm (80.00 in) from point “A”.
4. Draw line “RH” passing through points “C” and “D” on the right side of vehicle in the same way as step 2.
   NOTE:
   Approximately 2 m (6.56 ft) or more from the front end of vehicle.
5. Mark point “F” on the line “RH” at the positions 2032.1 mm (80.00 in) from point “C”.
6. Draw line “FW” passing through the points “E” and “F” on the front side of vehicle.
7. Mark point “X” at the center of point “E” and “F” on the line “FW”.
   CAUTION:
   Make sure that “E” to “X” is equal to “F” to “X”.

8. With point “X” as the starting point, mark point “G” on “F” point side 293.9 mm.

L1 : 2032.1 mm (80.00 in)
L2 : 293.9 mm (11.57 in)



>> GO TO 3.

3.SETTING ICC TARGET BOARD

Place the center of ICC target board on point “G” at line “E-F” and install the ICC target board.

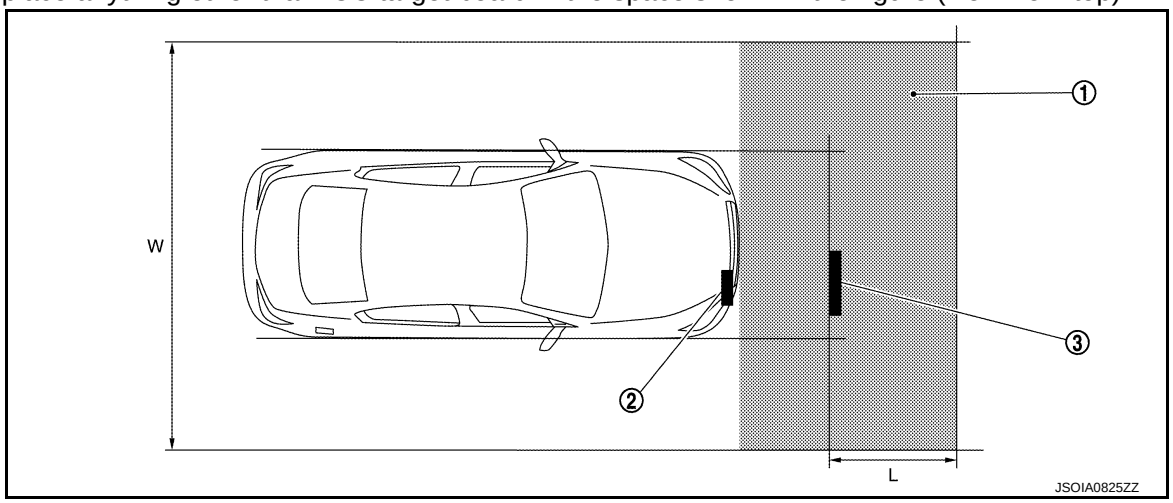
CAUTION:

For performing the radar alignment correctly, securely install (ICC target board) to be parallel with the “E-F” line.

>> GO TO 4.

4.CHECK THE ICC TARGET BOARD INSTALLATION AREA

Do not place anything other than ICC target board in the space shown in the figure (view from top).



① No object zone ② Distance sensor ③ ICC target board
W. 3000 mm (118.11 in) L. 1000 mm (39.37 in)

>> Go to DAS-93, "Work Procedure (Radar Alignment)".

Work Procedure (Radar Alignment)

INFOID:0000000010608816

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 FEB 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.

NOTE:

If the adjustment screen does not appear or an error appears within approximately 10 seconds after “MILLIWAVE RADAR ADJUST” is selected, the following causes are possible.

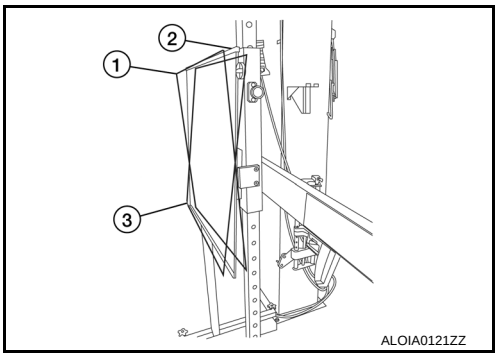
- The ICC target board is not installed in the correct position.
- Adequate space is not secured around the ICC target board.
- The radar alignment procedure exceeds its proper installation range.
  - Deformation of vehicle body.
  - Deformation of unit.
  - Deformation of bracket.
- The area is not suitable for the adjustment work.
- Right front side of fascia (distance sensor view) is not clean.
- The Forward Emergency Braking warning lamp illuminates.

>> GO TO 2.

2. RADAR ALIGNMENT

1. Once the radar alignment procedure is started, you will be prompted by the CONSULT for the next instruction.
2. Follow all the instructions exactly as requested by the CONSULT which will include the following:

- Adjust ICC target board to position 1 (top tilted toward vehicle)
- Adjust ICC target board to position 2 (vertical position)
- Adjust ICC target board to position 3 (top tilted away from vehicle)



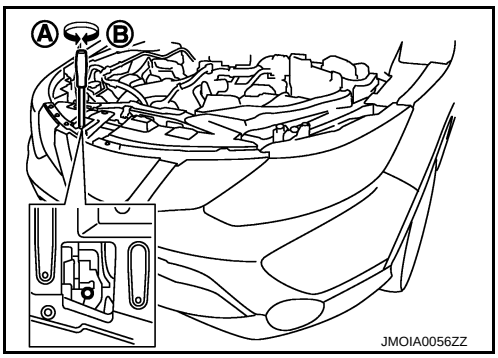
3. You will be prompted with specific instructions to perform physical adjustment to the sensor which may include turning the screw driver by a specified number of turns counter-clockwise (A) or clockwise (B) as specified on CONSULT.

CAUTION:

After the position 3 reading and during manual adjustment, it is OK to stand in front of the side of the fascia (distance sensor view). Otherwise be careful not to cover the right front side of the fascia (distance sensor view) with a hand or any other body part during adjustment.

NOTE:

Reading on the CONSULT is not real-time and will not automatically update while turning the tool.



>> ALIGNMENT END

CAMERA AIMING ADJUSTMENT

Description

INFOID:0000000010609508

Always adjust the camera aiming after removing and installing or replacing the lane camera unit.

CAUTION:

- **Place the vehicle on level ground when the camera aiming adjustment is operated.**
- **Be sure to place the target correctly according to work procedures because the system may not operate normally.**
- **Follow the CONSULT when performing the camera aiming. (Camera aiming adjustment cannot be operated without CONSULT.)**

Work Procedure (Preparation)

INFOID:0000000010609509

1. PERFORM SELF-DIAGNOSIS

Perform self-diagnosis of front camera unit.

Is any DTC detected?

Except “C1B01”>>Perform diagnosis on the detected DTC and repair or replace the applicable item. Refer to DAS-61, "DTC Index" (LANE CAMERA).

“C1B01” or no DTC>>GO TO 2.

2. PREPARATION BEFORE CAMERA AIMING ADJUSTMENT

1. Perform pre-inspection for diagnosis. Refer to DAS-95, "Work Procedure (Preparation)".
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. Shift the selector lever to “P” position and release the parking brake. (CVT models)
6. Shift the shift lever to “N” position and release the parking brake.(M/T models)

   CAUTION:

   Use wheel chocks to the wheels to prevent the vehicle from moving.
7. Clean the windshield.
8. Completely clear off the instrument panel.

   NOTE:

   If any fixed object is put on instrument panel, cover the upper of the instrument panel with black cloth to prevent an object from reflecting in the windshield.

>> GO TO 3.

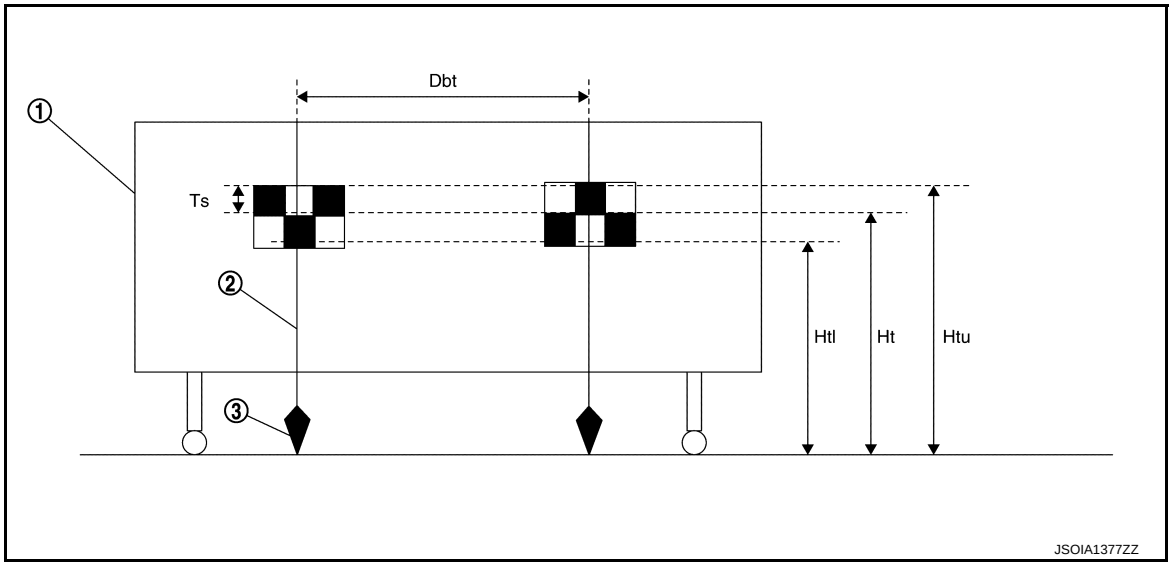
3. PREPARATION OF AIMING ADJUSTMENT JIG

Prepare the aiming adjustment jig according to the following procedure and the figure.

1. Print out the target mark attached in this service manual. Refer to DAS-99, "Work Procedure (Target Mark Sample)".
2. Stick a printed target mark on the board with a scotch tape or a piece of double-sided tape.

   CAUTION:

   - **Be sure to measure dimensions correctly and make adjustment jig because the system may not operate normally.**
   - **Use the board that peripheral area of the target is monochrome such as a white-board.**
   - **Notice that the cross of the target is horizontal and vertical.**
   - **Notice that the target board is vertical on the ground.**



① Board ② String ③ Cone

Side of a target (Ts)	**: 101 mm (3.98 in)**
Height of a target lower end (Hti)	**: 1299 mm (51.14 in)**
Height of a target center (Ht)	**: 1400 mm (55.12 in)**
Height of a target upper end (Htu)	**: 1501 mm (59.09 in)**
Width between a right target center from a left target center (Dbt)	**: 956 mm (37.64 in)**

>> Proceed to DAS-96, "Work Procedure (Target Setting)".

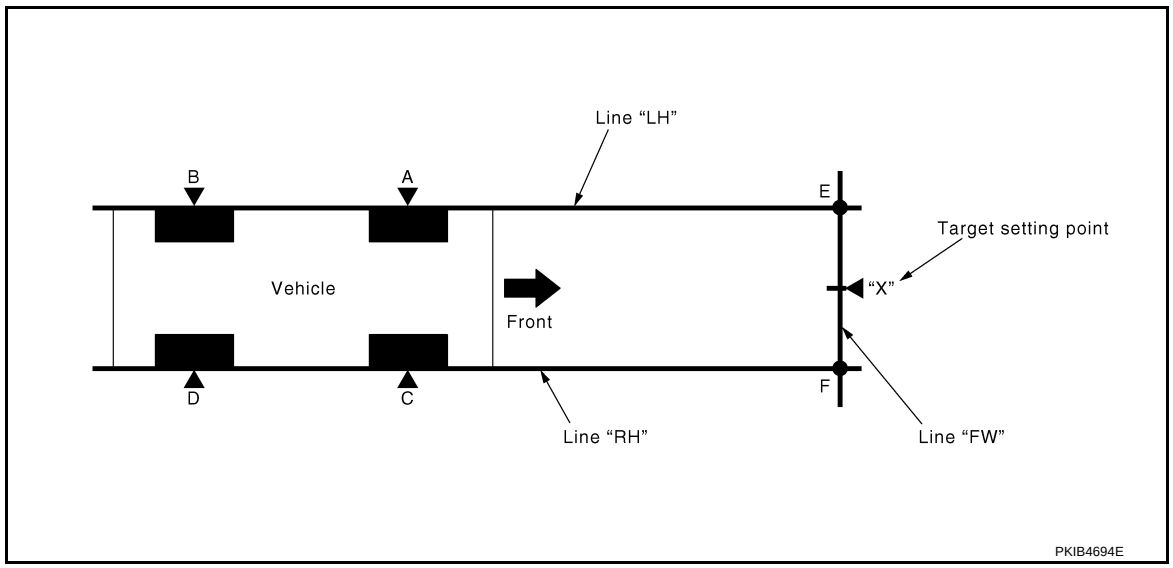
Work Procedure (Target Setting)

INFOID:0000000010609510

CAUTION:

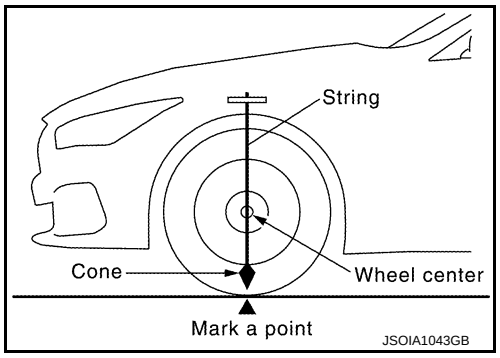
- **Be sure to place the target correctly according to work procedures because the system may not operate normally.**
- **Perform this operation in a horizontal position where there is a clear view for 5 m (16.4 ft) forward and 3 m (9.84 ft) wide.**
- **Be sure that there is no difference in brightness when each of the targets is lit by light source.**
- **Place the target in a well-lighted location. (Poor lighting may make it hard to adjust.)**
- **The target may not be detected when there is a light source within 1.5 m (4.92 ft) from either side and within 1 m (3.28 ft) upward/downward from the target.**
- **Check the location of the sun. (Sunlight should not shine directly on the front of the vehicle.)**
- **The target may not be detected when there is the same pattern of black and white as the target when the pattern is within 1 m (3.28 ft) from either side and upward/downward position from the target. (It is desirable that the vehicle is positioned on the opposite side of a single-color wall.)**

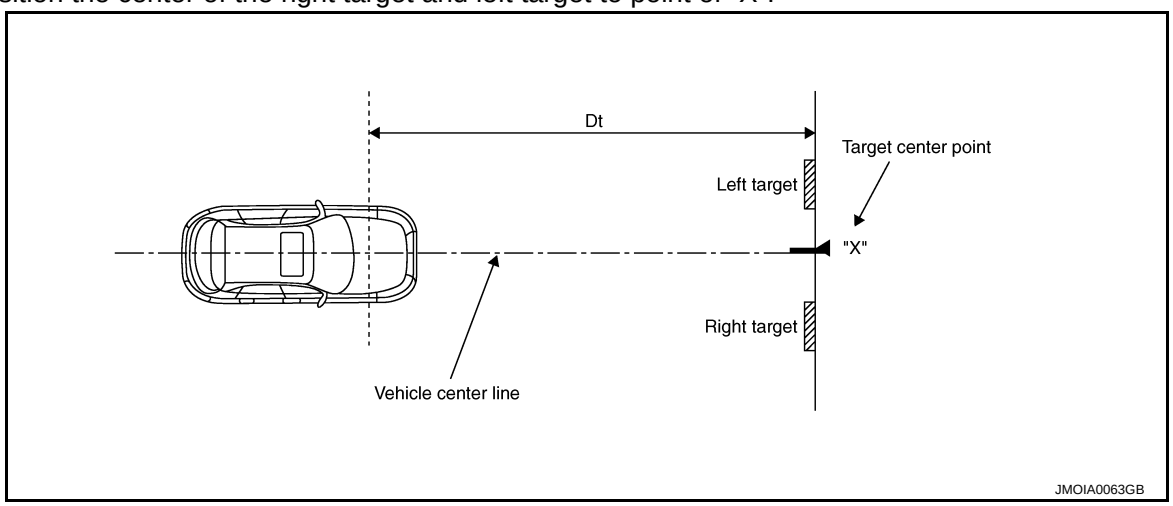
1. TARGET SETTING



“A” – “E” (“C” – “F”) : 2800 mm (110.24 in)

1. Mark points “A”, “B”, “C” and “D”at the center of the lateral surface of each wheels.
   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 4 m (13.12 ft) or more from the front end of vehicle.
3. Mark point “E” on the line “LH” at the positions 2800 mm (110.24 in) from point “A”.
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 2800 mm (110.24 in) from point “C”.
6. Draw line “FW” passing through the points “E” and “F” on the front side of vehicle.
7. Mark point “X” at the center of point “E” and “F” on the line “FW”.
   CAUTION:
   Make sure that “E” to “X” is equal to “F” to “X”.
8. Position the center of the right target and left target to point of “X”.





>> Proceed to DAS-98, "Work Procedure (Camera Aiming Adjustment)".

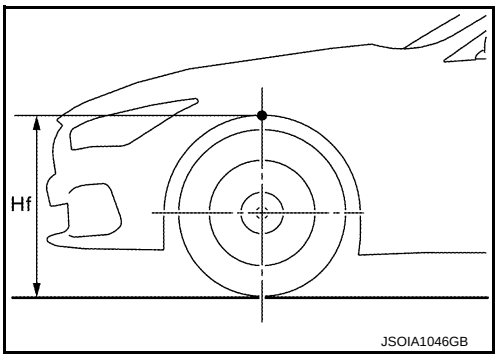
Work Procedure (Camera Aiming Adjustment)

INFOID:0000000010609511

CAUTION:
Perform the adjustment under unloaded vehicle condition.

1.CHECK VEHICLE HEIGHT

Measure both side of front wheelarch height (Hf). Then calculate "Dh".



Dh [mm] = (Hfl + Hfr) ÷ 2 – 763
where,
Hfl: Front left wheelarch height [mm]
Hfr: Front right wheelarch height [mm]

CAUTION:
Be sure to measure wheelarch height correctly.
NOTE:
"Dh" may be calculated as a minus value.

>> GO TO 2.

2.CAMERA AIMING ADJUSTMENT

With CONSULT
CAUTION:
Operate CONSULT outside the vehicle, and close all the doors. (To retain vehicle attitude appropriately)
1. Select "Work Support" on "LANE CAMERA" with CONSULT.
2. Select "AUTO AIM".
3. Confirm the following items;
- The target should be accurately placed.
- The vehicle should be stopped.
4. Select "Start" to perform camera aiming.
   CAUTION:
   - **Never select "Start" when the target is not accurately placed.**
   - **Wait 5 seconds or more after selecting "Start".**
5. Input the following parameters, and then select "Start".
- Htu: 1501 (mm)
- Htl: 1299 (mm)
- Dt: 2800 (mm)
- Ts: 101 (mm)
- Dbt: 956 (mm)
- VP: 2 (RHD models for Europe)/4 (LHD models for Europe)/6 (for Russia)/7 (for Australia)
6. Confirm the displayed item.

Is "Normally Completed" displayed?

YES >> Select "End" to close the aiming adjustment procedure. Then GO TO 4.
NO >> GO TO 3.

3.INCOMPLETE CAUSE CONFIRMATION

1. Perform the following services according to the displayed message.

Displayed message		Possible cause	Service procedure
Stop	—	Temporary malfunction in internal processing of the front camera unit.	Go back to step 1.
	00H Routine not activated	Front camera unit malfunction.	Position the target appropriately again. Then perform the aiming again.
	10H Writing error	• Temporary malfunction in internal processing of the front camera unit. • Front camera unit malfunction.	

Displayed message		Possible cause	Service procedure
0 – 16	—	• A target is not -yet-placed. (Front camera unit cannot detect the target.) • The position of the targets is not correct. • The position of the front camera unit is not correct. • Inappropriate work environment. • Inappropriate vehicle condition. • Input value is not correct against actual setting position.	Position the target appropriately again. Then perform the aiming again.
Abnormally completed.	—		

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

2. Confirm that “Normally completed” is displayed and then select “End” to close the adjustment procedure.

>> GO TO 4.

4. PERFORM SELF-DIAGNOSIS

With CONSULT

Perform self-diagnosis of front camera unit with CONSULT.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the applicable item. Refer to DAS-61, "DTC Index".

NO >> WORK END

Work Procedure (Target Mark Sample)

INFOID:0000000010609512

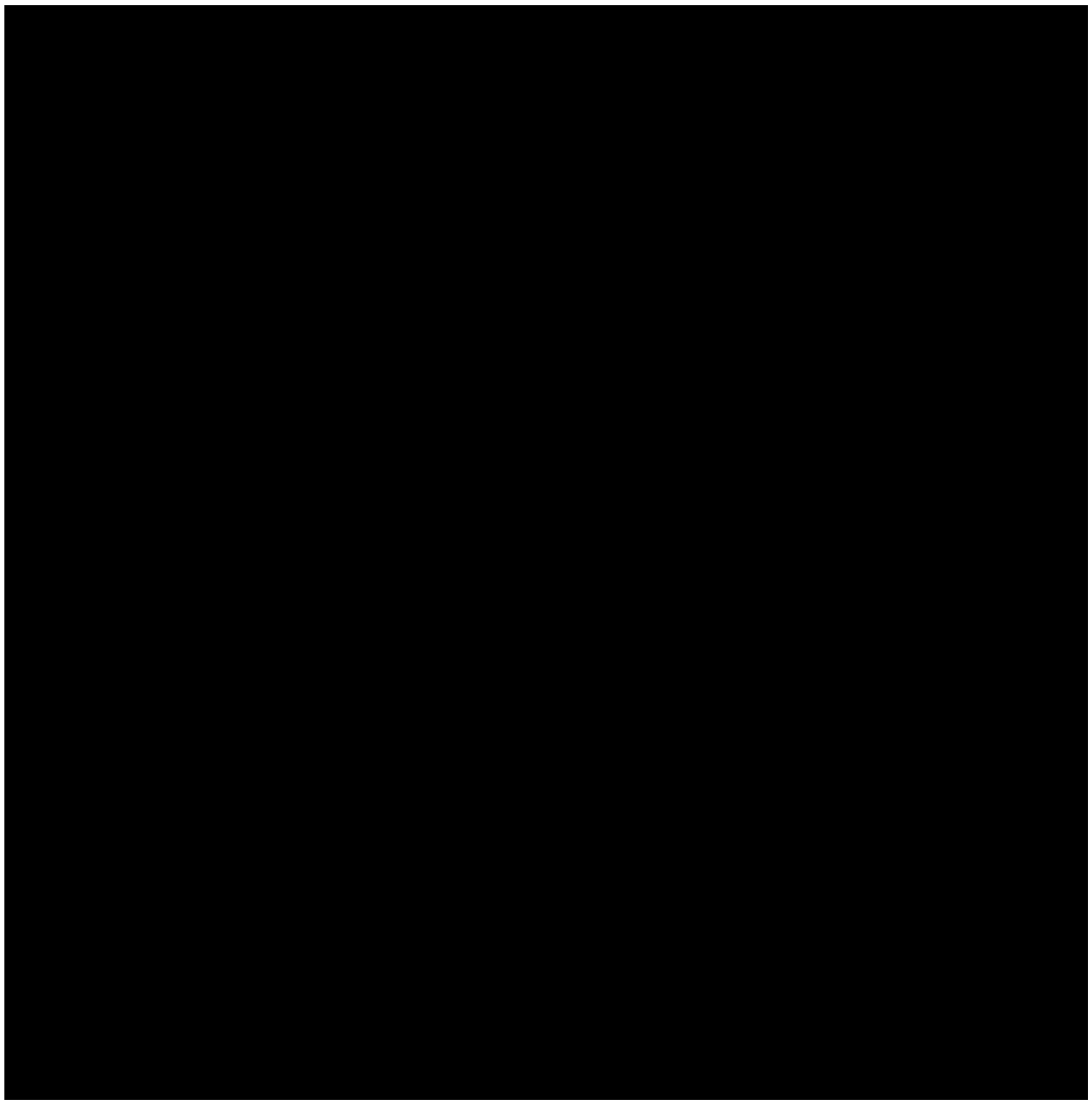
Adjust the scale so that the item is the same size as the following, and print.

- Target length (L): 202 mm
- Target width (W): 303 mm

CAUTION:

- **Never allow a clearance on the black and white boundary.**

- **Never apply tape to target surface.**



JSOIA0633ZZ

CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR)

Description

INFOID:0000000010619788

- Always perform the rear camera calibration after removing and installing or replacing the rear camera.
- Always perform the rear camera calibration after replacing the around view monitor control unit.

CAUTION:

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

Work Procedure (Preparation)

INFOID:0000000010619789

1. PERFORM SELF-DIAGNOSIS

Perform self-diagnosis of the camera control unit with CONSULT (AVM).

Is any DTC detected?

Except “U1308”>>Perform diagnosis on the detected DTC and repair or replace the applicable item. Refer to DAS-49, "DTC Index".

“U1308” or no DTC>>GO TO 2.

2. PREPARATION BEFORE REAR CAMERA CALIBRATION

1. Perform pre-inspection for diagnosis. Refer to DAS-82, "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. Shift the selector lever to “P” position and release the parking brake.
6. Clean the rear camera.

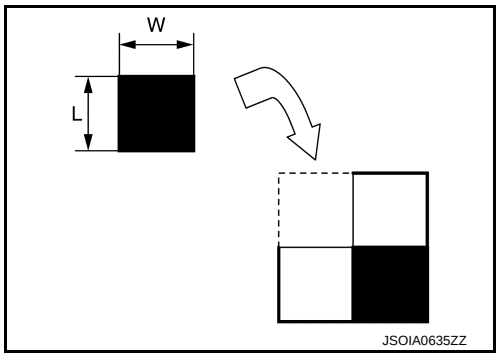
>> GO TO 3.

3. PREPARATION OF CALIBRATION TARGET MARK

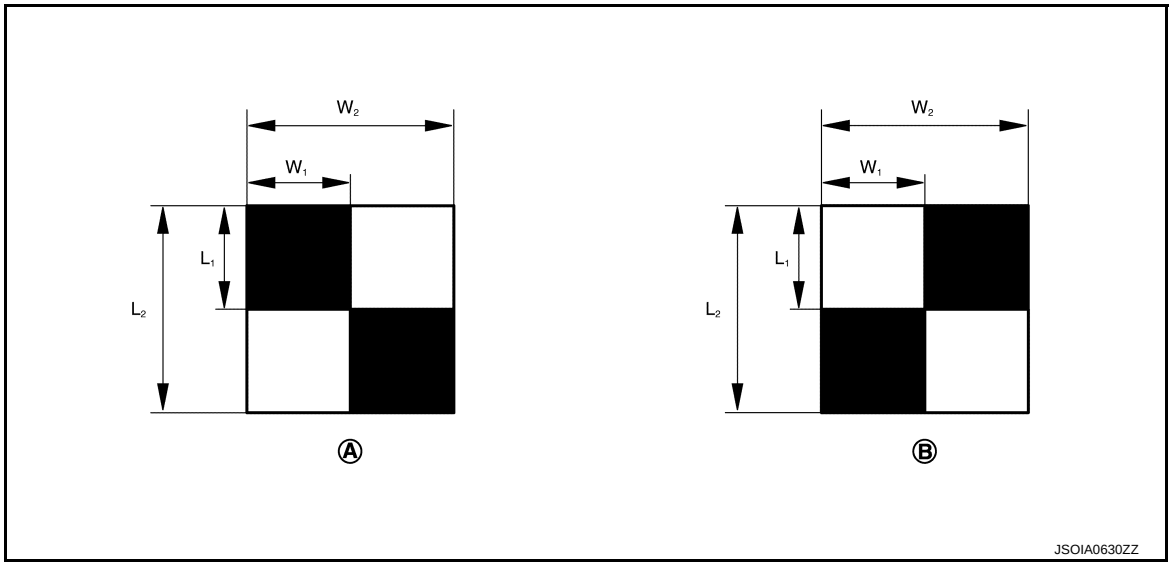
1. Prepare six sheets of white paper and black paper, respectively, with dimensions of 250 mm (9.84 in) × 250 mm (9.84 in) to create a left target, right target, and center target.
   NOTE:
   Correct the magnification of print and print the target mark sample in the service manual on the blackpaper. Refer to DAS-105, "Work Procedure (Target Mark Sample)".
2. Tape two sheets of black paper and two sheets of white paper together to make a target of 500 mm (19.69 in) × 500 mm (19.69 in).

   W :250 mm (9.84 in)
   L :250 mm (9.84 in)

   NOTE:
   Use a transparent tape.



3. Create two more targets according to step 2.



W_1	:250 mm (9.84 in)	W_2	:500 mm (19.69 in)
L_1	:250 mm (9.84 in)	L_2	:500 mm (19.69 in)
Ⓐ	Left target and right target	Ⓑ	Center target

>> Refer to DAS-102, "Work Procedure (Target Setting)".

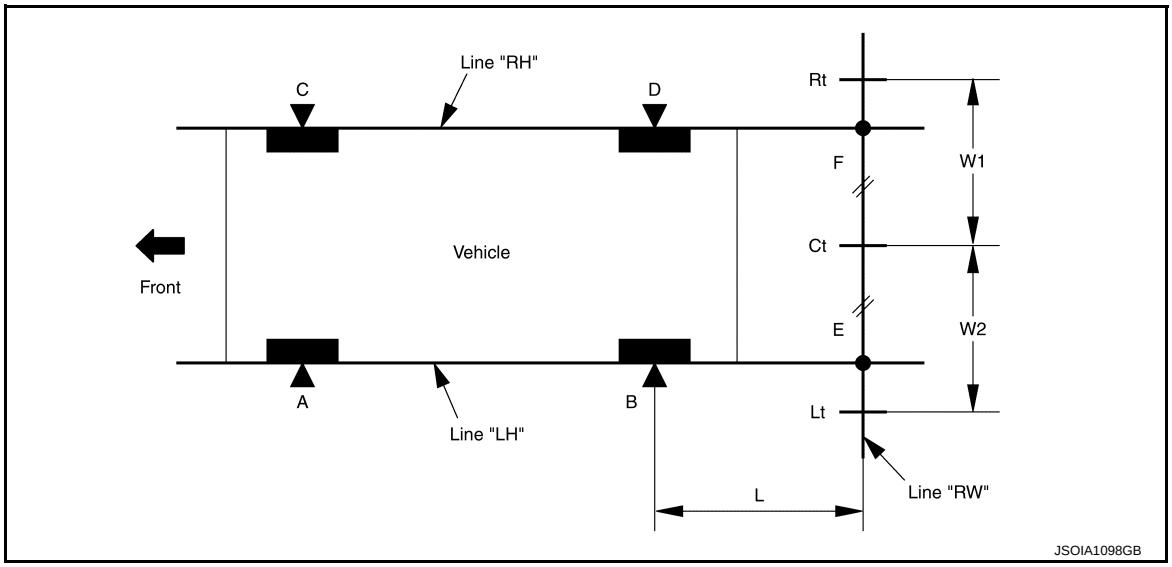
Work Procedure (Target Setting)

INFOID:0000000010619790

CAUTION:

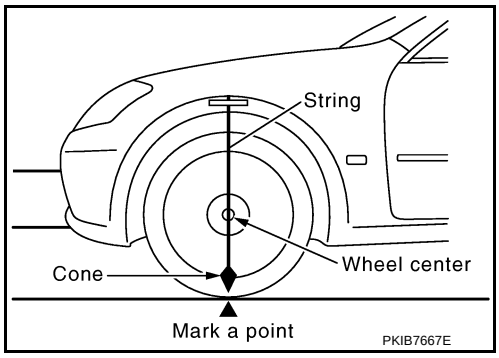
- **Perform this operation in a horizontal position where there is a clear view for 3 m (9.84 ft) backward and 4 m (13.12 ft) wide.**
- **Place the target in a well-lighted location. (Poor lighting may make it hard to adjust.)**
- **The target may not be detected when it shines by the reflected light 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 target is positioned on the single-color floor.)**

1. TARGET SETTING

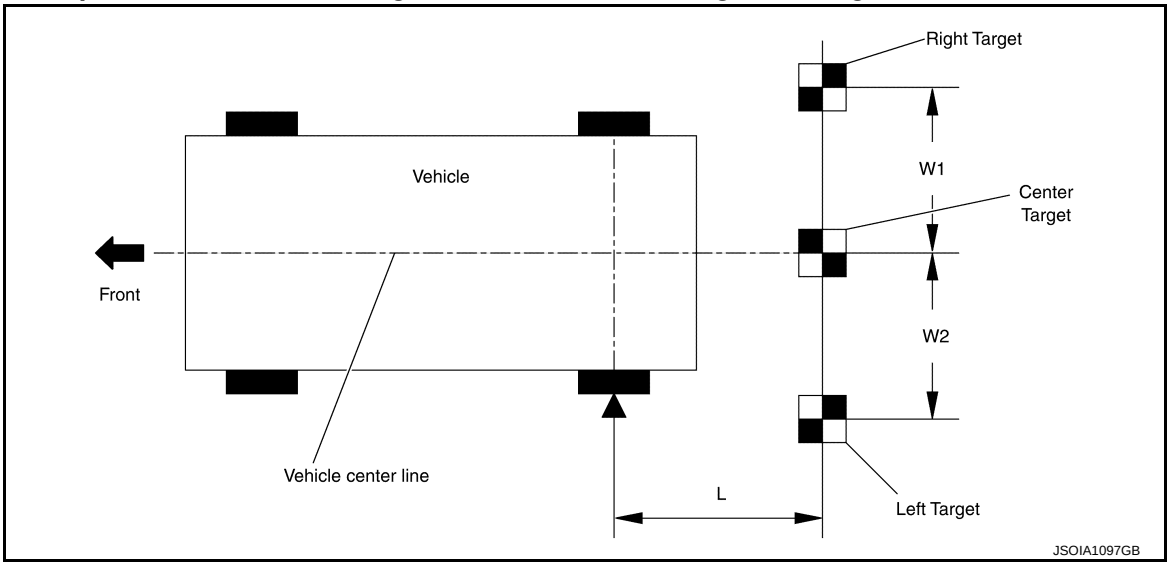


Distance between B and E	**: 1,854 mm (72.99 in)**
Distance between D and F	**: 1,854 mm (72.99 in)**
Distance W1	**: 1,450 mm (57.09 in)**
Distance W2	**: 1,450 mm (57.09 in)**
Distance L	**: 1,854 mm (72.99 in)**

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 1,854 mm (72.99 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.
   NOTE:
   Approximately 2.2 m (7.22 ft) or more at the rear from the rear axle.
5. Mark point E on the line “RH” at the positions 1,854 mm (72.99 in) from point “D”.
6. Draw line “RW” passing through the points “E” and “F” on the rear of vehicle.
   NOTE:
   Approximately 1.8 m (5.91 ft) or more at both left and right sides from vehicle center.
7. Mark point “Ct” 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 1,450 mm (57.09 in) from point “Ct”.
9. Position the center of the target mark to point of “Ct”, “Lt” and “Rt”.
   CAUTION:
   To perform an accurate calibration, check that the black-and-white pattern is as shown in the figure. The pattern of the center target differs from that of right/left target.



W1	**: 1,450 mm (57.09 in)**
W2	**: 1,450 mm (57.09 in)**
L	**: 1,854 mm (72.99 in)**

>> Refer to DAS-104, "Work Procedure (Rear Camera Calibration)".

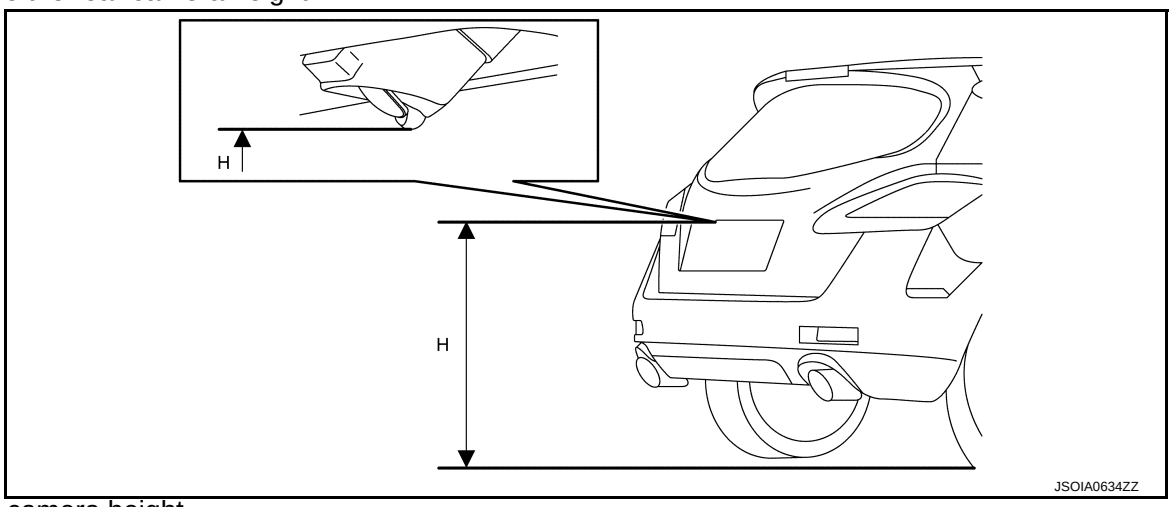
Work Procedure (Rear Camera Calibration)

INFOID:0000000010619791

CAUTION:
For accuracy, perform the calibration under the specified vehicle condition (Fuel full, no-load, specified tire pressure, etc.). Refer to DAS-101, "Work Procedure (Preparation)".

1.CHECK REAR CAMERA HEIGHT

Measure the rear camera height.



H:Rear camera height.

>> GO TO 2.

2.REAR CAMERA CALIBRATION

1. Select “Work Support” on “AVM” with CONSULT.
2. Select “REAR CAMERA ITS” and then touch “Start”.
3. Touch“OK”.
4. Input the rear 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 camera aiming.
   CAUTION:
   To properly maintain vehicle attitude, operate CONSULT outside the vehicle with all the doors closed.
8. Confirm the displayed item.

- “Completed”: Select “Completion”.
- “Not completed”: Perform the following services.

Displayed item	Code	Possible causes	Service procedure
Check the error contents using the screen of navigation system.	11	• A target is not-yet-placed. (Center) • Target mark reflects the light. (Center)	• Position the target appropriately again. (Center) Refer to DAS-102, "Work Procedure (Target Setting)". • Shut out the light reflecting on target mark. (Center)
	12	• A target is not-yet-placed. (Right) • Target mark reflects the light. (Right)	• Position the target appropriately again. (Right) Refer to DAS-102, "Work Procedure (Target Setting)". • Shut out the light reflecting on target mark. (Right)
	13	• A target is not-yet-placed. (Left) • Target mark reflects the light. (Left)	• Position the target appropriately again. (Left) Refer to DAS-102, "Work Procedure (Target Setting)". • Shut out the light reflecting on target mark. (Left)
	21	A target is dirty. (Center)	Clean target mark. (Center)
	22	A target is dirty. (Right)	Clean target mark. (Right)
	23	A target is dirty. (Left)	Clean target mark. (Left)
	51	• The position of the target is not correct. (Center) • Target mark reflects the light. (Center) • The position of the rear camera is not correct.	• Set target mark direction as shown in the figure. (Center) Refer to DAS-102, "Work Procedure (Target Setting)". • Shut out the light reflecting on target mark. (Center) • Install rear camera properly
	52	• The position of the target is not correct. (Right) • Target mark reflects the light. (Right) • The position of the rear camera is not correct.	• Set target mark direction as shown in the figure. (Right) Refer to DAS-102, "Work Procedure (Target Setting)". • Shut out the light reflecting on target mark. (Right) • Install rear camera properly
	53	• The position of the target is not correct. (Left) • Target mark reflects the light. (Left) • The position of the rear camera is not correct.	• Set target mark direction as shown in the figure. (Left) Refer to DAS-102, "Work Procedure (Target Setting)". • Shut out the light reflecting on target mark. (Left) • Install rear camera properly

>> GO TO 3.

3.PERFORM SELF-DIAGNOSIS

Perform self-diagnosis of around view monitor control unit with CONSULT (AVM).

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the applicable item. Refer to DAS-49, "DTC Index".

NO >> GO TO 4.

4.ACTION TEST

Test the BSW system operation by action test. Refer to DAS-108, "BSW : Description".

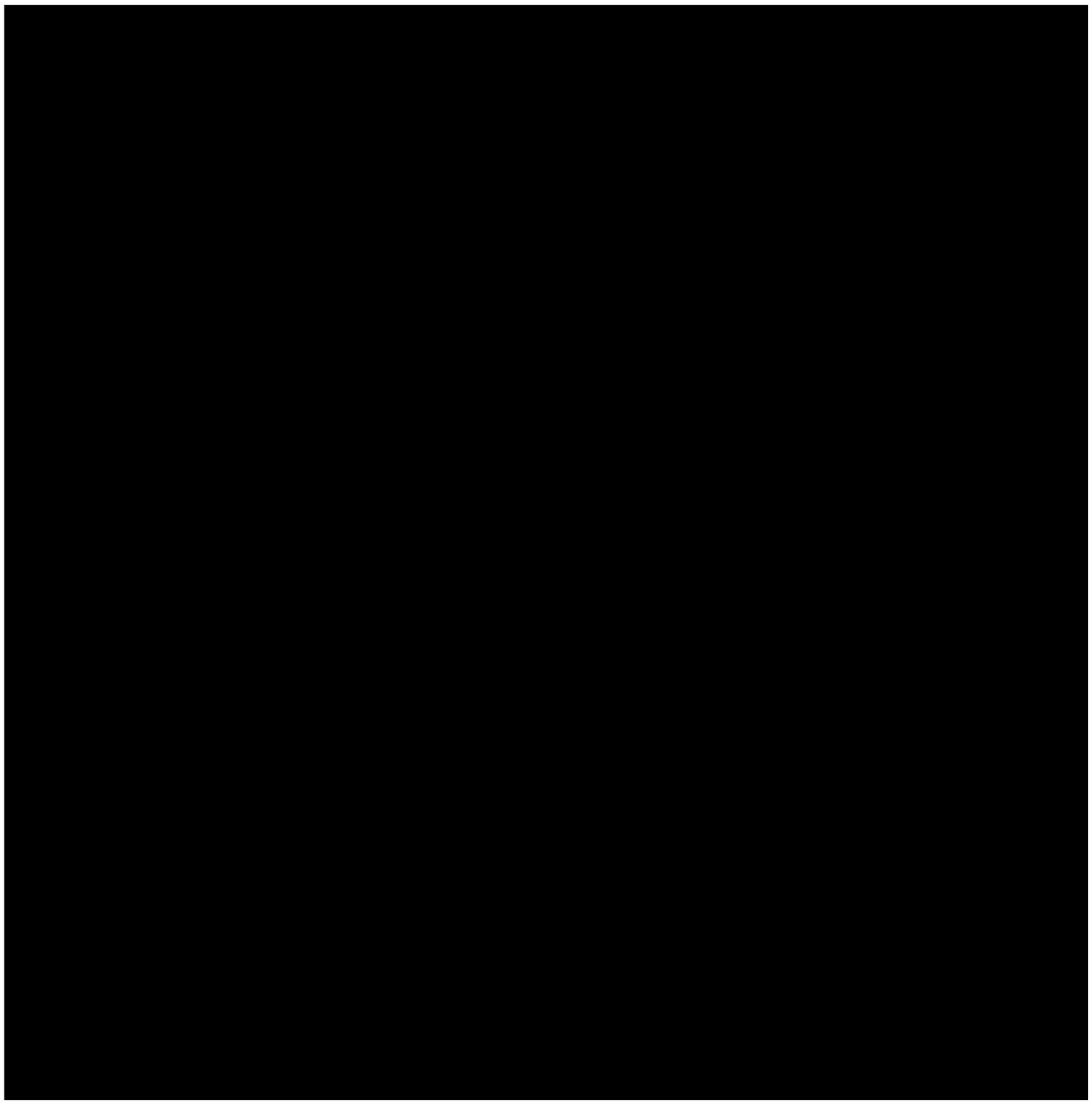
>> WORK END

Work Procedure (Target Mark Sample)

INFOID:0000000010619792

NOTE:

Change the magnification of print to 250 mm (9.84 in) × 250 mm (9.84 in) and print the target mark sample.



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ACTION TEST

LDW

LDW : Description

INFOID:0000000010416827

- 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;**
- **System description for LDW: Refer to DAS-15, "LDW : System Description".**
- **Handling precaution: Refer to DAS-31, "Precautions for Lane Departure Warning".**

LDW : Inspection Procedure

INFOID:0000000010416828

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;**
- **System description for LDW: Refer to DAS-15, "LDW : System Description".**
- **Handling precaution: Refer to DAS-31, "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. Check the LDW operation according to the following table.

Vehicle condition/ Driver's operation		Action	LDW ON indicator	Indication on the combination meter	Buzzer
Less than Approx. 55 km/h (34 MPH)	Close to lane marker	No action	ON	White  JSOIA1422ZZ	OFF

Vehicle condition/ Driver's operation		Action	LDW ON indicator	Indication on the combination meter	Buzzer
Approx. 60 km/h (37 MPH) or more	Close to lane marker	Warning • Buzzer sounds • Warning lamp blinks	ON	OFF (orange) Blink  JSOIA1367ZZ	Short continuous beeps
	• Close to lane marker • Turn signal ON (Deviate side)	No action	ON	White  JSOIA1422ZZ	OFF

NOTE:
After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 55 km/h (34 MPH). Refer to DAS-15, "LDW : System Description".

>> Inspection End.

BSW

BSW : Description

INFOID:0000000010416829

- 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;
- System description for BSW: Refer to DAS-17, "BSW : System Description".
- Handling precaution: Refer to DAS-31, "Precautions for Blind Spot Warning".

BSW : Inspection Procedure

INFOID:0000000010416830

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;
- System description for BSW: Refer to DAS-17, "BSW : System Description".
- Handling precaution: Refer to DAS-31, "Precautions for Blind Spot Warning".

1.CHECK BSW SYSTEM SETTING

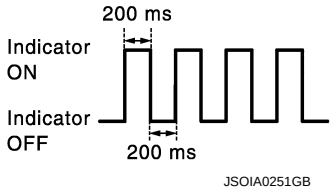
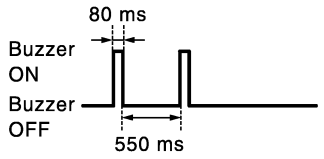
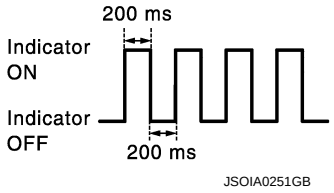
1. Start the engine.
2. Check that the BSW system setting can be enabled/disabled on the vehicle information display.
3. Turn OFF the ignition switch and wait for 30 seconds or more.
4. Check that the previous setting is saved when the engine starts again.

>> GO TO 2.

2.ACTION TEST FOR BSW

1. Enable the setting of the BSW system on the vehicle information display.
2. 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 	Short continuous beeps 
			Vehicle is detected after turn signal operates	Blink 	OFF

NOTE:
After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 29 km/h (18 MPH). Refer to DAS-17, "BSW : System Description".

>> Inspection End.

MOD

MOD : Description

INFOID:0000000010416831

- 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;**
- **System description for MOD: Refer to DAS-22, "MOD : System Description".**

MOD : Inspection Procedure

INFOID:0000000010416832

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;**
- **System description for MOD: Refer to DAS-22, "MOD : System Description".**

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-22, "MOD : System Description".

>> Inspection End.

CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT)

Description

INFOID:0000000010416835

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:0000000010416836

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-112, "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:0000000010416837

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

SETTING ITEM		NOTE
Items	Setting value	
HANDLE POSITION	RHD ⇔ LHD	—
TRANSMISSION	A/T ⇔ M/T	—
TIRE SIZE	TYPE 1 ⇔ TYPE 3	• TYPE 1: 17 inch • TYPE 3: 19 inch
4WD/2WD	4WD ⇔ 2WD	—
SONAR	WITH ⇔ WITHOUT	• WITH 1: With sonar • WITHOUT: Without sonar
LDW FUNCTION	WITH ⇔ WITHOUT	• WITH 1: With LDW function • WITHOUT: Without LDW function

⇔: Items which confirm vehicle specifications

PREDICTIVE COURSE LINE CENTER POSITION ADJUSTMENT

Description

INFOID:0000000010416838

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

Work Procedure

INFOID:0000000010416839

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

DTC/CIRCUIT DIAGNOSIS

U0121 VDC CAN 2

DTC Logic

INFOID:0000000010416846

DTC DETECTION LOGIC

NOTE:
If DTC U0121 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
VDC CAN CIR 2 [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 DTC detected?

YES >> Refer to DAS-114, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010416847

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-53, "DTC Index".
NO >> Replace the distance sensor. Refer to DAS-203, "Removal and Installation".

U0122 VDC P-RUN DIAG

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010416848

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
VDC P-RUN DIAGNOSIS [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-115, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010416849

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-53, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-267, "Removal and Installation".

FRONT CAMERA UNIT

FRONT CAMERA UNIT : DTC Logic

INFOID:0000000010765817

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
VDC CAN CIR 1 (LDP) [U0122]	Front camera unit receives incorrect signal (P-RUN) from ABS actuator and electric unit (control unit) via CAN communication.	• ABS actuator and electric unit (control unit). • Front camera unit.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-115, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

FRONT CAMERA UNIT : Diagnosis Procedure

INFOID:0000000010765818

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-53, "DTC Index".
NO >> Replace the front camera unit. Refer to DAS-201, "Removal and Installation".

U0126 STRG SEN CAN 1

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010416850

DTC DETECTION LOGIC

NOTE:

If DTC U0126 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
STRG SEN CAN CIR 1 [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-116, "DISTANCE SENSOR : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010416851

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-53, "DTC Index".
NO >> Replace the distance sensor. Refer to DAS-203, "Removal and Installation".

FRONT CAMERA UNIT

FRONT CAMERA UNIT : DTC Logic

INFOID:0000000010632312

DTC DETECTION LOGIC

NOTE:

If DTC U0126 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "FRONT CAMERA UNIT : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
STRG SEN CAN CIR 1 [U0126]	Front camera unit receives an error signal from steering angle sensor via CAN communication.	• Steering angle sensor. • Front camera unit.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-116, "FRONT CAMERA UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

FRONT CAMERA UNIT : Diagnosis Procedure

INFOID:0000000010632313

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-53, "DTC Index".
NO >> Replace the front camera unit. Refer to DAS-201, "Removal and Installation".

U0155 METER CAN 1

DTC Logic

INFOID:0000000010765915

DTC DETECTION LOGIC

NOTE:
If DTC U0155 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "FRONT CAMERA UNIT : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
METER CAN CIRC 1 [U0155]	Front camera unit receives an error signal from combination meter via CAN communication.	• Combination meter • Front camera unit

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-118, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010765916

1.CHECK COMBINATION METAER SELF DIAGNOSTIC RESULT

Perform “Self Diagnostic Result” of “METER/M&A” using CONSULT.

Are any DTCs detected?

YES >> Refer to MWI-39, "DTC Index".
NO >> Replace the front camera unit. Refer to DAS-201, "Removal and Installation".

U0235 DIST SEN CAN CIRC 1

DTC Logic

INFOID:0000000010765902

DTC DETECTION LOGIC

NOTE:
If DTC U0235 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "FRONT CAMERA UNIT : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
DIST SEN CAN CIRC 1 [U0235]	If front camera unit detects an error signal that is received from distance sensor via CAN communication	• Distance sensor • Front camera unit

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-119, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010765903

1.CHECK DISTANCE SENSOR SELF DIAGNOSTIC RESULT

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

Are any DTCs detected?

YES >> Refer to DAS-53, "DTC Index".
NO >> Replace the front camera unit. Refer to DAS-201, "Removal and Installation".

U0401 ECM CAN 1

DTC Logic

INFOID:0000000010416852

DTC DETECTION LOGIC

NOTE:
If DTC U0401 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
ECM CAN CIR 1 [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-120, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010416853

1.CHECK ECM SELF DIAGNOSTIC RESULT

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

Are any DTCs detected?

YES >> Refer to ECH-71, "DTC Index" (HRA2DDT), ECM-93, "DTC Index" (MR20DD), ECK-97, "DTC Index" (K9K) or EC9-108, "DTC Index" (R9M).
NO >> Replace the distance sensor. Refer to DAS-203, "Removal and Installation".

U0415 VDC CAN 1

DTC Logic

INFOID:0000000010416854

DTC DETECTION LOGIC

NOTE:
If DTC U0415 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
VDC CAN CIR 1 [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 DTC detected?

YES >> Refer to DAS-121, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010416855

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-53, "DTC Index".
NO >> Replace the distance sensor. Refer to DAS-203, "Removal and Installation".

U0416 VDC CHECKSUM DIAG

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010416856

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
VDC CHECKSUM [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.

Is DTC detected?

YES >> Refer to DAS-122, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010416857

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-53, "DTC Index".
NO >> Replace the around view monitor control unit. Refer to AV-267, "Removal and Installation".

FRONT CAMERA UNIT

FRONT CAMERA UNIT : DTC Logic

INFOID:0000000010632039

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
VDC CAN CIR 2 (LDP) [U0416]	Front camera unit receives incorrect signal (P-RUN) from ABS actuator and electric unit (control unit) via CAN communication.	• ABS actuator and electric unit (control unit). • Front camera unit.

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-122, "FRONT CAMERA UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

FRONT CAMERA UNIT : Diagnosis Procedure

INFOID:0000000010632040

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-53, "DTC Index".
NO >> Replace the front camera unit. Refer to DAS-201, "Removal and Installation".

U0428 STEERING ANGLE SENSOR

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010416858

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
ST ANGLE SENSOR CALIBRATION [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:0000000010416859

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-180, "PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010416860

DTC DETECTION LOGIC

NOTE:
If DTC U0428 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
STRG SEN CAN CIR 2 [U0428]	If distance sensor detects an error signal that is received from steering angle sensor via CAN communication.	• 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-123, "DISTANCE SENSOR : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010416861

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-53, "DTC Index".
NO >> Replace the distance sensor. Refer to DAS-203, "Removal and Installation".

FRONT CAMERA UNIT

FRONT CAMERA UNIT : DTC Logic

INFOID:0000000010765900

DTC DETECTION LOGIC

NOTE:
If DTC U0428 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "FRONT CAMERA UNIT : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
STRG SEN CAN CIR 2 [U0428]	If front camera unit detects an error signal that is received from steering angle sensor via CAN communication.	• Steering angle sensor • Front camera unit

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-124, "FRONT CAMERA UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

FRONT CAMERA UNIT : Diagnosis Procedure

INFOID:0000000010765901

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-53, "DTC Index".
NO >> Replace the front camera unit. Refer to DAS-201, "Removal and Installation".

U0433 DIST SEN CAN CIRC 2

DTC Logic

INFOID:0000000010767898

DTC DETECTION LOGIC

NOTE:
If DTC U0433 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "FRONT CAMERA UNIT : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
DIST SEN CAN CIRC 2 [U0433]	If front camera unit detects an error signal that is received from distance sensor via CAN communication	• Distance sensor • Front camera unit

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-125, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010767899

1.CHECK DISTANCE SENSOR SELF DIAGNOSTIC RESULT

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

Are any DTCs detected?

YES >> Refer to DAS-53, "DTC Index".
NO >> Replace the front camera unit. Refer to DAS-201, "Removal and Installation".

U1000 CAN COMM CIRCUIT

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010416862

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:0000000010416863

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 DTC detected?

YES >> Refer to LAN-24, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-41, "Intermittent Incident".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010416864

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:0000000010416865

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 DTC detected?

YES >> Refer to LAN-24, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-41, "Intermittent Incident".

FRONT CAMERA UNIT

FRONT CAMERA UNIT : DTC Logic

INFOID:0000000010632314

DTC DETECTION LOGIC

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

FRONT CAMERA UNIT : Diagnosis Procedure

INFOID:0000000010632315

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to LAN-24, "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:0000000010416866

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-267, "Removal and Installation".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010416867

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-203, "Removal and Installation".

FRONT CAMERA UNIT

FRONT CAMERA UNIT : DTC Logic

INFOID:0000000010632316

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	Error during CAN controller hardware initialization (VCAN).	Replace the front camera unit if the malfunction occurs constantly. Refer to DAS-201, "Removal and Installation".

U111A REAR CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010416868

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
REAR CAMERA IMAGE SIGNAL [U111A]	Rear camera image signal circuit open or short.	Check rear camera image signal circuit.

Diagnosis Procedure

INFOID:0000000010416869

WITH PUMP CONTROL UNIT

1.CHECK REAR CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
M8	50	D80	8	Existed
	52		7	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	50		Not existed

Is the inspection result normal?

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

2.CHECK REAR CAMERA POWER SUPPLY VOLTAGE

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

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	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 AV-267, "Removal and Installation".

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

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	

M8	53	D80	5	Existed
	54		1	

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

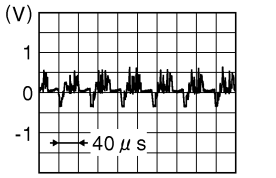
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	53		Not existed

Is the inspection result normal?

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

4.CHECK REAR CAMERA IMAGE SIGNAL

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

Around view monitor control unit connector		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 AV-267, "Removal and Installation".
NO >> Replace rear camera. Refer to AV-270, "Removal and Installation".

WITHOUT PUMP CONTROL UNIT

1.CHECK REAR CAMERA POWER SUPPLY AND GROUND CIRCUIT CONTINUITY

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	26	D86	1	Existed
	25		2	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	26		Not existed

Is the inspection result normal?

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

2.CHECK REAR CAMERA POWER SUPPLY VOLTAGE

1. Connect around view monitor control unit and rear camera connectors.

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

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	26	—	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 AV-267, "Removal and Installation".

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

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	28	D86	3	Existed
	27		4	

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

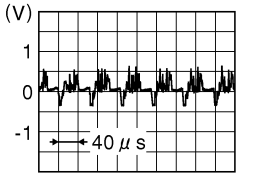
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	28		Not existed

Is the inspection result normal?

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

4. CHECK REAR CAMERA IMAGE SIGNAL

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

Around view monitor control unit connector		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
28	27	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 AV-267, "Removal and Installation".
NO >> Replace rear camera. Refer to AV-270, "Removal and Installation".

U111B SIDE CAMERA RH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010416870

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
SIDE CAMERA RH IMAGE SIGNAL [U111B]	Side camera RH image signal circuit open or short.	Check Side camera RH image signal circuit.

Diagnosis Procedure

INFOID:0000000010416871

WITH PUMP CONTROL UNIT

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

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

LHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminals	Connector	Terminals	
M8	62	D27	7	Existed
	64		8	

RHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminals	Connector	Terminals	
M8	56	D40	7	Existed
	58		8	

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

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	62		Not existed

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	56		Not existed

Is the inspection result normal?

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

2.CHECK SIDE CAMERA RH POWER SUPPLY VOLTAGE

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

LHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	62	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

RHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	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 AV-267, "Removal and Installation".

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

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

LHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminals	Connector	Terminals	
M8	65	D27	16	Existed
	66		15	

RHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminals	Connector	Terminals	
M8	59	D40	16	Existed
	60		15	

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

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	65		Not existed

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	59		Not existed

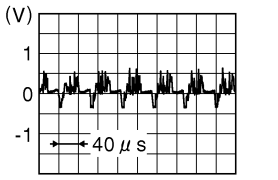
Is the inspection result normal?

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

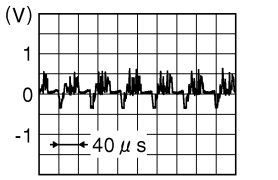
4. CHECK SIDE CAMERA RH IMAGE SIGNAL

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

LHD models

Around view monitor control unit connector		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
65	66	CAMERA switch is ON or selector lever in R (reverse).	 JSNIA0834GB

RHD models

Around view monitor control unit connector		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 AV-267, "Removal and Installation".
NO >> Replace side camera RH. Refer to AV-269, "Removal and Installation".

WITHOUT PUMP CONTROL UNIT

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

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

LHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminals	Connector	Terminals	
M95	34	D27	7	Existed
	33		8	

RHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminals	Connector	Terminals	
M95	30	D40	7	Existed
	29		8	

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

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	34		Not existed

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	30		Not existed

Is the inspection result normal?

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

2. CHECK SIDE CAMERA RH POWER SUPPLY VOLTAGE

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

LHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	34	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

RHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	30	—	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 AV-267, "Removal and Installation".

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

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

LHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminals	Connector	Terminals	
M95	36	D27	16	Existed
	35		15	

RHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminals	Connector	Terminals	
M95	32	D40	16	Existed
	31		15	

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

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	36		Not existed

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	32		Not existed

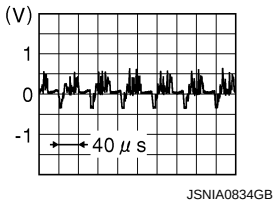
Is the inspection result normal?

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

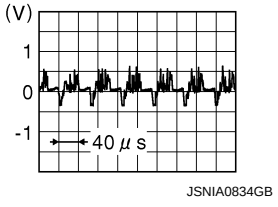
4. CHECK SIDE CAMERA RH IMAGE SIGNAL

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

LHD models

Around view monitor control unit connector		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
36	35	CAMERA switch is ON or selector lever in R (reverse).	 JSNIA0834GB

RHD models

Around view monitor control unit connector		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
32	31	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 AV-267, "Removal and Installation".
NO >> Replace side camera RH. Refer to AV-269, "Removal and Installation".

U111C FRONT CAMERA IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010416872

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
FRONT CAMERA IMAGE SIGNAL [U111C]	Front camera image signal circuit open or short.	Check front camera image signal circuit.

Diagnosis Procedure

INFOID:0000000010416873

WITH PUMP CONTROL UNIT

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 and front camera connector.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M8	68	E106	2	Existed
	70		1	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	68		Not existed

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 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	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 AV-267, "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 and front camera connector.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	

M8	71	E106	4	Existed
	72		5	

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

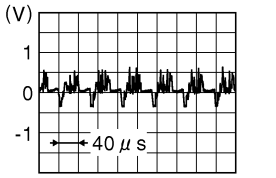
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	71		Not existed

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.

Around view monitor control unit connector		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 AV-267, "Removal and Installation".
NO >> Replace front camera unit. Refer to DAS-201, "Removal and Installation".

WITHOUT PUMP CONTROL UNIT

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 and front camera connector.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	38	E106	2	Existed
	37		1	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	38		Not existed

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 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	38	—	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 AV-267, "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 and front camera connector.

Around view monitor control unit		Front camera		Continuity
Connector	Terminals	Connector	Terminals	
M95	40	E106	4	Existed
	39		5	

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

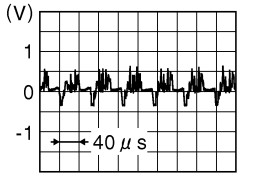
Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	39		Not existed

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.

Around view monitor control unit connector		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
40	39	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 AV-267, "Removal and Installation".
NO >> Replace front camera unit. Refer to DAS-201, "Removal and Installation".

U111D SIDE CAMERA LH IMAGE SIGNAL CIRCUIT

DTC Logic

INFOID:0000000010416874

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
SIDE CAMERA LH IMAGE SIGNAL [U111D]	Side camera LH image signal circuit open or short.	Check Side camera LH image signal circuit.

Diagnosis Procedure

INFOID:0000000010416875

WITH PUMP CONTROL UNIT

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

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

LHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminals	Connector	Terminals	
M8	56	D3	7	Existed
	58		8	

RHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminals	Connector	Terminals	
M8	62	D16	7	Existed
	64		8	

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

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	56		Not existed

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	62		Not existed

Is the inspection result normal?

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

2.CHECK SIDE CAMERA LH POWER SUPPLY VOLTAGE

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

LHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	56	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

RHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	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 AV-267, "Removal and Installation".

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

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

LHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminals	Connector	Terminals	
M8	59	D3	16	Existed
	60		15	

RHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminals	Connector	Terminals	
M8	65	D16	16	Existed
	66		15	

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

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	59		Not existed

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	65		Not existed

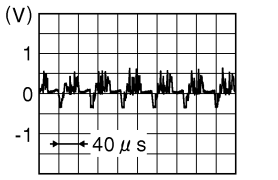
Is the inspection result normal?

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

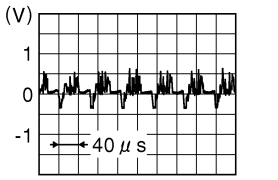
4. CHECK SIDE CAMERA LH IMAGE SIGNAL

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

LHD models

Around view monitor control unit connector		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
59	60	CAMERA switch is ON or selector lever in R (reverse).	 JSNIA0834GB

RHD models

Around view monitor control unit connector		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
65	66	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 AV-267, "Removal and Installation".
NO >> Replace side camera LH. Refer to AV-269, "Removal and Installation".

WITH PUMP CONTROL UNIT

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

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

LHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminals	Connector	Terminals	
M95	30	D3	7	Existed
	29		8	

RHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminals	Connector	Terminals	
M95	34	D16	7	Existed
	33		8	

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

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	30		Not existed

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	34		Not existed

Is the inspection result normal?

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

2.CHECK SIDE CAMERA LH POWER SUPPLY VOLTAGE

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

LHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	30	—	CAMERA switch is ON or selector lever in R (reverse).	6.0 V

RHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	34	—	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 AV-267, "Removal and Installation".

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

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

LHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminals	Connector	Terminals	
M95	32	D3	16	Existed
	31		15	

RHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminals	Connector	Terminals	
M95	36	D16	16	Existed
	25		15	

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

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	32		Not existed

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	36		Not existed

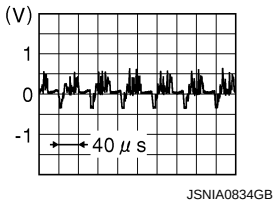
Is the inspection result normal?

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

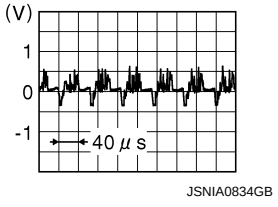
4. CHECK SIDE CAMERA LH IMAGE SIGNAL

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

LHD models

Around view monitor control unit connector		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
32	31	CAMERA switch is ON or selector lever in R (reverse).	 JSNIA0834GB

RHD models

Around view monitor control unit connector		Condition	Reference value
(+)	(–)		
Terminal	Terminal		
36	35	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 AV-267, "Removal and Installation".
NO >> Replace side camera LH. Refer to AV-269, "Removal and Installation".

U1232 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000010416876

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:0000000010416877

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-180, "PREDICTED COURSE LINE CENTER POSITION ADJUSTMENT : Work Procedure".

U1302 CAMERA POWER VOLT

DTC Logic

INFOID:0000000010416878

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000010416879

WITH PUMP CONTROL UNIT

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 (Side camera LH)>>GO TO 8.
NO-4 (Side camera RH)>>GO TO 11.

2.CHECK FRONT CAMERA POWER SUPPLY (CAMERA)

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

Front camera		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
E106	2	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace front camera. Refer to AV-268, "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 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	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 AV-267, "Removal and Installation".

4.CHECK FRONT CAMERA POWER SUPPLY CIRCUIT CONTINUITY

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

Around view monitor control unit		Front camera		Continuity
Connector	Terminal	Connector	Terminal	
M8	68	E106	2	Existed

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	68	—	Not existed

Is the inspection result normal?

YES >> Replace front camera. Refer to AV-268, "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 and ground.

Rear camera		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D80	8	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace rear camera. Refer to AV-270, "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 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	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 AV-267, "Removal and Installation".

7. CHECK REAR CAMERA POWER SUPPLY CIRCUIT CONTINUITY

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminal	Connector	Terminal	
M8	50	D80	8	Existed

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	50	—	Not existed

Is the inspection result normal?

YES >> Replace rear camera. Refer to AV-270, "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 and ground.

LHD models

Side camera LH		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D3	7	—	CAMERA switch is ON.	6.0 V

RHD models

Side camera LH		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D16	7	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace side camera LH. Refer to AV-269, "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 and ground.

LHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	56	—	CAMERA switch is ON.	6.0 V

RHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	62	—	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 AV-267, "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 and side camera LH connector.
3. Check continuity between around view monitor control unit connector and side camera LH connector.

LHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminal	Connector	Terminal	
M8	56	D3	7	Existed

RHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminal	Connector	Terminal	
M8	62	D16	7	Existed

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

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	56	—	Not existed

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	62	—	Not existed

Is the inspection result normal?

YES >> Replace side camera LH. Refer to AV-269, "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 and ground.

LHD models

Side camera RH		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D27	7	—	CAMERA switch is ON.	6.0 V

RHD models

Side camera RH		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D40	7	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace side camera RH. Refer to AV-269, "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 and ground.

LHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	62	—	CAMERA switch is ON.	6.0 V

RHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M8	56	—	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 AV-267, "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 and side camera RH connector.
3. Check continuity between around view monitor control unit connector and side camera RH connector.

LHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminal	Connector	Terminal	
M8	62	D27	7	Existed

LHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminal	Connector	Terminal	
M8	56	D40	7	Existed

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

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	62	—	Not existed

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	56	—	Not existed

Is the inspection result normal?

YES >> Replace side camera RH. Refer to AV-269, "Removal and Installation".
NO >> Repair or replace harness or connectors.

WITHOUT PUMP CONTROL UNIT

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 (Side camera LH)>>GO TO 8.
NO-4 (Side camera RH)>>GO TO 11.

2.CHECK FRONT CAMERA POWER SUPPLY (CAMERA)

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

Front camera		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
E106	2	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace front camera. Refer to AV-268, "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 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	38	—	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 AV-267, "Removal and Installation".

4.CHECK FRONT CAMERA POWER SUPPLY CIRCUIT CONTINUITY

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

Around view monitor control unit		Front camera		Continuity
Connector	Terminal	Connector	Terminal	
M95	38	E106	2	Existed

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	38	—	Not existed

Is the inspection result normal?

YES >> Replace front camera. Refer to AV-268, "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 and ground.

Rear camera		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D86	1	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace rear camera. Refer to AV-270, "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 and ground.

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	26	—	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 AV-267, "Removal and Installation".

7. CHECK REAR CAMERA POWER SUPPLY CIRCUIT CONTINUITY

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminal	Connector	Terminal	
M95	26	D86	1	Existed

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	26	—	Not existed

Is the inspection result normal?

YES >> Replace rear camera. Refer to AV-270, "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 and ground.

LHD models

Side camera LH		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D3	7	—	CAMERA switch is ON.	6.0 V

RHD models

Side camera LH		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D16	7	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace side camera LH. Refer to AV-269, "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 and ground.

LHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	30	—	CAMERA switch is ON.	6.0 V

RHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	34	—	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 AV-267, "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 and side camera LH connector.
3. Check continuity between around view monitor control unit connector and side camera LH connector.

LHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminal	Connector	Terminal	
M95	30	D3	7	Existed

RHD models

Around view monitor control unit		Side camera LH		Continuity
Connector	Terminal	Connector	Terminal	
M95	34	D16	7	Existed

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

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	30	—	Not existed

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	34	—	Not existed

Is the inspection result normal?

YES >> Replace side camera LH. Refer to AV-269, "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 and ground.

LHD models

Side camera RH		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D27	7	—	CAMERA switch is ON.	6.0 V

RHD models

Side camera RH		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D40	7	—	CAMERA switch is ON.	6.0 V

Is the inspection result normal?

YES >> Replace side camera RH. Refer to AV-269, "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 and ground.

LHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	34	—	CAMERA switch is ON.	6.0 V

RHD models

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	30	—	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 AV-267, "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 and side camera RH connector.
3. Check continuity between around view monitor control unit connector and side camera RH connector.

LHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminal	Connector	Terminal	
M95	34	D27	7	Existed

LHD models

Around view monitor control unit		Side camera RH		Continuity
Connector	Terminal	Connector	Terminal	
M95	30	D40	7	Existed

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

LHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	34	—	Not existed

RHD models

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	30	—	Not existed

Is the inspection result normal?

YES >> Replace side camera RH. Refer to AV-269, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U1303 LED POWER SUPPLY VOLT

DTC Logic

INFOID:0000000010416880

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
LED POWER SUPPLY VOLT [U1303]	Open or short in BSW indicator power supply circuit.	• Harness or connectors. • Around view monitor control unit.

Diagnosis Procedure

INFOID:0000000010416881

1.CHECK BSW POWER SUPPLY CIRCUIT CONTINUITY

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

Around view monitor control unit		BSW indicator		Continuity
Connector	Terminal	Connector	Terminal	
M7	7	D13 (LH)	1	Existed
	8	D33 (RH)		

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M7	7	—	Not existed
	8		

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U1304 CAMERA IMAGE CALIBRATION

DTC Logic

INFOID:0000000010416882

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CAMERA IMAGE CALIB [U1304]	Camera image calibration is incomplete.	Perform calibration of camera image.

Diagnosis Procedure

INFOID:0000000010416883

1.PERFORM CALIBRATION

When U1304 is detected, perform calibration of camera image.

>> Refer to AV-181, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

U1305 CONFIG UNFINISH

DTC Logic

INFOID:0000000010416884

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONFIG UNFINISH [U1305]	Configuration of around view monitor control unit is incomplete.	Perform configuration of around view monitor control unit.

Diagnosis Procedure

INFOID:0000000010416885

1.PERFORM CONFIGURATION

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

>> Refer to AV-181, "CALIBRATING CAMERA IMAGE (AROUND VIEW MONITOR) : Work Procedure".

U1308 CAMERA CONFIG

DTC Logic

INFOID:0000000010416886

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
REAR CAMERA (R&L) CALIB JDGMNT [U1308]	Around view monitor control unit camera calibration is incomplete.	Perform Around view monitor control unit camera calibration.

Diagnosis Procedure

INFOID:0000000010416887

1.PERFORM AROUND VIEW MONITOR CAMERA CALIBRATION

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

>> Calibrate the rear camera. Refer to DAS-101, "Description".

U1309 PUMP UNIT CURRENT

DTC Logic

INFOID:0000000010416888

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
PUMP INPUT CURRENT JUDGE [U1309]	Around view monitor control unit detects incorrect pump current from pump control unit.	• Harness • Pump 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-159, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010416889

1.CHECK PUMP CONTROL UNIT POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between pump control unit connector and ground.

Pump control unit		Ground	Voltage
Connector	Terminal		
B78	12	—	Battery voltage

Is inspection result normal?

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

2.CHECK PUMP CONTROL UNIT GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect pump control unit connector.
3. Check continuity between pump control unit connector and ground.

Pump control unit		Ground	Continuity
Connector	Terminal		
B78	5	—	Existed

Is the inspection result normal?

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

3.CHECK PUMP CONTROL UNIT CIRCUITS CONTINUITY

1. Disconnect around view monitor control unit connector.
2. Check continuity between around view monitor control unit connector and pump control unit connector.

Around view monitor control unit		Pump control unit		Continuity
Connector	Terminal	Connector	Terminal	
M7	36	B78	8	Existed
	37		6	
	38		7	

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M7	36	—	Not existed
	38		

Is inspection result normal?

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

4. CHECK CONTINUITY PUMP CONTROL UNIT TO PUMP

1. Disconnect air pump connector.
2. Check continuity between pump control unit connector and air pump connector.

Pump control unit		Air pump		Continuity
Connector	Terminal	Connector	Terminal	
B78	1	B119	1	Existed
	2		2	

3. Check for continuity between pump control unit connector and ground.

Pump control unit		Ground	Continuity
Connector	Terminal		
B78	1	—	Not existed
	2		

Is inspection result normal?

YES >> Replace the air pump. Refer to DAS-206, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U130A PUMP CONTROL UNIT

DTC Logic

INFOID:0000000010416890

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
PUMP ECU JUDGE [U130A]	Pump control unit malfunction.	Pump 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-161, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010416891

1.CHECK PUMP CONTROL UNIT POWER SUPPLY CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between pump control unit connector and ground.

Pump control unit		Ground	Voltage
Connector	Terminal		
B78	12	—	Battery voltage

Is inspection result normal?

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

2.CHECK PUMP CONTROL UNIT GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect pump control unit connector.
3. Check continuity between pump control unit connector and ground.

Pump control unit		Ground	Continuity
Connector	Terminal		
B78	5	—	Existed

Is the inspection result normal?

YES >> Replace pump control unit. Refer to DAS-207, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U130B REAR CAMERA COMM ERROR

DTC Logic

INFOID:0000000010416892

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 camera.	• Rear 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-162, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010416893

1. CHECK REAR CAMERA SERIAL SIGNAL CIRCUIT CONTINUITY

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

Around view monitor control unit		Rear camera		Continuity
Connector	Terminal	Connector	Terminal	
M8	49	D80	4	Existed

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

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M8	49	—	Not existed

Is the inspection result normal?

YES >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Repair or replace harness or connectors.

U1527 CCM CAN 1

DTC Logic

INFOID:0000000010619858

DTC DETECTION LOGIC

NOTE:
If DTC U1527 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC detecting condition	Possible causes
CCM CAN CIR 1 [U1527]	Distance sensor detects that chassis control module has a malfunction	• Chassis control module • 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-163, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010619859

1.CHECK CHASSIS CONTROL MODULE SELF DIAGNOSIS RESULTS

Perform “Self Diagnostic Result” of “CHASSIS CONTROL” using CONSULT.

Are any DTCs detected?

YES >> Refer to DAS-232, "DTC Index".
NO >> Replace the distance sensor. Refer to DAS-203, "Removal and Installation".

U153F CCM CAN 2

DTC Logic

INFOID:0000000010619865

DTC DETECTION LOGIC

NOTE:
If DTC U153F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC detecting condition	Possible causes
CCM CAN CIR 2 [U153F]	Distance sensor detects that chassis control module has a malfunction	• Chassis control module • 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-164, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010619866

1.CHECK CHASSIS CONTROL MODULE SELF DIAGNOSIS RESULTS

Perform “Self Diagnostic Result” of “CHASSIS CONTROL” using CONSULT.

Are any DTCs detected?

YES >> Refer to DAS-232, "DTC Index".
NO >> Replace the distance sensor. Refer to DAS-203, "Removal and Installation".

C10B7 YAW RATE SENSOR

DTC Logic

INFOID:0000000010416894

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-165, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010416895

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

1. Perform calibration of yaw rate/side/decel G sensor. Refer to BRC-66, "Work Procedure".
2. Erase DTCs using CONSULT.
3. Perform “Self Diagnostic Result” of “LASER/RADAR” using CONSULT.

Are any DTCs detected?

YES >> Replace the distance sensor. Refer to DAS-203, "Removal and Installation".
NO >> Inspection End.

C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2 AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010416896

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
POWER SUPPLY CIR [C1A01]	Distance sensor battery voltage is less than 7.9 V or greater than 19.3 V for 5 seconds.	• Harness • Around view monitor control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to DAS-166, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010416897

1.CHECK AROUND VIEW MONITOR CONTROL UNIT SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of around view monitor control unit. Refer to DAS-189, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the around view monitor control unit. Refer to AV-267, "Removal and Installation".
NO >> Repair or replace harness or connectors.

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010632043

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-166, "DISTANCE SENSOR : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010632044

1.CHECK DISTANCE SENSOR POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of distance sensor. Refer to DAS-190, "DISTANCE SENSOR : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the distance sensor. Refer to DAS-203, "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:0000000010416898

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-168, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010416899

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-53, "DTC Index".
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

DISTANCE SENSOR
DISTANCE SENSOR : DTC Logic

INFOID:0000000010416900

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-168, "DISTANCE SENSOR : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010416901

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-53, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-203, "Removal and Installation".

C1A04 ABS/TCS/VDC SYSTEM

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010416902

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-169, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Inspection End.

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010416903

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-53, "DTC Index".
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010416904

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-169, "DISTANCE SENSOR : Diagnosis Procedure".
NO >> Inspection End.

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010416905

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-53, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-203, "Removal and Installation".

C1A05 BRAKE SW/STOP LAMP SW

DTC Logic

INFOID:0000000010416906

DTC DETECTION LOGIC

NOTE:
If DTC C1A05 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "DISTANCE SENSOR : DTC Logic".

CONSULT Display	DTC Detection Condition	Possible Cause
BRAKE SW/STOP L SW [C1A05]	Mismatch between stop lamp switch signal and 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:0000000010416907

1.CHECK ECM SELF DIAGNOSTIC RESULT

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

Are any DTCs detected?

YES >> Refer to ECH-71, "DTC Index" (HRA2DDT), ECM-93, "DTC Index" (MR20DD), ECK-97, "DTC Index" (K9K) or EC9-108, "DTC Index" (R9M).
NO >> GO TO 2.

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

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

Are any DTCs detected?

YES >> Refer to BRC-53, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-203, "Removal and Installation".

C1A07 CVT

DTC Logic

INFOID:0000000010769754

DTC DETECTION LOGIC

NOTE:
If DTC C1A07 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "FRONT CAMERA UNIT : DTC Logic".

CONSULT Display	DTC detecting condition	Possible causes
CVT CIRCUIT [C1A07]	TCM is malfunctioning.	• Accelerator pedal position sensor. • TCM. • 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-171, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010769755

1.PERFORM TCM SELF DIAGNOSTIC RESULT

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

Are any DTCs detected?

YES >> Refer to TM-267, "DTC Index" (RE0F10D) or TM-485, "DTC Index" (RE0F10G).
NO >> Replace distance sensor. Refer to DAS-203, "Removal and Installation".

C1A12 LASER BEAM OFF CENTER

DTC Logic

INFOID:0000000010416908

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000010416909

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-203, "Removal and Installation".
NO >> Inspection End.

C1A14 ECM

AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010416910

DTC DETECTION LOGIC

NOTE:

If DTC C1A14 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic".

CONSULT Display	DTC detecting condition	Possible causes
ECM CIRCUIT [C1A14]	ECM is malfunctioning.	• Accelerator pedal position sensor. • ECM. • Around view monitor control unit.

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-173, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010416911

1.CHECK ECM SELF DIAGNOSTIC RESULT

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

Are any DTCs detected?

YES >> Refer to ECH-71, "DTC Index" (HRA2DDT), ECM-93, "DTC Index" (MR20DD), ECK-97, "DTC Index" (K9K) or EC9-108, "DTC Index" (R9M).
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010632396

DTC DETECTION LOGIC

NOTE:

If DTC C1A14 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "FRONT CAMERA UNIT : 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-174, "DISTANCE SENSOR : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010632397

1. CHECK ECM SELF DIAGNOSTIC RESULT

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

Are any DTCs detected?

YES >> Refer to ECH-71, "DTC Index" (HRA2DDT), ECM-93, "DTC Index" (MR20DD), ECK-97, "DTC Index" (K9K) or EC9-108, "DTC Index" (R9M).

NO >> Replace distance sensor. Refer to DAS-203, "Removal and Installation".

C1A15 GEAR POSITION

DTC Logic

INFOID:0000000010416912

DTC DETECTION LOGIC

NOTE:

If DTC C1A15 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "DISTANCE SENSOR : DTC Logic".
If DTC C1A15 is displayed with DTC C1A03, first perform the trouble diagnosis for DTC U1000. Refer to DAS-168, "DISTANCE SENSOR : DTC Logic".
If DTC C1A15 is displayed with DTC C1A04, first perform the trouble diagnosis for DTC U1000. Refer to DAS-169, "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-175, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010416913

1.CHECK TCM SELF DIAGNOSTIC RESULT

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

Are any DTCs detected?

YES >> Refer to TM-267, "DTC Index" (RE0F10D) or TM-485, "DTC Index" (RE0F10G).
NO >> Replace distance sensor. Refer to DAS-203, "Removal and Installation".

C1A16 RADAR BLOCKED

DTC Logic

INFOID:0000000010416914

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 distance sensor area of the front bumper
- When driving while it is snowing or when frost forms on the distance sensor area of the front bumper
- When distance sensor area of the front bumper is temporarily fogged

Diagnosis Procedure

INFOID:0000000010416915

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-203, "Removal and Installation".
NO >> Repair as necessary.

C1A17 DISTANCE SENSOR

DTC Logic

INFOID:0000000010416916

DTC DETECTION LOGIC

NOTE:
If DTC C1A17 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "DISTANCE SENSOR : DTC Logic".

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

Diagnosis Procedure

INFOID:0000000010416917

1.REPLACE DISTANCE SENSOR

>> Replace distance sensor. Refer to DAS-203, "Removal and Installation".

C1A18 RADAR AIMING INCMP

DTC Logic

INFOID:0000000010416918

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-178, "Diagnosis Procedure".
NO >> Inspection End.

Diagnosis Procedure

INFOID:0000000010416919

1.ADJUST DISTANCE SENSOR

Perform distance sensor Initial vertical alignment and distance sensor alignment.

>> Refer to DAS-88, "Description" and DAS-90, "Description".

C1A21 UNIT HIGH TEMP

DTC Logic

INFOID:0000000010416920

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-203, "Removal and Installation".
NO >> Refer to GI-41, "Intermittent Incident".

C1A24 NP RANGE

DTC Logic

INFOID:0000000010416921

DTC DETECTION LOGIC

NOTE:
If DTC C1A24 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-126, "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.PERFORM 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-180, "Diagnosis Procedure".
NO >> GO TO 2.

2.PERFORM 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-180, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010416922

1.CHECK TCM SELF DIAGNOSTIC RESULT

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

Are any DTCs detected?

YES >> Refer to TM-267, "DTC Index" (RE0F10D) or TM-485, "DTC Index" (RE0F10G).
NO >> Replace distance sensor. Refer to DAS-203, "Removal and Installation".

C1A26 ECD MODE MALFUNCTION

DTC Logic

INFOID:0000000010619863

DTC DETECTION LOGIC

NOTE:

- If DTC C1A26 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to DAS-53, "DTC Index".
- If DTC C1A26 is displayed with DTC U0415, first perform the trouble diagnosis for DTC U0415. Refer to DAS-53, "DTC Index".
- If DTC C1A26 is displayed with DTC U0121, first perform the trouble diagnosis for DTC U0121. Refer to DAS-53, "DTC Index".

CONSULT Display	DTC detecting condition	Possible causes
ECD MODE MALF [C1A26]	If an abnormal condition occurs with ECD system	• 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 DTC detected?

YES >> Refer to DAS-181, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010619864

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-53, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-203, "Removal and Installation".

C1A39 STEERING ANGLE SENSOR
AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : DTC Logic

INFOID:0000000010416923

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
STRG SEN CIR [C1A39]	Around view monitor 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-182, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010416924

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-53, "DTC Index".
NO >> Replace around view monitor control unit. Refer to AV-267, "Removal and Installation".

DISTANCE SENSOR

DISTANCE SENSOR : DTC Logic

INFOID:0000000010416925

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-182, "DISTANCE SENSOR : Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010416926

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-53, "DTC Index".
NO >> Replace distance sensor. Refer to DAS-203, "Removal and Installation".

C1B00 CAMERA UNIT MALF

DTC Logic

INFOID:0000000010609529

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
CAMERA UNIT MALF [C1B00]	If front camera unit is malfunctioning	Front camera unit

Diagnosis Procedure

INFOID:0000000010609530

1.REPLACE FRONT CAMERA UNIT

>> Replace front camera unit. Refer to DAS-201, "Removal and Installation".

C1B01 CAM AIMING INCMP

DTC Logic

INFOID:0000000010609531

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
CAM AIMING INCMP [C1B01]	Camera aiming is not completed	• Front camera aiming is not adjusted • Front camera aiming adjustment has been interrupted

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-184, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010609532

1.CAMERA AIMING ADJUSTMENT

1. Perform the camera aiming. Refer to DAS-95, "Description".
2. Erase all self-diagnosis results with CONSULT.
3. Perform “Self Diagnostic Result” of “LANE CAMERA” using CONSULT.

Are any DTCs detected?

YES >> Replace the front camera unit. Refer to DAS-201, "Removal and Installation".
NO >> Inspection End

C1B02 VHCL SPD DATA MALF

DTC Logic

INFOID:0000000010765815

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
VHCL SPD DATA MALF [C1B02]	Front camera unit receives an error signal from ABS actuator and electric unit (control unit) via CAN communication.	• ABS actuator and electric unit (control unit) • Front camera unit

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-185, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010765816

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-53, "DTC Index".
NO >> Replace front camera unit. Refer to DAS-201, "Removal and Installation".

C1B03 ABNRML TEMP DETECT

DTC Logic

INFOID:0000000010609533

DTC DETECTION LOGIC

CONSULT Display	DTC detecting condition	Possible causes
ABNRML TEMP DETECT [C1B03]	Temperature around front camera unit is excessively high	Interior room temperature is excessively high

DTC CONFIRMATION PROCEDURE

1.PERFORM SELF DIAGNOSTIC RESULT

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

Is DTC detected?

YES >> Refer to DAS-186, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010609534

1.COOLING LANE CAMERA UNIT

1. Wait for 10 minutes or more to cool the front camera unit.
2. Erase all self-diagnosis results with CONSULT.
3. Perform “Self Diagnostic Result” of “LANE CAMERA” using CONSULT.

Are any DTCs detected?

YES >> Replace the front camera unit. Refer to DAS-201, "Removal and Installation".
NO >> Inspection End

C1B5D FEB OPE COUNT LIMIT

DTC Logic

INFOID:0000000010452274

CONSULT Display	DTC detecting condition	Possible causes
FEB OPE COUNT LIMIT [C1B5D]	FEB system operated 3 times within ignition switch ON.	Distance sensor

NOTE:
If “C1B5D” detected, perform the FEB system operates normally.

Diagnosis Procedure

INFOID:0000000010452275

1.CHECK DISTANCE SENSOR SELF DIAGNOSTIC RESULT

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

Are any DTCs detected?

YES >> Replace distance sensor unit. Refer to DAS-203, "Removal and Installation".
NO >> Refer to GI-41, "Intermittent Incident".

C1B09 POWER SUPPLY CIRCUIT, C1B0A POWER SUPPLY CIRCUIT2

DTC Logic

INFOID:0000000010767901

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
POWER SUPPLY CIRCUIT [C1B09]	Front camera unit iginition voltage is greater than 16 V for 5 seconds.	• Harness • Front camera unit
POWER SUPPLY CIRCUIT 2 [C1B0A]	Front camera unit iginition voltage is less than 10.5 V for 5 seconds.	

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

YES >> Refer to DAS-188, "Diagnosis Procedure".
NO >> Refer to GI-41, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000010767902

1.CHECK FRONT CAMERA UNIT SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of front camera unit. Refer to DAS-191, "FRONT CAMERA UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the front camera unit. Refer to DAS-201, "Removal and Installation".
NO >> Repair or replace harness or connectors.

POWER SUPPLY AND GROUND CIRCUIT
AROUND VIEW MONITOR CONTROL UNIT

AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000010416927

WITH PUMP CONTROL UNIT

1.CHECK FUSE

Check that the following fuses are not blown.

Signal name	Fuse No.
Battery power supply	80 (20A)
Ignition signal	73 (10A)

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

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M7	2	—	Ignition switch: OFF	Battery voltage
	3		Ignition switch: ON	

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 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M7	1	—	Existed

Is the inspection result normal?

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

WITHOUT PUMP CONTROL UNIT

1.CHECK FUSE

Check that the following fuses are not blown.

Signal name	Fuse No.
Battery power supply	80 (20A)
Ignition signal	73 (10A)

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

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	2	—	Ignition switch: OFF	Battery voltage
	4		Ignition switch: ON	

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 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	1	—	Existed

Is the inspection result normal?

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

DISTANCE SENSOR

DISTANCE SENSOR : Diagnosis Procedure

INFOID:0000000010416928

1.CHECK FUSE

Check that the following fuse is not blown.

With stop/start system

Signal name	Fuse No.
Ignition power supply	73 (10A)

Without stop/start system

Signal name	Fuse No.
Ignition power supply	4 (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.
3. Check voltage between distance sensor connector and ground.

Distance sensor		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
E15	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 and ground.

Distance sensor		Ground	Continuity
Connector	Terminal		
E15	8	—	Existed

Is the inspection result normal?

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

FRONT CAMERA UNIT

FRONT CAMERA UNIT : Diagnosis Procedure

INFOID:0000000010663995

WITH PUMP CONTROL UNIT

1.CHECK FUSE

Check that the following fuses are not blown.

Signal name	Fuse No.
Battery power supply	80 (20A)
Ignition power supply	73 (10A)

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

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M7	2	—	Ignition switch: OFF	Battery voltage
	3		Ignition switch: ON	

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 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M7	1	—	Existed

Is the inspection result normal?

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

WITHOUT PUMP CONTROL UNIT

1.CHECK FUSE

Check that the following fuses are not blown.

Signal name	Fuse No.
Battery power supply	80 (20A)
Ignition power supply	73 (10A)

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

Around view monitor control unit		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
M95	2	—	Ignition switch: OFF	Battery voltage
	4		Ignition switch: ON	

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 and ground.

Around view monitor control unit		Ground	Continuity
Connector	Terminal		
M95	1	—	Existed

Is the inspection result normal?

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

WARNING BUZZER CIRCUIT

Component Function Check

INFOID:0000000010416933

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-193, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000010416934

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 AV-267, "Removal and Installation".
NO >> Replace the combination meter (buzzer).

WASHER PUMP CIRCUIT

Component Function Check

INFOID:0000000010690627

1.CHECK WASHER PUMP CIRCUIT

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

On : Washer pump is activated.

Off : Washer pump is not activated.

Is the inspection result normal?

YES >> Washer pump circuit is normal.
NO >> Refer to DAS-194, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000010690628

1.CHECK WASHER PUMP POWER SUPPLY CIRCUIT

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

Washer pump		Ground	Voltage
Connector	Terminal		
E46	2	—	Battery voltage

Is the inspection result normal?

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

2.CHECK WASHER PUMP GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect pump control unit connector.
3. Check continuity between washer pump connector and pump control unit connector.

Washer pump		Pump control unit		Continuity
Connector	Terminal	Connector	Terminal	
E46	1	B78	3	Existed

Is the inspection result normal?

YES >> Replace washer pump.
NO >> Repair or replace harness or connector.

SYMPTOM DIAGNOSIS

DRIVER ASSISTANCE SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000010416937

LANE DEPARTURE WARNING SYSTEM SYMPTOMS

Symptom		Possible cause	Inspection item/Reference page
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON	LDW warning lamp does not illuminate.	• Combination meter • Front camera unit	Combination meter. Refer to MWI-29, "CONSULT Function (METER/M&A)". Front camera unit. Refer to DAS-39, "CONSULT Function (LANE CAMERA)".
	LDW ON indicator does not illuminate.	• Combination meter • Front camera unit	
	All of indicator/warning lamps does not illuminate. • LDW warning lamp • LDW ON indicator	• Power supply and ground circuit of front camera unit • Combination meter • Front camera unit • Harness	Power supply and ground circuit of front camera unit. Refer to DAS-191, "FRONT CAMERA UNIT : Diagnosis Procedure".
LDW system is not activated.	LDW warning lamp is not turned ON ⇔ OFF.	• Combination meter • Front camera unit • Sonar control unit	LDW system setting can not be turned ON/OFF on the information display. Refer to DAS-198, "Diagnosis Procedure".
	Warning buzzer is not sounding.	• Warning buzzer • Front camera unit	Warning buzzer circuit. Refer to DAS-193, "Component Function Check".
LDW functions are not timely		• Front camera calibration • Front camera unit	Front camera aiming adjustment. Refer to DAS-98, "Work Procedure (Camera Aiming Adjustment)".

BLIND SPOT WARNING SYSTEM SYMPTOMS

Symptom		Possible cause	Inspection item/Reference page
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON.	BSW warning lamp does not illuminate	• Combination meter • Around view monitor control unit	Combination meter. Refer to MWI-29, "CONSULT Function (METER/M&A)". Around view monitor control unit. Refer to DAS-33, "CONSULT Function".
	BSW ON indicator does not illuminate	• Combination meter • Around view monitor control unit	
	All of indicator/warning lamps do not illuminate; • BSW warning lamp • BSW 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-189, "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-33, "CONSULT Function".

Symptom		Possible cause	Inspection item/Reference page
BSW system is not activated.	BSW warning lamp is not turned ON ⇔ OFF	Around view monitor control unit	BSW system setting cannot be turned ON/OFF on the information display. Refer to DAS-198, "Diagnosis Procedure".
	Warning buzzer is not sounding	• Warning buzzer • Around view monitor control unit	Warning buzzer circuit. Refer to DAS-193, "Component Function Check".
BSW functions are not timely		• Rear camera calibration • Rear camera • Around view monitor control unit	Rear camera calibration. Refer to DAS-104, "Work Procedure (Rear Camera Calibration)".
Rear camera washer is not activated		• Washer pump • Pump control unit	Washer pump circuit. Refer to DAS-194, "Component Function Check".
Rear camera wash is insufficient		• Washer tube (include check valve) • Air tube • Washer/Air nozzle	Rear view camera washer/air blower function inspection. Refer to DAS-104, "Work Procedure (Rear Camera Calibration)".

MOVING OBJECT DETECTION SYSTEM SYMPTOMS

Symptom		Possible cause	Inspection item/Reference page
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON	MOD warning lamp does not illuminate.	• Combination meter • Around view monitor control unit	Combination meter. Refer to MWI-29, "CONSULT Function (METER/M&A)". Around view monitor control unit. Refer to DAS-33, "CONSULT Function".
	MOD ON indicator does not illuminate.	• Combination meter • Around view monitor control unit	
	All of indicator/warning lamps does not illuminate. • MOD warning lamp • MOD 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-189, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
MOD system is not activated.	MOD warning lamp is not turned ON ⇔ OFF.	Around view monitor control unit	MOD system setting can not be turned ON/OFF on the information display. Refer to DAS-198, "Diagnosis Procedure".
	Warning buzzer is not sounding.	• Warning buzzer • Around view monitor control unit	Warning buzzer circuit. Refer to DAS-193, "Component Function Check".
MOD functions are not timely		• Rear camera calibration • Rear camera • Around view monitor control unit	Rear camera calibration. Refer to DAS-104, "Work Procedure (Rear Camera Calibration)".
Rear camera washer is not activated		• Washer pump • Pump control unit	washer pump circuit. Refer to DAS-194, "Component Function Check".
Rear camera wash is insufficient		• Washer tube (include check valve) • Air tube • Washer/Air nozzle	Rear view camera washer/air blower function inspection. Refer to DAS-83, "Inspection Procedure".

TRAFFIC SIGN RECOGNITION SYSTEM SYMPTOMS

Symptom		Possible cause	Inspection item/Reference page
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON	TSR warning lamp does not illuminate.	• Combination meter • Front camera unit	Combination meter. Refer to MWI-29, "CONSULT Function (METER/M&A)". Front camera unit. Refer to DAS-39, "CONSULT Function (LANE CAMERA)".
	TSR ON indicator does not illuminate.	• Combination meter • Front camera unit	
	All of indicator/warning lamps does not illuminate. • TSR warning lamp • TSR ON indicator	• Power supply and ground circuit of front camera unit • Combination meter • Front camera unit • Harness	Power supply and ground circuit of front camera unit. Refer to DAS-191, "FRONT CAMERA UNIT : Diagnosis Procedure".
TSR system is not activated.	TSR warning lamp is not turned ON ⇔ OFF.	Front camera unit	TSR system setting can not be turned ON/OFF on the information display. Refer to DAS-198, "Diagnosis Procedure".
TSR functions are not timely		• Front camera aiming adjustment • Front camera unit	Front camera aiming adjustment. Refer to DAS-98, "Work Procedure (Camera Aiming Adjustment)".

DRIVER ATTENTION ALERT SYSTEM SYMPTOMS

Symptom		Possible cause	Inspection item/Reference page
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON	DAA warning lamp does not illuminate.	• Combination meter • Around view monitor control unit	Combination meter. Refer to MWI-29, "CONSULT Function (METER/M&A)". Around view monitor control unit. Refer to DAS-33, "CONSULT Function".
	DAA ON indicator does not illuminate.	• Combination meter • Around view monitor control unit	
	All of indicator/warning lamps does not illuminate. • DAA warning lamp • DAA 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-189, "AROUND VIEW MONITOR CONTROL UNIT : Diagnosis Procedure".
DAA system is not activated.	DAA warning lamp is not turned ON ⇔ OFF.	Around view monitor control unit	DAA system setting can not be turned ON/OFF on the information display. Refer to DAS-198, "Diagnosis Procedure".
	Warning buzzer is not sounding.	• Warning buzzer • Around view monitor control unit	Warning buzzer circuit. Refer to DAS-193, "Component Function Check".

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

Description

INFOID:0000000010416938

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

Diagnosis Procedure

INFOID:0000000010416939

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-71, "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-71, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-80, "Removal and Installation".
NO >> Replace steering switch. Refer to AV-261, "Removal and Installation".

NORMAL OPERATING CONDITION

Description

INFOID:0000000010416942

PRECAUTIONS FOR LANE DEPARTURE WARNING (LDW)

CAUTION:

- **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)

CAUTION:

- **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 property 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.**

PRECAUTIONS FOR MOVING OBJECT DETECTION

CAUTION:

- **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 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.**
- **Pedestrians, bicycles, animals.**
- **A vehicle passing at a speed greater than approximately 24km/h (15 MPH).**
- **A rear view camera may not detect approaching vehicles in certain situations:**
- **When the vehicle parked aside obstruct the beam of the rear view camera.**
- **When the vehicle is parked in an angled parking space.**
- **When the vehicle is parked on an inclined ground.**
- **When the vehicle turns around 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.**

PRECAUTIONS FOR DRIVER ATTENTION ALERT

CAUTION:

This is not a system to assist driving while tired. Driving while tired may lead to a serious accident. Be sure to have sufficient rest before driving, and drive safely.

PRECAUTIONS FOR TRAFFIC SIGN RECOGNITION

CAUTION:

- **There are limitations to the do not enter sign detection function. Be careful to observe traffic signs, etc. and drive safely.**
- **Detection may not be possible depending on the vehicle status, driving conditions, traffic environment, weather conditions, and the condition of the sign.**
- **Under conditions such as the following, detection of do not enter sign is delayed and detection may not be possible.**
- **A portion of the sign is hidden and obscured by a tree, dirt, etc.**
- **The shape of the sign is changed due to the sign being bent, etc.**
- **The do not enter sign is around a corner or on a curve.**
- **The vehicle is traveling at a fast speed.**
- **Depending on certain conditions, it may not be possible to hear the warning sound due to outside noises.**

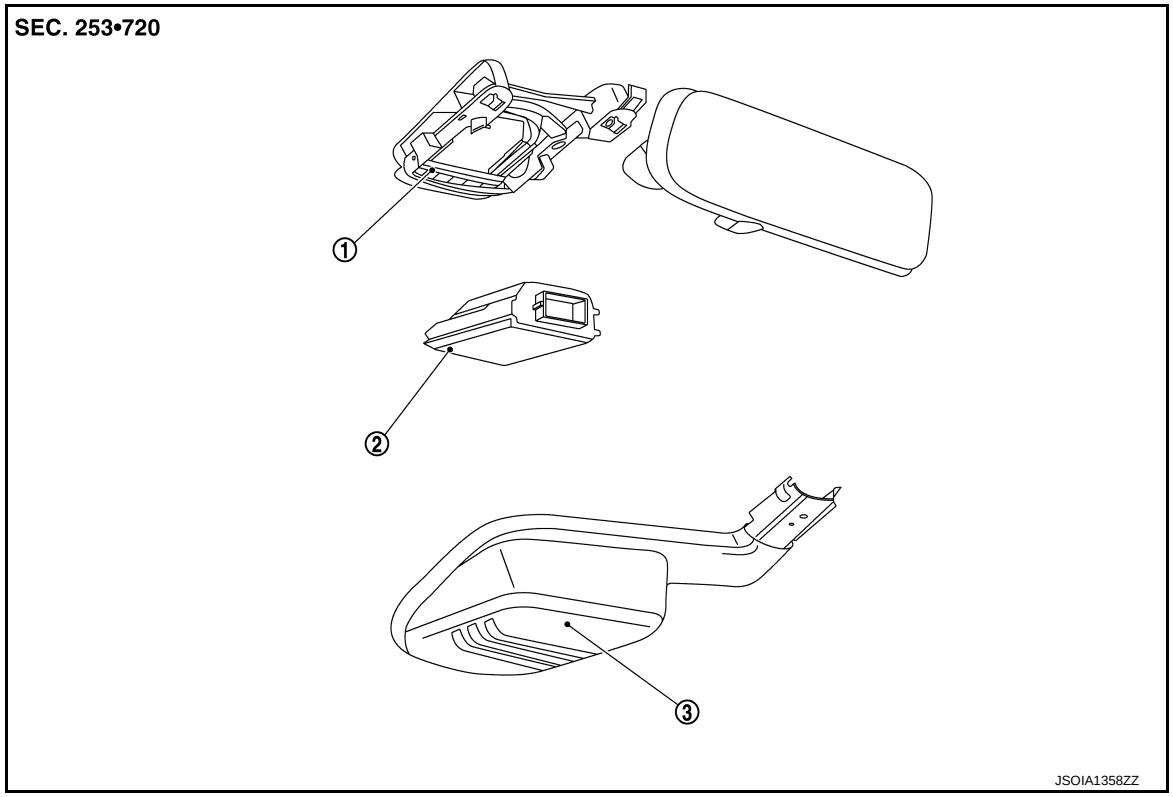
REMOVAL AND INSTALLATION

FRONT CAMERA UNIT

Exploded View

INFOID:0000000010416943

CAUTION:
- **Never remove front camera unit bracket from windshield glass.**
- **The front camera unit bracket must be replaced together with windshield glass as an assembly.**



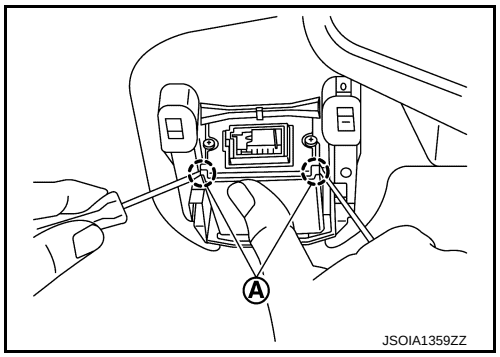
① Front camera unit bracket ② Front camera unit ③ Front camera unit cover

Removal and Installation

INFOID:0000000010416944

REMOVAL

1. Remove front camera unit cover.
2. Disconnect front camera unit connector.
3. Release front camera unit fixing pawls (A) using removal tool, and then remove front camera unit from front camera unit bracket.



INSTALLATION

Installation is in the reverse order of removal.

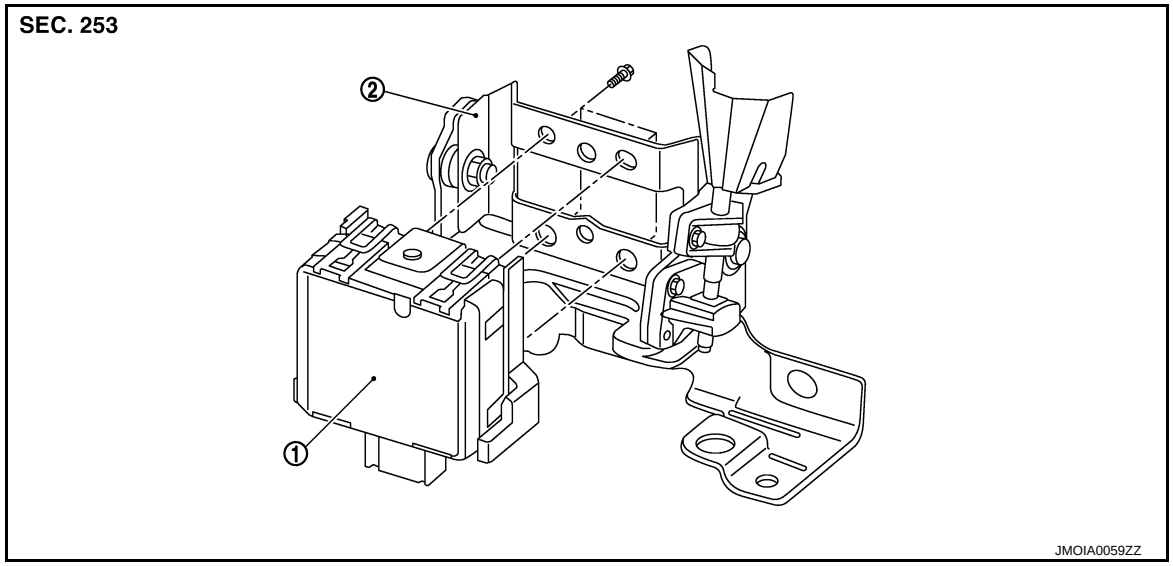
CAUTION:
- **Never give an impact to the front camera unit.**

- **Perform the camera aiming every time the front camera unit is removed and installed. Refer to DAS-87, "Work Procedure".**

DISTANCE SENSOR

Exploded View

INFOID:0000000010416945



① Distance sensor ② Distance sensor bracket

Removal and Installation

INFOID:0000000010416946

REMOVAL

1. Remove front bumper fascia. Refer to EXT-19, "Removal and Installation".
2. Disconnect distance sensor connector.
3. Remove distance sensor mounting bolts, and then remove distance sensor from distance sensor bracket.
   CAUTION:
   Never give an impact to the distance sensor.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Perform additional service when replacing distance sensor. Refer to DAS-86, "Work Procedure".

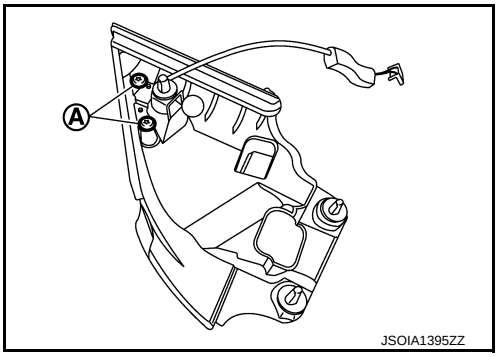
BSW INDICATOR

Removal and Installation

INFOID:0000000010416948

REMOVAL

1. Remove door mirror corner finisher. Refer to MIR-31, "Removal and Installation".
2. Remove BSW indicator mounting screws (A), and then remove BSW indicator from door mirror corner finisher.



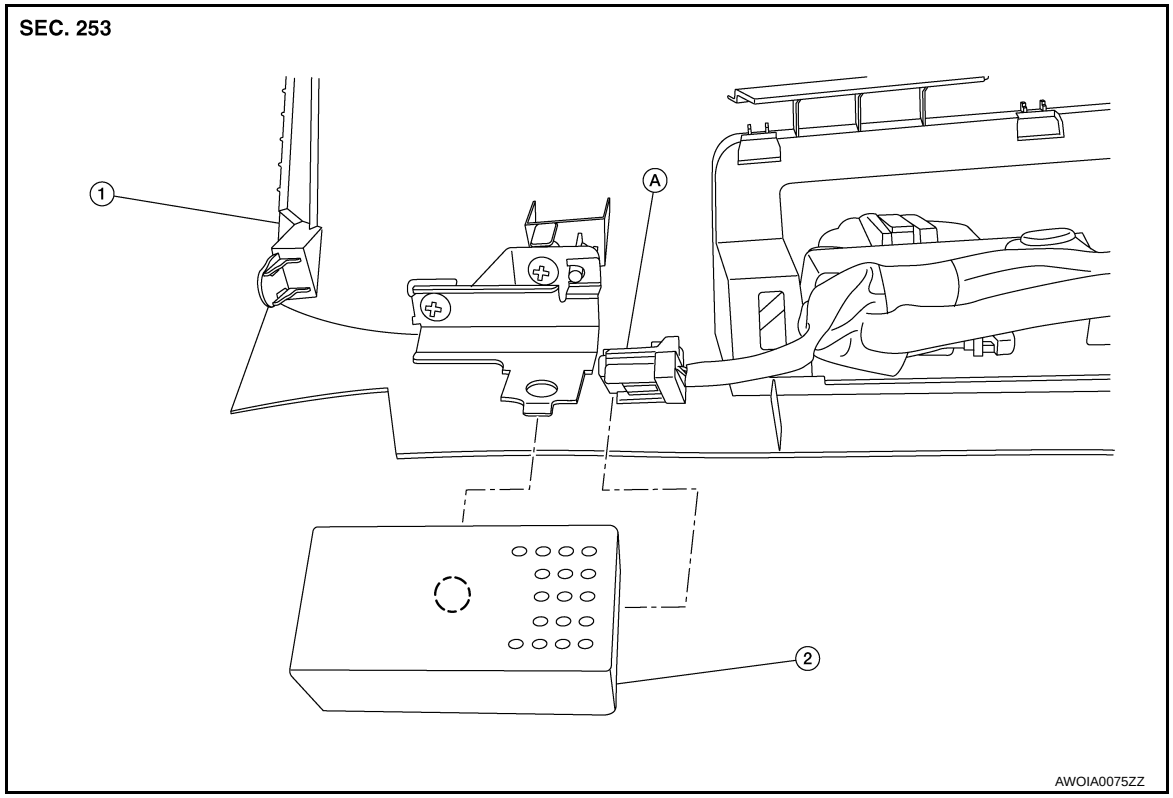
INSTALLATION

Installation is in the reverse order of removal.

WARNING SYSTEMS BUZZER

Exploded View

INFOID:0000000010416952



① Instrument lower panel LH ② Warning systems buzzer Ⓐ Warning systems buzzer connector

Pawl

Removal and Installation

INFOID:0000000010416953

REMOVAL

1. Remove instrument lower panel LH. Refer to IP-13, "Removal and Installation".
2. Disconnect warning systems buzzer connector.
3. 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 AIR PUMP MOTOR

Removal and Installation

INFOID:0000000010416958

REMOVAL

1. Remove rear bumper fascia under cover LH. Refer to EXT-19, "Exploded View".
2. Disconnect rear view camera air pump motor connector and air tubes.
3. Remove rear view camera air pump motor mounting bolts, and then remove rear view camera air pump motor.

INSTALLATION

Installation is in the reverse order of removal.

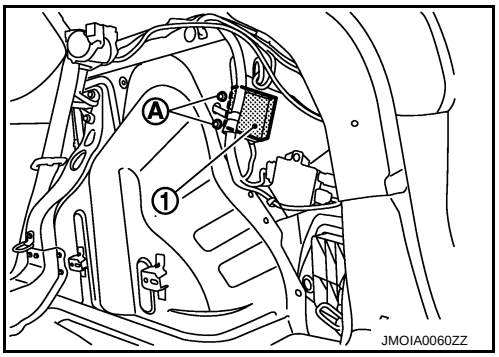
REAR VIEW CAMERA WASHER CONTROL UNIT

Removal and Installation

INFOID:0000000010416960

REMOVAL

1. Remove luggage side lower finisher. Refer to INT-29, "Luggage side trim".
2. Disconnect rear view camera washer control unit connector.
3. Remove rear view camera washer control unit mounting bolts (A), and then remove rear view camera washer control unit ①.



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:0000000010417375

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 “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

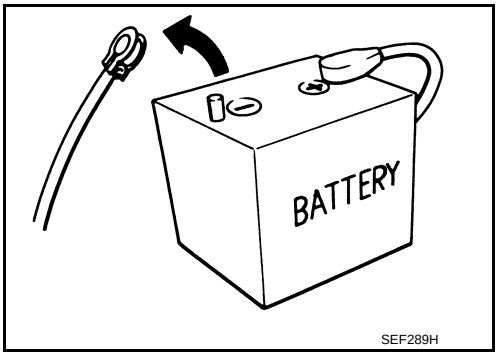
Always observe the following items for preventing accidental activation.

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

Precautions for Removing Battery Terminal

INFOID:0000000010519320

- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing “How to disconnect 12V battery terminal” described below.
  NOTE:
  Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.



SEF289H

HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to Instruction 1 or Instruction 2 described below.
For vehicles parked by ignition switch OFF, refer to Instruction 2.

INSTRUCTION 1

1. Open the hood.

2. Turn key switch to the OFF position with the driver side door opened.
3. Get out of the vehicle and close the driver side door.
4. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

D4D engine	: 20 minutes
HRA2DDT	: 12 minutes
K9K engine	: 4 minutes
M9R engine	: 4 minutes
R9M engine	: 4 minutes
V9X engine	: 4 minutes

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

5. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

INSTRUCTION 2 (FOR VEHICLES PARKED BY IGNITION SWITCH OFF)

1. Unlock the door with intelligent key or remote keyless entry.
NOTE:
At this moment, ACC power is supplied.
2. Open the driver side door.
3. Open the hood.
4. Close the driver side door.
5. Wait at least 3 minutes.
CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.
6. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

Precaution for Work

INFOID:0000000010416962

- 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.

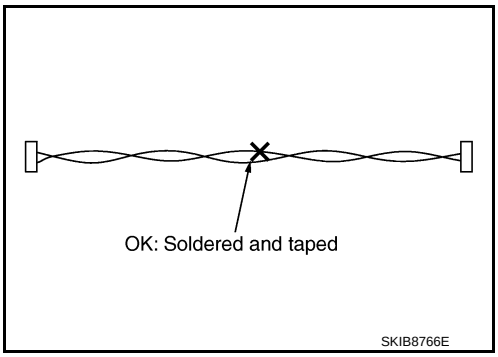
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

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

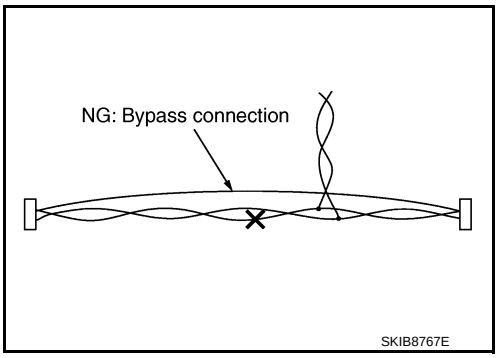
Precautions for Harness Repair

INFOID:0000000010416963

- 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:0000000010416964

- 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.

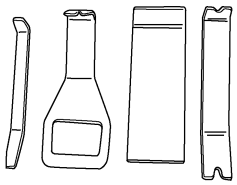
PREPARATION

PREPARATION

Special Service Tool

INFOID:0000000010416965

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

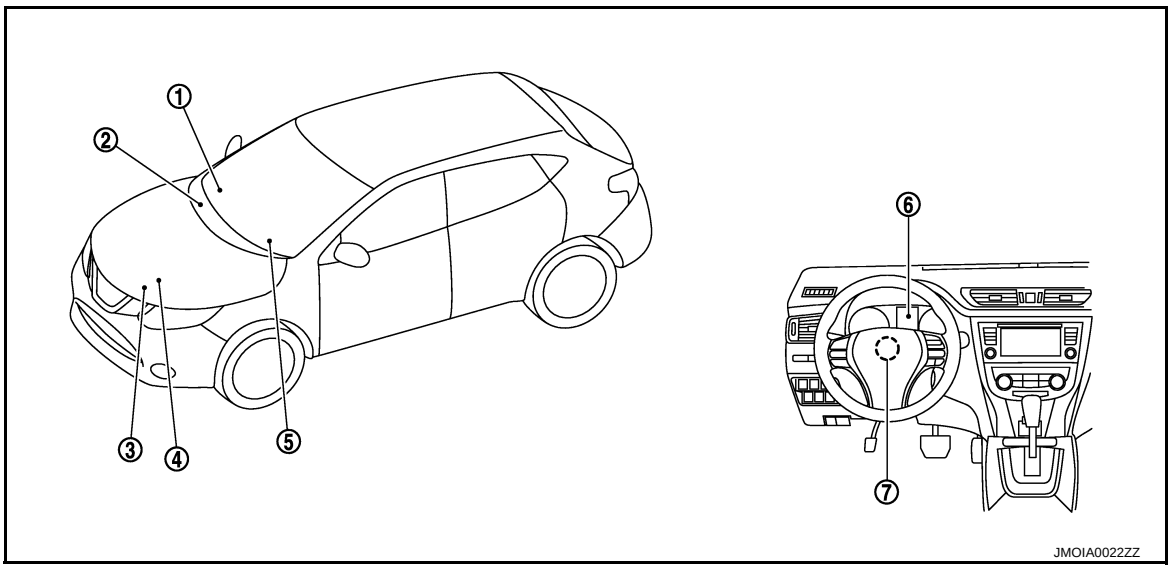
Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000010416966



No.	Component parts	Function
①	Chassis control module	Chassis control module controls the following systems based on the signals from each sensor, switch, and control unit. • Active engine brake • Active ride control • Active trace control
②	ABS acutuator and electric unit (control unit)	Refer to BRC-8, "Component Parts Location" detailed installation location.
③	TCM	Refer to TM-217, "CVT CONTROL SYSTEM : Component Parts Location" (RE0F10D) or TM-430, "CVT CONTROL SYSTEM : Component Parts Location" (RE0F10G) detailed installation location.
④	ECM	Refer to ECH-12, "Component Parts Location" (HRA2DDT), ECM-14, "ENGINE CONTROL SYSTEM : Component Parts Location" (MR20DD), ECK-12, "Component Parts Location" (K9K) or EC9-12, "Component Parts Location" (R9M) detailed installation location.
⑤	BCM	Refer to BCS-7, "BODY CONTROL SYSTEM : Component Parts Location" detailed installation location.
⑥	Combination meter	Refer to MWI-6, "Component Parts Location" detailed installation location.
⑦	Steering sensor	Refer to BRC-8, "Component Parts Location" detailed installation location.

SYSTEM

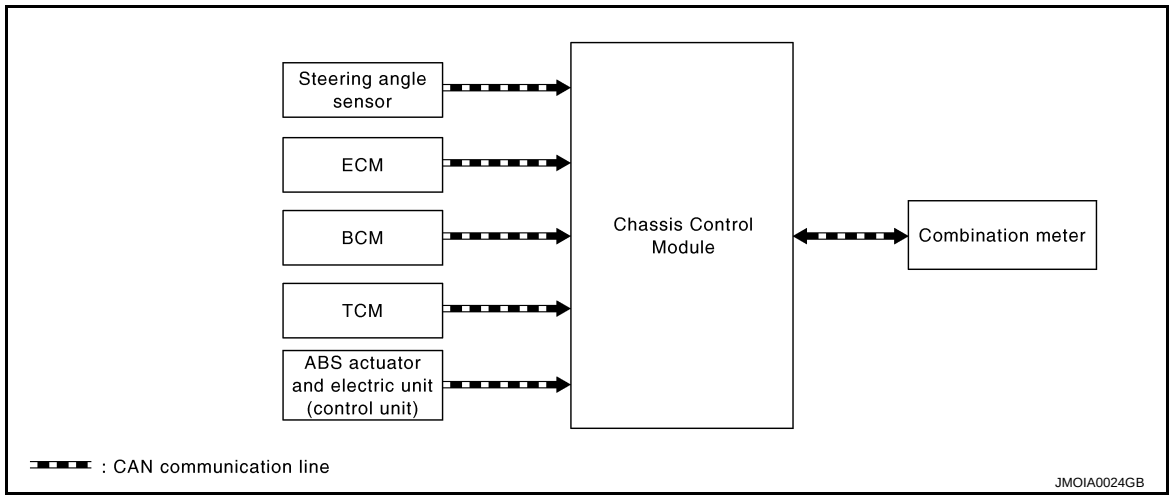
System Description - Chassis Control

INFOID:0000000010416968

- 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-213, "System Description - Active Engine Brake"
Active Ride Control	DAS-214, "System Description - Active Ride Control"
Active Trace Control	DAS-214, "System Description - Active Trace Control"

SYSTEM DIAGRAM

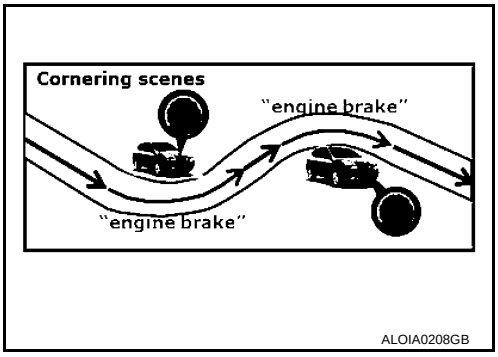


System Description - Active Engine Brake

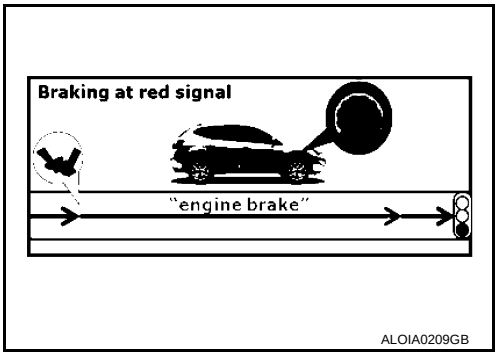
INFOID:0000000010416969

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.

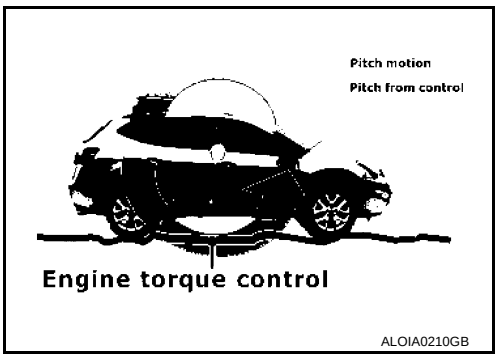


System Description - Active Ride Control

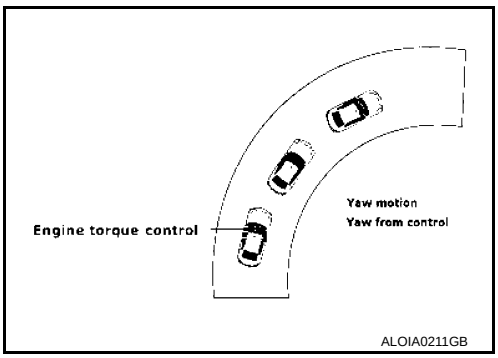
INFOID:0000000010416970

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

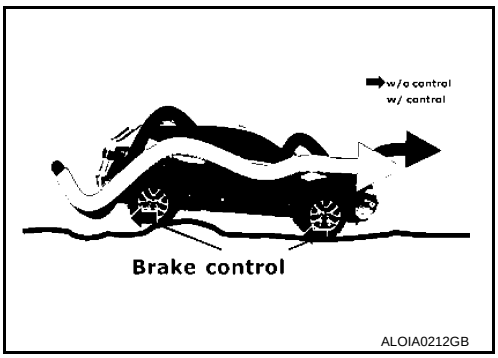
- Engine control - Enhances ride comfort by adding/subtracting engine torque in an effort to control the front and rear wheel load balance.



- 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.



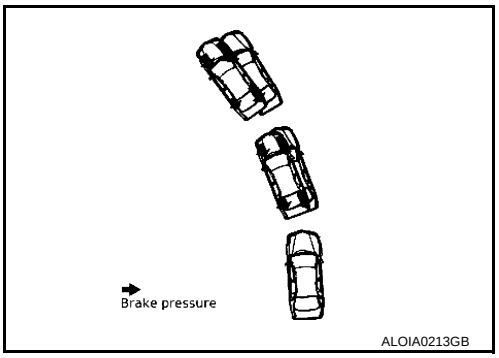
System Description - Active Trace Control

INFOID:0000000010416971

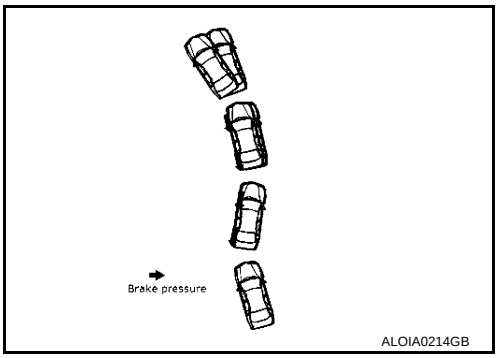
Active Trace Control function controls the braking utilizing the ABS actuator and electric unit (control unit), depending on cornering condition calculated from driver's steering input and plural sensors. Active Trace Control function is aimed to enhance traceability at corners and smooth the vehicle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

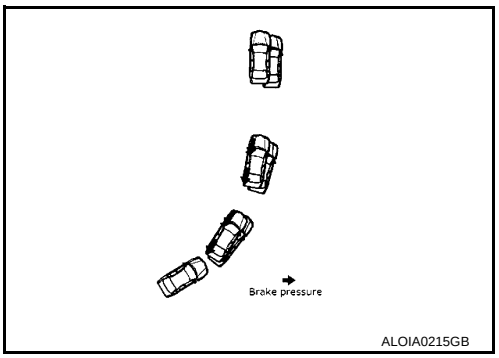
- Steady cornering - The change of forward and lateral acceleration is smoothened by applying the necessary amount of brake pressure.



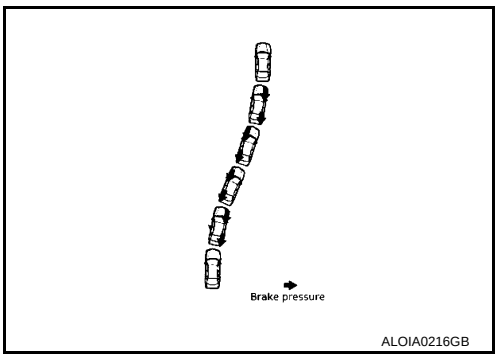
- Transient steering input - Reduces lag of yaw rate against steering operation.



- 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:0000000010499276

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)
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

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 functions are suspended. • Active Ride Control

HANDLING PRECAUTION

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

INFOID:0000000010416974

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:0000000010416975

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-232, "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.

Item name [Indication/Unit]	Display item
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.
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.
STP LAMP OFF RELAY 1 [Off / On]	**NOTE:** This item is displayed, but can not be monitored.
STP LAMP OFF RELAY 2 [Off / On]	**NOTE:** This item is displayed, but can not be monitored.
ESS RELAY [Off / On]	**NOTE:** This item is displayed, but can not be monitored.
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.

Item [Unit]	Description
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 / INPOSSI]	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.
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.

Item [Unit]	Description
ATC 2 [Off / On]	Displays active trace control function operating status.
ATC 4 [Off / On]	Displays active trace control function operating status.
BRAKE HOLD [INACT / ACT / RELEA]	Displays the status of Hill Start Assist function.
ATC 3 [Off / On]	Displays active trace control function operating status.
ATC 5 [Off / On]	Displays active trace control function operating status.
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.
AEB CVT PERMIT [Off / On]	Displays the CVT authorized state for Active Engine Brake.
AEB STATUS [Off / On]	Displays the Active Engine Brake status.
AEB COMMAND 1 [0.0000]	Displays the relative command value of Active Engine Brake.
AEB COMMAND 2 [0.0000]	Displays absolute command value of Active Engine Brake.
AEB SLIP RATE [%]	Displays slip ratio of Active Engine Brake.
ATC SETTING [Off / On]	Displays Active Trace Control state on METER.
AEB SETTING [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.

Test item	Operation	Description
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.
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:0000000010416976

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

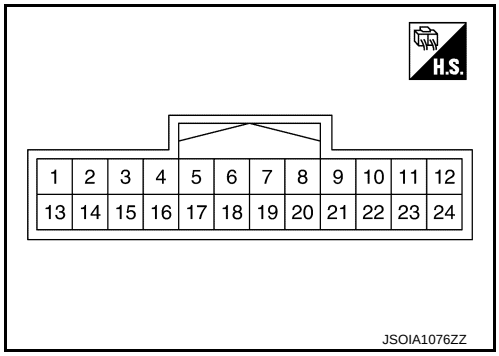
Monitor item	Condition	Reference values in normal operation
DRV TRQ CTRL PERMIS 1	When correction is permitted (basic requirement)	PERMIS
	When correction is not permitted (basic requirement)	NO PER
DRV TRQ CTRL PERMIS 2	When correction is permitted (system requirement)	PERMIS
	When correction is not 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 4	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
ATC 3	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
ARC BRAKE	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
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

Monitor item	Condition	Reference values in normal operation
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
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
AEB CVT PERMIT	When transaxle control is inactive	Off
	When transaxle control is active	On
AEB STATUS	When Active Engine Brake function is ON	On
	When Active Engine Brake function is OFF	Off
AEB COMMAND 1	When Active Engine Brake (corner) function is active	0 G
	When Active Engine Brake (corner) function is inactive	0 – 0.1023 G
AEB COMMAND 2	—	**NOTE:** This item is displayed, but can not be monitored.
AEB SLIP RATE	The calculation value of slip ratio when Active Engine Brake (corner) function is active	0 – 100 %
	The calculation value of slip ratio when Active Engine Brake (corner) function is inactive	0 %
ATC SETTING	When active trace control function is ON by steering switch	On
	When active trace control function is OFF by steering switch	Off
AEB SETTING	When Active Engine Brake function is ON by steering switch	On
	When Active Engine Brake function is OFF by steering switch	Off

*: Check tire pressure under normal conditions.

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
3 (P)	Ground	CAN-L	—	—	—	—
4 (L)		CAN-H	—	—	—	—
7 (W)		Chassis communication-L	—	—	—	—
8 (W)		Chassis communication-H	—	—	—	—
10 (BR)		Ignition power supply	Input	Ignition switch ON		6.4 – 16 V
11 (L)		Chassis communication-L	—	—	—	—
12 (B)		Ground	—	Ignition switch ON	—	0 V
19 (L)		Chassis communication-H	—	—	—	—

Fail-Safe (Chassis Control Module)

INFOID:0000000010416977

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)
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)

DTC	Vehicle condition
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	
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:0000000010416978

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:0000000010416979

DTC	Display item	Refer to
C1B92-00	BRAKE CONTROL SYSTEM	DAS-243, "DTC Description"
C1B93-00	ENGINE/HEV SYSTEM	DAS-245, "DTC Description"
C1B94-00	TM SYSTEM	DAS-247, "DTC Description"
C1B95-00	CONTROL MODULE	DAS-249, "DTC Description"
C1B99-00	CONTROL NODULE	DAS-250, "DTC Description"
C1BA0-00	ADAS/CHASSIS CTRL BRAKE SYS	DAS-251, "DTC Description"
C1BA2-00	STEERING ANGLE SENSOR	DAS-253, "DTC Description"
C1BA5-00	ADAS/CHASSIS CTRL ENGINE SYS	DAS-255, "DTC Description"
C1BAB-00	STOP LAMP SW	DAS-256, "DTC Description"
C1BB2-00	CONTROL MODULE	DAS-258, "DTC Description"

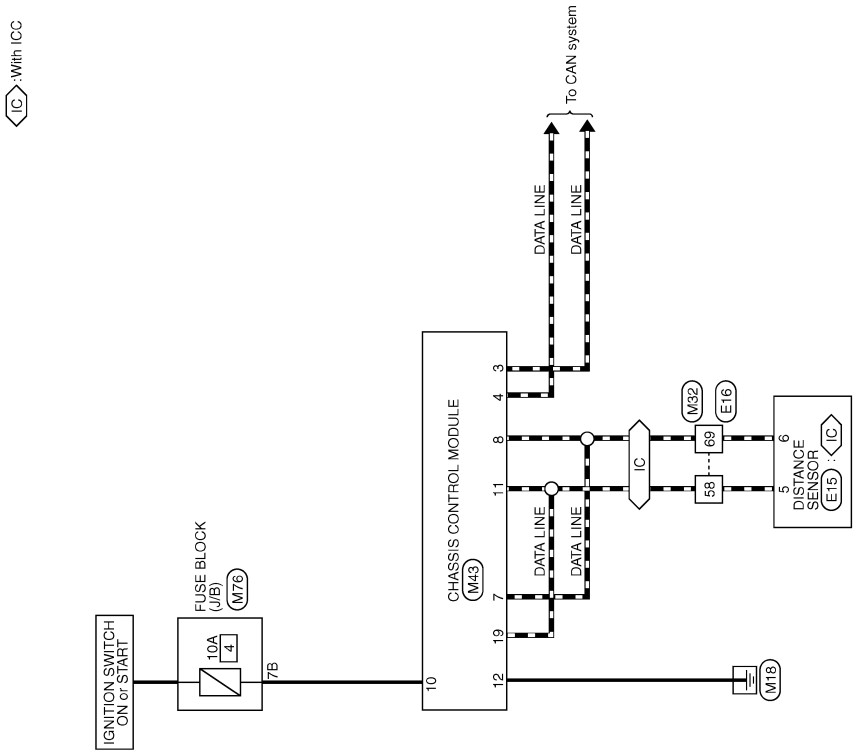
DTC	Display item	Refer to
C1BB3-00	CONTROL MODULE	DAS-259, "DTC Description"
C1BB4-00	CONTROL MODULE	DAS-260, "DTC Description"
C1BB5-00	IGN POWER SUPPLY	DAS-261, "DTC Description"
C1BB6-00	IGN POWER SUPPLY	DAS-263, "DTC Description"
C1BB7-00	CONTROL MODULE	DAS-265, "DTC Description"
C1BB8-00	CONTROL MODULE	DAS-266, "DTC Description"
C1BB9-00	CONTROL MODULE	DAS-267, "DTC Description"
C1BBA-00	CONTROL MODULE	DAS-268, "DTC Description"
C1BBB-00	CONTROL MODULE	DAS-269, "DTC Description"
C1BBC-00	CONTROL MODULE	DAS-270, "DTC Description"
C1BBD-00	VARIANT CODING	DAS-271, "DTC Description"
C1BC0-00	FR WHEEL SENSOR	DAS-272, "DTC Description"
C1BC1-00	FL WHEEL SENSOR	DAS-274, "DTC Description"
C1BC2-00	RR WHEEL SENSOR	DAS-276, "DTC Description"
C1BC3-00	RL WHEEL SENSOR	DAS-278, "DTC Description"
C1BC4-00	DECEL G SENSOR	DAS-280, "DTC Description"
C1BC5-00	SIDE G SENSOR	DAS-282, "DTC Description"
C1BC6-00	PRESSURE SENSOR	DAS-284, "DTC Description"
U1000-00	CAN COMMUNICATION	DAS-287, "DTC Description"
U1A34-00	BRAKE CONTROL COMM	DAS-287, "DTC Description"
U1A35-00	BRAKE CONTROL COMM	DAS-289, "DTC Description"
U1A36-00	BCM/IPDM COMM	DAS-291, "DTC Description"
U1A39-00	COMBINATION METER COMM	DAS-293, "DTC Description"
U1A3B-00	TCM COMM	DAS-295, "DTC Description"
U1A42-00	STEERING ANGLE SENSOR COMM	DAS-297, "DTC Description"
U1A43-00	STEERING ANGLE SENSOR COMM	DAS-299, "DTC Description"
U1A48-00	ECM/HPCM COMM	DAS-301, "DTC Description"
U1A4A-00	CONTROL MODULE (CAN)	DAS-303, "DTC Description"
U1A4B-00	CONTROL MODULE (CAN)	DAS-304, "DTC Description"
U1A4E-00	ECM/HPCM COMM	DAS-305, "DTC Description"

WIRING DIAGRAM

CHASSIS CONTROL

Wiring Diagram

INFOID:0000000010416980



CHASSIS CONTROL

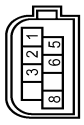
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JROWC2551GB

CHASSIS CONTROL

Connector No.	E15
Connector Name	DISTANCE SENSOR
Connector Type	AAZ08FB

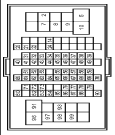
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	BG	CAN1−H(Vehicle)
3	R	CAN1−L(Vehicle)
5	L	CAN2−H(Local)
6	W	CAN2−L(Local)
8	P	IGN

Connector No.	E16
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

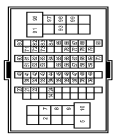
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Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	−
5	V	−
7	BG	−
8	L	−
9	LG	−
10	W	−
14	BG	−
20	L	−
21	P	−
22	SHIELD	−
24	W	−
31	V	−
32	W	−
33	SB	−
34	LG	−
35	BG	−
36	LG	−
37	V	−
38	G	−
39	BR	−
40	L	−
41	P	−
42	G	−
43	R	−
44	BR	−
45	BR	−
46	L	−
47	GR	−
48	Y	−
49	P	−
51	P	−
52	W	−
53	R	−
54	BR	−
55	Y	−
56	P	−
57	B	−
58	L	−
59	Y	−
60	G	−
61	SB	−
62	V	−
63	BR	−
64	SB	−
65	LG	−
66	Y	−
67	BG	−
68	R	−
69	W	−
70	G	−
71	Y	−
72	L	−
73	R	−
76	L	−
77	V	−
78	LG	−
79	SHIELD	−
80	GR	−
82	Y	−
83	SB	−
84	L	−
85	G	−
86	Y	−
87	B	−
88	B	−
90	Y	−
91	R	−
93	Y	−
96	GR	−
97	W	−
98	V	−
99	GR	−

Connector No.	M32
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.



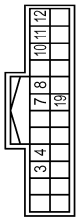
Terminal No.	Color Of Wire	Signal Name [Specification]
2	R	−
5	V	−
7	GR	−
8	P	−
9	SB	−
10	R	−
14	W	−
20	L	−
21	P	−
22	SHIELD	−
24	BR	−
31	V	−
32	GR	−
33	G	−
34	LG	−
35	BG	−
36	LG	−
37	V	−
38	G	−
39	BR	−
40	L	−
41	P	−
42	W	−
43	R	−
44	Y	−
45	LG	−
46	L	−
47	BG	−
48	V	−
49	P	−
51	BR	−
52	SB	−
53	LG	− (With Intelligent Key) − (Without Intelligent Key)
53	W	
55	BR	−
56	P	−
57	B	−
58	L	−
59	GR	−
60	G	−
61	SB	−
62	V	−
63	BR	−
64	Y	−
65	GR	−
66	P	−
67	L	−
68	R	−
69	W	−
70	G	−
71	Y	−
72	BG	−
73	R	−
76	L	−
77	V	−
78	LG	−
79	SHIELD	−
80	GR	−
82	Y	−
83	LG	−
84	SB	−
85	G	−
86	G	−
87	B	−
88	B	−
90	Y	−
91	L	−
93	W	−
96	LG	−
97	BR	−
98	V	−
99	R	−

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CHASSIS CONTROL

Connector No.	M43
Connector Name	CHASSIS CONTROL MODULE
Connector Type	TH24FW-NH

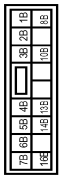
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Terminal No.	Color Of Wire	Signal Name [Specification]
3	P	-
4	L	-
7	W	-
8	BR	-
10	L	-
11	B	-
12	L	-
19	L	-

Connector No.	M76
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
10B	V	-
13B	W	-
14B	GR	-
16B	L	-
1B	R	-
2B	G	-
3B	LG	-
4B	LG	-
9B	LG	-
6B	SB	-
7B	Y	-
8B	BG	-

JROWC2211GB

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000010416981

DETAILED FLOW

1.INTERVIEW FROM THE CUSTOMER

Clarify customer complaints before inspection. First of all, perform an interview utilizing DAS-238, "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-230, "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-231, "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-210, "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:0000000010416982

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:0000000010416983

When replaced the chassis control module, configuration of the chassis control module is required. Refer to DAS-241, "Work Procedure".

CONFIGURATION (CHASSIS CONTROL MODULE)

Work Procedure

INFOID:0000000010416984

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-312, "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-312, "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-312, "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-219, "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:0000000010416985

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 “C1B92-00” 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:0000000010416986

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-53, "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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1B93-00 ENGINE/HEV SYSTEM

DTC Description

INFOID:0000000010416987

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-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:0000000010416988

1.CHECK ECM SYSTEM

With CONSULT

Perform self-diagnosis for “ENGINE”.

Is DTC detected?

YES >> Check the DTC. Refer to ECH-71, "DTC Index" (HRA2DDT), ECM-93, "DTC Index" (MR20DD), ECK-97, "DTC Index" (K9K) or EC9-108, "DTC Index" (R9M)
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 “C1B93-00”, “U1000-00” or other DTC detected?

YES (“C1B93-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1B94-00 TRANSMISSION SYSTEM

DTC Description

INFOID:0000000010416989

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-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:0000000010416990

1.CHECK TRANSMISSION SYSTEM

With CONSULT

Perform self-diagnosis for “TRANSMISSION”.

Is DTC detected?

YES >> Check the DTC. Refer to TM-267, "DTC Index" (RE0F10D) or TM-485, "DTC Index" (RE0F10G).
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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".

YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1B95-00 CONTROL MODULE

DTC Description

INFOID:0000000010416991

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-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:0000000010416992

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 “C1B95-00” detected?

YES >> Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
NO >> INSPECTION END

C1B99-00 CONTROL MODULE

DTC Description

INFOID:0000000010416993

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-250, "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:0000000010416994

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 “C1B99-00” detected?

YES >> Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
NO >> INSPECTION END

C1BA0-00 ADAS/CHASSIS CONTROL BRAKE SYSTEM

DTC Description

INFOID:0000000010416995

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” detected?

YES (“C1BA0-00”)>>Proceed to DAS-251, "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:0000000010416996

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-53, "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-312, "Removal and Installation".

YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BA2-00 STEERING ANGLE SENSOR

DTC Description

INFOID:0000000010416997

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-253, "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:0000000010416998

1.CHECK STEERING ANGLE SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-53, "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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.

NO >> INSPECTION END

C1BA5-00 ADAS/CHASSIS CONTROL ENGINE SYSTEM

DTC Description

INFOID:0000000010416999

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-255, "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:0000000010417000

1.CHECK ECM SYSTEM

With CONSULT

Perform self-diagnosis for “ECM”.

Is DTC detected?

YES >> Check the DTC. Refer to ECH-71, "DTC Index" (HRA2DDT), ECM-93, "DTC Index" (MR20DD), ECK-97, "DTC Index" (K9K) or EC9-108, "DTC Index" (R9M).
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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BAB-00 STOP LAMP SWITCH

DTC Description

INFOID:0000000010417001

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-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:0000000010417002

1.CHECK STOP LAMP SWITCH SYSTEM

With CONSULT

Perform self-diagnosis for “BCM”.

Is DTC detected?

YES >> Check the DTC. Refer to BCS-90, "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 “C1BAB-00”, “U1000-00” or other DTC detected?

YES (“C1BAB-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".

YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BB2-00 CONTROL MODULE

DTC Description

INFOID:0000000010417003

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-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:0000000010417004

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BB3-00 CONTROL MODULE

DTC Description

INFOID:0000000010417005

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-259, "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:0000000010417006

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BB4-00 CONTROL MODULE

DTC Description

INFOID:0000000010417007

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-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:0000000010417008

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BB5-00 IGNITION POWER SUPPLY

DTC Description

INFOID:0000000010417009

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-261, "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:0000000010417010

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 SELF-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 FUSE

1. Turn the ignition switch OFF.
2. Check that any of the following fuse is not fusing.

Signal name	Fuse No.
Ignition power supply	4 (10A)

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair the applicable circuit. And then replace the fuse.

4.CHECK CHASSIS CONTROL MODULE IGNITION POWER SUPPLY

1. Disconnect chassis control module harness connector.
2. Check the voltage between chassis control module harness connector and ground.

Chassis control module		Ignition switch	—	Voltage
Connector	Terminal			
M43	10	OFF	Ground	Approx. 0 V
		ON		6.4 – 16 V

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

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		
M43	12	Ground	Existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BB6-00 IGNITION POWER SUPPLY

DTC Description

INFOID:0000000010417011

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-263, "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:0000000010417012

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.CHECK FUSE

1. Turn the ignition switch OFF.
2. Check that any of the following fuse is not fusing.

Signal name	Fuse No.
Ignition power supply	4 (10A)

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair the applicable circuit. And then replace the fuse.

4.CHECKCHASSIS CONTROL MODULE IGNITION POWER SUPPLY

1. Disconnect chassis control module harness connector.
2. Check the voltage between chassis control module harness connector and ground.

Chassis control module		Ignition switch	—	Voltage
Connector	Terminal			
M43	10	OFF	Ground	Approx. 0 V
		ON		6.4 – 16 V

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace harness.

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		
M43	12	Ground	Existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

6.PERFORM SELF-DIAGNOSIS 2

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BB7-00 CONTROL MODULE

DTC Description

INFOID:0000000010417013

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-265, "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:0000000010417014

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BB8-00 CONTROL MODULE

DTC Description

INFOID:0000000010417015

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-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:0000000010417016

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BB9-00 CONTROL MODULE

DTC Description

INFOID:0000000010417017

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-267, "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:0000000010417018

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BBA-00 CONTROL MODULE

DTC Description

INFOID:0000000010417019

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-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:0000000010417020

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BBB-00 CONTROL MODULE

DTC Description

INFOID:0000000010417021

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-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:0000000010417022

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BBC-00 CONTROL MODULE

DTC Description

INFOID:0000000010417023

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-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:0000000010417024

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-312, "Removal and Installation".
NO >> INSPECTION END

C1BBD-00 VARIANT CODING

DTC Description

INFOID:0000000010417025

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-271, "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:0000000010417026

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-241, "Work Procedure".
NO >> INSPECTION END

C1BC0-00 FRONT RIGHT WHEEL SENSOR

DTC Description

INFOID:0000000010417027

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-272, "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:0000000010417028

1.CHECK FRONT RH WHEEL SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-53, "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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BC1-00 FRONT LEFT WHEEL SENSOR

DTC Description

INFOID:0000000010417029

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-274, "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:0000000010417030

1.CHECK FRONT LH WHEEL SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-53, "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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BC2-00 REAR RIGHT WHEEL SENSOR

DTC Description

INFOID:0000000010417031

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-276, "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:0000000010417032

1.CHECK REAR RH WHEEL SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-53, "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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BC3-00 REAR LEFT WHEEL SENSOR

DTC Description

INFOID:0000000010417033

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-278, "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:0000000010417034

1.CHECK REAR LH WHEEL SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-53, "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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

C1BC4-00 DECEL G SENSOR

DTC Description

INFOID:0000000010417035

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-280, "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:0000000010417036

1.CHECK DECEL G SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-53, "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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.

NO >> INSPECTION END

C1BC5-00 SIDE G SENSOR

DTC Description

INFOID:0000000010417037

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-282, "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:0000000010417038

1.CHECK SIDE G SENSOR SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-53, "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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.

NO >> INSPECTION END

C1BC6-00 PRESSURE SENSOR

DTC Description

INFOID:0000000010417039

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-284, "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:0000000010417040

1.CHECK BRAKE FLUID PRESSURE SYSTEM

With CONSULT

Perform self-diagnosis for “ABS”.

Is DTC detected?

YES >> Check the DTC. Refer to BRC-53, "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-312, "Removal and Installation".
YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (other DTC)>>Check the DTC.

NO >> INSPECTION END

U1000-00 CAN COMM CIRCUIT

DTC Logic

INFOID:0000000010417041

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:0000000010417042

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 DTC “U1000-00” detected?

YES >> Refer to LAN-24, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-41, "Intermittent Incident".

U1A34-00 BRAKE CONTROL COMMUNICATION

DTC Description

INFOID:0000000010417043

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-287, "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:0000000010417044

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-39, "CAN COMMUNICATION SYSTEM : 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-210, "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-210, "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-53, "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-286, "Diagnosis Procedure".
YES (“U1A34-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A35-00 BRAKE CONTROL COMMUNICATION

DTC Description

INFOID:0000000010417045

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-289, "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:0000000010417046

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-39, "CAN COMMUNICATION SYSTEM : 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-210, "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-210, "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-53, "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-286, "Diagnosis Procedure".
YES (“U1A35-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A36-00 BCM/IPDM COMMUNICATION

DTC Description

INFOID:0000000010417047

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-291, "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:0000000010417048

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-39, "CAN COMMUNICATION SYSTEM : 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 DAS-210, "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 DAS-210, "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-90, "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-286, "Diagnosis Procedure".
YES (“U1A36-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A39-00 COMBINATION METER COMMUNICATION

DTC Description

INFOID:0000000010417049

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-293, "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:0000000010417050

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-39, "CAN COMMUNICATION SYSTEM : 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 DAS-210, "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 DAS-210, "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-39, "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-286, "Diagnosis Procedure".
YES (“U1A39-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A3B-00 TCM COMMUNICATION

DTC Description

INFOID:0000000010417051

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-295, "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:0000000010417052

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-39, "CAN COMMUNICATION SYSTEM : 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 DAS-210, "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 DAS-210, "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-267, "DTC Index" (RE0F10D) or TM-485, "DTC Index" (RE0F10G).
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-286, "Diagnosis Procedure".
YES (“U1A3B-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A42-00 STEERING ANGLE SENSOR COMMUNICATION

DTC Description

INFOID:0000000010417053

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-297, "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:0000000010417054

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-39, "CAN COMMUNICATION SYSTEM : 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 DAS-210, "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 DAS-210, "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-53, "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” or other DTC detected?

YES (“U1000-00”)>>Refer to DAS-286, "Diagnosis Procedure".
YES (“U1A42-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A43-00 STEERING ANGLE SENSOR COMMUNICATION

DTC Description

INFOID:0000000010417055

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-299, "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:0000000010417056

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-39, "CAN COMMUNICATION SYSTEM : 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 DAS-210, "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 DAS-210, "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-53, "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-286, "Diagnosis Procedure".
YES (“U1A43-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A48-00 ECM/HPCM COMMUNICATION

DTC Description

INFOID:0000000010417057

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-301, "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:0000000010417058

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-39, "CAN COMMUNICATION SYSTEM : 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 DAS-210, "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 DAS-210, "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 ECH-71, "DTC Index" (HRA2DDT), ECM-93, "DTC Index" (MR20DD), ECK-97, "DTC Index" (K9K) or EC9-108, "DTC Index" (R9M).
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-286, "Diagnosis Procedure".
YES (“U1A48-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

U1A4A-00 CONTROL MODULE (CAN)

DTC Description

INFOID:0000000010417059

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-303, "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:0000000010417060

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-312, "Removal and Installation".
NO >> INSPECTION END

U1A4B-00 CONTROL MODULE (CAN)

DTC Description

INFOID:0000000010417061

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-304, "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:0000000010417062

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-312, "Removal and Installation".
NO >> INSPECTION END

U1A4E-00 ECM/HPCM COMMUNICATION

DTC Description

INFOID:0000000010417063

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-305, "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:0000000010417064

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 DAS-210, "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 DAS-210, "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 ECH-71, "DTC Index" (HRA2DDT), ECM-93, "DTC Index" (MR20DD), ECK-97, "DTC Index" (K9K) or EC9-108, "DTC Index" (R9M)
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-286, "Diagnosis Procedure".
YES (“U1A4E-00”)>>Replace the chassis control module. Refer to DAS-312, "Removal and Installation".
YES (other DTC)>>Check the DTC.
NO >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000010417065

1.CHECK FUSE

1. Turn the ignition switch OFF.
2. Check that any of the following fuse is not fusing.

Signal name	Fuse No.
Ignition power supply	4 (10A)

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the applicable circuit. And then replace the fuse.

2.CHECK CHASSIS CONTROL MODULE IGNITION POWER SUPPLY

1. Disconnect chassis control module harness connector.
2. Check the voltage between chassis control module harness connector and ground.

Chassis control module		Ignition switch	—	Voltage
Connector	Terminal			
M43	10	OFF	Ground	Approx. 0 V
		ON		6.4 – 16 V

Is the inspection result normal?

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

3.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		
M43	12	Ground	Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair or replace harness.

SYMPTOM DIAGNOSIS

CHASSIS CONTROL

Active Engine Brake

INFOID:0000000010417066

NOTE:
- For the operational conditions of Active Engine Brake, refer to DAS-213, "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-218, "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-41, "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-218, "Precautions for Chassis Control (Engine Brake, Active Ride, and Active Trace)".

Active Ride Control

INFOID:0000000010417067

NOTE:
- For the operational conditions of Active Ride Control, refer to DAS-214, "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 “ECM” DTSs • ECH-71 (HRA2DDT) • ECM-93, "DTC Index" (MR20DD) • ECK-97 (K9K) • EC9-108 (R9M)
				Refer to “TCM” DTCs • TM-267 (RE0F10D) • TM-485 (RE0F10G)
	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-218, "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-52, "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-218, "Precautions for Chassis Control (Engine Brake, Active Ride, and Active Trace)".

Active Trace Control

INFOID:0000000010417068

NOTE:
- For the operational conditions of Active Trace Control, refer to DAS-214, "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-218, "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” Refer to STC-41, "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-218, "Precautions for Chassis Control (Engine Brake, Active Ride, and Active Trace)".

NORMAL OPERATING CONDITION

Description

INFOID:0000000010417069

CHASSIS CONTROL

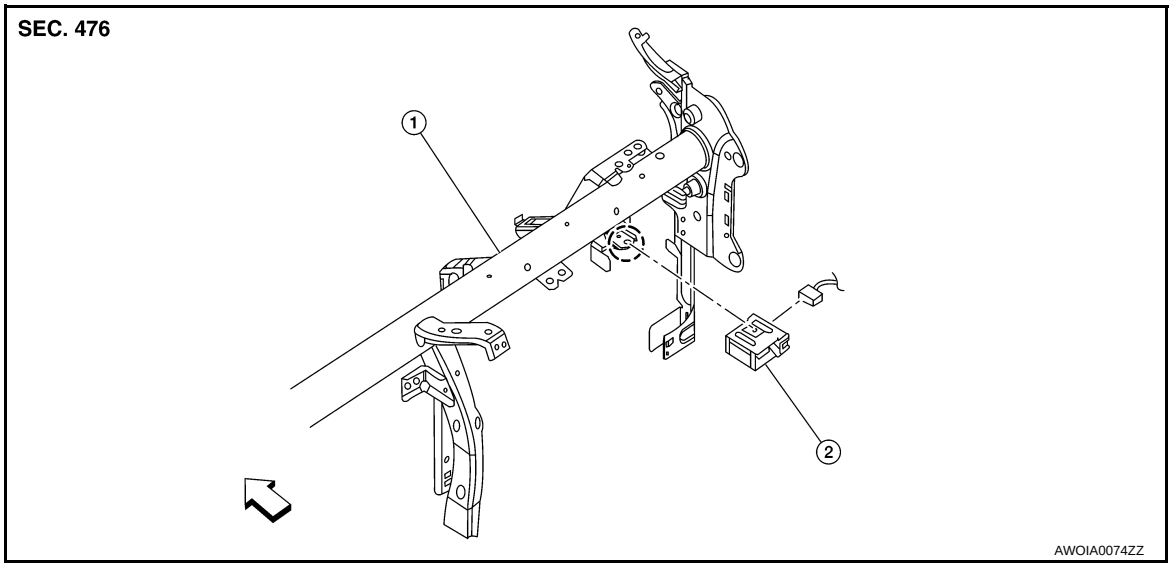
- Chassis Control will not provide all the necessary controls to replace driver intervention. It is not designed to prevent loss of control. It is the driver’s responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of vehicle at all times.
- Chassis Control 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:0000000010417070



① Steering member
② Chassis control module
⇦ Vehicle front

Removal and Installation

INFOID:0000000010417071

CAUTION:
When replacing chassis control module, configuration of chassis control module is required. Refer to DAS-241, "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 glove box assembly. Refer to IP-13, "Removal and Installation".
2. Release chassis control module fixing pawls, and then remove chassis control module from steering member.
   CAUTION:
   Never give an impact to the chassis control module.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:
When replacing chassis control module, perform configuration of chassis control module. Refer to DAS-241, "Work Procedure".

PRECAUTION

PRECAUTIONS

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

INFOID:0000000010464120

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 “SRS AIR BAG” and “SEAT BELT” of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

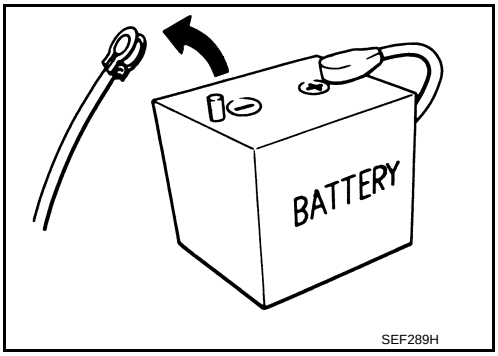
Always observe the following items for preventing accidental activation.

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

Precautions for Removing Battery Terminal

INFOID:0000000010519323

- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing “How to disconnect 12V battery terminal” described below.
  NOTE:
  Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.



SEF289H

HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to Instruction 1 or Instruction 2 described below.
For vehicles parked by ignition switch OFF, refer to Instruction 2.

INSTRUCTION 1

1. Open the hood.

2. Turn key switch to the OFF position with the driver side door opened.
3. Get out of the vehicle and close the driver side door.
4. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

D4D engine	: 20 minutes
HRA2DDT	: 12 minutes
K9K engine	: 4 minutes
M9R engine	: 4 minutes
R9M engine	: 4 minutes
V9X engine	: 4 minutes

CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

5. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

INSTRUCTION 2 (FOR VEHICLES PARKED BY IGNITION SWITCH OFF)

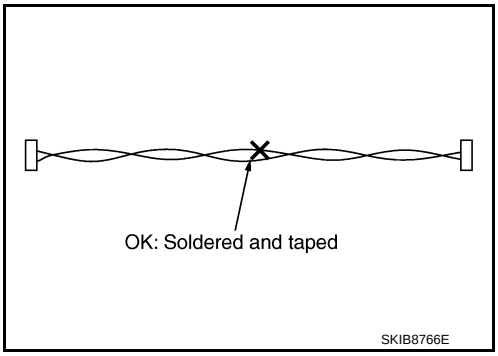
1. Unlock the door with intelligent key or remote keyless entry.
NOTE:
At this moment, ACC power is supplied.
2. Open the driver side door.
3. Open the hood.
4. Close the driver side door.
5. Wait at least 3 minutes.
CAUTION:
While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.
6. Remove 12V battery terminal.
CAUTION:
After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

Precautions For Harness Repair

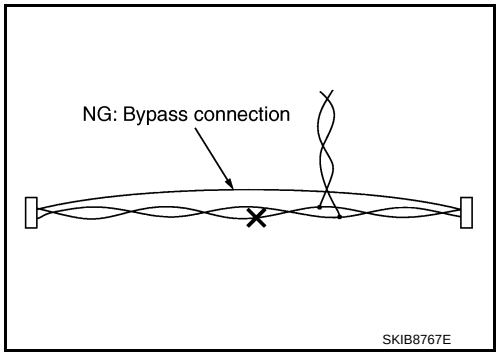
INFOID:0000000010464123

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.



SYSTEM DESCRIPTION

DESCRIPTION

Description

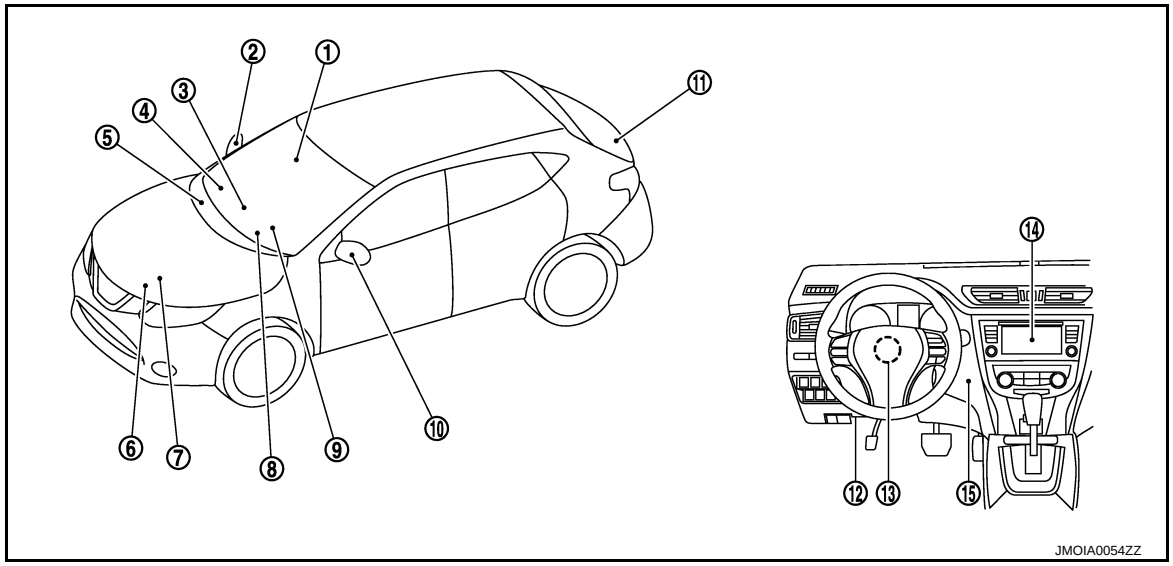
INFOID:0000000010451327

- Around View Monitor with park assist that supports driving operation when parking is adopted.
- Around View Monitor with park assist is a function in which the system operates the steering wheel to assist the steering operations of the driver when performing parallel parking or entering a garage.
- When the target parking position is set on the Around View Monitor, the conditions surrounding the vehicle, the predicted course lines, and the turning guidance box, etc. are shown on the monitor, and while assisting the drivers steering wheel operations, the system provides driving operation guidance so that the vehicle is parked close to the set parking guidance box.
- In parallel parking mode, the parking space is detected by ultrasound waves, and the driver is notified. When the driver performs Parking Assist start operation, the system assists steering wheel operation while guiding driving operation, for parking maneuvers performed near the parking space.

COMPONENT PARTS

Component Parts Location

INFOID:0000000010451328



No.	Component parts	Function
①	Front camera	• Front camera is located above the inside mirror and detect the lane marker in travel lane. • Transmits lane marker signal to Around View Monitor unit via CAN communication.
②	Side camera RH	• The side camera RH is installed in the door mirror RH.
③	Sonar control unit	• Sonar control unit controls Around View Monitor with park assist (parallel parking mode). • While Around View Monitor with park assist is operating, when the system wants to recommend an operation to the driver, and when the system is canceled, a buzzer sounds due to a sonar output request from the Around View Monitor. • Refer to SN-58, "Component Parts Location" for detailed installation location.
④	Around view monitor control unit	• Around View Monitor control unit controls Around View Monitor with park assist. • Around View Monitor control unit is located at the back of the glove box. • Each ECU transmits and receives the required signals via CAN communication or ITS communication. • Power is supplied to each camera by turning the ignition switch ON. • The camera image signal received from each camera is converted and compounded inside the Around View Monitor control unit and transmitted to the NAVI control unit.
⑤	ABS actuator and electric unit (control unit)	• Wheel rotation sensor signal and the operation statuses of the VDC, TCS and ABS systems, etc. are transmitted to the Around View Monitor control unit via CAN communication. • Refer to BRC-8, "Component Parts Location" for detailed installation location.
⑥	TCM	• CVT control related signal is transmitted to Around View Monitor control unit via CAN communication. • Refer to TM-217, "CVT CONTROL SYSTEM : Component Parts Location" (RE0F10D) or TM-430, "CVT CONTROL SYSTEM : Component Parts Location" (RE0F10G) for detailed installation location.

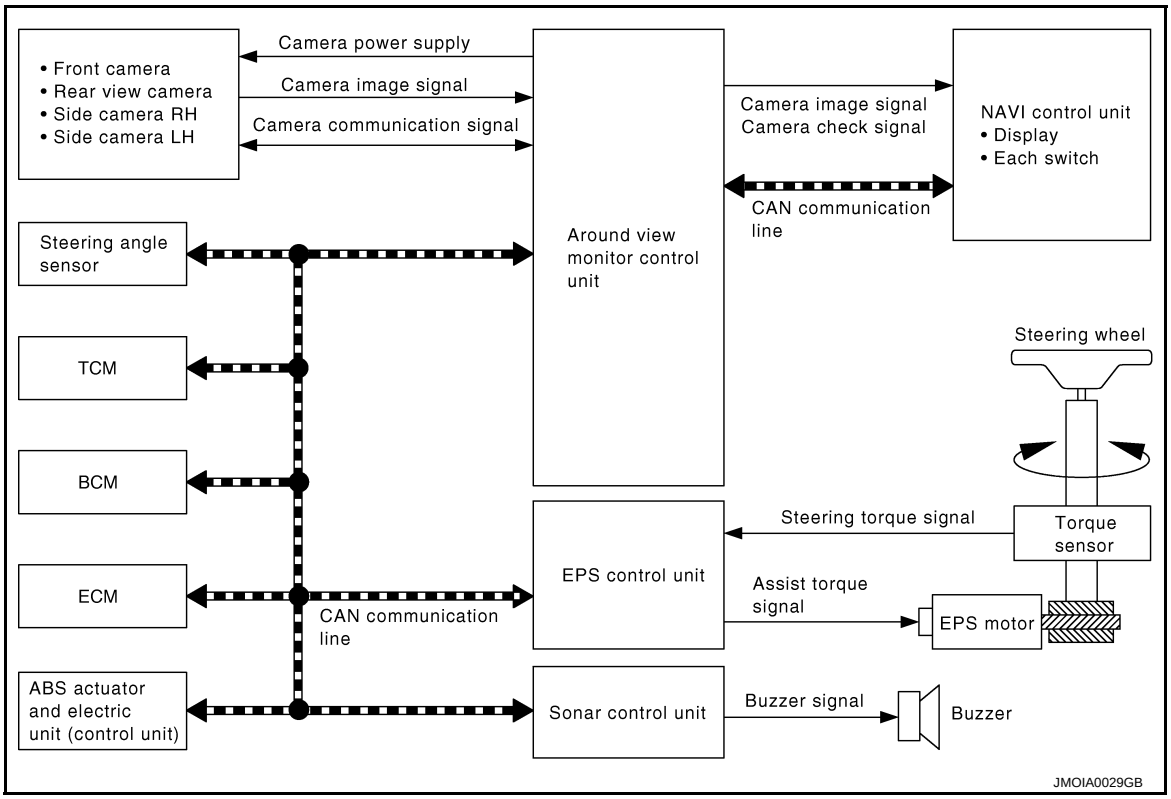
No.	Component parts	Function
⑦	ECM	• When Around View Monitor with park assist operates, an idling stop prohibited signal is received from the EPS control unit and idling stop is not performed. • Refer to ECH-12, "Component Parts Location" (HRA2DDT), ECM-14, "ENGINE CONTROL SYSTEM : Component Parts Location" (MR20DD), ECK-12, "Component Parts Location" (K9K) or EC9-12, "Component Parts Location" (R9M) for detailed installation location.
⑧	EPS control unit	• EPS control unit performs Around View Monitor with park assist control by receiving the Around View Monitor with park assist status signal for switching from normal operation to parking assist mode, and the steering angle command signal for steering operation from the Around View Monitor control unit via CAN communication. • During Around View Monitor with park assist, the stop/start system prohibited signal is transmitted to ECM via CAN communication so that stop/start is not performed.
⑨	BCM	• Turn signal switch signal is transmitted to the Around View Monitor control unit via CAN communication. • Refer to BCS-7, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
⑩	Side camera LH	• The side camera LH is installed in the door mirror LH.
⑪	Rear view camera	• 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.
⑫	Sonar buzzer	• A buzzer sounds according to operation signal from the sonar control unit.
⑬	Steering angle sensor	• Steering angle signal is transmitted to the Around View Monitor control unit via CAN communication.
⑭	NAVI control unit	• The NAVI control unit performs display of all lines of Around View Monitor with park assist plotted by the Around View Monitor control unit, all switch displays of Around View Monitor with park assist, display of guidance messages, and voice guidance. • Camera switch signal and parking assist signal, etc. are transmitted to the Around View Monitor control unit via CAN communication. • Refer to AV-128, "Component Parts Location" for detailed installation location.
⑮	Sonar control unit	Sonar control unit controls Around View Monitor with park assist (parallel parking mode).

SYSTEM

System Description

INFOID:0000000010451331

SYSTEM DIAGRAM



INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name		Description
EPS control unit	CAN communication	IPA permit signal	Receives confirmation that Around View Monitor with park assist can operate.
		EPS torque signal	Receives the steering input torque.
Steering angle sensor	CAN communication	Steering angle sensor signal	Receives the amount of rotation, angular velocity, and rotational direction of the steering wheel.
ABS actuator and electric unit (control unit)	CAN communication	Vehicle speed signal (ABS)	Receives the wheel speed of the four wheels.
		VDC operation signal	Receives the VDC operation status.
		VDC malfunction signal	Receives the VDC malfunction status.
TCM	CAN communication	CVT malfunction signal	Receives the CVT malfunction status.
		Shift position signal	Receives the selector lever position.
BCM	CAN communication	Turn signal switch signal	Receives the turn signal switch position.
ECM	CAN communication	ECM malfunction signal	Receives the ECM malfunction status.
NAVI control unit	ITS communication	IPA switch signal	Receives the Around View Monitor with park assist switch status.
Sonar control unit	CAN communication	Sonar indicator signal	Receives the distance to the obstacle detected by the sonar sensor.

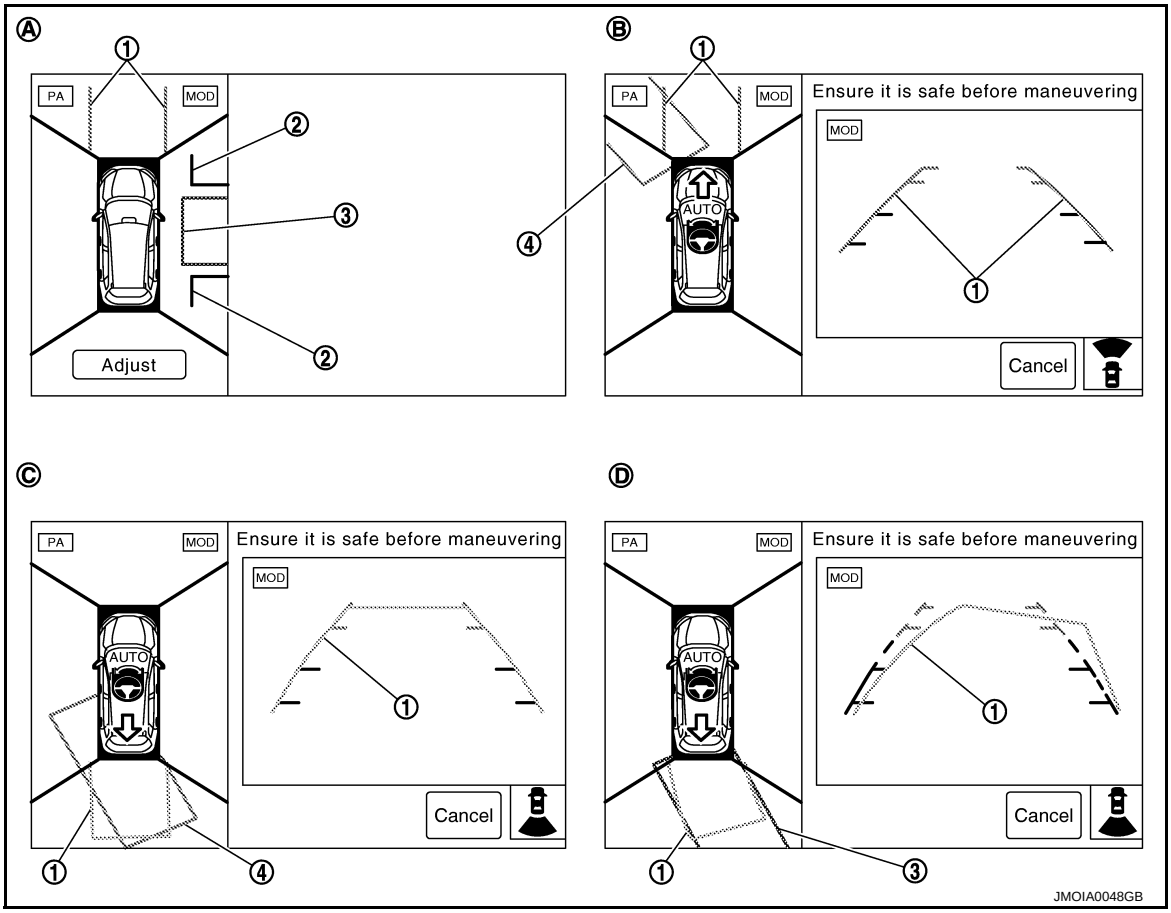
Output Signal Item

Reception unit	Signal name		Description
EPS control unit	CAN communication	Steering angle command signal	Transmits signal and steers the steering wheel.
		IPA operation signal	Transmits the Around View Monitor with park assist operation status.
		IPA malfunction signal	Transmits the Around View Monitor with park assist malfunction status.
NAVI control unit	ITS communication	IPA switch display signal	Transmits signal and displays the Around View Monitor with park assist switch.
		Guidance audio output signal	Transmits signal and outputs the Around View Monitor with park assist audio.
Sonar control unit	CAN communication	Buzzer signal	Transmits signals and outputs the Around View Monitor with park assist buzzer sound.
	ITS communication		

DESCRIPTION

- Around View Monitor with park assist is a function in which the system operates the steering wheel to assist the steering operation of the driver when performing parallel parking or entering a garage.
  CAUTION:
  Around View Monitor with park assist does not have a function for avoiding obstacles automatically. When driver operates the vehicle, caution should always be paid to the surroundings visually.
- When the system is operating, at the same time that the conditions surrounding the vehicle are displayed on the Around View Monitor, display of the predicted course lines and turning guidance box, etc. is performed.

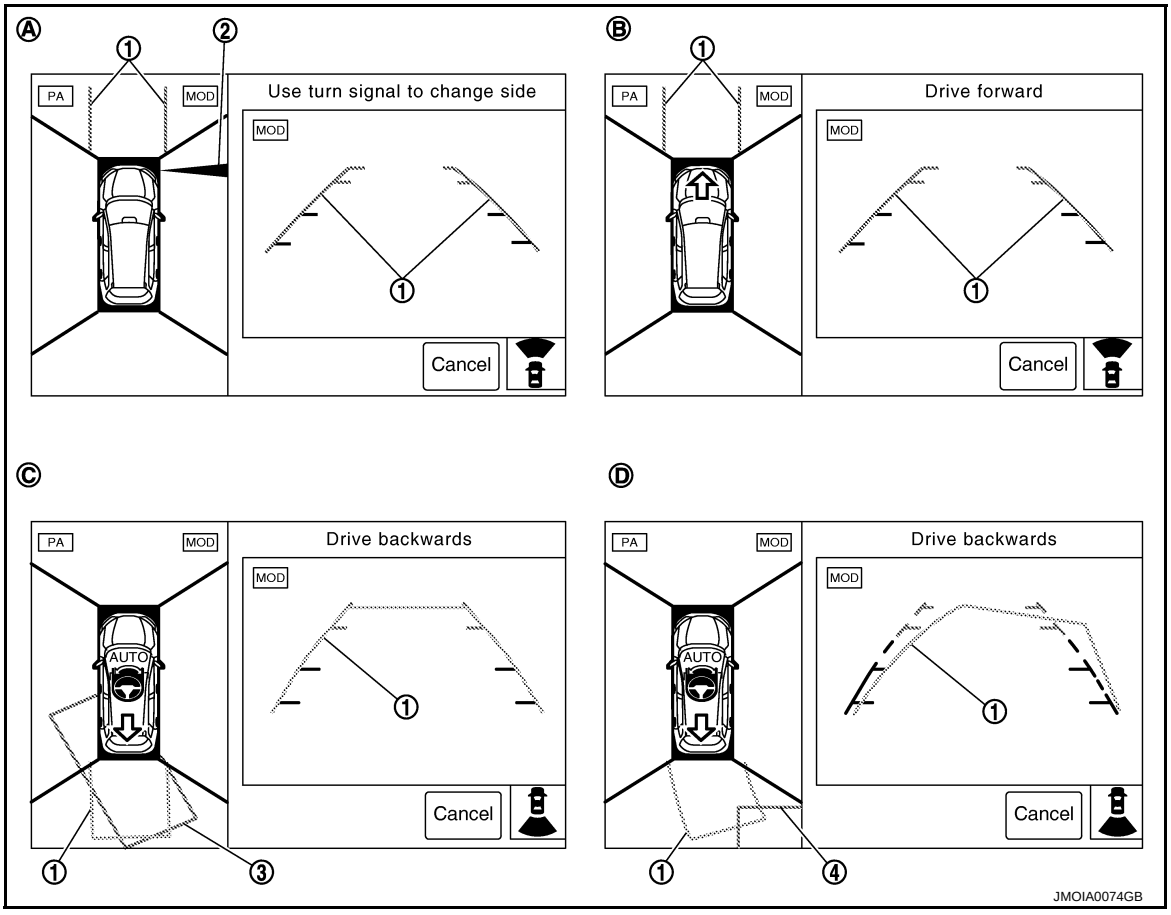
Perpendicular parking



Ⓐ At parking box setting
Ⓑ When driving forward
Ⓒ When reversing (when the turning box is detected)
Ⓓ When reversing (when the target parking box is detected)

No.	Line name	Line color	Function
①	Predicted course lines	Forward: green Reverse: orange	Displays the course for driving the vehicle within the target parking box
②	Obstacle guidance lines	Red	Displays parking space guidance
③	Parking guide box	Blue	Displays the desired parking position
④	Steering cut back guide box	Green	Displays the position for starting reversing or steering cut back

Parallel parking

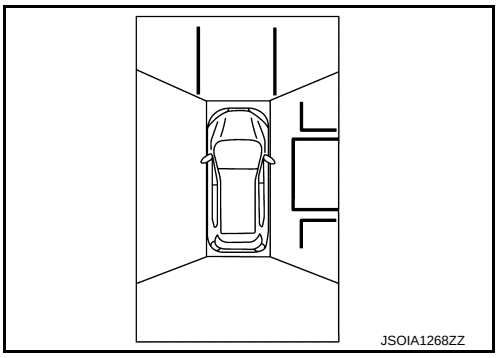
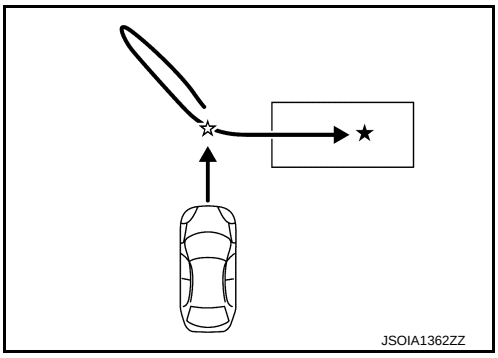
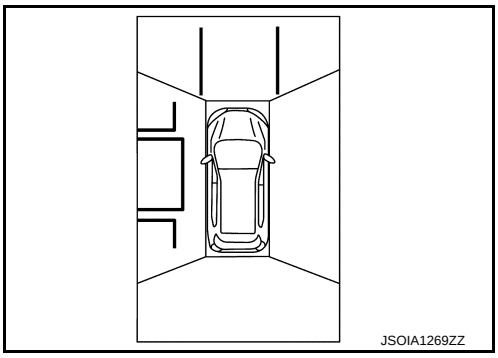
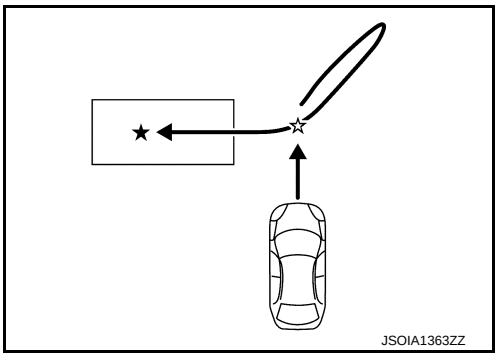
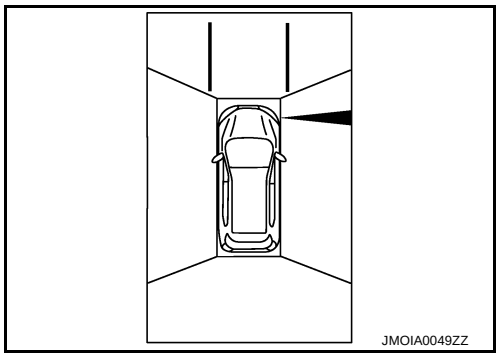
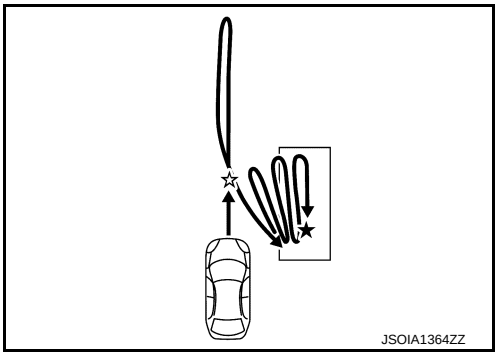
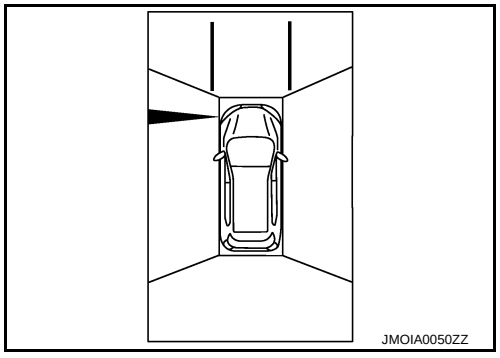
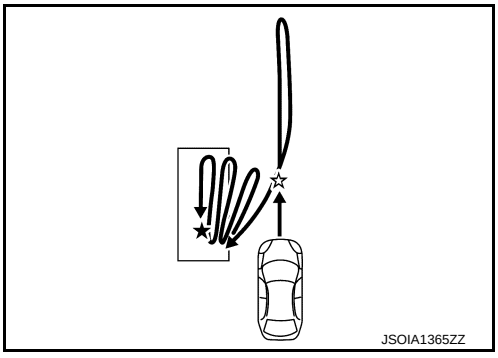


Ⓐ At parking box setting
Ⓑ When driving forward
Ⓒ When reversing (when the turning box is detected)
Ⓓ When reversing (when the target parking box is detected)

No.	Line name	Line color	Function
①	Predicted course lines	Forward: green Reverse: orange	Displays the course for driving the vehicle within the target parking box
②	Parking space detection	Red	Displays the parking space detection

No.	Line name	Line color	Function
③	Steering cut back guide box	Green	Displays the position for starting reversing or steering cut back
④	Parking guide box	Blue	Displays the desired parking position

Possible parking patterns
The parking patterns which Around View Monitor with park assist supports are as follows.

Parking pattern		Parking image
Perpendicular (R)	 JSOIA1268ZZ	 JSOIA1362ZZ
Perpendicular (L)	 JSOIA1269ZZ	 JSOIA1363ZZ
Parallel (R)	 JMOIA0049ZZ	 JSOIA1364ZZ
Parallel (L)	 JMOIA0050ZZ	 JSOIA1365ZZ

OPERATION DESCRIPTION

- The Around View Monitor control unit calculates the space and amount of steering wheel turn required for moving to the final parking space (parking guidance box), and performs the following control.
- Depending on internal calculation and the shift position signal, the turning guidance box (green box) and the parking guidance box (blue box) are set, a camera image signal is transmitted to the NAVI control unit and the target position is plotted on the screen.
- The target steering angle is calculated according to the speed signal, steering angle sensor signal, and shift position signal. Steering angle instruction signal is transmitted to the EPS control unit via CAN communication, to control steering.
- The sonar indicator display signal is received from the sonar control unit via CAN communication. For sonar function, refer to In addition, in parallel parking mode, the sonar control unit performs control.

Operation conditions

Around View Monitor with park assist switch ON condition
- When the engine is started
- When the Around View Monitor screen (top view) is displayed on the left side of the display
- When the vehicle speed does not exceed 10 km/h (6 MPH)

Start switch ON condition
- Vehicle speed 0 km/h (when the vehicle is completely stopped)
- When the steering wheel is in the straight-ahead position
- When the selector lever position is in the D range

Cancel conditions
- When the driver operates the steering
- When a load is applied to the steering system due to the road surface conditions (contact with curb, etc.)
- When the vehicle speed reaches approximately 7 km/h (4 MPH) or more
- When the Around View Monitor with park assist cancel switch is pressed
- When the selector lever position is in the N range continuously for approximately 5 seconds or more
- When the selector lever position is in the P range continuously for approximately 1.5 seconds or more

Fail-safe (Around View Monitor Control Unit)

INFOID:0000000010504664

If a malfunction occurs in the Around View Monitor control unit, display control unit performs fail-safe activation according to the detected malfunction.

Detection item	fail-safe	DTC
CONTROL UNIT (CAN)	The Around View Monitor system does not operate	U1010
POWER SUPPLY CIRCUIT	Stops Around View Monitor with park assist	C1A01
VHCL SPEED SE CIRC	• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	C1A03
ABS/TCS/VDC CIRC		C1A04
VDC P-RUN DIAGNOSIS	• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	U0122
VDC CHECKSUM	• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	U0416
ECM CIRCUIT	Stops Around View Monitor with park assist	C1A14
STRG SEN CIR	• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	C1A39
ST ANGLE SEN CALIB	• Predicted course lines are not displayed • Stops the MOD (Moving Object Detection) function • Stops BSW (Blind Spot Warning) • Stops Around View Monitor with park assist	U1232
ST ANGLE SENSOR CALIBRATION		U0428

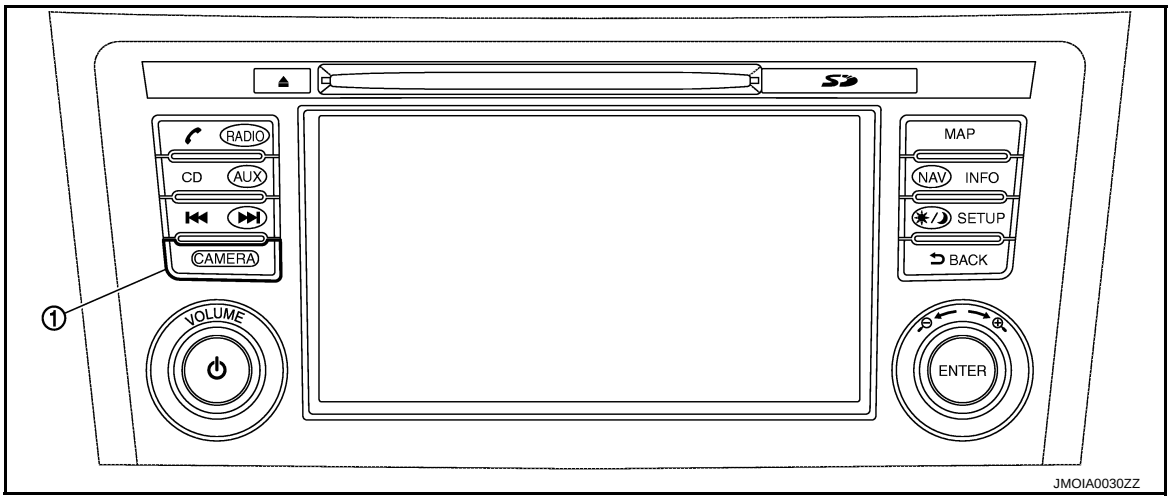
Detection item		fail-safe	DTC
CAM COMM CIRCUIT	Steering angle sensor	• Predicted course lines are not displayed • Stops the MOD (Moving Object Detection) function • Stops BSW (Blind Spot Warning) • Stops Around View Monitor with park assist	U1000
	ABS actuator and electric unit (control unit)	• Stops the MOD (Moving Object Detection) function • Stops BSW (Blind Spot Warning) • Stops Around View Monitor with park assist	
	TCM		
	BCM		
	ECM		
	EPS control unit	Stops Around View Monitor with park assist	
	NAVI control unit	Camera screen not displayed	
REAR CAMERA IMAGE SIGNAL		Camera image is not displayed (gray screen display)	U111A
SIDE CAMERA RH IMAGE SIGNAL			U111B
FRONT CAMERA IMAGE SIGNAL			U111C
LSIDE CAMERA LH IMAGE SIGNA			U111D
CAMERA POWER VOLT		Camera power output is stopped	U1302
CAMERA IMAGE CALIB		• Unmatched icon ☒ display (red) is displayed (Applicable for unmatched camera only) • Stops Around View Monitor with park assist	U1304
R-CAMERA(R&L) CALIB JDGMNT		• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function	U1308
RR CAMERA COMM ERROR			U130B
CONFIG UNFINISH		• Operation is according to the vehicle setting value set as the default value • Stops Around View Monitor with park assist	U1305
PUMP INPUT CURRENT JUDGE		• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function	U1309
PUMP ECU JUDGE			U130A
			U1310
LED POWER SUPPLY VOLT		Stops Around View Monitor with park assist	U1303
When communications between the Around View Monitor control unit and each camera image line are affected by electromagnetic noise		On the corresponding camera screen, ☒ display (blue) is displayed	—

OPERATION

Switch Name and Function

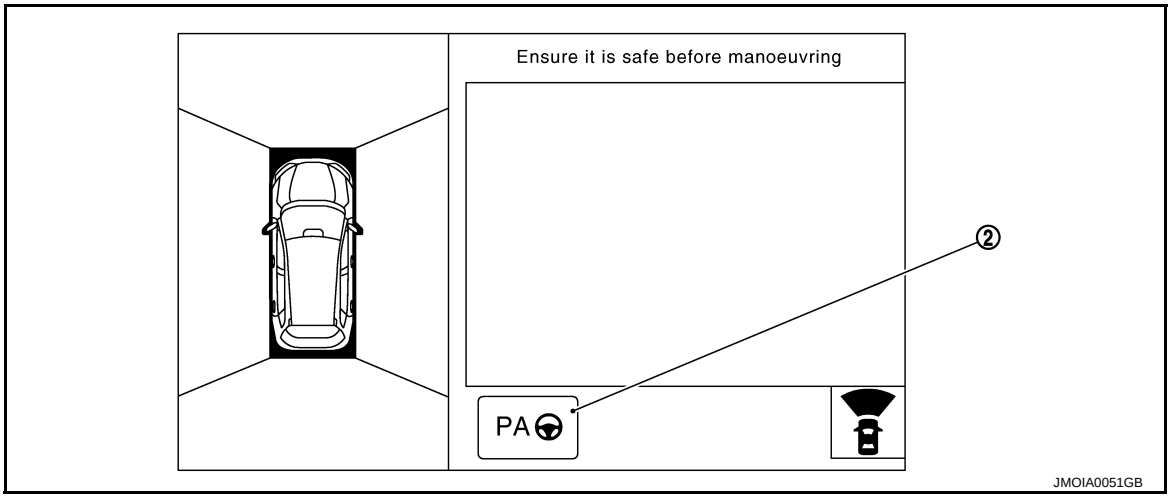
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CAMERA SWITCH



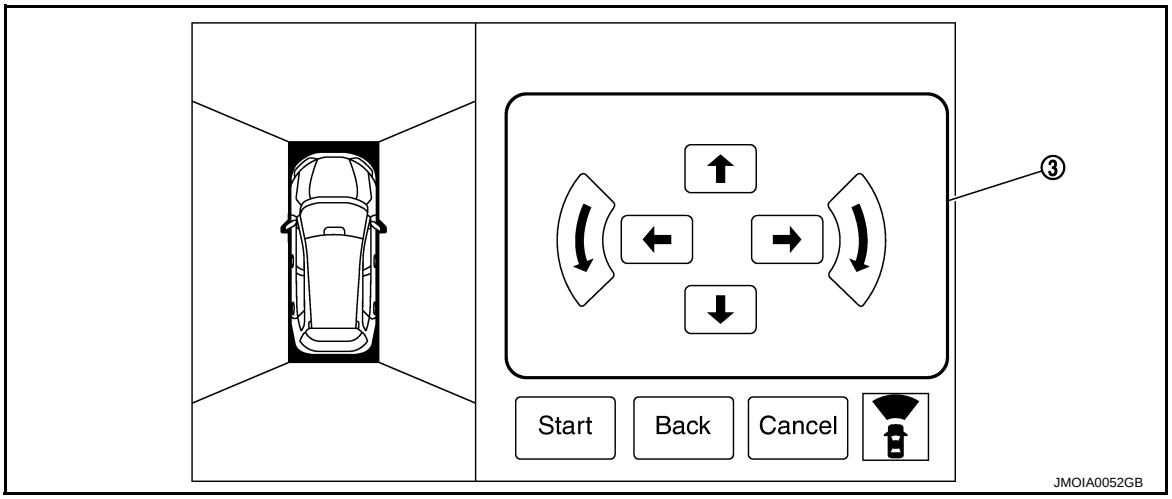
No.	Switch name	Function
①	Camera switch	Performs switching of the camera screen and the navigation screen of the NAVI control unit display.

DISPLAY 1



No.	Switch name	Function
②	Park assist switch	Turns Around View Monitor with park assist function ON.

DISPLAY 2

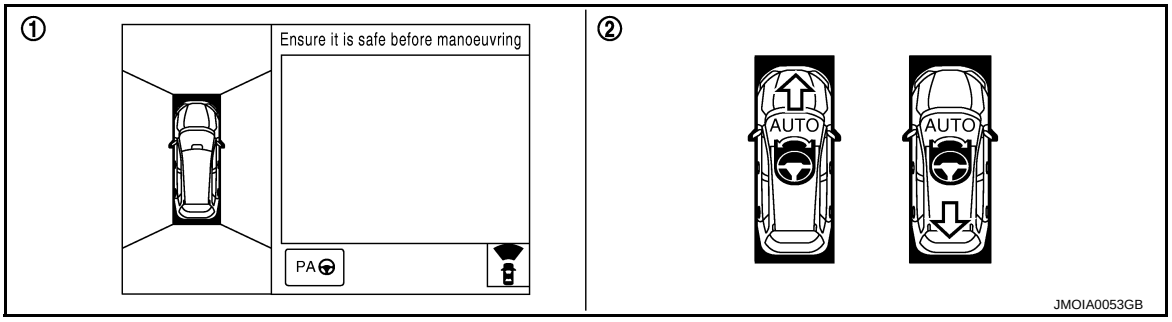


No.	Switch name	Function
③	Parking box position adjustment switch	Performs fine adjustment of the parking guidance box. **NOTE:** Adjustment can be performed up to approximately 70 cm (27.6 in).

System Display and Warning

INFOID:0000000010451335

SYSTEM DISPLAY



No.	Display name	Function
①	Camera image screen	Displays the vehicle surroundings and parking guidance box, etc.
②	Automatic steering status display	Displays while Around View Monitor with park assist is operating.

WARNING DISPLAY AND VOICE GUIDANCE

System status	Warning/display	Buzzer*	Audio guide
OFF	—	—	—

System status		Warning/display	Buzzer*	Audio guide
ON	Vehicle movement judgment in progress	Ensure it is safe before maneuvering	—	—
	When setting the target parking rectangle	Stop beside parking space to start Park Assist	—	—
	When Park Assist starts	Drive forward	—	“Start Park Assist”
	When vehicle starts to move forward (when steering wheel is turned)	Drive forward	—	“Drive forward”
	When vehicle speed is too fast	Reduce speed	Short beep	—
	When the vehicle is moving forward and moves close to the forward/reverse starting position rectangle	Stop and select reverse gear	Long beep	“Select reverse gear”
	When the vehicle is moving in reverse and moves close to the forward/reverse starting position rectangle	Stop and select drive gear	Long beep	“Select drive gear”
	When vehicle starts to move in reverse	Drive backwards	—	“Drive backwards”
	When the target parking rectangle fine adjustment screen is displayed	Adjust park position	—	—
	When Park Assist ends	Park Assist finished	Long beep	“Park Assist finished”
	When D position is not selected	Select drive gear	—	“Park Assist could not start”
	When steering wheel is not in neutral position	Center steering wheel	—	“Park Assist could not start”
	System malfunction	⚠ Park Assist fault	Long beep	—
	System limit	Park Assist canceled	Long beep	“Park Assist canceled”
	When start is not possible	Park Assist unavailable	—	—

*: Sonar buzzer sounds.

HANDLING PRECAUTION

Precautions for Around View Monitor with Parking Assist

INFOID:0000000010451336

- Around View Monitor with park assist is designed to assist steering wheel operation of the driver when parking the vehicle. This function does not automatically adjust speed or avoid obstacles. The driver should directly check the safety of the surroundings and the condition of the road surface using the mirrors and their line of sight, as when performing normal parking operations.
- While the system is operating, move the vehicle slowly, and when it appears likely that the vehicle may contact other vehicles, obstacles, or persons surrounding the vehicle, perform operations to avoid these obstacles by fully depressing the brake, etc.
- Never touch the spoke part of the steering wheel while Around View Monitor with park assist is operating. There is a risk of injuring hands or fingers. Never allow a scarf or neck tie, etc. to become entangled, because it may result in an unexpected accident.
- Never drive the vehicle while looking only at the screen. Otherwise. it may result in contact with obstacles or an unexpected accident.
- When assistance by Around View Monitor with park assist is no longer necessary, touch "Cancel" on the screen and end the function. If Around View Monitor with park assist remains in operation, the steering operates automatically. This could result in an unexpected accident.
- Before using Around View Monitor with park assist, directly check visually that there is sufficient space surrounding the vehicle for performing parking operations.
- Never use in the following conditions.

- Unmaintained road surfaces such as sand or gravel, etc.
- Slippery road surfaces where there is snow or ice, etc.
- Sloping roads or roads that are not flat where there is unevenness, or where there are curbs or grooves
- Mechanically operated parking lots
- When snow chains or emergency tires are installed
- When towing
- When a door (including the back door) is not closed

DIAGNOSIS SYSTEM (AROUND VIEW MONITOR CONTROL UNIT)

CONSULT Function

INFOID:0000000010505366

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-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.

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.
ILL [On/Off]	Indicates status of dimmer 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.
STEERING 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/NG]	Indicates status of rear camera communication.
R-CAMERA COMM LINE [OK/NG]	Indicates condition of rear camera communication line.
F-CAMERA IMAGE SIGNAL [OK/NG]	Indicates condition of camera image signal.
F-CAMERA COMM STATUS [OK/NG]	Indicates status of front camera communication.
F-CAMERA COMM LINE [OK/NG]	Indicates condition of front camera communication line.
DR-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of driver side camera image signal.
DR CAMERA COMM STATUS [OK/NG]	Indicates status of driver side camera communication.
DR-SIDE CAMERA COMM LINE [OK/NG]	Indicates condition of driver side camera communication line.
PA-SIDE CAMERA IMAGE SIG [OK/NG]	Indicates condition of passenger side camera image signal.
PA CAMERA COMM STATUS [OK/NG]	Indicates status of passenger side camera communication.
PA-SIDE CAMERA COMM LINE [OK/NG]	Indicates condition of passenger side camera communication line.

Monitor Item	Description
TURN SIGNAL [Left/N/Right]	Indicates status of turn signal output.
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.
ITS SW 2 [On/Off/No setting]	Indicates state of warning system switch. **NOTE:** For this vehicle, “No setting” is displayed.
ITS SW 2 IND [On/Off]	Indicates state of warning system switch indicator output. **NOTE:** For this vehicle, “Off” is displayed.
PUMP COMM STATUS [OK/NG]	Indicates state of communication signal from pump control unit.
ITS OFF SW [On/Off]	Indicates state of ITS off switch.
VEHICLE SPEED [km/h]	Indicates state of vehicle speed signal from ABS actuator and electric unit (control unit).
IDLE STOP STATUS [On/Off]	Indicates state of stop/start system.
TRAILER HITCH SW [On/Off]	Indicates state of trailer hitch. **NOTE:** For this vehicle, “Off” is displayed.
STEERING ANGLE [deg]	The steering angle is displayed.

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].
SONAR BUZZER CONTROL	This test is able to check sonar 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	

Support Item	Setting	Description
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	
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.

Display Items for The Cause of LDW/BSW Cancel

Cause of cancellation	Description
REAR CAMERA DIRTY	Rear camera lens is dirty.
TRUNK OPEN	Trunk lid is open.
TRAILER HITCH ON	Towing (by attaching a trailer).
R CAMERA COMM ERR	Communication error between around view monitor control unit and rear camera.
LOW WASH FLUID	Washer fluid level is low.
LO TMP(AIR WIPING)	Ambient temperature drops to -20 °C (-4 °F) or less.
LO TMP(WSH WIPING)	Ambient temperature drops to -20 °C (-4 °F) or less.
NO RECORD	—

Display Items for The Cause of IPA Cancel

Cause of cancellation	Description
STRG SEN CIRCUIT	A malfunction is detected in the steering angle sensor.
TRUNK OPEN	Trunk lid is open.
TRAILER HITCH ON	Towing (by attaching a trailer).
VDC CIRCUIT	VDC detects a malfunction.
VHCL SPD UNMATCH	Malfunction is detected in vehicle speed signal.
SHIFT POSITION	A shift position other than the established one is detected.

SONAR CIRCUIT	Malfunction status in sonar control unit.
CAN COMM ERROR	CAN communication signal required by Around View Monitor control unit cannot be received.
BCM CIRCUIT	BCM detects a malfunction.
EPS CIRCUIT	EPS control unit detects a malfunction.
CVT CIRCUIT	TCM detects a malfunction.
ECM CIRCUIT	ECM detects a malfunction.
DOOR OPEN	Door is opened.
VDC OFF	VDC OFF switch is pressed.

CONFIGURATION

Refer to AV-179, "CONFIGURATION (AROUND VIEW MONITOR CONTROL UNIT) : Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-21, "CAN Diagnostic Support Monitor".

ECU DIAGNOSIS INFORMATION

AROUND VIEW MONITOR CONTROL UNIT

Reference Value

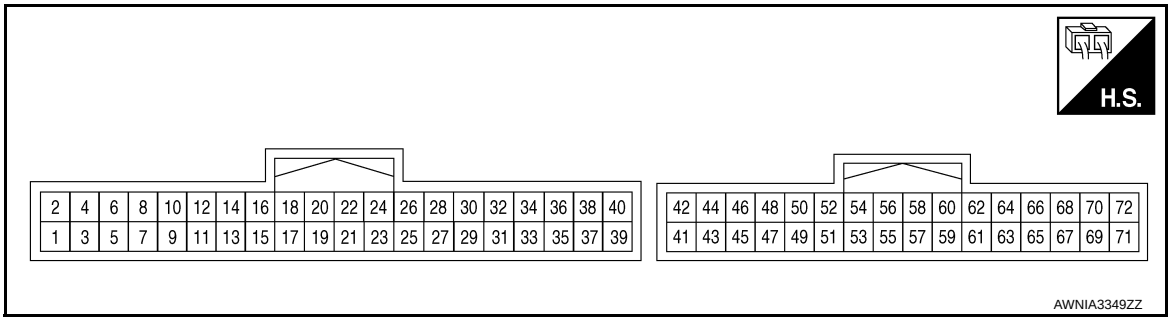
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VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
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
REVERSE SIGNAL	When selector lever is in any position other than R (reverse).	Off
	When selector lever in R (reverse).	On
VEHICLE SPEED SIGNAL	While driving, equivalent to speedometer reading	mph, km/h
ILL	Illumination is ON	On
	Illumination is OFF	Off
CAMERA SWITCH SIGNAL	CAMERA switch OFF.	Off
	CAMERA switch ON.	On
CAMERA OFF SIGNAL	CAMERA switch ON.	Off
	CAMERA switch OFF.	On
ST ANGLE SENSOR TYPE	Steering angle sensor type.	Absolute
STEERING GEAR RATIO TYPE	Steering gear ratio type.	Type O
STEERING POSITION	Left hand drive vehicle.	LHD
	Right hand drive vehicle.	RHD
REAR CAMERA IMAGE SIGNAL	Rear camera inoperative.	NG
	Rear camera operative.	OK
WASH SW	Wash switch signal is pressed	On
	Wash switch signal is not pressed	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
F-CAMERA IMAGE SIGNAL	Front camera inoperative.	NG
	Front camera operative.	OK
F-CAMERA COMM STATUS	Front camera serial status is OK	OK
	Front camera serial status is not OK	NG
F-CAMERA COMM LINE	Front camera serial communication signal is received	OK
	Front camera serial communication signal is not received	NG
DR-SIDE CAMERA IMAGE SIG	Driver side camera inoperative.	NG
	Driver side camera operative.	OK
DR CAMERA COMM STATUS	Driver side camera serial status is OK	OK
	Driver side camera serial status is not OK	NG
DR-SIDE CAMERA COMM LINE	Driver side camera serial communication signal is received	OK
	Driver side camera serial communication signal is not received	NG
PA-SIDE CAMERA IMAGE SIG	Passenger side camera inoperative.	NG
	Passenger side camera operative.	OK

Monitor Item	Condition	Value/Status
PA CAMERA COMM STATUS	Passenger side camera serial status is OK	OK
	Passenger side camera serial status is not OK	NG
PA-SIDE CAMERA COMM LINE	Passenger side camera serial communication signal is received	OK
	Passenger side camera serial communication signal is not received	NG
TURN SIGNAL	Turn signal left is received	Left
	Turn signal neutral is received	N
	Turn signal right is received	Right
ITS SW 1	ITS switch is pressed	On
	ITS switch is not pressed	Off
ITS SW 1 IND	Indicator of ITS switch is lighting	On
	Indicator of ITS switch 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	Off
PUMP COMM STATUS	Pump communication signal is received	On
	Pump communication signal is not received	Off
VEHICLE SPEED	Vehicle stopped	0 km/h
	Driving	Almost same reading as speedometer
IDLE STOP STATUS	Stop/start system operates	On
	Stop/start system not operates	Off
TRAILER HITCH SW	For this vehicle, the displaying is fixed	Off
STEERING ANGLE	The steering wheel is not steered	Approx. 0 deg
	The steering wheel is steered	Displays steering angle (deg)

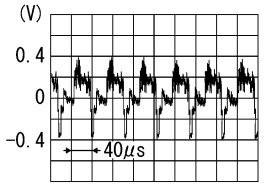
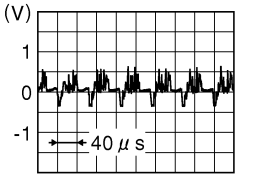
TERMINAL LAYOUT

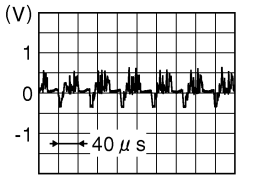
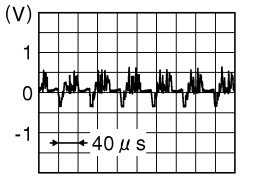
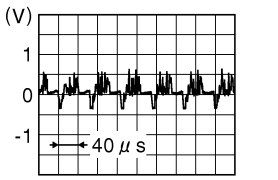


PHYSICAL VALUES

With Pump Control Unit

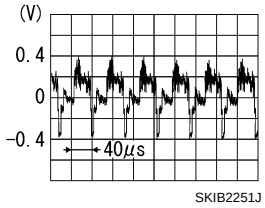
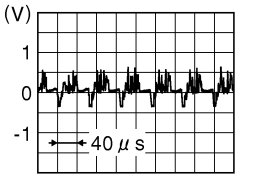
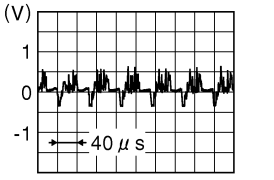
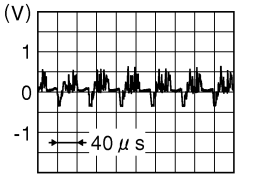
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
1 (B)	Ground	Ground	—	ON	—	0 V
2 (Y)	Ground	Battery power supply	Input	OFF	—	Battery voltage
3 (SB)	Ground	Ignition signal	Input	ON	—	Battery voltage

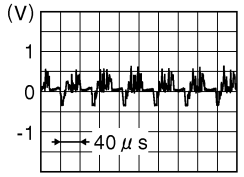
Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
7 (R)	Ground	BSW LED signal L	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
8 (P)	Ground	BSW LED signal R	Output	—	LDW/BSW detected (while driving)	12 V
					LDW/BSW is not detected (while driving)	0 V
27 (L)	—	CAN (H)	Input/ Output	—	—	—
28 (R)	—	CAN (L)	Input/ Output	—	—	—
36 (BR)	Ground	Washer signal AVM to pump	Output	ON	Washer pump operated	5 V
37 (V)	Ground	Pump signal ground	Input	ON	—	0 V
38 (GR)	Ground	Washer signal pump to AVM	Input	ON	Washer pump operated	5 V
47 (G)	Ground	Camera image signal	Output	ON	When camera image display	 SKIB2251J
48 (Shield)	—	Camera image signal shield	—	—	—	—
49 (LG)	—	Rear camera 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 (driver side) power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
58 (Y)	Ground	Side camera (driver side) ground	—	ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
59 (G)	60 (Shield)	Side camera (driver side) image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
62 (B)	Ground	Side camera (passenger side) power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
64 (L)	Ground	Side camera (passenger side) ground	—	ON	—	0 V
65 (Y)	66 (Shield)	Side camera (passenger side) image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
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

Without Pump Control Unit

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
4 (SB)	Ground	Ignition signal	Input	ON	—	Battery voltage
10 (R)	—	CAN (L)	Input/ Output	—	—	—
12 (L)	—	CAN (H)	Input/ Output	—	—	—

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
23 (Shield)	—	Camera image signal shield	—	—	—	—
24 (G)	Ground	Camera image signal	Output	ON	When camera image display	 SKIB2251J
25 (B)	Ground	Rear camera ground	—	ON	—	0 V
26 (R)	Ground	Rear camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
28 (W)	27 (Shield)	Rear camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
29 (Y)	Ground	Side camera (driver side) ground	—	ON	—	0 V
30 (L)	Ground	Side camera (driver side) power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
32 (G)	31 (Shield)	Side camera (driver side) image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
33 (L)	Ground	Side camera (passenger side) ground	—	ON	—	0 V
34 (B)	Ground	Side camera (passenger side) power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
36 (Y)	35 (Shield)	Side camera (passenger side) image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB
37 (V)	Ground	Front camera ground	—	ON	—	0 V

Terminal (Wire color)		Description		Condition		Reference value (Approx.)
+	–	Signal name	Input/ Output	Ignition switch	Operation	
38 (L)	Ground	Front camera power supply	Output	ON	CAMERA selected or Shift selector in R (reverse) position.	6.0 V
40 (LG)	39 (Shield)	Front camera image signal	Input	ON	CAMERA selected or Shift selector in R (reverse) position.	 JSNIA0834GB

Fail-safe (Around View Monitor Control Unit)

INFOID:0000000010504557

If a malfunction occurs in the Around View Monitor control unit, display control unit performs fail-safe activation according to the detected malfunction.

Detection item		fail-safe	DTC
CONTROL UNIT (CAN)		The Around View Monitor system does not operate	U1010
POWER SUPPLY CIRCUIT		Stops Around View Monitor with park assist	C1A01
VHCL SPEED SE CIRC		• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	C1A03
ABS/TCS/VDC CIRC			C1A04
VDC P-RUN DIAGNOSIS		• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	U0122
VDC CHECKSUM		• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	U0416
ECM CIRCUIT		Stops Around View Monitor with park assist	C1A14
STRG SEN CIR		• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function • Stops Around View Monitor with park assist	C1A39
ST ANGLE SEN CALIB		• Predicted course lines are not displayed • Stops the MOD (Moving Object Detection) function • Stops BSW (Blind Spot Warning) • Stops Around View Monitor with park assist	U1232
ST ANGLE SENSOR CALIBRATION			U0428
CAM COMM CIRCUIT	Steering angle sensor	• Predicted course lines are not displayed • Stops the MOD (Moving Object Detection) function • Stops BSW (Blind Spot Warning) • Stops Around View Monitor with park assist	U1000
	ABS actuator and electric unit (control unit)	• Stops the MOD (Moving Object Detection) function • Stops BSW (Blind Spot Warning) • Stops Around View Monitor with park assist	
	TCM		
	BCM		
	ECM		
	EPS control unit	Stops Around View Monitor with park assist	
	NAVI control unit	Camera screen not displayed	

Detection item	fail-safe	DTC
REAR CAMERA IMAGE SIGNAL	Camera image is not displayed (gray screen display)	U111A
SIDE CAMERA RH IMAGE SIGNAL		U111B
FRONT CAMERA IMAGE SIGNAL		U111C
LSIDE CAMERA LH IMAGE SIGNA		U111D
CAMERA POWER VOLT	Camera power output is stopped	U1302
CAMERA IMAGE CALIB	• Unmatched icon ☒ display (red) is displayed (Applicable for unmatched camera only) • Stops Around View Monitor with park assist	U1304
R-CAMERA(R&L) CALIB JDGMNT	• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function	U1308
RR CAMERA COMM ERROR		U130B
CONFIG UNFINISH	• Operation is according to the vehicle setting value set as the default value • Stops Around View Monitor with park assist	U1305
PUMP INPUT CURRENT JUDGE	• Stops BSW (Blind Spot Warning) • Stops the MOD (Moving Object Detection) function	U1309
PUMP ECU JUDGE		U130A U1310
LED POWER SUPPLY VOLT	Stops Around View Monitor with park assist	U1303
When communications between the Around View Monitor control unit and each camera image line are affected by electromagnetic noise	On the corresponding camera screen, ☒ display (blue) is displayed	—

DTC Inspection Priority Chart

INFOID:0000000010504558

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

Priority	Detection items (DTC)
1	U1305:CONFIG UNFINISH
2	• U1000:CAN COMM CIRCUIT • U1010:CONTROL UNIT(CAN)
3	U130B:RR CAMERA COMM ERROR
4	U1308:REAR CAMERA(R&L) CALIB JDGMNT
5	• C1A01:POWER SUPPLY CIRCUIT • C1A04:ABS/TCS/VDC CIRC • C1A14:ECM CIRCUIT • C1A39:STRG SEN CIR • U0122:VDC P-RUN DIAGNOSIS • U0416:VDC CHECKSUM • U0428:ST ANGLE SENSOR CALIBRATION • U111A:REAR CAMERA IMAGE SIGNAL • U111B:SIDE CAMERA RH IMAGE SIGNAL • U111C:FRONT CAMERA IMAGE SIGNAL • U111D:SIDE CAMERA LH IMAGE SIGNAL • U1232:ST ANGLE SEN CALIB • U1302:CAMERA POWER VOLT • U1303:LED POWER SUPPLY VOLT • U1304:CAMERA IMAGE CALIB • U1309:PUMP INPUT CURRENT JUDGE • U130A, U1310:PUMP ECU JUDGE
6	• C1A03:VHCL SPEED SE CIRC

DTC Index

INFOID:0000000010504559

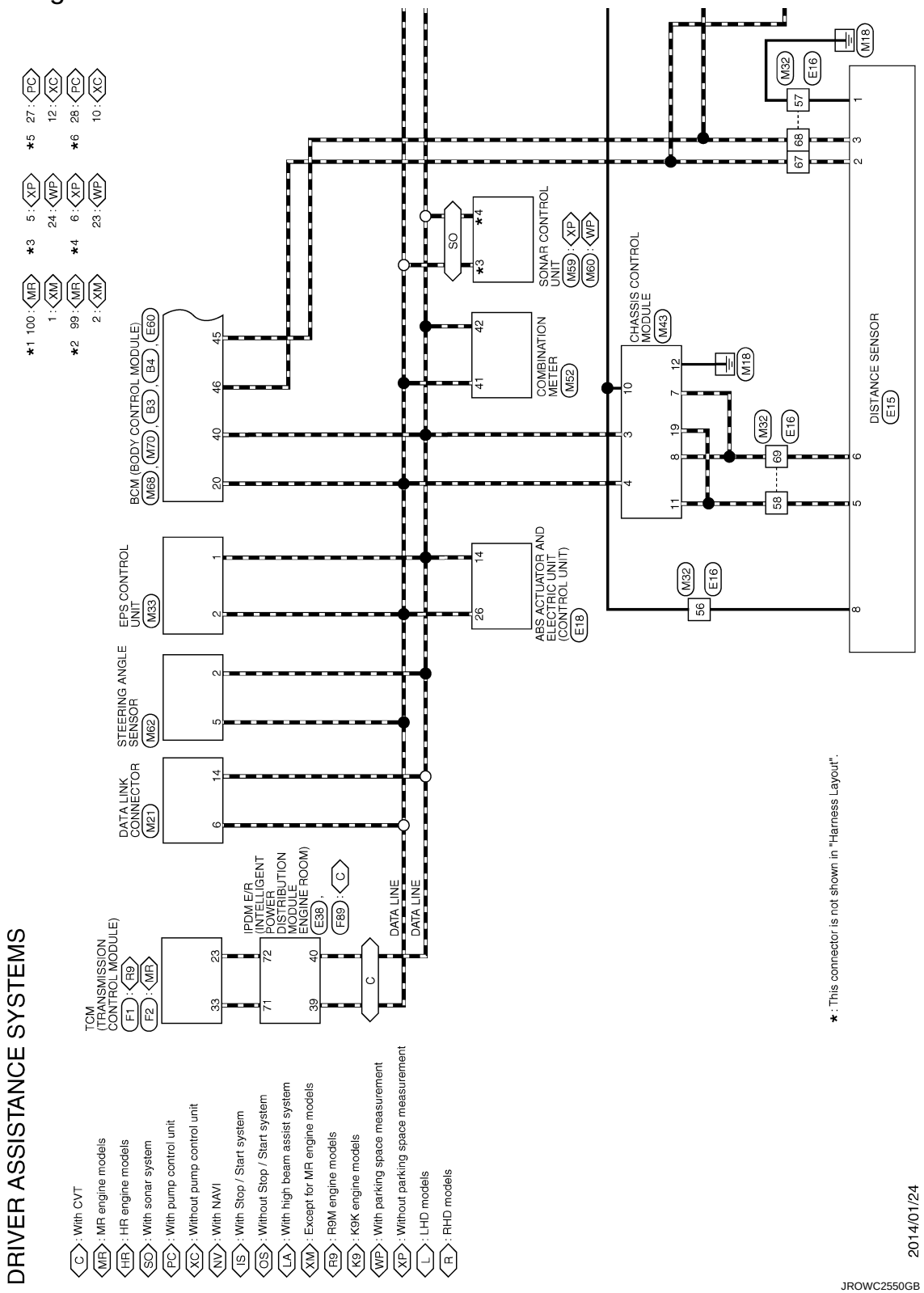
CONSULT Display	Reference Page
C1A01: POWER SUPPLY CIRCUIT	DAS-166, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A03: VHCL SPEED SE CIRC	DAS-168, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A04: ABS/TCS/VDC CIRC	DAS-169, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A14: ECM CIRCUIT	DAS-173, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
C1A39: STRG SEN CIR	DAS-182, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U0122: VDC P-RUN DIAGNOSIS	DAS-115, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U0416: VDC CHECKSUM	DAS-122, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U0428: ST ANGLE SENSOR CALIBRATION	DAS-123, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U1000: CAN COMM CIRCUIT	DAS-126, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U1010: CONTROL UNIT (CAN)	DAS-128, "AROUND VIEW MONITOR CONTROL UNIT : DTC Logic"
U111A: REAR CAMERA IMAGE SIGNAL	DAS-129, "DTC Logic"
U111B: SIDE CAMERA RH IMAGE SIGNAL	DAS-132, "DTC Logic"
U111C: FRONT CAMERA IMAGE SIGNAL	DAS-137, "DTC Logic"
U111D: SIDE CAMERA LH IMAGE SIGNAL	DAS-140, "DTC Logic"
U1232: ST ANGLE SEN CALIB	DAS-145, "DTC Logic"
U1302: CAMERA POWER VOLT	DAS-146, "DTC Logic"
U1303: LED POWER SUPPLY VOLT	DAS-155, "DTC Logic"
U1304: CAMERA IMAGE CALIB	DAS-157, "DTC Logic"
U1305: CONFIG UNFINISH	DAS-157, "DTC Logic"
U1308: REAR CAMERA (R&L) CALIB JDGMNT	DAS-158, "DTC Logic"
U1309 PUMP INPUT CURRENT JUDGE	DAS-159, "DTC Logic"
U130A, U1310: PUMP ECU JUDGE	DAS-161, "DTC Logic"
U130B: RR CAMERA COMM ERROR	DAS-162, "DTC Logic"

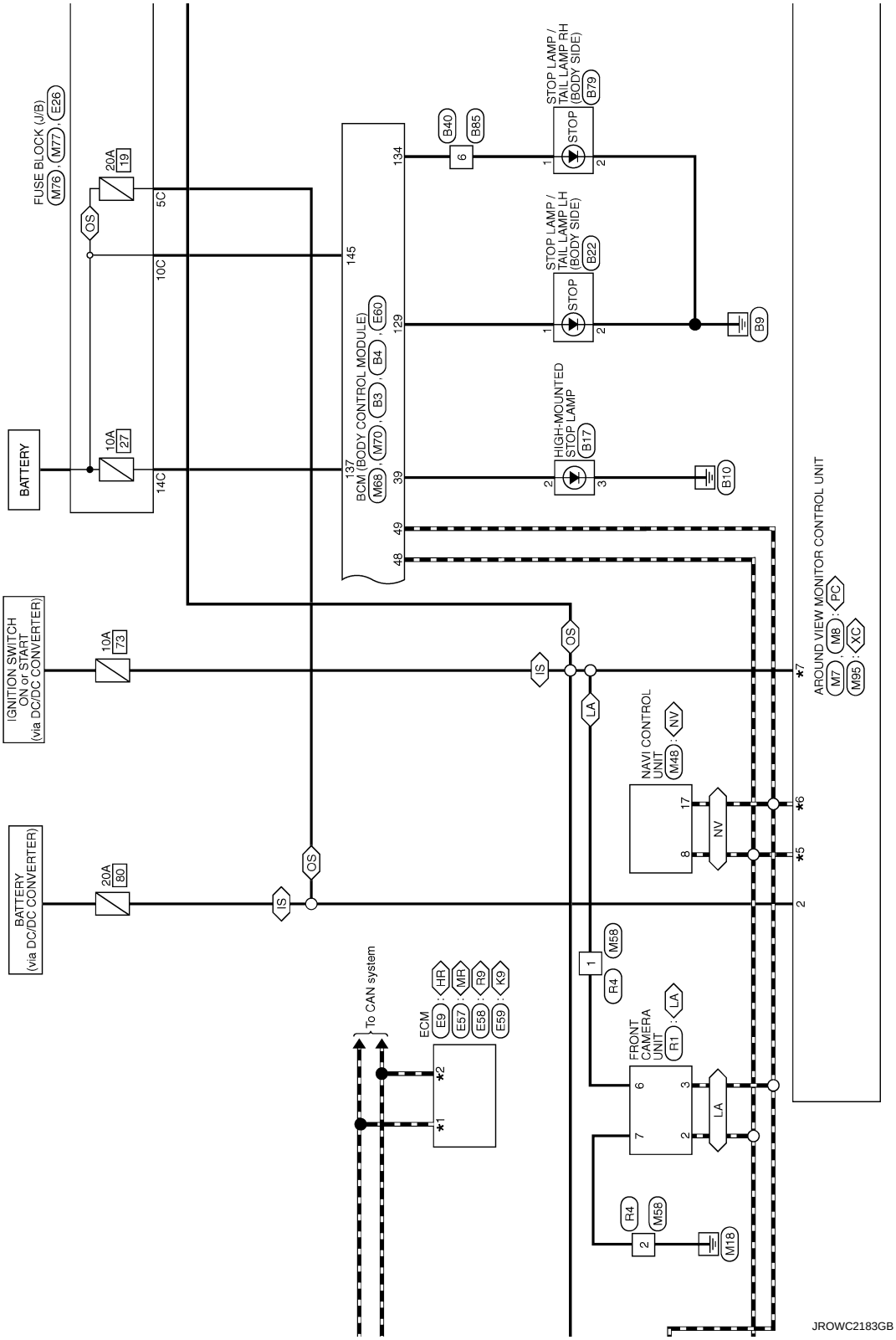
WIRING DIAGRAM

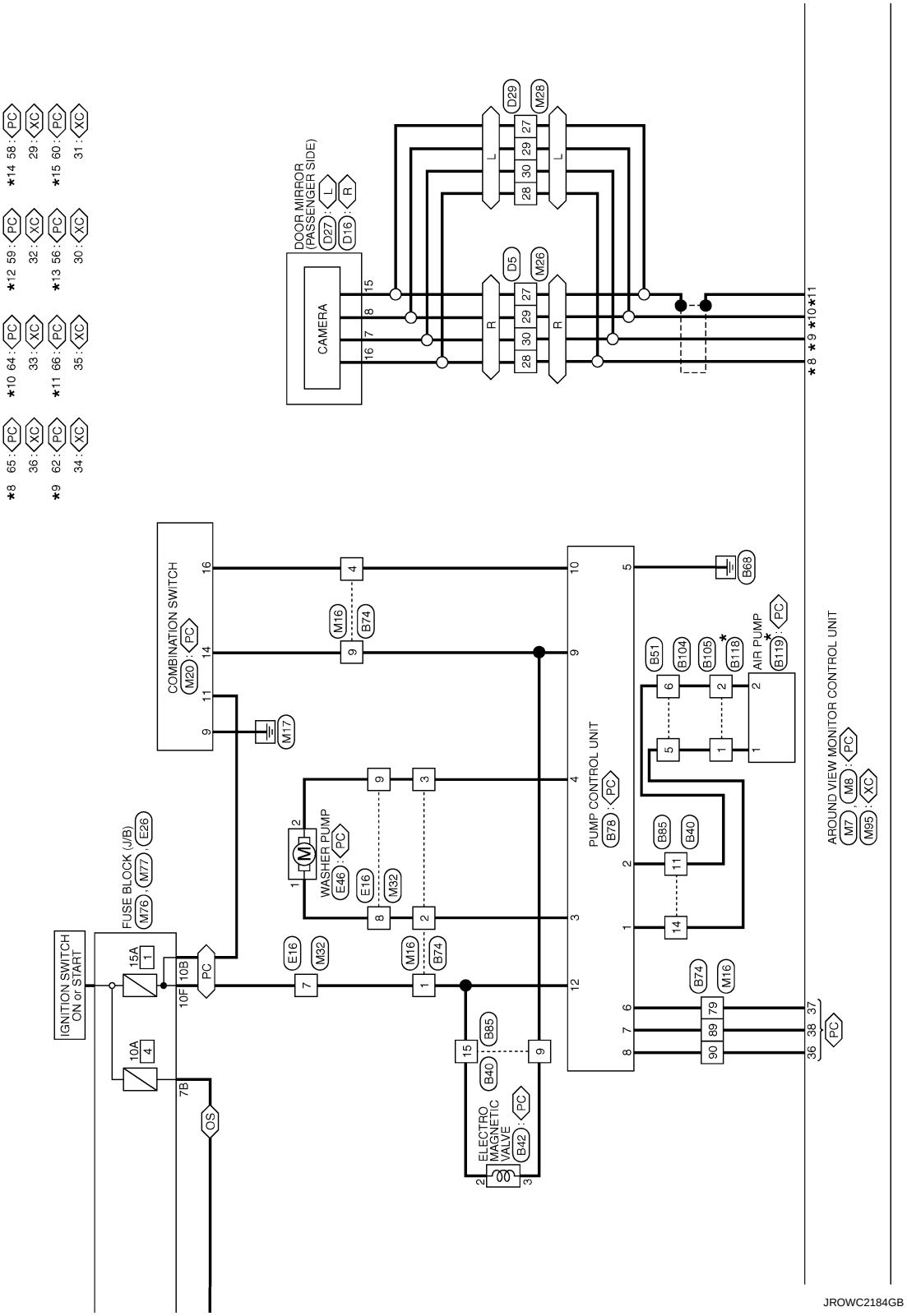
DRIVER ASSISTANCE SYSTEMS

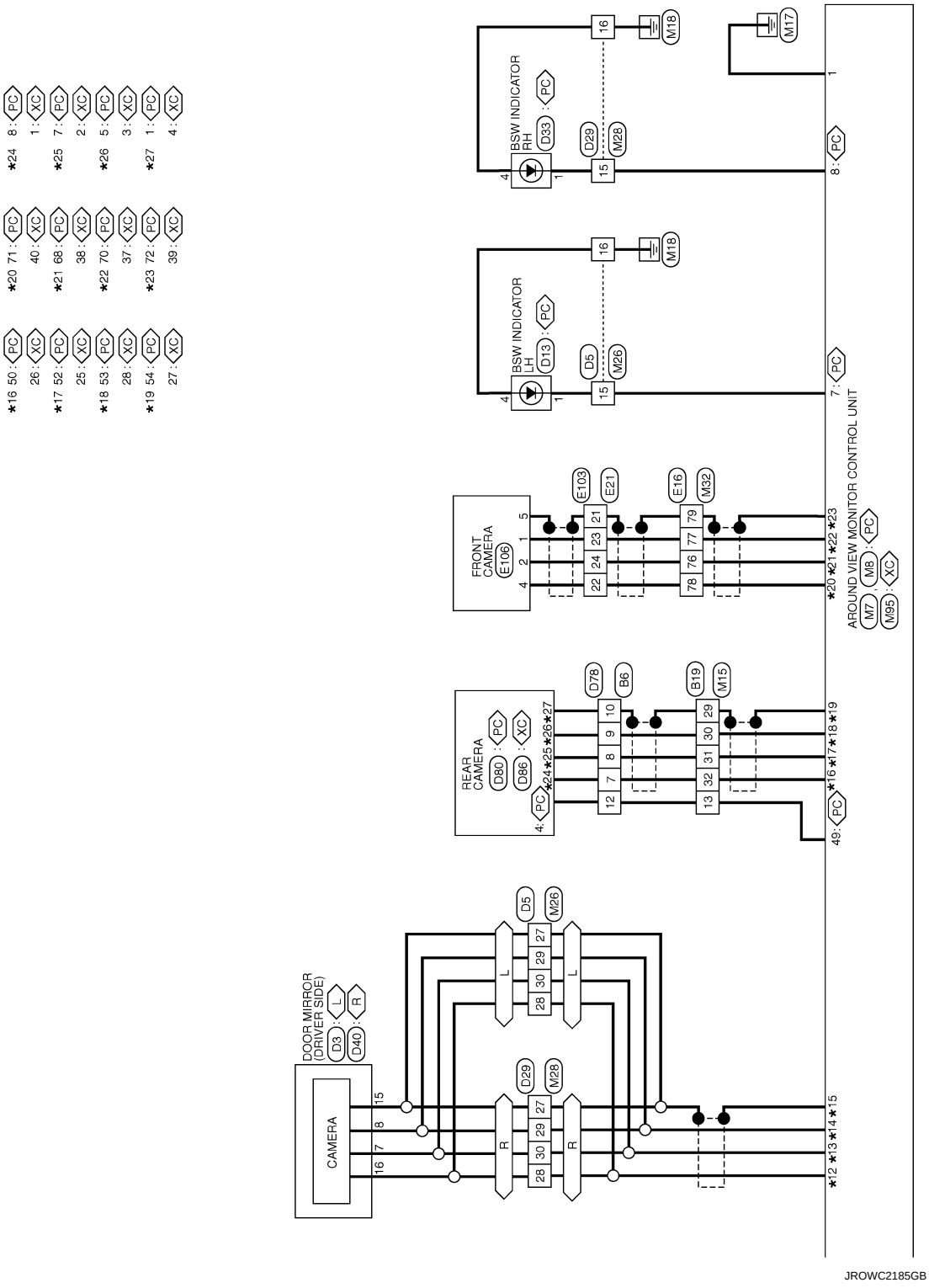
Wiring Diagram

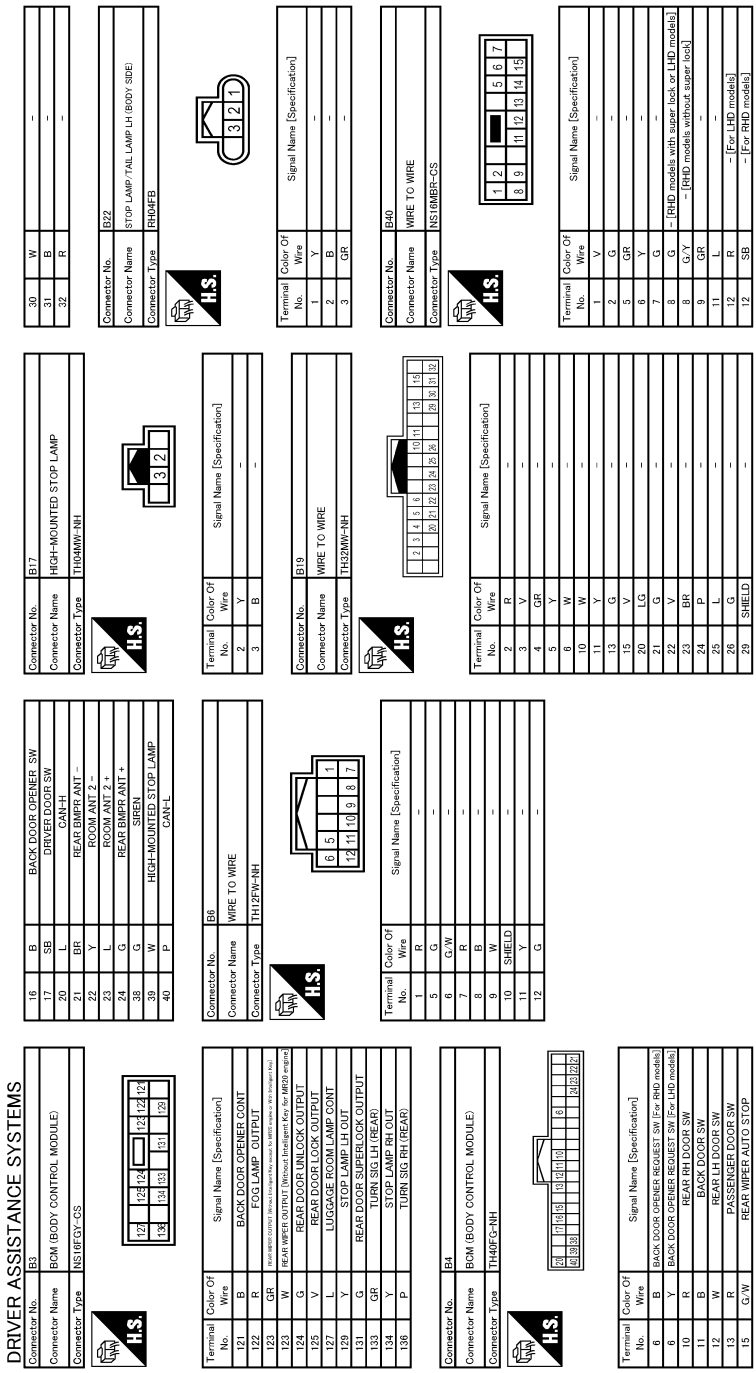
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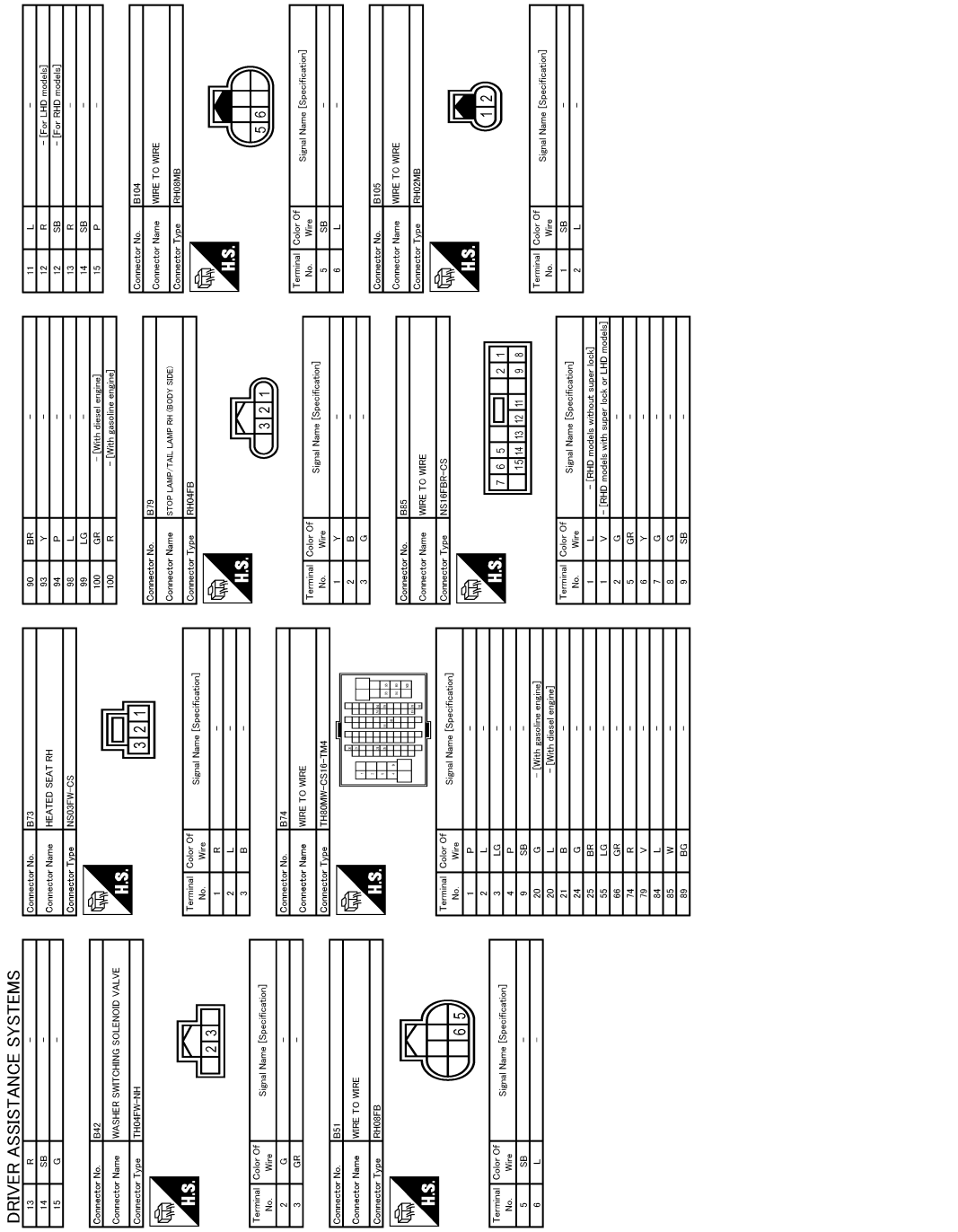

FUSE BLOCK (J/B)
M76 , M77 , E26
20A 19
10A 27
10A 73
20A 80
OS
IS
LA
5C
10C
14C
BATTERY
IGNITION SWITCH ON or START (via DC/DC CONVERTER)
BATTERY (via DC/DC CONVERTER)
BCM (BODY CONTROL MODULE)
M68 , M70 , B3 , B4 , E60
137
145
134
129
49
48
39
STOP LAMP / TAIL LAMP RH (BODY SIDE) B79
STOP LAMP / TAIL LAMP LH (BODY SIDE) B22
HIGH-MOUNTED STOP LAMP B17
B40
B85
6
B9
B10
AROUND VIEW MONITOR CONTROL UNIT
M7 , M8 : PC
M95 : XC
*7
NAVI CONTROL UNIT M48
NV
17
8
*6
*5
2
M58
R4
FRONT CAMERA UNIT R1
LA
6
3
7
2
M18
To CAN system
ECM
E9 : HR
E57 : MR
E58 : R9
E59 : K9
*2
*1
JROWC2183GB


CAMERA
DOOR MIRROR (PASSENGER SIDE)
COMBINATION SWITCH
PUMP CONTROL UNIT
WASHER PUMP
AIR PUMP
ELECTRO MAGNETIC VALVE
FUSE BLOCK (J/B)
IGNITION SWITCH ON or START
AROUND VIEW MONITOR CONTROL UNIT
JROWC2184GB

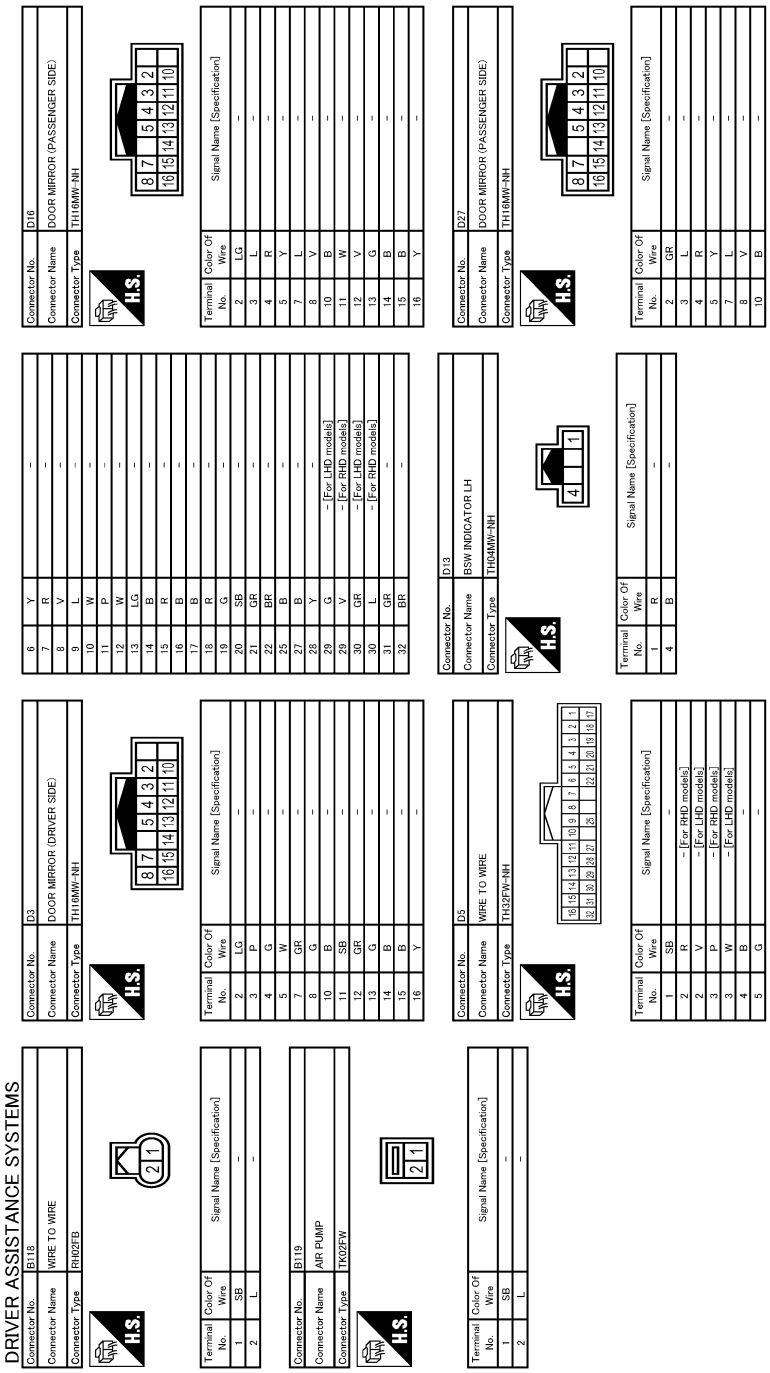

AROUND VIEW MONITOR CONTROL UNIT
FRONT CAMERA E106
REAR CAMERA D80 D86
BSW INDICATOR RH D33
BSW INDICATOR LH D13
DOOR MIRROR (DRIVER SIDE) D3 D40
CAMERA
M17
M18
M26
M28
M32
M7 M95
M8
E16
E21
E103
D5
D29
D78
B6
B19
M15
JROWC2185GB



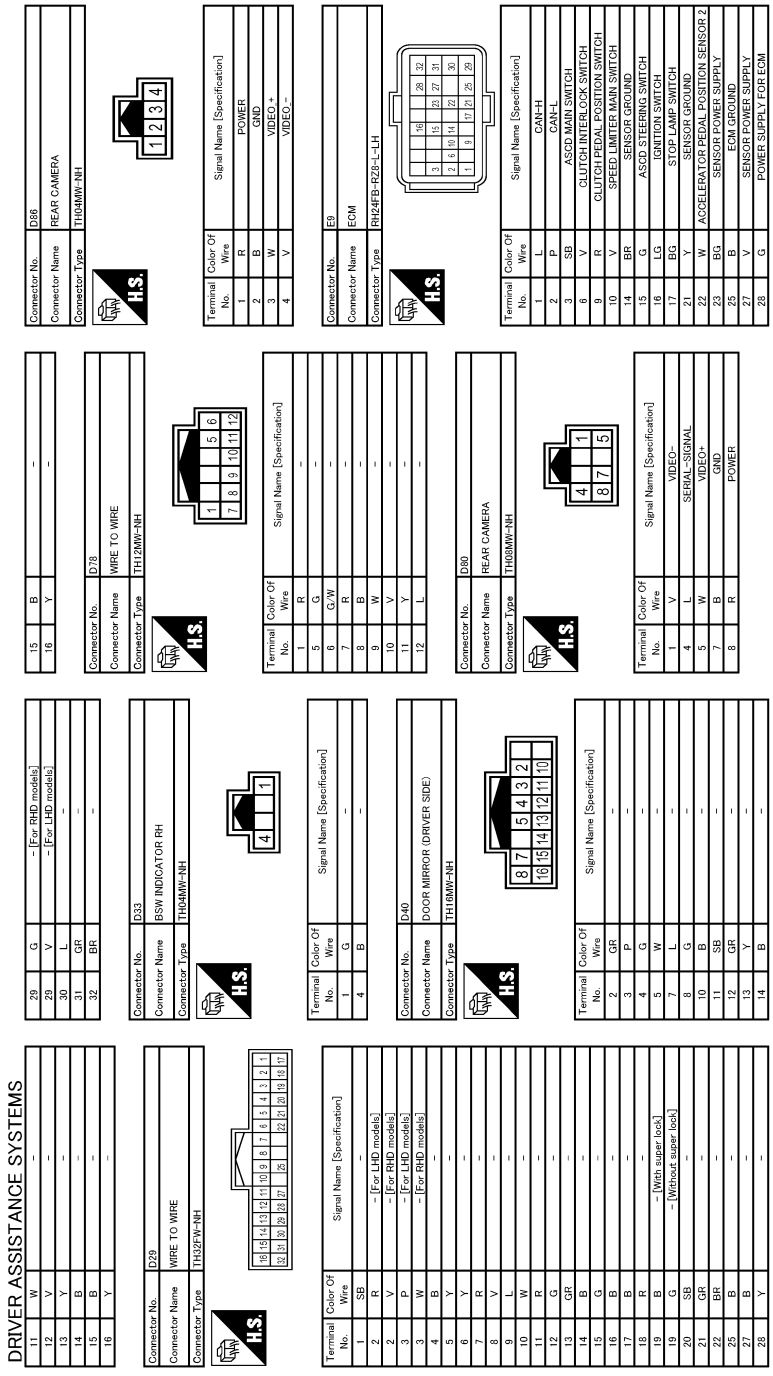
JROWC2198GB



JROWC2199GB



JROWC2200GB



JROWC2201GB

DRIVER ASSISTANCE SYSTEMS

29	B	ECM GROUND
30	GR	SENSOR GROUND
31	R	ACCELERATOR PEDAL POSITION SENSOR 1
32	B	ECM GROUND

Connector No.	E15
Connector Name	DISTANCE SENSOR
Connector Type	AAZ08FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	BG	CAN1-H(Vehicle)
3	R	CAN1-L(Vehicle)
5	L	CAN2-H(Local)
6	W	CAN2-L(Local)
8	P	IGN

Connector No.	E16
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	–
5	V	–
7	BG	–
8	L	–
9	LG	–
10	W	–
14	BG	–
20	L	–

21	P	–
22	SHIELD	–
24	W	–
31	V	–
32	W	–
33	SB	–
34	LG	–
35	BG	–
36	LG	–
37	V	–
38	G	–
39	BR	–
40	L	–
41	P	–
42	G	–
43	R	–
44	Y	–
45	BR	–
46	L	–
47	GR	–
48	Y	–
49	P	–
51	P	–
52	W	–
53	R	–
55	BR	–
56	P	–
57	B	–
58	L	–
59	Y	–
60	G	–
61	SB	–
62	V	–
63	BR	–
64	SB	–
65	LG	–
66	Y	–
67	BG	–
68	R	–
69	W	–
70	G	–
71	Y	–
72	L	–
73	R	–
76	L	–
77	V	–
78	LG	–
79	SHIELD	–
80	GR	–
82	Y	–

83	SB	–
84	L	–
85	G	–
86	Y	–
87	B	–
88	B	–
90	Y	–
91	R	–
93	Y	–
96	GR	–
97	W	–
98	V	–
99	GR	–

Connector No.	E18
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type	BE234FB-BH Y2-BJ22-RH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	MOTOR
4	SB	FR-RH SENSOR SIGNAL
5	V	VACP
8	P	FR-LH SENSOR SIGNAL
12	LG	VACS [With stop/start system]
12	Y	VACS [Without stop/start system]
13	B	GND M
14	P	CAN L
15	BR	VDC OFF SW
16	R	FR-RH SENSOR POWER
17	BG	RR-RH SENSOR POWER
18	G	RR-LH SENSOR SIGNAL
19	W	FR-LH SENSOR POWER
24	SHIELD	VAC(GND)
25	BR	ACTR
26	L	CAN H
28	GR	BAT TEMPO
29	SB	RR-RH SENSOR SIGNAL
31	BR	RR-LH SENSOR POWER
38	B	GND A

Connector No.	E21
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	–
2	R	–
3	Y	–
4	BR	–
5	L	–
6	GR	–
12	V	–
16	BG	–
17	W	–
21	SHIELD	–
22	LG	–
23	V	–
24	L	–

Connector No.	E26
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10F	BG	– [With stop/start system]
10F	L	– [Without stop/start system]
1F	W	–
5F	V	–
6F	GR	–

JROWC2202GB

DRIVER ASSISTANCE SYSTEMS

Connector No.	E38
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH24FGY-NH

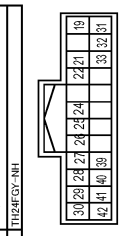
Terminal No.	Color Of Wire	Signal Name [Specification]
19	LG	–
21	SB	–
22	P	–
24	L	–
25	G	–
26	B	–
27	BG	–
28	LG	–
29	V	–
30	Y	–
31	GR	–
32	SB	–
33	BR	–
39	L	–
40	P	–
41	W	–
42	R	–

Connector No.	E46
Connector Name	WASHER PUMP
Connector Type	FEA02FB-LC

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
2	LG	–

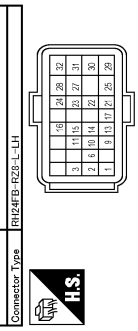
Connector No.	E57
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH

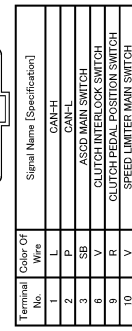




Terminal No.	Color Of Wire	Signal Name [Specification]
97	W	ATMOSPHERIC PRESSURE SENSOR
99	P	CAN-L
100	L	CAN-H
101	Y	SENSOR POWER SUPPLY (ATMOSPHERIC PRESSURE SENSOR)
108	R	CLUTCH PEDAL POSITION SENSOR
109	LG	IGNITION SWITCH
110	G	ASCD STEERING SWITCH
111	BR	SENSOR GROUND
115	V	STOP LAMP SWITCH
116	GR	ASCD BRAKE SWITCH
118	BG	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
119	W	ACCELERATOR PEDAL POSITION SENSOR 2
120	Y	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
121	BR	POWER SUPPLY FOR ECM
122	V	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
123	B	ECM GROUND
124	R	SENSOR GROUND (ATMOSPHERIC PRESSURE SENSOR)
125	B	ECM GROUND
126	R	ACCELERATOR PEDAL POSITION SENSOR 1
127	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
128	B	ECM GROUND

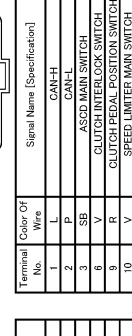
Connector No.	E58
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH

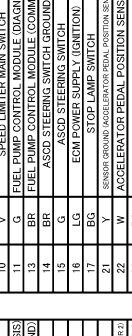




Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
3	SB	ASCD MAIN SWITCH
6	V	CLUTCH INTERLOCK SWITCH
9	R	CLUTCH PEDAL POSITION SWITCH
10	V	SPEED LIMITER MAIN SWITCH
11	G	FUEL PUMP CONTROL MODULE (DIAGNOSIS)
13	BR	FUEL PUMP CONTROL MODULE (COMMAND)
14	BR	ASCD STEERING SWITCH GROUND
15	G	ASCD STEERING SWITCH
16	LG	IGNITION SWITCH
17	BG	STOP LAMP SWITCH [With M/T]
17	R	STOP LAMP SWITCH [With CVT]
21	P	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
22	V	ACCELERATOR PEDAL POSITION SENSOR 2
23	L	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
24	L	WATER IN FUEL LEVEL SENSOR
25	B	ECM GROUND
26	B	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
27	G	POWER SUPPLY FOR ECM
28	G	ECM GROUND
29	B	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
30	Y	ACCELERATOR PEDAL POSITION SENSOR 1
31	W	ECM GROUND
32	B	

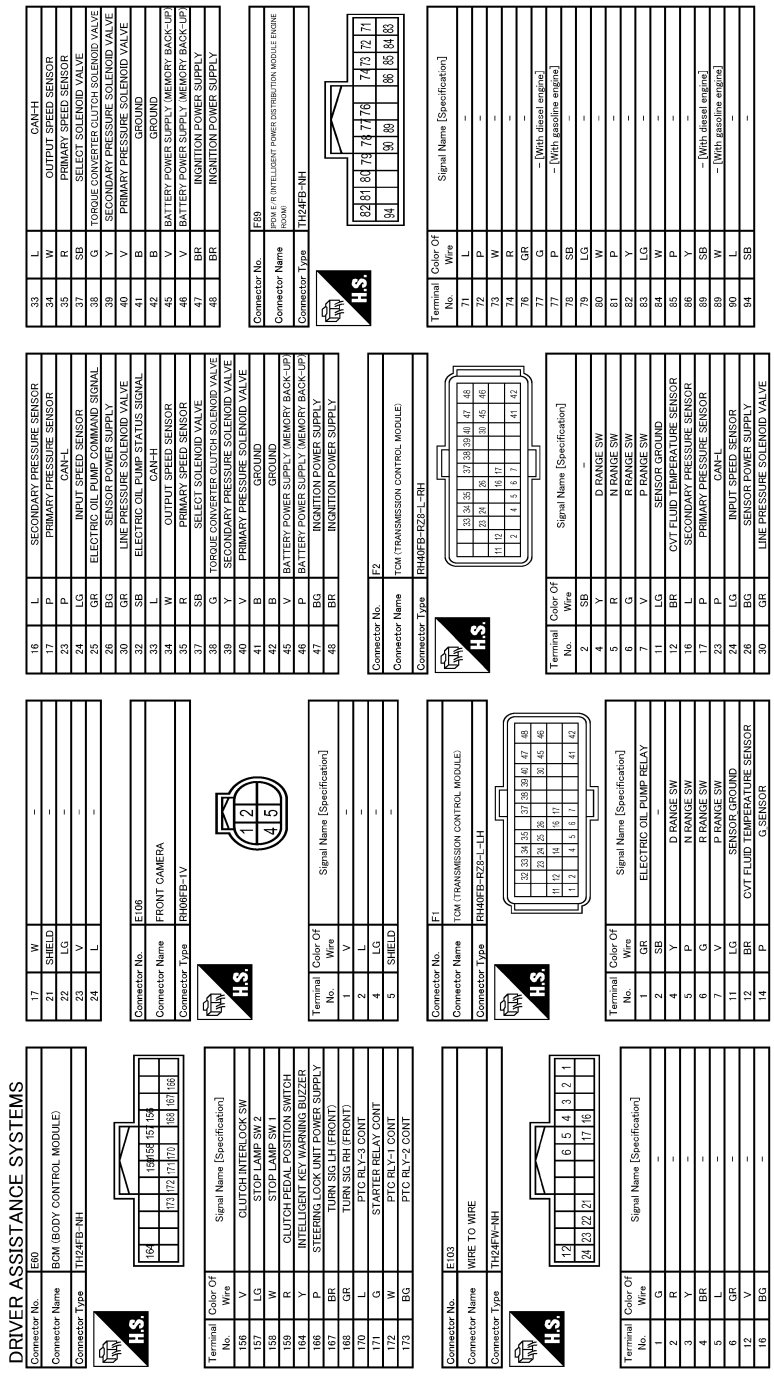
Connector No.	E59
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH





Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
3	SB	ASCD MAIN SWITCH
6	V	CLUTCH INTERLOCK SWITCH
9	R	CLUTCH PEDAL POSITION SWITCH
10	V	SPEED LIMITER MAIN SWITCH
11	G	FUEL PUMP CONTROL MODULE (DIAGNOSIS)
13	BR	FUEL PUMP CONTROL MODULE (COMMAND)
14	BR	ASCD STEERING SWITCH GROUND
15	G	ASCD STEERING SWITCH
16	LG	ECM POWER SUPPLY (IGNITION)
17	BG	STOP LAMP SWITCH
21	Y	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
22	W	ACCELERATOR PEDAL POSITION SENSOR 2
23	BG	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
24	L	FUEL HEATER AND WATER IN FUEL SENSOR
25	B	ECM GROUND
26	B	ECM GROUND
27	V	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
29	B	ECM GROUND
30	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
31	R	ACCELERATOR PEDAL POSITION SENSOR 1
32	B	ECM GROUND

JROWC2203GB

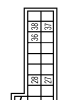


JROWC2204GB

DRIVER ASSISTANCE SYSTEMS

Connector No.	M7
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH40FW-NH

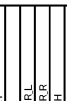
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	Y	BATTERY
3	SB	IGN
7	R	INDICATOR_L
8	P	INDICATOR_R
27	L	V-CAN-H
28	R	V-CAN-L
36	BR	FROM C/U TO PUMP
37	V	SIGNAL GND
38	GR	FROM PUMP TO C/U

Connector No.	M8
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH32FW-NH

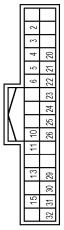
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
47	G	COMP. OUT+
48	SHIELD	COMP. OUT-
49	LG	RV-SERIAL-SIGNAL
50	R	RV-POWER
52	B	RV-GND
53	W	RV-VIDEO+
54	SHIELD	RV-VIDEO-
56	L	SIDE-DR POWER
58	Y	SIDE-DR GND
59	G	SIDE-DR GND
60	SHIELD	SIDE-DR VIDEO-
62	B	SIDE-AS POWER
64	L	SIDE-AS GND
65	Y	SIDE-AS VIDEO+
66	SHIELD	SIDE-AS VIDEO-
68	L	FV-POWER
70	V	FV-GND
71	LG	FV-VIDEO+
72	SHIELD	FV-VIDEO-

Connector No.	M15
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH

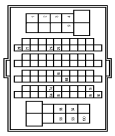
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
2	SB	–
3	V	–
4	GR	–
5	BR	–
6	W	–
10	R	–
11	L	–
13	LG	–
15	V	–
20	BG	–
21	BG	–
22	GR	–
23	GR	–
24	P	–
25	L	–
26	G	–
29	SHIELD	–
30	W	–
31	B	–
32	R	–

Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

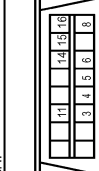
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	–
2	P	–
3	SB	–
4	P	–
9	SB	–
20	G	–
21	B	–
24	G	–
25	BR	–
55	LG	–
66	GR	–
74	R	–
79	V	–
84	L	–
85	W	–
89	GR	–
90	BR	–
93	Y	–
94	P	–
98	L	–
99	LG	–
100	R	–

Connector No.	M20
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH

H.S.



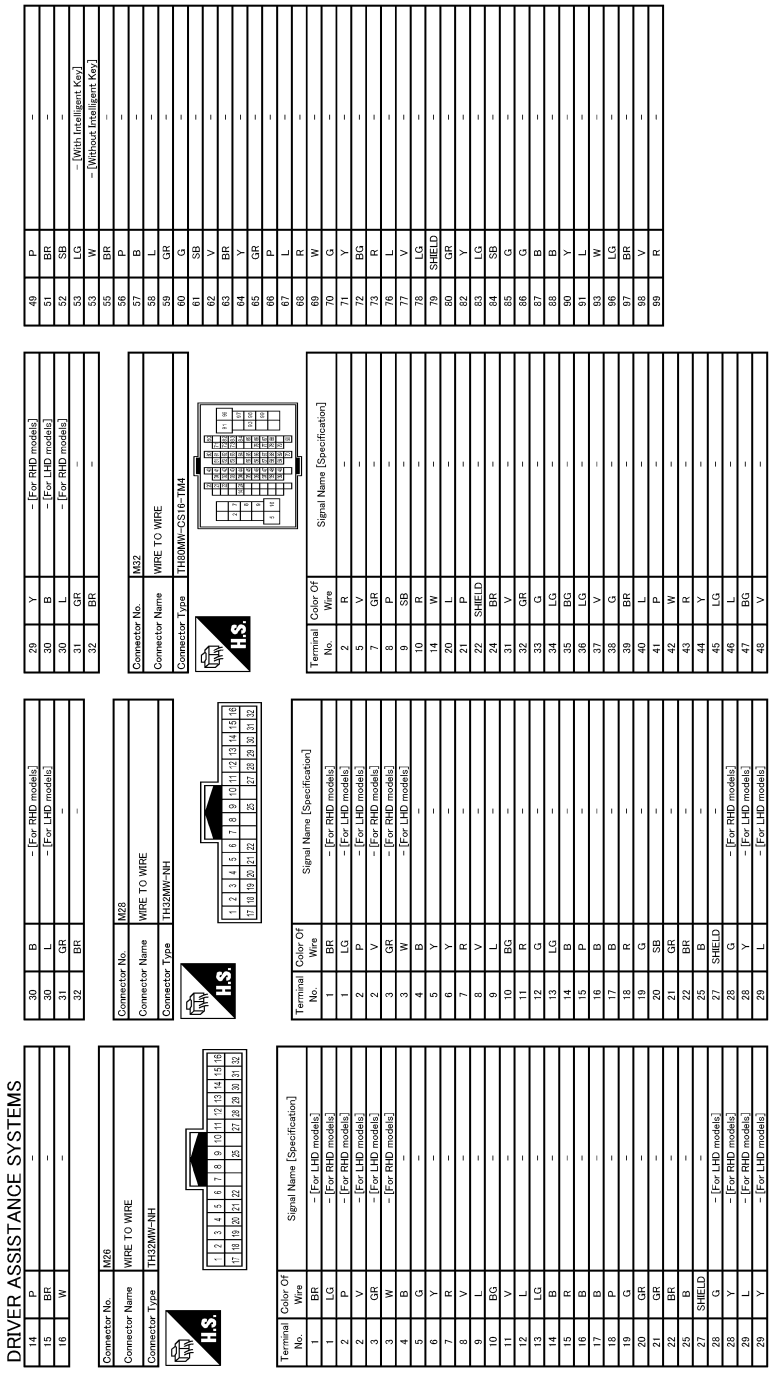
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	INPUT 1
2	Y	OUTPUT 5
3	W	INPUT 2
4	G	INPUT 3
5	BG	OUTPUT 4
6	GR	INPUT 4
7	L	OUTPUT 1
8	LG	INPUT 5
9	B	GND
10	R	OUTPUT 3
11	V	IGN
14	SB	FR WASH MOTOR
15	BR	OUTPUT 2
16	P	RR WASH MOTOR

Connector No.	M21
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

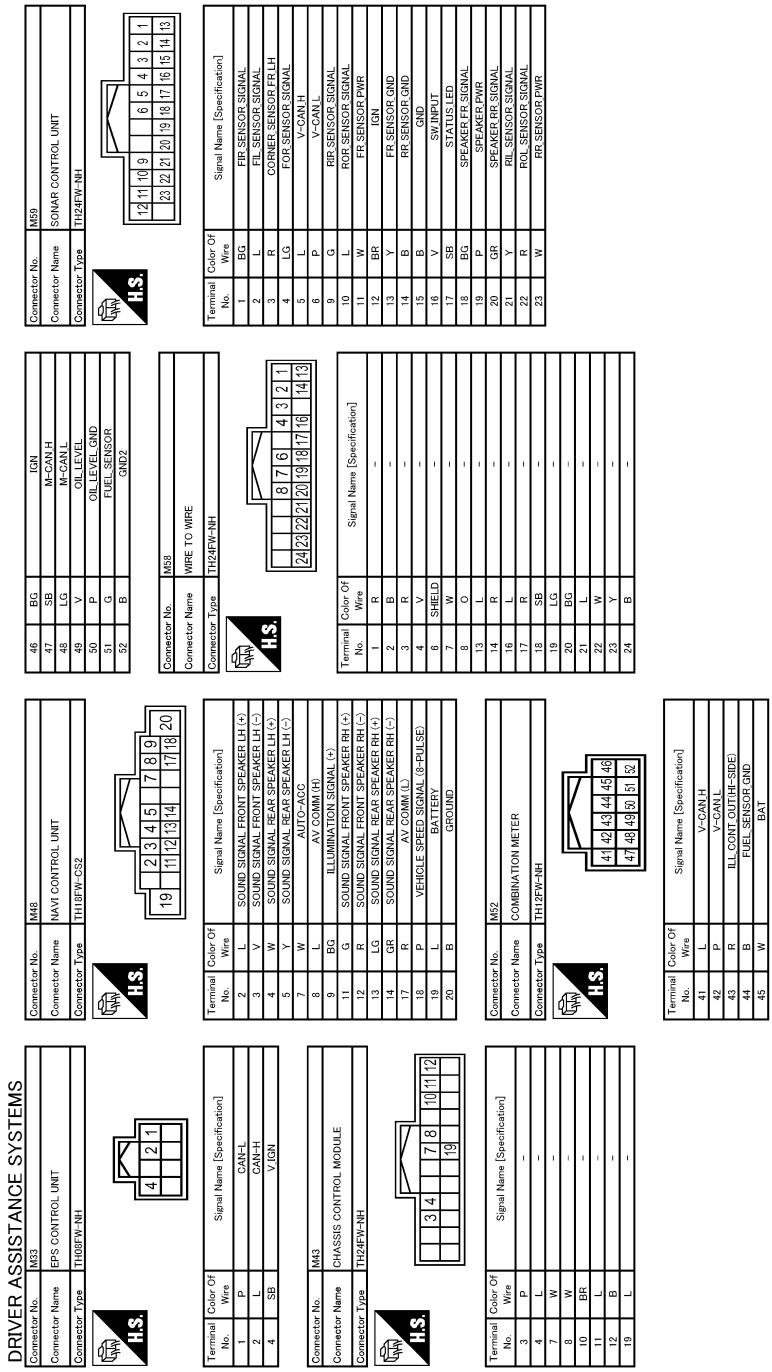
H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	–
4	B	–
5	B	–
6	L	–
8	Y	–
11	SB	–

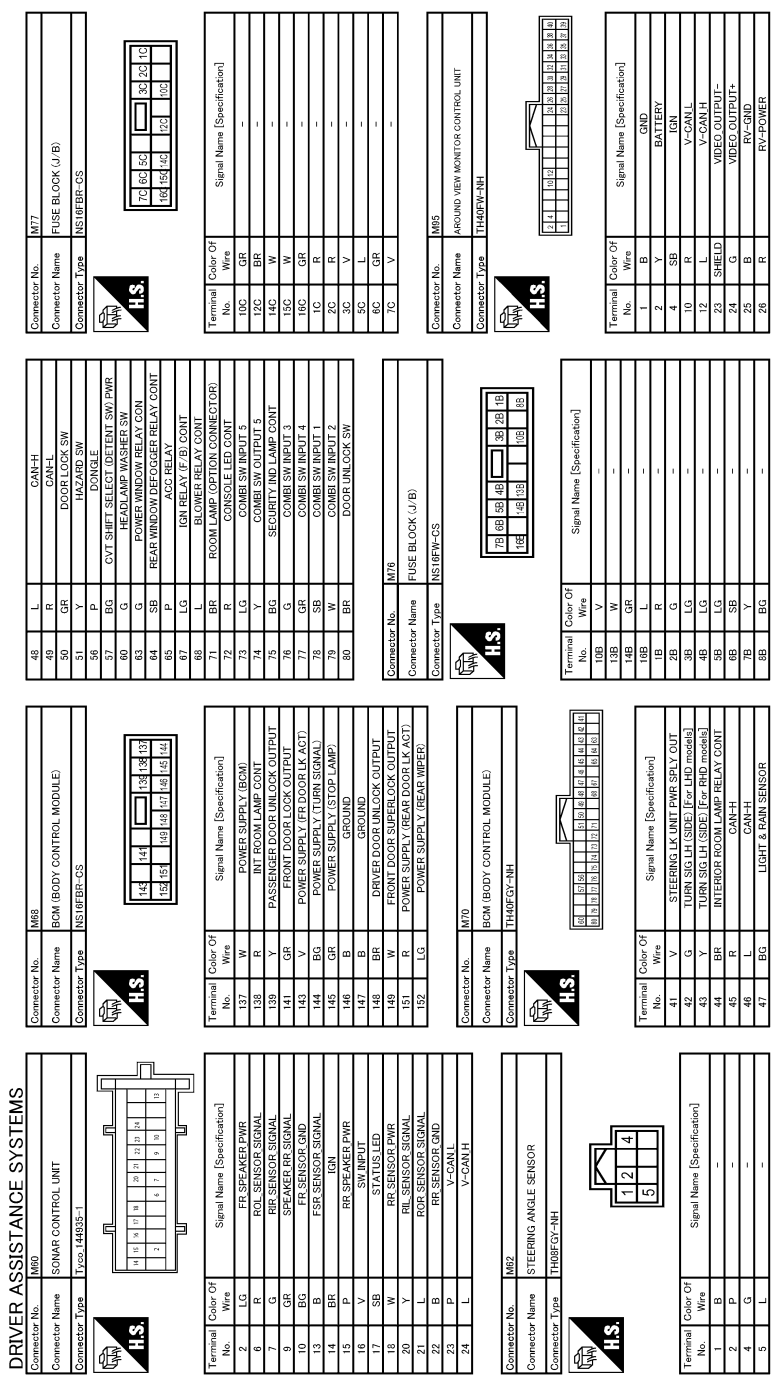
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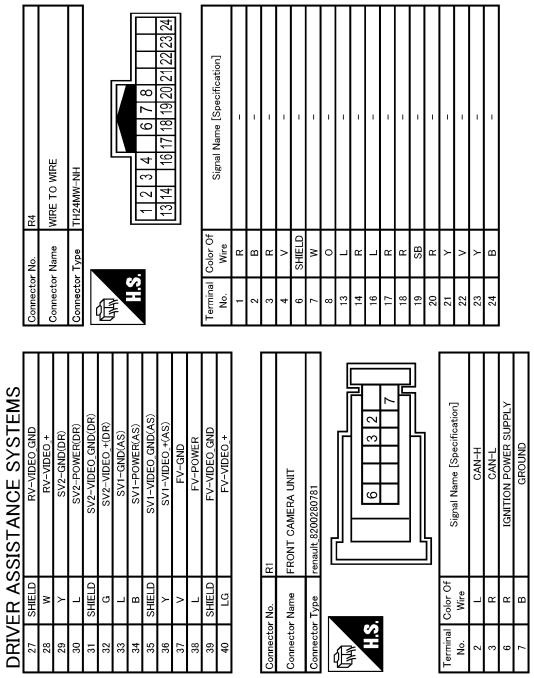
JROWC2206GB



JROWC2207GB



JROWC2208GB



JROWC2209GB

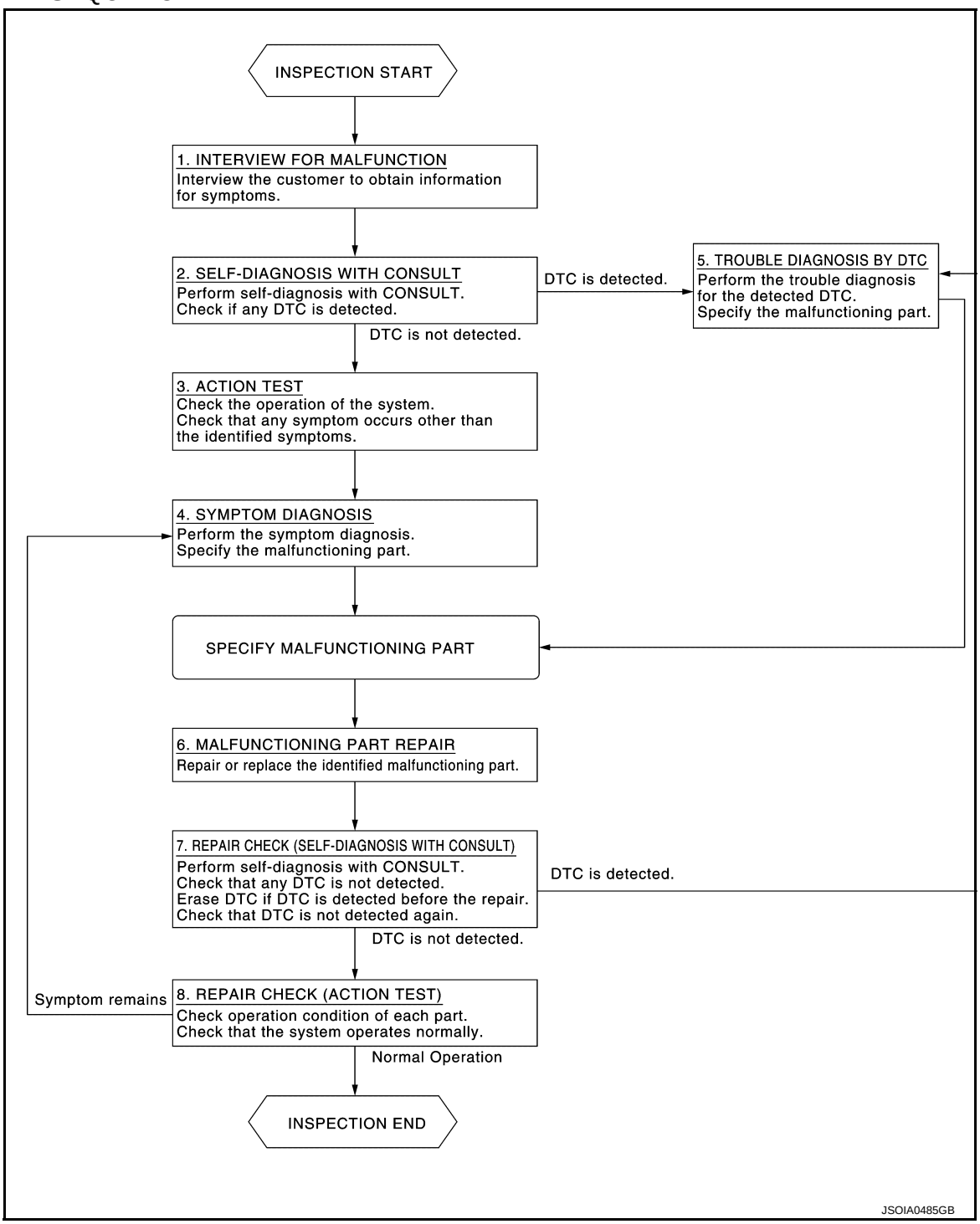
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000010479690

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:

- “AVM”

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:
• IPA refer to DAS-359, "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-195, "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:

- “AVM”: Refer to DAS-49, "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:

- “AVM”

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.

ACTION TEST

Description

INFOID:0000000010451344

After the Around View Monitor is replaced or after a malfunctioning part of Around View monitor with park assist is restored, perform an operation inspection and check that the system is operating normally.

Work Procedure

INFOID:0000000010451345

1.CHECK AROUND VIEW MONITOR OPERATION

Check that the Around View Monitor and camera assistance sonar system are operating normally.Refer to AV-134, "System Description".

>> GO TO 2

2.CHECK AROUND VIEW MONITOR WITH PARK ASSIST START-UP

1. Press "Camera switch" and switch to the camera screen.
2. Press "park assist (PA) switch" on the screen.
3. Check that the system switches to the parking method selection screen.

>> GO TO 3

3.CHECK OPERATION OF PARKING MODE SELECTION

1. Select "Parking mode selector switch" for each parking space.
2. Check that the parking box lines corresponding to the selected mode are displayed on the screen. Refer to DAS-319, "System Description" (possible parking patterns).

>> GO TO 4

4.CHECK OPERATION OF BOX ADJUSTMENT

1. With the parking box lines corresponding to the selected mode displayed on the screen, align the vehicle position with the parking box.
2. Press "Box adjustment switch" on the screen.
3. Check that automatic adjustment is performed so that the target parking box (blue box) and the actual parking box position match.
4. Press "Parking box position adjustment switch" on the screen, and check that fine adjustment of the box lines is performed.

>> GO TO 5

5.CHECK AROUND VIEW MONITOR WITH PARK ASSIST OPERATION

1. Press "Start switch" and perform parking with automatic steering.
2. Check that steering operates automatically when parking is started.
3. Check that information such as the parking guidance box, etc. is displayed on the screen. Refer to DAS-319, "System Description" (functions overview).
4. If there is an obstacle in the target turning box, check that the obstacle is detected and that the warning sound sounds.
5. Check that the chime sounds and that Around View monitor with park assist is stopped automatically when the vehicle moves close to the parking guidance box (blue)

>> INSPECTION END

SYMPTOM DIAGNOSIS

PARK ASSIST SYMPTOMS

Symptom Table

INFOID:0000000010451346

Symptom	Confirmation item	Inspection item/Reference page
Touch panel cannot be operated.	In the map screen, etc., touching the same location as the display operates normally.	Replace Around View Monitor control unit Refer to AV-267, "Removal and Installation"
	In the map screen, etc., touching the same location as the display does not operate normally.	Check the NAVI control unit
Steering does not operate automatically after parking assist starts	—	Replace Around View Monitor control unit Refer to AV-267, "Removal and Installation"
During parking assist, the system is not canceled even if the steering wheel is operated	"⚠ Parking assist malfunction" is display on the display.	Check the Power Steering Refer to AV-158, "WITH DRIVER ASSISTANCE SYSTEM : DTC Index"
	"⚠ Parking assist malfunction" is not displayed on the display.	Replace Around View Monitor control unit Refer to AV-267, "Removal and Installation"
Guide sound is not heard	—	• Check the Around View Monitor control unit Refer to AV-174, "Work Flow" • Check the NAVI control unit Refer to AV-174, "Work Flow"
Buzzer sound is not output.	—	• Check Around View Monitor control unit Refer to AV-174, "Work Flow" • Check Sonar control unit Refer to SN-77, "Work Flow"

NORMAL OPERATING CONDITION

Description

INFOID:0000000010451347

PRECAUTIONS WHEN USING AROUND VIEW MONITOR WITH PARK ASSIST

- Around View Monitor with park assist is designed to assist steering wheel operation of the driver when parking the vehicle. This function does not automatically adjust speed or avoid obstacles. The driver should directly check the safety of the surroundings and the condition of the road surface using the mirrors and their line of sight, as when performing normal parking operations.
- While the system is operating, move the vehicle slowly, and when it appears likely that the vehicle may contact other vehicles, obstacles, or persons surrounding the vehicle, perform operations to avoid these obstacles by fully depressing the brake, etc.
- Never touch the spoke part of the steering wheel while Around View Monitor with park assist is operating.There is a risk of injuring hands or fingers. Never allow a scarf or neck tie, etc. to become entangled, because it may result in an unexpected accident.
- Never drive the vehicle while looking only at the screen. Otherwise. it may result in contact with obstacles or an unexpected accident.
- When assistance by Around View Monitor with park assist is no longer necessary, touch "End" on the screen and end the function. If Around View Monitor with park assist remains in operation, the steering operates automatically. This could result in an unexpected accident.
- Before using Around View Monitor with park assist, directly check visually that there is sufficient space surrounding the vehicle for performing parking operations.
- Never use in the following conditions.

- Unmaintained road surfaces such as sand or gravel, etc.
- Slippery road surfaces where there is snow or ice, etc.
- Sloping roads or roads that are not flat where there is unevenness, or where there are curbs or grooves
- Mechanically operated parking lots
- When snow chains or emergency tires are installed
- When towing
- When a door (including the back door) is not closed

BREAKDOWNS AND EASILY MISTAKEN PHENOMENA

- After white lines are detected automatically and fine adjustment of the parking guidance box is performed, and if the vehicle is moved without pressing "Start" (start switch), the parking guidance box returns to the initial position (position before performing fine adjustment).
- When "PA" (Around View Monitor with park assist switch) is pressed in the R (reverse) range, the rearview screen is displayed and the parking method selection screen is not displayed.
- When aligning the parking box position on the screen, when the vehicle is driven for 5 seconds or more, or when the vehicle is driven at a speed of 4 km/h or more, the guidance message changes to "Check surroundings for safety." At the same time, the parking guidance box and turning guidance box disappear.
- When Around View Monitor with park assist is finished, the steering wheel does not completely return to the straight-ahead position (neutral position).