SECTION CCS
CRUISE CONTROL SYSTEM

CONTENTS

ICC

PRECAUTION

PRECAUTIONS

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

INFOID:0000000012789836

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

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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.

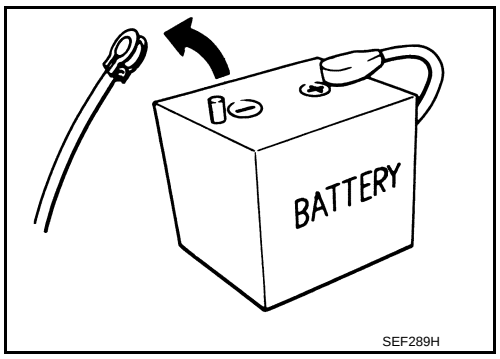
- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious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

Precautions for Removing Battery Terminal

INFOID:0000000013398021

When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:



BR08DE	: 4 minutes	V9X engine	: 4 minutes
D4D engine	: 20 minutes	YD25DDTi	: 2 minutes
HR09DET	: 12 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		

NOTE:

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:

- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
  - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
  - Driving for 30 minutes or more on a steep slope.

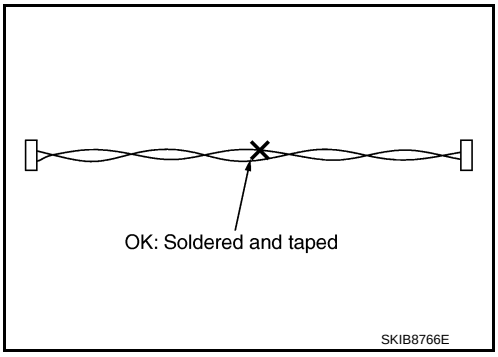
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 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.

Precautions For Harness Repair

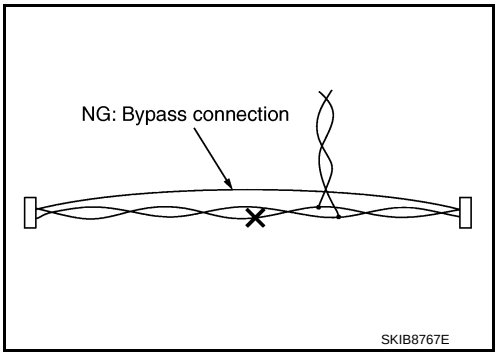
INFOID:0000000012789838

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.



ICC System Service

INFOID:0000000013398031

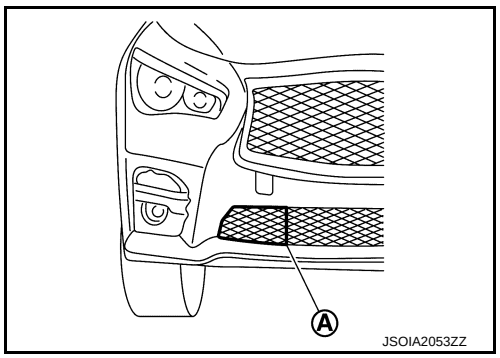
CAUTION:

- **Turn the MAIN switch OFF in conditions similar to driving, such as free rollers or a chassis dynamometer.**
- **Erase DTC when replacing parts of ICC system, then check the operation of ICC system after radar alignment if necessary.**

PRECAUTION FOR ICC SENSOR

- Never use the ICC sensor removed from vehicle. Never disassemble or remodel.

- Never install a part that the radar irradiation range Ⓐ is interfered with.
- If a part interferes with the radar irradiation range, then the following conditions are caused:
- The condition of ICC sensor becomes equal to an unclean condition, and this makes it difficult to measure the distance between cars.
- When it is impossible to measure the distance between cars, the following functions stop and DTC is detected.
- Forward Emergency Braking (FEB)
- Intelligent Cruise Control (ICC)
- Distance Control Assist (DCA)
- Predictive Forward Collision Warning (PFCW)

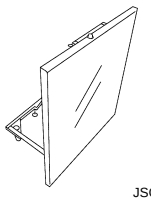
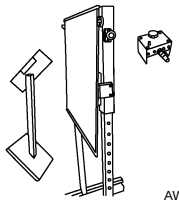
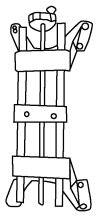
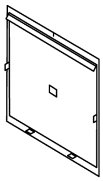


PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000012789840

Tool number (Kent-Moore No.) Tool name	Description
KV99112700 (—) ICC target board  JSOIA1012ZZ	Uses for radar alignment
— (1-20-2721-1-IF) ICC alignment kit  AWOIA0016ZZ	Uses for radar alignment
— (1-20-2722-1-IF) Wheel adaptor  AWOIA0017ZZ	Uses for radar alignment
— (J-50808) ICC alignment kit attachment board  JSOIA1065ZZ	Uses for radar alignment

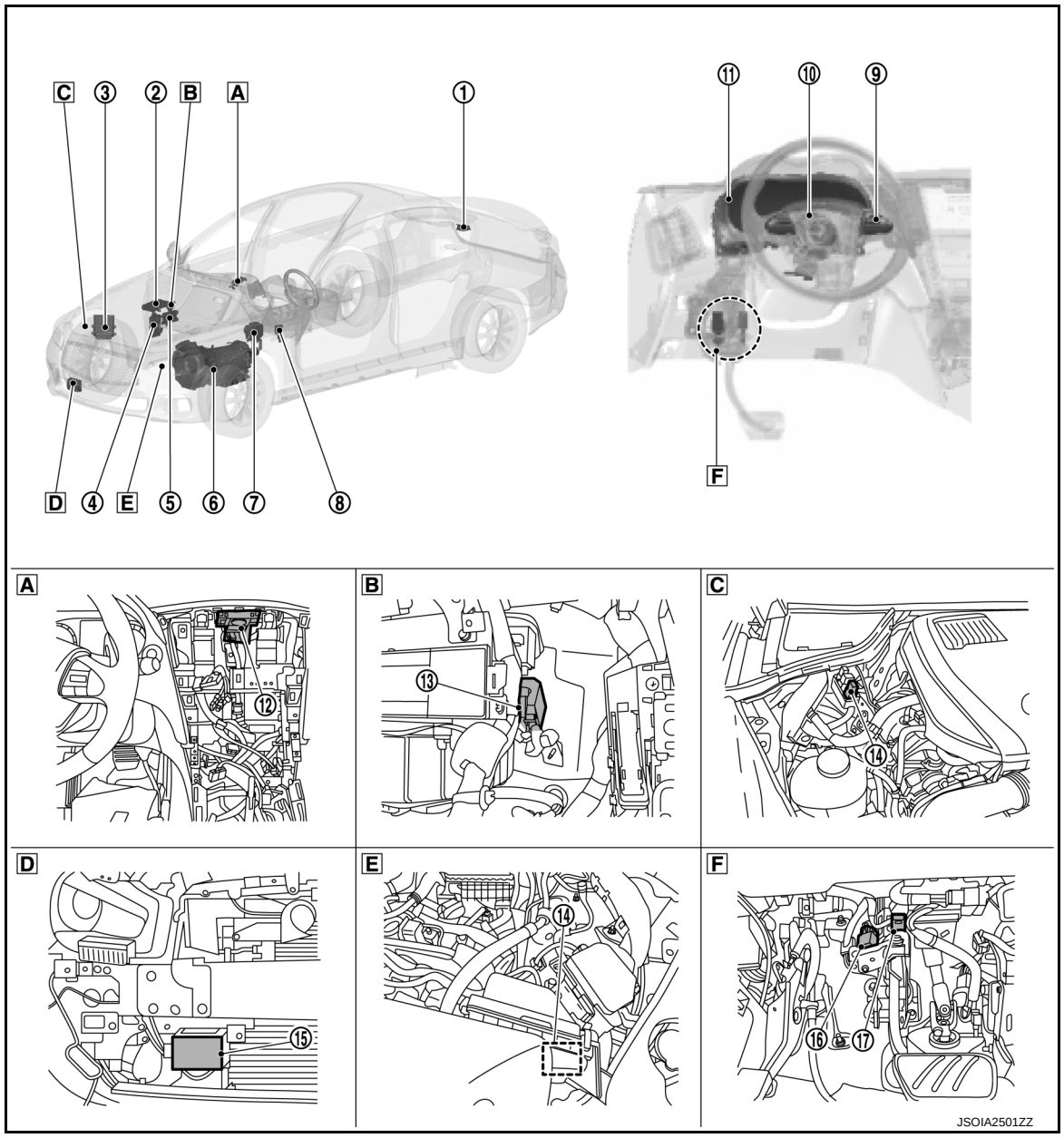
NOTE:
For radar alignment, KV99112700 or a set of Kent-Moore No. SST are to be used.

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000012789841



A	Instrument panel (Center)	B	Instrument lower panel (RH)	C	Engine room (RH) (2.0L turbo gasoline engine)
D	Front bumper (RH)	E	Engine room (LH) (VR30DDTT)	F	Upper side of brake pedal

×: Applicable

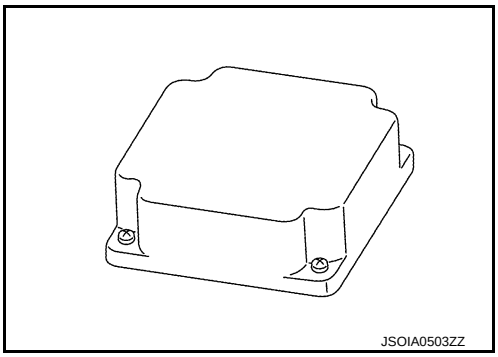
No.	Component	Function		Description
		Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	
①	ADAS control unit	×	×	• Refer to CCS-12, "ADAS Control Unit" • Refer to DAS-16, "Component Parts Location" for detailed installation location
②	ECM (2.0L turbo gasoline engine)	×	×	• ECM transmits the accelerator pedal position signal, ICC brake switch signal, stop lamp switch signal, ICC steering switch etc. to ADAS control unit via CAN communication • ECM controls the electric throttle control actuator based on the engine torque demand received from the ADAS control unit via CAN communication • Refer to EC4-25, "ENGINE CONTROL SYSTEM : Component Parts Location" for detailed installation location
③	ECM (VR30DDTT)	×	×	• ECM transmits the accelerator pedal position signal, ICC brake switch signal, stop lamp switch signal, ICC steering switch etc. to ADAS control unit via CAN communication • ECM controls the electric throttle control actuator based on the engine torque demand received from the ADAS control unit via CAN communication • Refer to EC6-33, "ENGINE CONTROL SYSTEM : Component Parts Location" (USA and Canada) or EC6-1024, "ENGINE CONTROL SYSTEM : Component Parts Location" (Mexico) for detailed installation location
④	BCM	×		• Transmits the stop lamp signal to ADAS control unit via CAN communication • Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location
⑤	EMCM	×	×	• EMCM transmits the brake pedal position switch signal to ADAS control unit via CAN communication • Refer to EC4-25, "ENGINE CONTROL SYSTEM : Component Parts Location" for detailed installation location.
⑥	TCM	×	×	• TCM transmits the signal related to A/T control to ADAS control unit via CAN communication • Refer to TM-13, "A/T CONTROL SYSTEM : Component Parts Location" for detailed installation location
⑦	ABS actuator and electric unit (control unit)	×	×	• ABS actuator and electric unit (control unit) transmits the vehicle speed signal (wheel speed), stop lamp switch signal and VDC/TCS/ABS system operation condition to ADAS control unit via CAN communication • ABS actuator and electric unit (control unit) controls the brake, based on a brake fluid pressure control signal received from the ADAS control unit via chassis control module • Refer toBRC-10, "Component Parts Location" for detailed installation location

No.	Component	Function		Description
		Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	
⑧	Chassis control module	×	×	• Chassis control module transmits the drive mode signal to ADAS control unit via CAN communication • Refer to DAS-516, "Component Parts Location" for detailed installation location
⑨	ICC steering switch	×	×	• Description: Refer to CCS-12, "ICC Steering Switch" • Switch name and function: CCS-24, "VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION : Switch Name and Function" (Vehicle to vehicle distance control mode) • Switch name and function: CCS-28, "CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : Switch Name and Function" (Conventional cruise control mode)
⑩	Steering angle sensor	×		Measures the rotation amount, rotation speed, and rotation direction of steering wheel, and then transmits them to ADAS control unit via CAN communication
⑪	Combination meter	×	×	Performs the following operations using the signals received from the ADAS control unit via the CAN communication • Description: Refer to CCS-13, "Combination Meter" • System display and warning: CCS-24, "VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION : Menu Displayed by Pressing Each Switch" (Vehicle to vehicle distance control mode) • System display and warning: CCS-28, "CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : Menu Displayed by Pressing Each Switch" (Conventional cruise control mode) • Refer to MWI-8, "METER SYSTEM : Component Parts Location" for detailed installation location
⑫	Driver assistance buzzer	×	×	Refer to CCS-13, "Driver Assistance Buzzer"
⑬	Driver assistance buzzer control module	×	×	Refer to CCS-13, "Driver Assistance Buzzer Control Module"
⑭	ICC brake hold relay	×		Refer to CCS-13, "ICC Brake Hold Relay"
⑮	ICC sensor	×	×	Refer toCCS-12, "ICC Sensor"
⑯	Stop lamp switch	×	×	Refer to CCS-12, "Brake Pedal Position Switch / Stop Lamp Switch"
⑰	Brake pedal position switch	×	×	

ADAS Control Unit

INFOID:0000000013398500

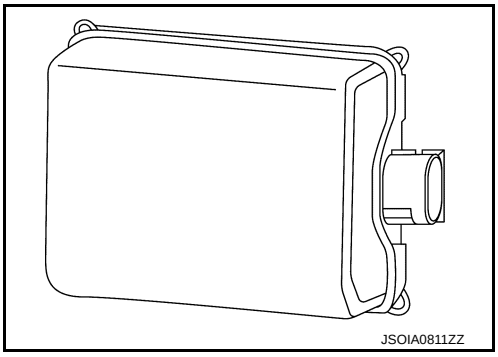
- ADAS control unit is installed at trunk side of the parcel shelf.
- Communicates with each control unit via CAN communication/ITS communication/Chassis communication.
- ADAS control unit included gateway function, and necessary for system control signals are transmitted to each control unit between CAN communication and ITS communication by the ADAS control unit.
- ADAS control unit controls the each system, based on ITS communication signal, CAN communication signal, and chassis communication signal from each control unit.


JSOIA0503ZZ

ICC Sensor

INFOID:0000000012789843

- ICC sensor is installed on the back of the front bumper and detects a vehicle ahead by using millimeter waves.
- ICC 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.
- ICC sensor transmits the presence/absence of vehicle ahead and the distance from the vehicle to ADAS control unit via ITS communication.


JSOIA0811ZZ

ICC Steering Switch

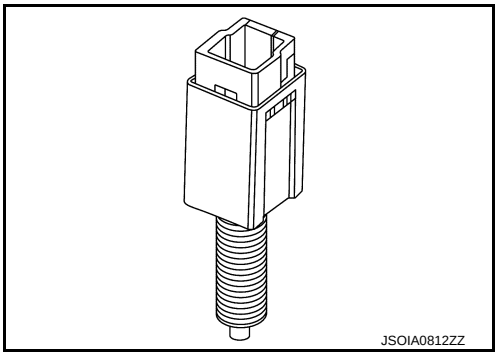
INFOID:0000000012789844

- ICC steering switch is installed to the steering wheel and allows the driver to operate the ICC system by using this switch.
- ICC steering switch allows the ON/OFF of the Intelligent Cruise Control and the settings of a vehicle speed and distance between vehicles.
- ICC steering switch signal is transmitted to ECM. ECM transmits the signal to the ADAS control unit via CAN communication. (VR30DDTT)
- ICC steering switch signal is transmitted to ADAS control unit. ADAS control unit transmits the signal to the ADAS control unit via CAN communication. (2.0 TURBO GASOLINE ENGINE)

Brake Pedal Position Switch / Stop Lamp Switch

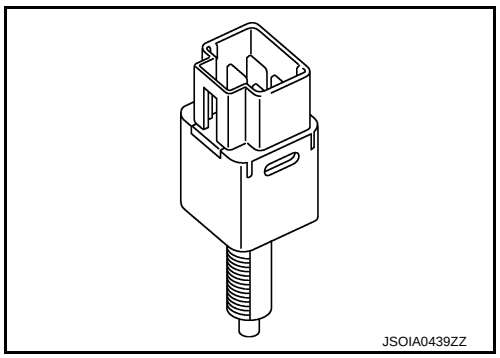
INFOID:0000000013398501

- Brake pedal position switch is installed at the upper part of the brake pedal and detects a brake operation performed by the driver.


JSOIA0812ZZ

- Brake pedal position switch is turned OFF when depressing the brake pedal.
- Brake pedal position switch signal is input to ECM. Brake pedal position switch signal is transmitted from ECM to ADAS control unit via CAN communication. (VR30DDTT)
- Brake pedal position switch signal is input to EMCM. Brake pedal position switch signal is transmitted from EMCM to ADAS control unit via CAN communication. (2.0 TURBO GASOLINE ENGINE)

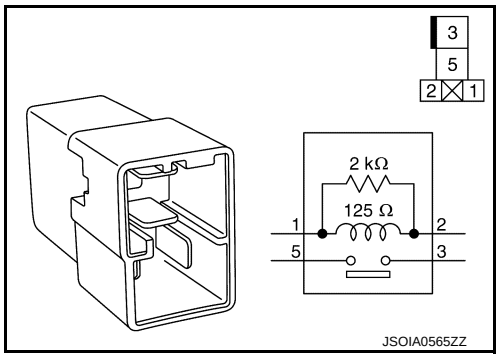
- Stop lamp switch is installed at the upper part of the brake pedal and detects a brake operation performed by the driver.
- Stop lamp switch is turned ON, when depressing the brake pedal.
- Stop lamp switch signal is input to ECM and ABS actuator and electric unit (control unit). Stop lamp switch signals are transmitted from ECM and ABS actuator and electric unit (control unit) to ADAS control unit via CAN communication. (VR30DDTT)
- Stop lamp switch signal is input to BCM and ABS actuator and electric unit (control unit). Stop lamp switch signals are transmitted from BCM and ABS actuator and electric unit (control unit) to ADAS control unit via CAN communication. (2.0 TURBO GASOLINE ENGINE)


JSOIA0439ZZ

ICC Brake Hold Relay

INFOID:0000000012789846

- ICC brake hold relay is installed in the engine room (right side).
- When the brake is activated by the system, the ICC brake hold relay turns ON the stop lamp by bypassing the circuit of the stop lamp, according to a signal transmitted from the ADAS control unit.



JSOIA0565ZZ

Combination Meter

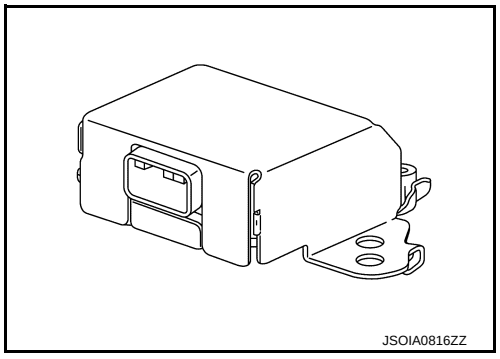
INFOID:0000000012789847

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

Driver Assistance Buzzer Control Module

INFOID:0000000013398502

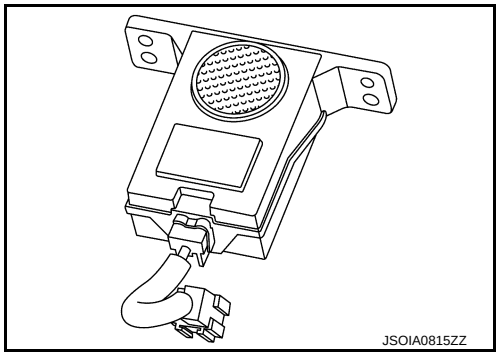
- Driver assistance buzzer control module is installed at the behind of glove box.
- When driver assistance buzzer signal is received from the ADAS control unit, the driver assistance buzzer control module transmits the warning buzzer signal to driver assistance buzzer.


JSOIA0816ZZ

Driver Assistance Buzzer

INFOID:0000000013398503

- Driver assistance buzzer is installed at the behind the display control unit.
- When a warning buzzer signal is received from the driver assistance buzzer control module, the driver assistance buzzer sounds a buzzer.


JSOIA0815ZZ

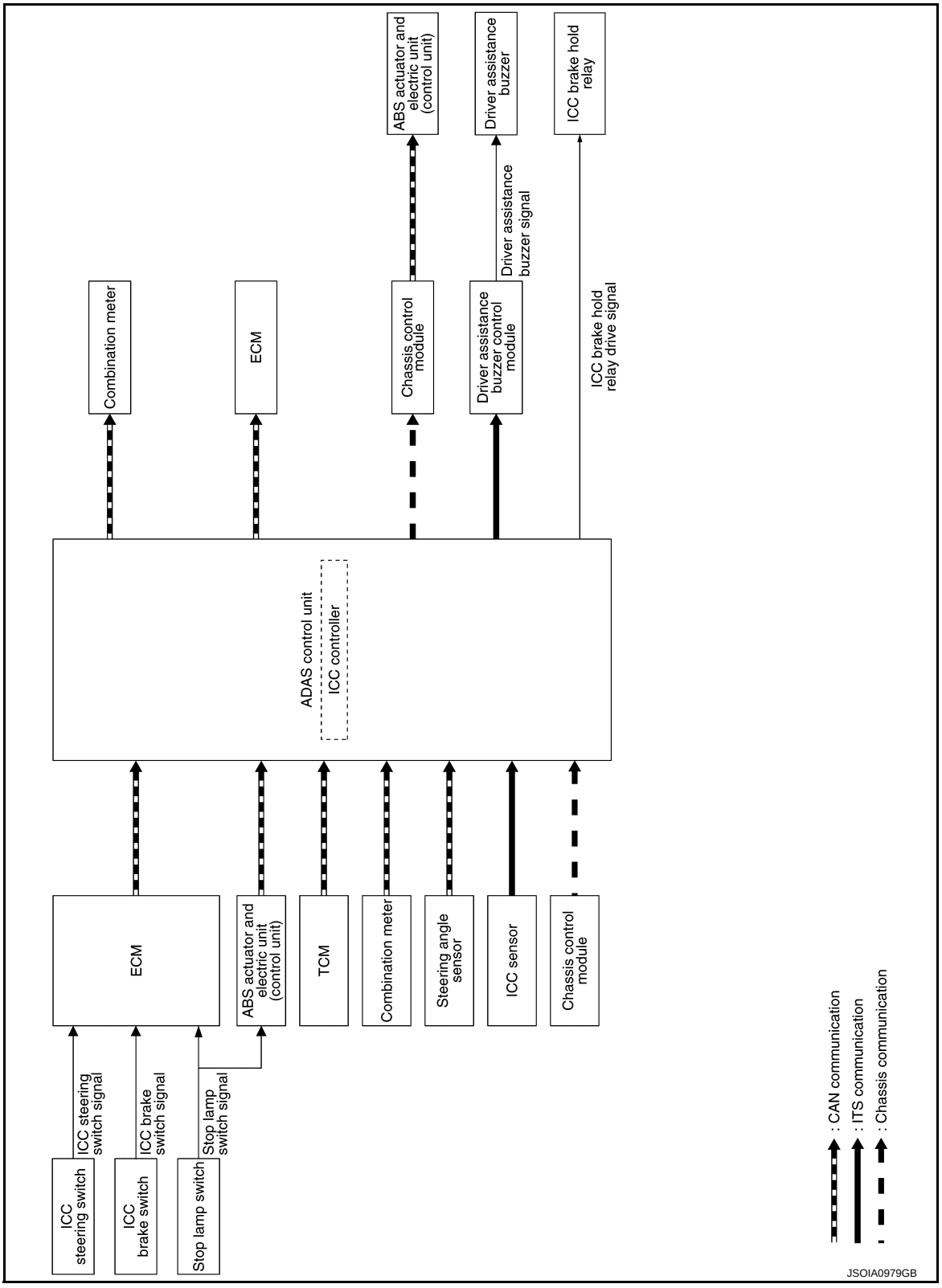
SYSTEM

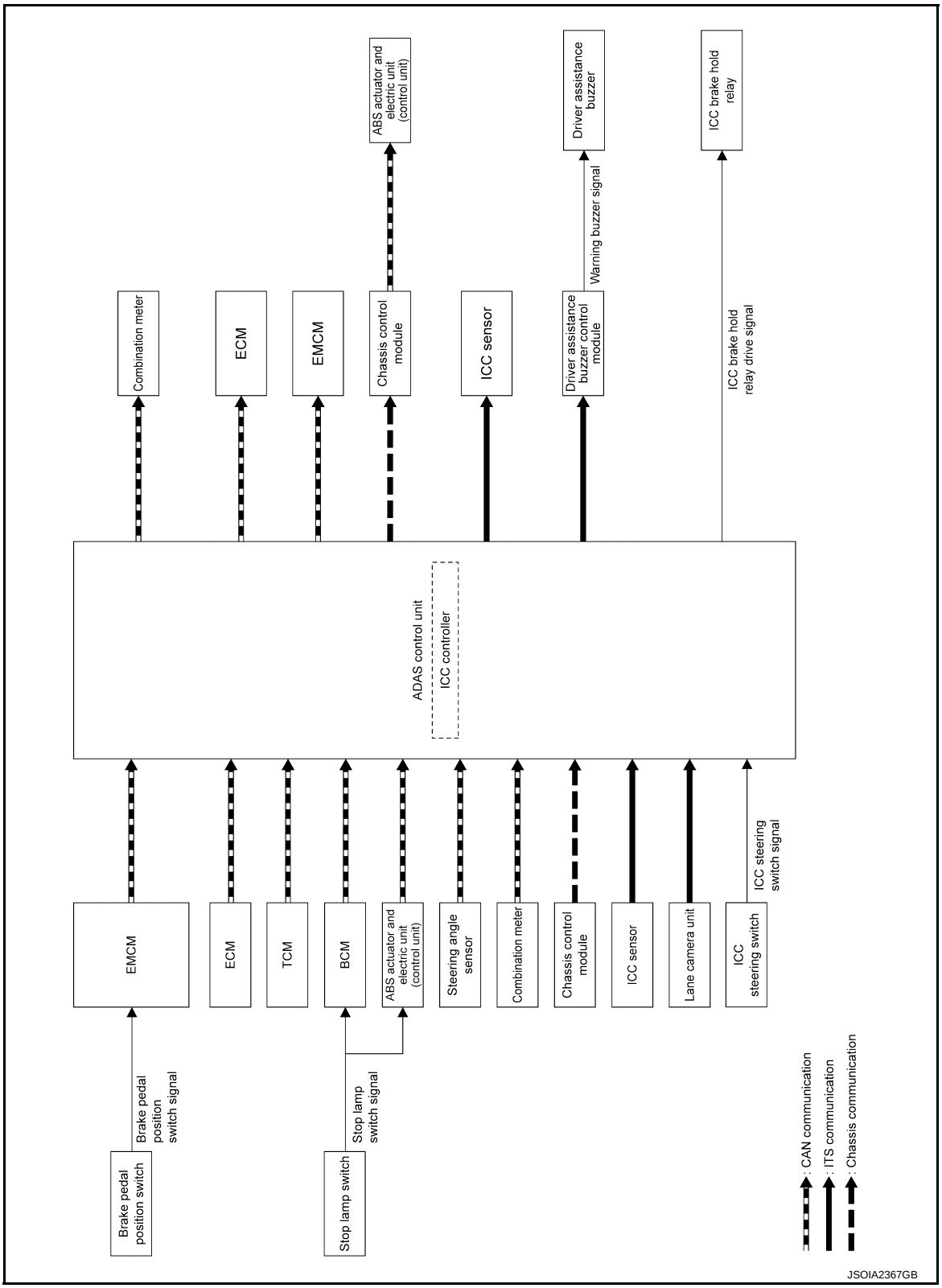
System Description

INFOID:0000000012789850

SYSTEM DIAGRAM

VR30DDTT





NOTE:
TCM is connected to drivetrain CAN communication and transmits a CAN communication signal to ADAS control unit via ECM

ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name			Description
ECM	CAN communication	Closed throttle position signal		Receives idle position state (ON/OFF)
		Accelerator pedal position signal		Receives accelerator pedal position (angle)
		ICC prohibition signal		Receives an operable/inoperable state of the ICC system
		Engine speed signal		Receives engine speed
		ICC steering switch signal	MAIN switch signal	Receives the operational state of the ICC steering switch
			SET/COAST switch signal	
			CANCEL switch signal	
			RESUME/ACCELERATE switch signal	
			DISTANCE switch signal	
		Stop lamp switch signal		Receives an operational state of the brake pedal
		Brake pedal position switch signal[*1]		Receives an operational state of the brake pedal
EMCM[*2]	CAN communication	Brake pedal position switch signal		Receives an operational state of the brake pedal
TCM (Via ECM)[*2]	CAN communication	Input speed signal		Receives the number of revolutions of input shaft
		Current gear position signal		Receives a current gear position
		Shift position signal		Receives a selector lever position
		Output shaft revolution signal		Receives the number of revolutions of output shaft
ABS actuator and electric unit (control unit)	CAN communication	ABS malfunction signal		Receives a malfunction state of ABS
		ABS operation signal		Receives an operational state of ABS
		ABS warning lamp signal		Receives an ON/OFF state of ABS warning lamp
		TCS malfunction signal		Receives a malfunction state of TCS
		TCS operation signal		Receives an operational state of TCS
		VDC OFF switch signal		Receives an ON/OFF state of VDC
		VDC malfunction signal		Receives a malfunction state of VDC
		VDC operation signal		Receives an operational state of VDC
		Vehicle speed signal (ABS)		Receives wheel speeds of four wheels
		Stop lamp switch signal		Receives an operational state of the brake pedal
		Yaw rate signal		Receives yaw rate acting on the vehicle
Combination meter	CAN communication	Parking brake switch signal		Receives an operational state of the parking brake
BCM[*2]	CAN communication	Stop lamp switch signal		Receives an operational state of the brake pedal
Steering angle sensor	CAN communication	Steering angle sensor malfunction signal		Receives a malfunction state of steering angle sensor
		Steering angle sensor signal		Receives the number of revolutions, turning direction of the steering wheel
		Steering angle speed signal		Receives the turning angle speed of the steering wheel

Transmit unit	Signal name			Description
Chassis control module	Chassis communication	Drive mode signal	Snow mode	Receives an operational state of the snow mode
ICC sensor	ITS communication	ICC sensor signal		Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle

*1: VR30DDTT ENGINE
*2: 2.0 TURBO GASOLINE ENGINE

Output Signal Item

Reception unit	Signal name			Description
ECM	CAN communication	ICC operation signal		Transmits an ICC operation signal necessary for intelligent cruise control
ABS actuator and electric unit (control unit)	CAN communication	Brake fluid pressure control signal		Transmits a brake fluid pressure control signal to activates the brake via chassis control module
Combination meter	CAN communication	Meter display signal	Vehicle ahead detection indicator signal	Transmits a signal to display a state of the system on the information display
			Set vehicle speed indicator signal	
			Set distance indicator signal	
			SET switch indicator signal	
			MAIN switch indicator signal	
			ICC malfunction signal	Transmits an ICC malfunction signal to turn ON the ICC system malfunction
ICC sensor	ITS communication	Vehicle speed signal		Transmits a vehicle speed calculated by the ADAS control unit
Driver assistance buzzer control module	ITS communication	Warning buzzer signal		Transmits a warning buzzer signal to turn ON the buzzer
ICC brake hold relay	ICC brake hold relay drive signal			Activates the brake hold relay and turns ON the stop lamp

DESCRIPTION

Intelligent Cruise Control

The Intelligent Cruise Control (ICC) system maintains a selected distance from the vehicle ahead within set speeds.
The driver can select the set speeds.
The vehicle travels at a set speed when the road ahead is clear.
The ICC system can be set to one of two cruise control modes:

CAUTION:
Never set the cruise speed exceeding the posted speed limit.

Vehicle-to-vehicle Distance Control Mode

For maintaining a selected distance between own vehicle and the vehicle in front of own vehicle up to the preset speed. Refer to CCS-20, "VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION : System Description".

Conventional (Fixed Speed) Cruise Control Mode

For cruising at a preset speed. Refer to CCS-22, "CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : System Description".

NOTE:

In the Conventional (Fixed Speed) Cruise Control Mode, a warning chime will not sound to warn driver if own vehicle are too close to the vehicle ahead.

WARNING:

Always drive carefully and attentively when using either cruise control mode. To avoid serious injury or death, do not rely on the system to prevent accidents or to control the vehicle's speed in emergency situations. Do not use cruise control except in appropriate rode and traffic conditions.

Distance Control Assist (DCA) System

DCA share the systems and components with ICC system. Refer to DAS-225, "DCA : System Description".

Predictive Forward Collision Warning (PFCW) System

PFCW share the systems and components with ICC system. Refer to DAS-230, "PFCW : System Description".

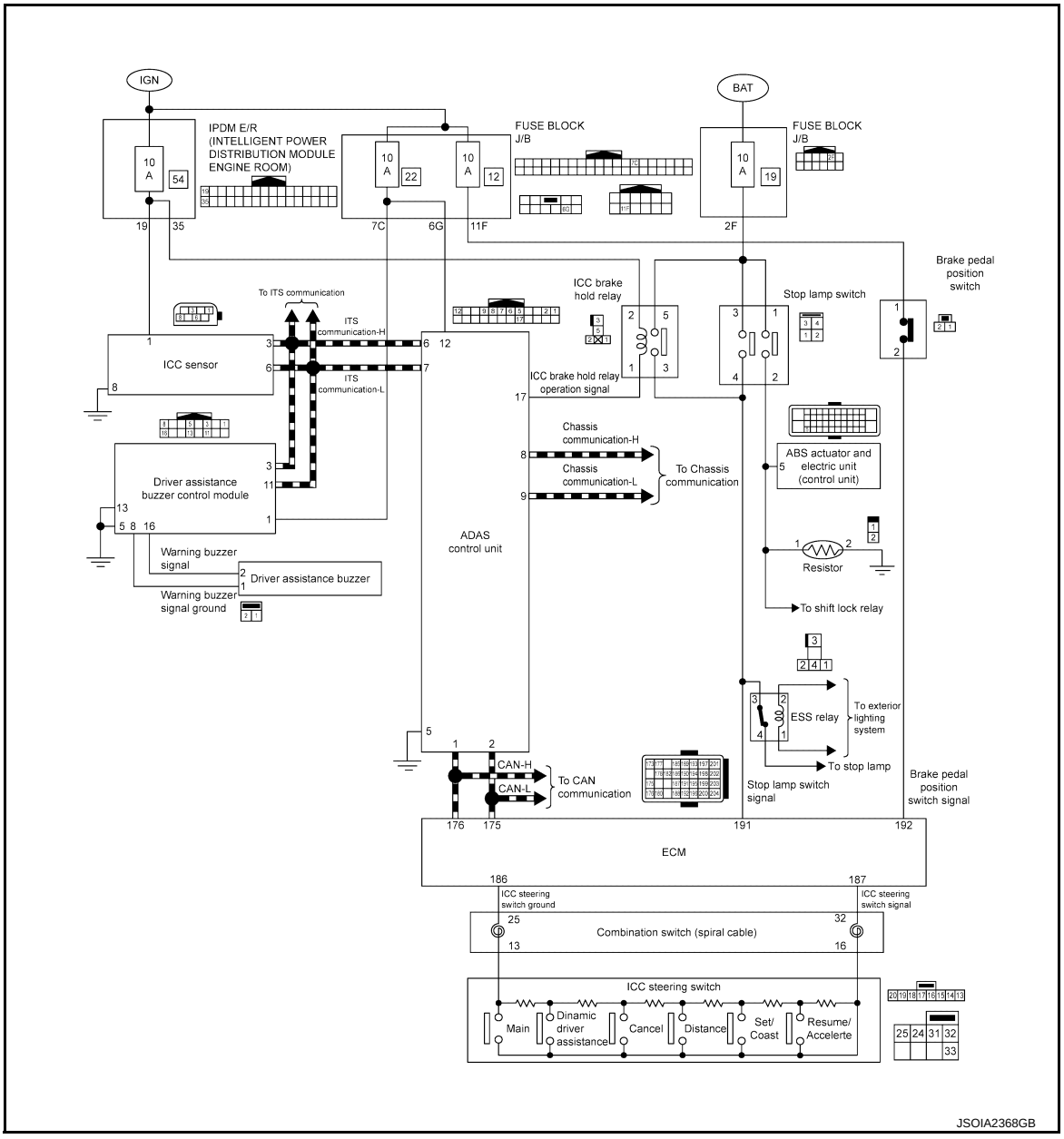
Forward Emergency Brake (FEB) System

FEB system share the systems and components with ICC system. Refer to BRC-205, "System Description".

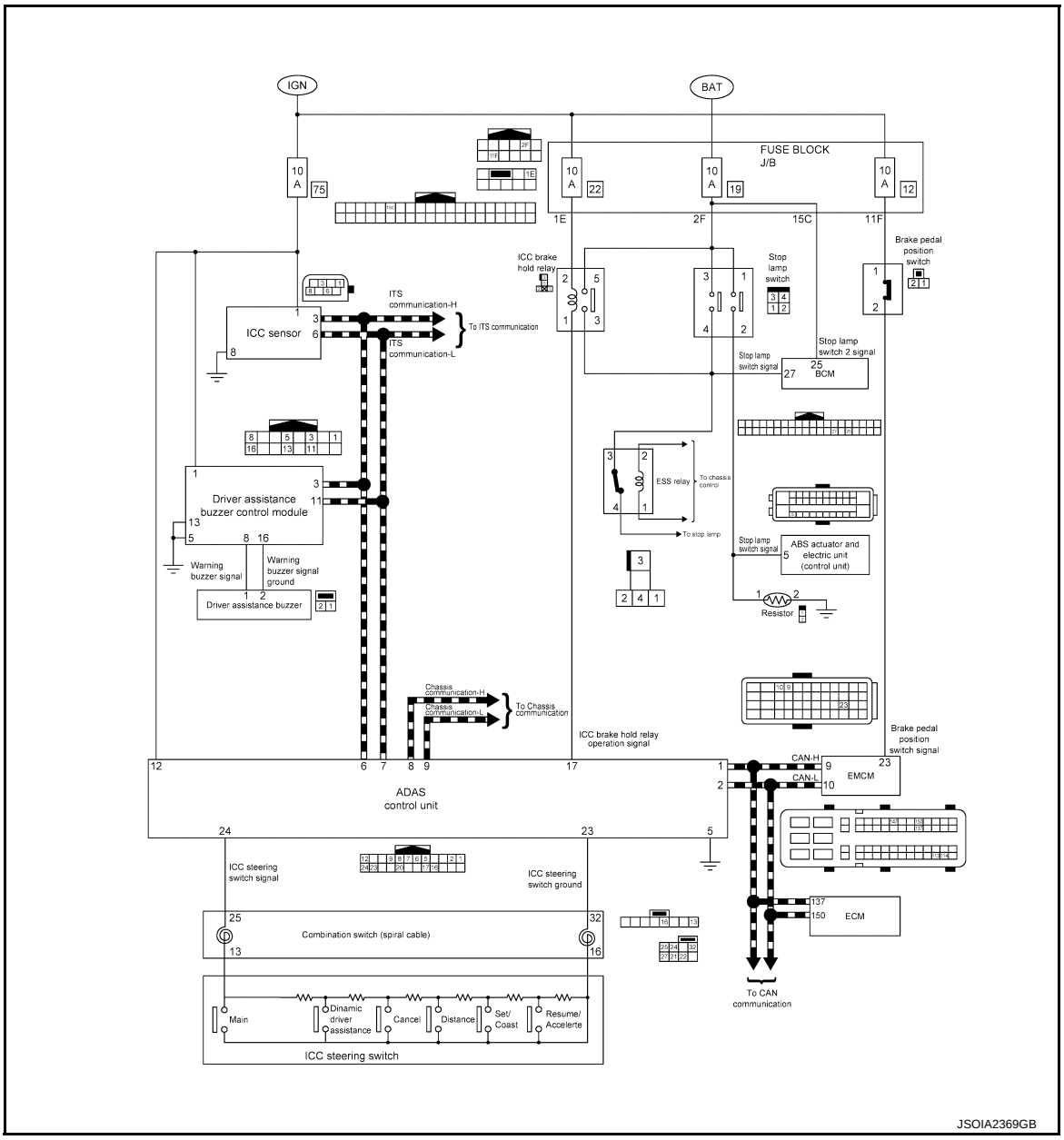
Circuit Diagram

INFOID:0000000012789851

VR30DDTT



2.0L TURBO GASOLINE ENGINE



Fail-safe (ADAS Control Unit)

INFOID:0000000013398504

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

System	Buzzer	Warning lamp/Warning display	Description
Vehicle-to-vehicle distance control mode	High-pitched tone	ICC system warning	Cancel
Conventional (fixed speed) cruise control mode	High-pitched tone	ICC system warning	Cancel
Forward Emergency Braking (FEB)	High-pitched tone	• FEB warning lamp • Warning systems indicator (Forward position: Yellow)	Cancel

System	Buzzer	Warning lamp/Warning display	Description
Predictive Forward Collision Warning (PFCW)	High-pitched tone	Warning systems indicator (Forward position: Yellow)	Cancel
Distance Control Assist (DCA)	High-pitched tone	Warning systems indicator (Forward position: Yellow)	Cancel
Lane Departure Warning (LDW)	—	Warning systems indicator (Lane position: Yellow)	Cancel
Lane Departure Prevention (LDP)	Low-pitched tone	Warning systems indicator (Lane position: Yellow)	Cancel
Blind Spot Warning (BSW)	—	Warning systems indicator (Blind spot position: Yellow)	Cancel
Blind Spot Intervention	Low-pitched tone	Warning systems indicator (Blind spot position: Yellow)	Cancel
Back-up Collision Intervention (BCI)	High-pitched tone	BCI system warning	Cancel

Fail-safe (ICC Sensor)

INFOID:0000000013398505

If a malfunction occurs in the ICC sensor, ADAS control unit cancels control, sounds a beep, and turns ON the ICC system warning in the information display.

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION : System Description

INFOID:0000000012789854

FUNCTION DESCRIPTION

In the vehicle-to-vehicle distance control mode, the Intelligent Cruise Control (ICC) system automatically maintains a selected distance from the vehicle traveling in front of own vehicle according to that vehicle's speed (up to the set speed), or at the set speed when the road ahead is clear.
With ICC system, the driver can maintain the same speed as other vehicles without the constant need to adjust the set speed as driver would with a normal cruise control system.
The following items are controlled in the vehicle-to-vehicle distance control mode

- When there are no vehicles traveling ahead, the vehicle-to-vehicle distance control mode maintains the speed set by the driver. The selectable speed ranges are as follows:
- Between approximately 32 and 144 km/h (20 and 90 MPH).
- When there is a vehicle traveling ahead, the vehicle-to-vehicle distance control mode adjusts the speed to maintain the distance, selected by driver, from a vehicle ahead. The adjusting speed range is up to the set speed.
- When the vehicle traveling ahead has moved out from its lane of travel, the vehicle-to-vehicle distance control mode accelerates and maintains vehicle speed up to the set speed.

CAUTION:

- **If the vehicle ahead comes to stop, the vehicle decelerates to a standstill within the limitations of the system. The system will cancel once it judges that the vehicle has come to a standstill and sound a warning chime.**
- **To prevent the vehicle from moving, the driver must depress the brake pedal.**

NOTE:
When the accelerator pedal is depressed, the brake operation and the warning are not performed by the ICC system.

OPERATION DESCRIPTION

Quickly push (less than 1.5 seconds) and release the MAIN switch ON.
The MAIN switch indicator, set distance indicator, own vehicle indicator, and set vehicle speed indicator come on and ICC system is set to a standby state.

ADAS control unit performs the control as per the following:

Constant speed	Comparing the set vehicle speed with the current vehicle speed, transmit the command to ECM via CAN communication to reach the set vehicle speed, and controls the electric throttle control actuator.
Deceleration	When a vehicle ahead (slower than driver set vehicle speed) appears or when a vehicle ahead slows down, the system controls the electric throttle control actuator into the close direction and decelerates the vehicle. If greater deceleration is necessary, the system transmits the brake fluid pressure control signal to the ABS actuator and electric unit (control unit) via chassis control module and operates the brake.
Following	The system controls electric throttle control actuator and the brake fluid pressure to keep the proper distance between the vehicles according to the vehicle speed change of the vehicle ahead.
Acceleration	When a vehicle ahead is not detected because of it changes lanes or own vehicle changes lanes during the following driving, the system controls the electric throttle control actuator in the open direction and accelerates the vehicle to the set vehicle speed slowly.

Set Condition

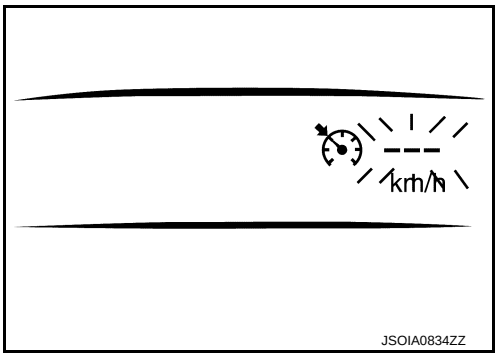
Under a standby state, pushing down the SET/COAST switch will start system control.

- When vehicle speed is between approximately 32 km/h and 144 km/h (20 MPH and 90 MPH).
- When vehicle speed is below approximately 32 km/h (20 MPH) if the vehicle ahead is detected. The set vehicle speed becomes 32 km/h (20 MPH).

If the system is canceled by conditions 1–10 below, the system will resume control at the last set cruising speed by pushing up the RESUME/ACCELERATE switch.

NOTE:

- When the SET/COAST switch is pushed under the following conditions, the system cannot be set and the set vehicle speed indicator will blink for approximately 2 seconds.



- When traveling below 32 km/h (20 MPH) and the vehicle ahead is not detected.
- When the selector lever is not in the “D” position or manual mode.
- When the parking brakes are applied.
- When the brakes are operated by the driver.

- When the SET/COAST switch is pushed under the following conditions, the system cannot be set.
- When the drive mode select switch is in SNOW position. (To use the ICC system, turn OFF the snow mode, push the MAIN switch to turn OFF the ICC system and reset the ICC system by pushing the MAIN switch again.)
- When the VDC is OFF. (To use the ICC system, turn ON the VDC system, push the MAIN switch to turn OFF the ICC system and reset the ICC system by pushing the MAIN switch again.)
- When ABS or VDC (including the TCS) operates.
- When the wheel is slipping. (To use the ICC system, make sure the wheels are no longer spinning, push the MAIN switch to turn OFF the ICC system and reset the ICC system by pushing the MAIN switch again.)

Cancel Conditions

1. When CANCEL switch is pressed.
2. When brake pedal is depressed.
3. When the vehicle ahead is not detected below the speed of 24 km/h (15 MPH).
4. When the selector lever is not in the “D” position or manual mode.
5. When the parking brakes are applied.
6. When the system judges the vehicle is at standstill.
7. When the drive mode select switch is in SNOW position.
8. When ABS or VDC (including the TCS) operates.
9. When a wheel slips.
10. When the VDC is turned OFF.
11. When the MAIN switch is turned OFF.
12. When the system malfunction occurs.

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : System Description

INFOID:0000000012789855

FUNCTION DESCRIPTION

This mode allows driving at a speed between 40 to 144 km/h (25 to 90 MPH) without keeping foot on the accelerator pedal.

NOTE:

In the conventional (fixed speed) cruise control mode, a warning chime does not sound to warn driver if own vehicle are too close to the vehicle ahead, as neither the presence of the vehicle ahead nor the vehicle-to-vehicle distance is detected.

OPERATION DESCRIPTION

To turn ON the conventional (fixed speed) cruise control mode, push and hold the MAIN switch for longer than approximately 1.5 seconds when ICC system is OFF.

When pushing the MAIN switch ON, the ICC system display and the MAIN switch indicator are displayed on the information display.

After hold the MAIN switch ON for longer than approximately 1.5 seconds, the ICC system display goes out.

The MAIN switch indicator stays lit and brings the system to standby state.

NOTE:

- To turn on the vehicle-to-vehicle distance control mode again, turn OFF the system and quickly push (less than 1.5 seconds) the MAIN switch.
- When the DCA system is ON, the conventional (fixed speed) cruise control mode cannot be turned on even though the MAIN switch is pushed and held.
- To turn ON the conventional (fixed speed) cruise control mode, turn OFF the DCA system. Refer to DAS-225, "DCA : System Description".

ADAS control unit performs the control as per the following:

Constant speed	Comparing the set vehicle speed with the current vehicle speed, transmits the command to ECM via CAN communication to reach the set vehicle speed, and controls electronic throttle control actuator.

Set Condition

When the system is under a standby state and the vehicle speed is between approximately 40 km/h (25 MPH) and 144 km/h (90 MPH), pushing the SET/COAST switch will start system control.If the system is canceled by conditions 1–7 below, the system will resume control at the last set cruising speed by pushing the RESUME/ACCELERATE switch.

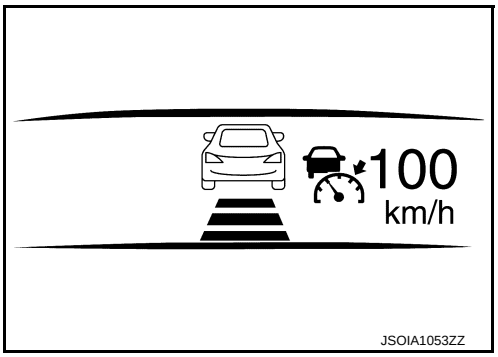
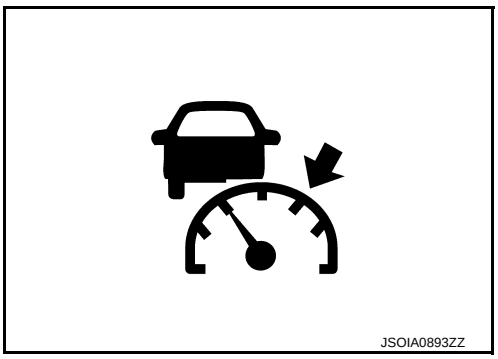
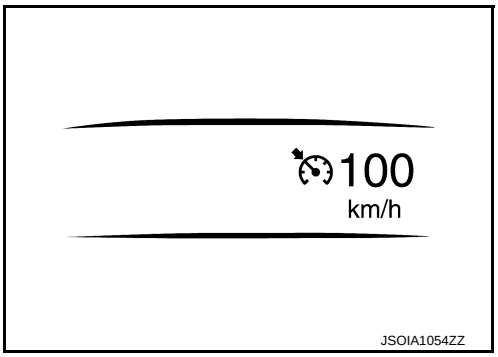
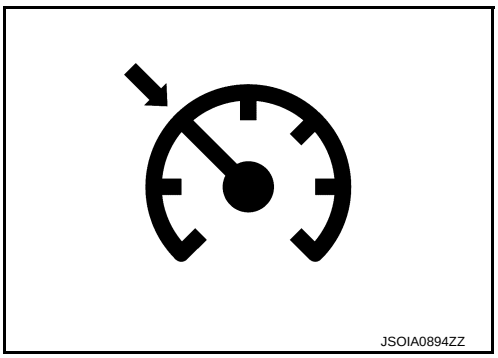
Cancel conditions

1. When CANCEL switch is pressed.
2. When brake pedal depressed.
3. When the vehicle slows down more than 13 km/h (8 MPH) below the set speed.
4. When the selector lever is not in the “D” position or manual mode.
5. When the parking brakes are applied.
6. When VDC (including the TCS) operates.
7. When a wheel slips.
8. When the MAIN switch is turned OFF.
9. When the system malfunction occurs.

WARNING/INDICATOR/CHIME LIST

WARNING/INDICATOR/CHIME LIST : Warning/Indicator (On Information Display)

INFOID:0000000012789856

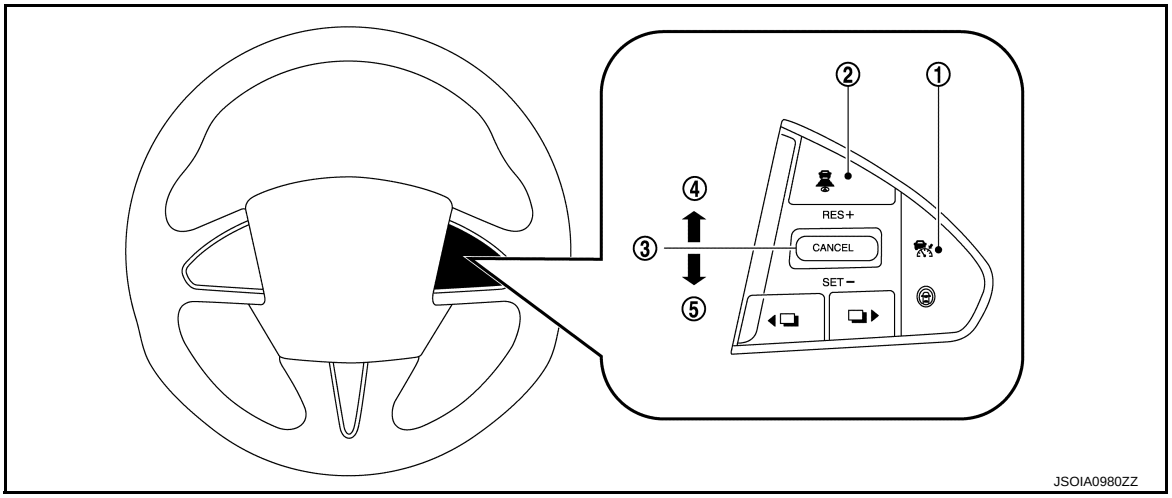
Name	Design	Function
ICC system display (Vehicle-to-vehicle distance control mode)	 JSOIA1053ZZ	CCS-24, "VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION : Menu Displayed by Pressing Each Switch"
ICC system warning (Vehicle-to-vehicle distance control mode)	 JSOIA0893ZZ	
ICC system display (conventional (fixed speed) cruise control mode)	 JSOIA1054ZZ	CCS-28, "CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : Menu Displayed by Pressing Each Switch"
ICC system warning (conventional (fixed speed) cruise control mode)	 JSOIA0894ZZ	

OPERATION

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION : Switch Name and Function

INFOID:0000000012789857

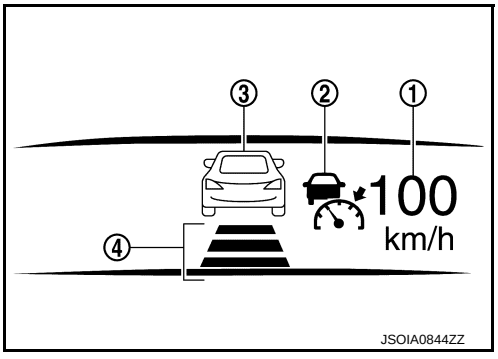


No.	Switch name	Description
①	MAIN switch	Master switch to activate the system (Press for less than 1.5 seconds)
②	DISTANCE switch	Changes the following distance from: Long, Middle, Short
③	CANCEL switch	Deactivates the system without erasing the set speed
④	RESUME/ACCELERATE switch	Resumes set speed or increases speed incrementally • Push and hold the switch to increase the set speed by 5 km/h (5 MPH) • Push then quickly release the switch to increase the set speed by 1 km/h (1 MPH)
⑤	SET/COAST switch	Sets desired cruise speed or reduces speed incrementally • Push and hold the switch to decrease the set speed by 5 km/h (5 MPH) • Push then quickly release the switch to decrease the set speed by 1 km/h (1 MPH) **NOTE:** The minimum set speed is 32 km/h (20 MPH)

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION : Menu Displayed by Pressing Each Switch

INFOID:0000000012789858

ICC SYSTEM DISPLAY (ON THE INFORMATION DISPLAY)

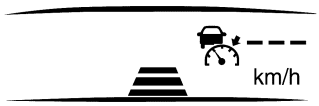
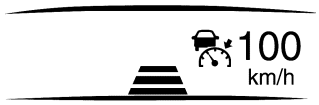
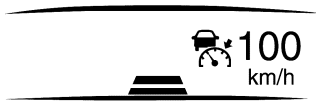


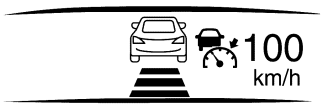
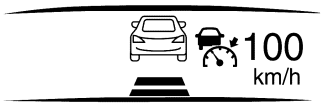
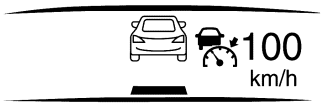
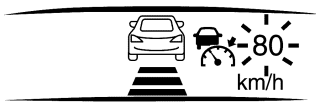
No.	Switch name	Description
①	Set vehicle speed indicator	• Indicates the set vehicle speed • Indicates 32 km/h (20 MPH) when setting less than 32 km/h (20 MPH)

No.	Switch name	Description
②	ICC system warning lamp (yellow)	Indicates that a malfunction occurs in the ICC system
	MAIN switch indicator (white)	Indicates that the MAIN switch is ON (ICC system ON)
	Set switch indicator (green)	Indicates that the set vehicle to vehicle distance control mode is controlled
③	Vehicle ahead detection indicator	Indicates whether it detects a vehicle ahead
④	Set distance indicator	Indicates the selected distance between vehicles set with the DISTANCE switch

SYSTEM CONTROL CONDITION DISPLAY

Quickly push (less than 1.5 seconds) and release the MAIN switch ON.
The MAIN switch indicator (cruise indicator), set distance indicator, own vehicle indicator, and set vehicle speed indicator come on and ICC system is set to a standby state.

Condition			Display on ICC system display
Standby mode			 JSOIA0845ZZ
Control mode	Without a vehicle ahead	Set vehicle distance (Long)	 JSOIA0846ZZ
		Set vehicle distance (Middle)	 JSOIA0847ZZ
		Set vehicle distance (Short)	 JSOIA0848ZZ
		When the vehicle speed exceeds the set speed	 JSOIA0849ZZ

Condition			Display on ICC system display
Control mode	With a vehicle ahead	Set vehicle distance (Long)	 JSOIA0850ZZ
		Set vehicle distance (Middle)	 JSOIA0851ZZ
		Set vehicle distance (Short)	 JSOIA0852ZZ
		When the vehicle speed exceeds the set speed	 JSOIA0853ZZ

NOTE:
The display of the DCA system is given priority when the DCA system is ON in a standby mode. (The set vehicle speed indicator, and set distance indicator, are not displayed).

APPROACH WARNING DISPLAY

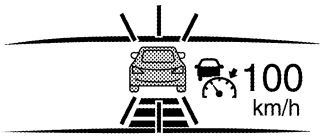
If own vehicle comes closer to a vehicle ahead due to rapid deceleration of that vehicle or if another vehicle cuts in, the system warns the driver with the chime and ICC system display. Decelerate by depressing the brake pedal to maintain a safe vehicle distance if:

- The chime sounds.
- The vehicle ahead detection indicator and set distance indicator blink.

The warning chime may not sound in some cases when there is a short distance between vehicles. Some examples are:

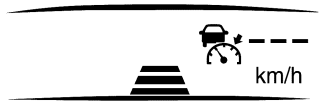
- When the vehicles are traveling at the same speed and the distance between vehicles is not changing.
- When the vehicle ahead is traveling faster and the distance between vehicles is increasing.
- When a vehicle cuts in at near own vehicle.

The warning chime will not sound when own vehicle approaches vehicles that are parked or moving slowly.
The warning chime will not sound when the accelerator pedal is depressed, overriding the system.
The approach warning chime may sound and the system display may blink when the ICC sensor detects objects on the side of the vehicle or some reflectors on the side of the road.
This may cause the ICC system to decelerate or accelerate the vehicle.
The ICC sensor may detect these object when the vehicle is driven on winding roads, hilly roads or when entering or exiting a curve.
The ICC sensor may also detect object on narrow roads or in road construction zones.
In these cases driver will have to manually control the proper distance ahead of own vehicle.
Also, the sensor sensitivity can be affected by vehicle operation (steering maneuver or driving position in the lane) or traffic or vehicle condition (for example, if a vehicle is being driven with some damage).

Condition	Display on ICC system display
When own vehicle comes closer to the vehicle ahead and it is judged that the distance between the vehicles is not sufficient	 JSOIA1047ZZ

WARNING LAMP AND AUTOMATIC CANCELLATION DISPLAY

Condition		Description	Display on ICC system display
Warning display	• When the VDC is turned OFF • When the VDC or ABS (including the TCS) operates • When a wheel slips • When the drive mode select switch is in SNOW mode	**NOTE:** When the conditions listed above are no longer present, turn the system OFF using the MAIN switch. Turn the ICC system back on to use the system.	(Yellow)  JSOIA1048ZZ
			 JSOIA0857ZZ Currently unavailable
	When the front bumper grille near the ICC sensor is dirty, making it impossible to detect a vehicle ahead.	A chime sounds and the control is automatically canceled. **NOTE:** Park the vehicle in a safe place, turn the engine OFF. Clean the front bumper grille near the ICC sensor and then perform the settings again.	(Yellow)  JSOIA1048ZZ
			 JSOIA0857ZZ Unavailable Front Radar Obstruction

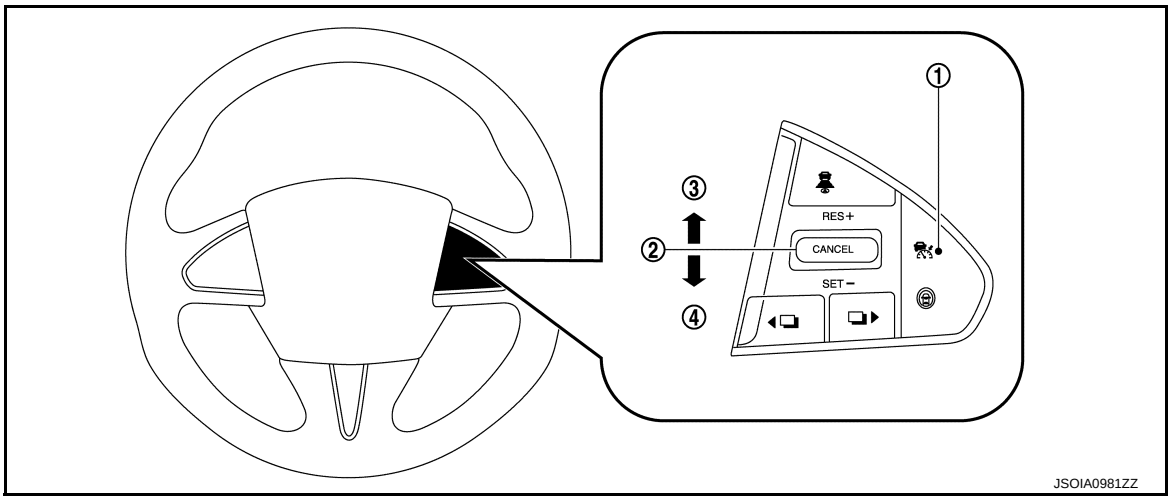
Condition		Description	Display on ICC system display
Warning display	When the ICC system is malfunctioning	A chime sounds and the control is automatically canceled. **NOTE:** Turn the engine OFF and restart engine. If there is no malfunction, it is possible to set the system.	(Yellow)  JSOIA1049ZZ
Automatic cancellation display	• When brake pedal is depressed • When CANCEL switch is pressed • When a vehicle ahead is not detected below the speed of 24 km/h (15 MPH) • When the system judges the vehicle is at standstill • When the selector lever is not in “D” position or manual mode • When the parking brake are applied	A chime sounds and the control is automatically canceled. **NOTE:** • The system will be in a standby, after the control is automatically canceled. • A chime sounds when the control is automatically canceled, except when brake pedal is depressed or when CANCEL switch is pressed.	 JSOIA0845ZZ

NOTE:
When the ICC system is automatically canceled, the cancellation condition can be displayed on “WORK SUPPORT” of CONSULT (ICC/ADAS).

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : Switch Name and Function

INFOID:0000000012789859



JSOIA0981ZZ

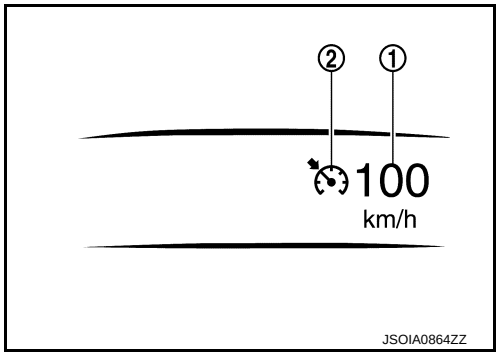
No.	Description	Function
①	MAIN switch	Master switch to activate the system (Press for more than 1.5 seconds)
②	CANCEL switch	Deactivates system without erasing set speed
③	RESUME/ACCELERATE switch	Resumes set speed or increases speed incrementally
④	SET/COAST switch	Sets desired cruise speed or reduces speed incrementally

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : Menu

Displayed by Pressing Each Switch

INFOID:0000000012789860

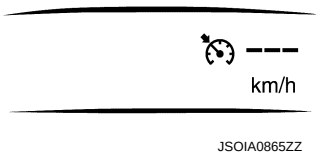
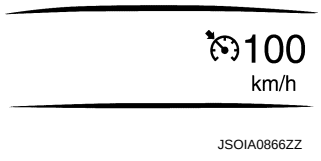
ICC SYSTEM DISPLAY (ON THE INFORMATION DISPLAY)



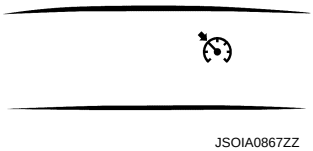
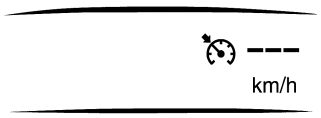
No.	Description	Function
①	Set vehicle speed indicator	Indicates the set vehicle speed
②	ICC system warning (yellow)	Indicates that a malfunction occurs in the ICC system
	MAIN switch indicator (white)	Indicates that the MAIN switch is ON (ICC system ON)
	SET switch indicator (green)	Indicates that the set conventional (fixed speed) cruise control mode is controlled

SYSTEM CONTROL CONDITION DISPLAY

Push and hold the MAIN switch for longer than approximately 1.5 seconds. This mode will be in a standby state for setting.

Condition	Display on ICC system display
Standby mode	
Control mode	

WARNING AND AUTOMATIC CANCELLATION DISPLAY

Condition		Description	Display on ICC system display
Warning display	When the ICC system is malfunctioning	A chime sounds and the control is automatically canceled **NOTE:** Turn the engine OFF and restart engine. If there is no malfunction, it is possible to set the system	(Yellow)  JSOIA0867ZZ
System cancel display	• When brake pedal is depressed • When pressing CANCEL switch • When the vehicle slows down more than 13 km/h (8 MPH) below the set speed • When the selector lever is not in the “D” position or manual mode • When the parking brakes are applied • When VDC (including the TCS) operates • When a wheel slips	A chime sounds and the control is automatically canceled **NOTE:** • The system will be in a standby, after the control is automatically canceled • A chime sounds when the control is automatically canceled, except when brake pedal is depressed or when CANCEL switch is pressed	(White)  JSOIA0865ZZ

NOTE:
When the ICC system is automatically canceled, the cancellation condition can be displayed on “WORK SUPPORT” of CONSULT (ICC/ADAS).

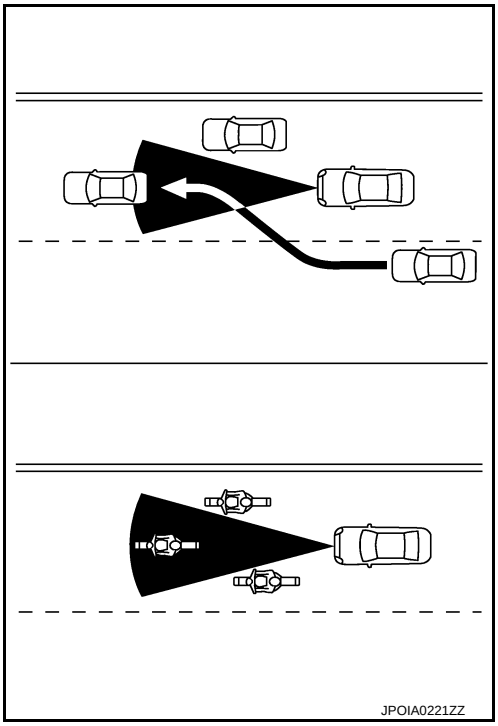
HANDLING PRECAUTION

Precautions for Vehicle-to-Vehicle Distance Control Mode

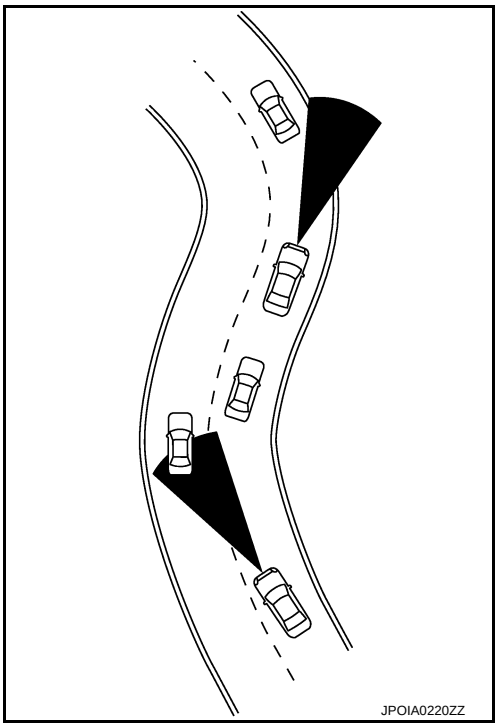
INFOID:0000000012789861

- ICC system is only an aid to assist the driver and is not a collision warning or avoidance device. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times.
- The system is primarily intended for use on straight, dry, open roads with light traffic. It is not advisable to use the system in city traffic or congested areas.
- This system will not adapt automatically to road conditions. This system should be used in evenly flowing traffic. Do not use the system on roads with sharp curves, or on icy roads, in heavy rain or in fog.
- The ICC sensor will not detect under most conditions.
- Stationary and slow moving vehicles.
- Pedestrians or objects in the roadway.
- Oncoming vehicles in the some lane.
- Motorcycles traveling offset in the travel lane.
- As there is a performance limit to the distance control function, never rely solely on the ICC system. This system does not correct careless, inattentive or absent-minded driving, or overcome poor visibility in rain, fog, or other bad weather. Decelerate the vehicle speed by depressing the brake pedal, depending on the distance to the vehicle ahead and the surrounding circumstances in order to maintain a safe distance between vehicles.
- If the vehicle ahead comes to a stop, the vehicle decelerates to a standstill within the limitations of the system. The system will cancel once it judges that the vehicle has come to a standstill and sound a warning chime. To prevent the vehicle from moving, the driver must depress the brake pedal.
- The system may not detect the vehicle in front of the driver in certain road or weather conditions. To avoid accidents, never use the ICC system under the following conditions:
- On roads where the traffic is heavy or there are sharp curves.
- On slippery road surfaces such as on ice or snow, etc.
- During bad weather (rain, fog, snow, etc.)
- When rain, snow or dirt adhere to the system sensor.
- On steep downhill roads (the vehicle may go beyond the set vehicle speed and frequent braking may result in overheating the brakes).
- On repeated uphill and downhill roads.
- When traffic conditions make it difficult to keep a proper distance between vehicles because of frequent acceleration or deceleration.
- In some road or traffic conditions, a vehicle or object can unexpectedly come into the sensor detection zone and cause automatic braking. The driver may need to control the distance from other vehicles using the accelerator pedal. Always stay alert and avoid using the ICC system when it is not recommended in this section.
- The vehicle-to-vehicle distance control mode uses a sensor located behind the lower grille of the front bumper to detect vehicles traveling ahead. The sensor generally detects the signals returned from the vehicle ahead. Therefore, if the sensor cannot detect the reflection from the vehicle ahead, the ICC system may not maintain the selected distance.
- The following are some conditions in which the sensor cannot detect the signals:
- When the snow or road spray from traveling vehicles reduces the sensor's visibility.
- When excessively heavy baggage is loaded in the rear seat or the trunk room of own vehicle.
- The ICC system is designed to automatically check the sensor's operation within the limitation of the system. When the sensor area of the front bumper is covered with dirt or is obstructed, the system will automatically be canceled. If the sensor is covered with ice, a transparent or translucent vinyl bag, etc., the ICC system may not detect them. In these instances, the vehicle-to-vehicle distance control mode may not cancel and may not be able to maintain the selected following distance from the vehicle ahead. Be sure to check and clean the sensor regularly.
- The ICC system does not control vehicle speed or warn the driver when own vehicle approaches stationary and slow moving vehicles. The driver must pay attention to vehicle operation to maintain proper distance from vehicles ahead when approaching toll gates or traffic congestion.

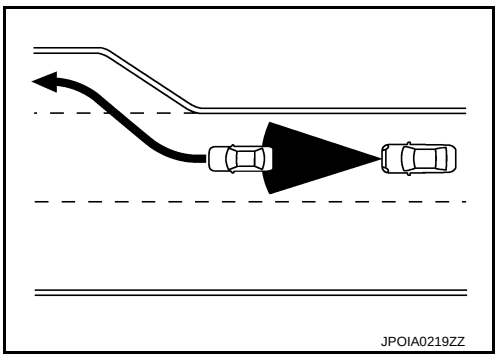
- The detection zone of the ICC sensor is limited. A vehicle ahead must be in the detection zone for the vehicle-to-vehicle distance detection mode to maintain the selected distance from the vehicle ahead. A vehicle ahead may move outside of the detection zone due to its position within the same lane of travel. Motorcycles may not be detected in the same lane ahead if they are traveling offset from the center line of the lane. A vehicle that is entering the lane ahead may not be detected until the vehicle has completely moved into the lane. If this occurs, the ICC system may warn the driver by blinking the system indicator and sounding the chime. The driver may have to manually control the proper distance away from vehicle traveling ahead.



- When driving on some roads, such as winding, hilly, curved, narrow roads, or roads which are under construction, the ICC sensor may detect vehicles in a different lane, or may temporarily not detect a vehicle traveling ahead. This may cause the ICC system to decelerate or accelerate the vehicle. The detection of vehicles may also be affected by vehicle operation (steering maneuver or traveling position in the lane, etc.) or vehicle condition. If this occurs, the ICC system may warn the driver by blinking the system indicator and sounding the chime unexpectedly. The driver will have to manually control the proper distance away from the vehicle traveling ahead.



- When driving on the freeway at a set speed and approaching a slower traveling vehicle ahead, the ICC will adjust the speed to maintain the distance, selected by the driver, from the vehicle ahead. If the vehicle ahead changes lanes or exits the freeway, the ICC system will accelerate and maintain the speed up to the set speed. Pay attention to the driving operation to maintain control of the vehicle as it accelerates to the set speed. The vehicle may not maintain the set speed on winding or hilly roads. If this occurs, the driver will have to manually control the vehicle speed.



- Normally when controlling the distance to a vehicle ahead, this system automatically accelerates or decelerates own vehicle according to the speed of the vehicle ahead. Depress the accelerator to properly accelerate own vehicle when acceleration is required for a lane change. Depress the brake pedal when deceleration is required to maintain a safe distance to the vehicle ahead due to its sudden braking or if a vehicle cuts in. Always stay alert when using the ICC system.

Precautions for Conventional (Fixed Speed) Cruise Control Mode

INFOID:0000000012789862

- In the conventional (fixed speed) cruise control mode, a warning chime does not sound to warn the driver if own vehicle is too close to the vehicle ahead, as neither the presence of the vehicle ahead nor the vehicle-to-vehicle distance is detected.
- Pay special attention to the distance between own vehicle and the vehicle ahead or a collision could occur.
- Always confirm the setting in the ICC system display.
- Do not use the conventional (fixed speed) cruise control mode when driving under the following conditions:
- When it is not possible to keep the vehicle at a set speed.
- In heavy traffic or in traffic that varies in speed.
- On winding or hilly roads.
- On slippery roads (rain, snow, ice, etc.).
- In very windy areas.
- Doing so could cause a loss of vehicle control and result in an accident.
- To avoid accidentally engaging cruise control, make sure to turn the MAIN switch off when not using the ICC system.

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

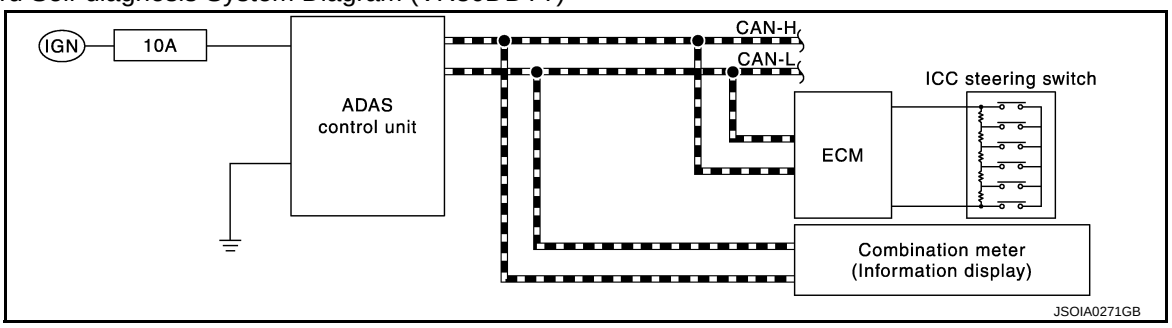
On Board Diagnosis Function (With ICC)

INFOID:0000000013398547

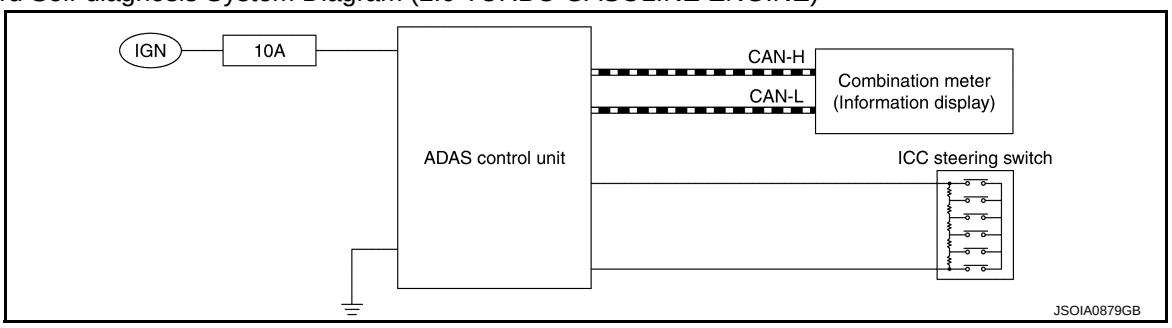
DESCRIPTION

The DTC is displayed on the information display by operating the ICC steering switch.

On Board Self-diagnosis System Diagram (VR30DDTT)



On Board Self-diagnosis System Diagram (2.0 TURBO GASOLINE ENGINE)



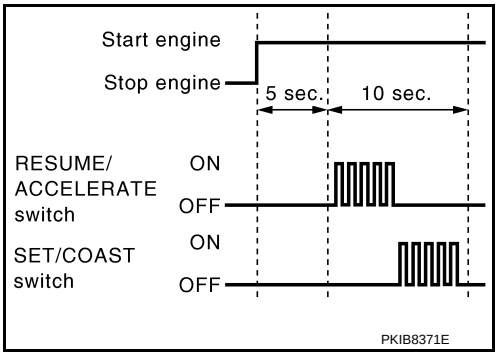
METHOD OF STARTING

CAUTION:

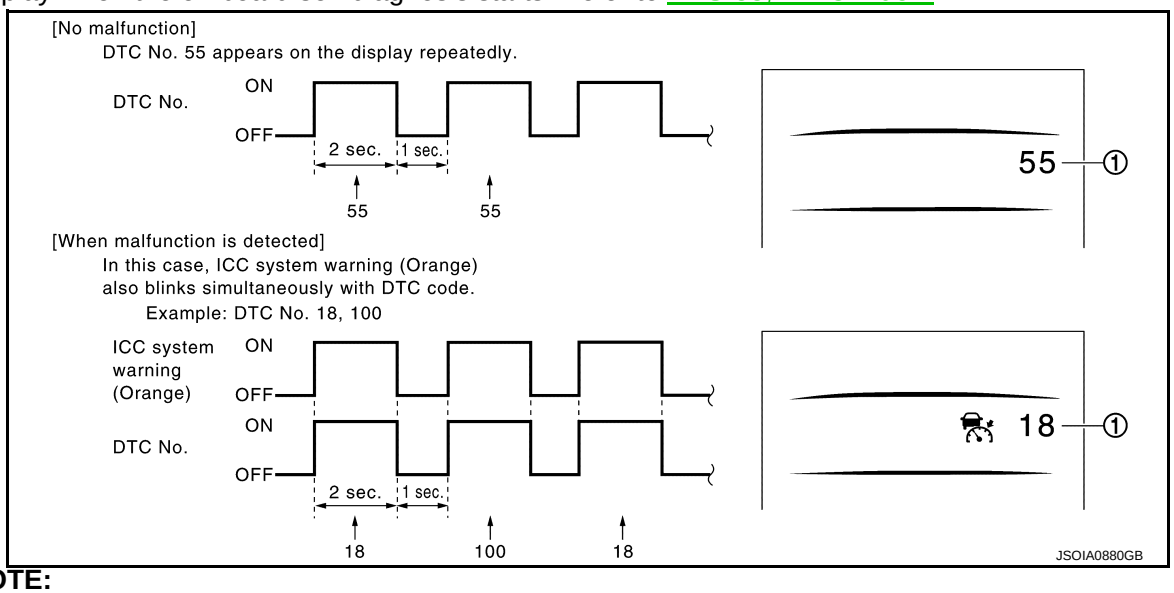
Start condition of on board self-diagnosis

- **ICC system OFF**
- **DCA system OFF**
- **Vehicle speed 0 km/h (0 MPH)**

1. Turn the ignition switch OFF.
2. Start the engine.
3. Wait for 5 seconds after starting the engine. Push up the RESUME/ACCELERATE switch 5 times and push down the SET/COAST switch 5 times within 10 seconds.
   NOTE:
   If the above operation cannot be performed within 10 seconds after waiting for 5 seconds after starting the engine, repeat the procedure from step 1.



4. The DTC is displayed on the set vehicle speed indicator (1) on the ICC system display on the information display when the on board self-diagnosis starts. Refer to DAS-53, "DTC Index".



NOTE:
- It displays for up to 5 minutes and then stops.
- If multiple malfunctions exist, up to 6 DTCs can be stored in memory at the most, and the most recent one is displayed first.

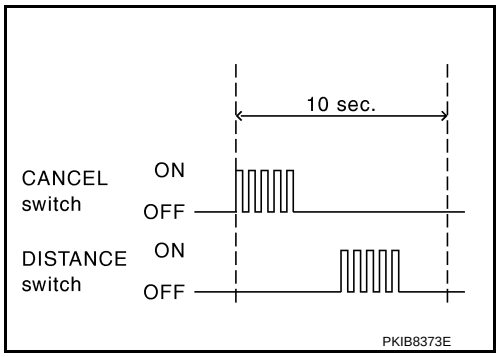
WHEN THE ON BOARD SELF-DIAGNOSIS DOES NOT START

If the on board self-diagnosis does not start, check the following items.

Assumed abnormal part		Inspection item
Information display	Combination meter malfunction	Check that the self-diagnosis function of the combination meter operates. Refer to MWI-68, "On Board Diagnosis Function".
ICC/ASCD steering switch malfunction		Perform the inspection for DTC “C1A06”. Refer to DAS-117, "DTC Logic".
Harness malfunction between ICC steering switch and ECM		
Harness malfunction between ASCD steering switch and ADAS control unit		
ECM malfunction		
ADAS control unit malfunction		• Check power supply and ground circuit of ADAS control unit. Refer to DAS-213, "Diagnosis Procedure". • Perform SELF-DIAGNOSIS for “ICC/ADAS”with CONSULT, and then check the malfunctioning parts. Refer to DAS-53, "DTC Index".

HOW TO ERASE ON BOARD SELF-DIAGNOSIS

1. Turn the ignition switch OFF.
2. Start the engine, and then start the on board self-diagnosis.
3. Press the CANCEL switch 5 times, and then press the DISTANCE switch 5 times under the condition that the on board self-diagnosis starts.
   NOTE:
   - Complete the operation within 10 seconds after pressing the CANCEL switch first.
   - If the operation is not completed within 10 seconds, repeat the procedure from step 1.
4. DTC 55 is displayed after erasing.
   NOTE:
   DTCs for existing malfunction can not be erased.
5. Turn ignition switch OFF, and finish the diagnosis.



CONSULT Function (ICC/ADAS)

INFOID:0000000013398548

APPLICATION ITEMS

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

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

*: Models with FEB system only.

CONFIGURATION

Configuration includes functions as follows.

NOTE:

Models with FEB system only.

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

WORK SUPPORT

Work support items	Description
CAUSE OF AUTO-CANCEL 1	Displays causes of automatic system cancellation occurred during control of the following systems • Vehicle-to-vehicle control mode • Conventional (fixed speed) control mode • Distance Control Assist (DCA) • Forward Emergency Braking (FEB)
CAUSE OF AUTO-CANCEL 2	Displays causes of automatic system cancellation occurred during control of the following systems • Lane Departure Prevention (LDP) (Without DAST) • Blind Spot Intervention (Without DAST)
CAUSE OF AUTO-CANCEL 3	Displays causes of automatic system cancellation occurred during control of the Back-up Collision Intervention (BCI)

NOTE:

- Causes of the maximum five cancellations (system cancel) are displayed.
- The displayed cancellation causes display the number of the ignition switch ON/OFF up to 254. It is fixed to 254 if it is over 254. It returns to 0 when the same cancellation cause is detected again.

Display Items for The Cause of Automatic Cancellation 1

Cause of cancellation	Vehicle-to-vehicle distance control mode	•Conventional (fixed speed) cruise control mode •Automatic Speed Control Device (ASCD)	Distance Control Assist	Forward Emergency Braking	Description
OPERATING ABS	×		×	×	ABS function was operated
OPERATING TCS	×	×	×		TCS function was operated
OPERATING VDC	×	×	×	×	VDC function was operated
ECM CIRCUIT	×	×			ECM did not permit ICC operation
OPE SW VOLT CIRC	×	×	×		The ICC steering switch input voltage is not within standard range
SNOW MODE SW	×		×		Shifting of the drive mode selector to SNOW position
OP SW DOUBLE TOUCH	×	×			ICC steering switches were pressed at the same time
VHCL SPD DOWN	×	×	×		Vehicle speed lower than the speed as follows • Vehicle-to-vehicle distance control mode is 24 km/h (15 MPH) • Conventional (fixed speed) cruise control mode is 32 km/h (20 MPH)
WHL SPD ELEC NOISE	×	×	×		Wheel speed sensor signal caught electromagnetic noise
VDC/TCS OFF SW	×		×	×	VDC OFF switch was pressed
VHCL SPD UNMATCH	×	×	×		Wheel speed became different from A/T vehicle speed
TIRE SLIP	×	×			Wheel slipped
IGN LOW VOLT	×	×	×	×	Decrease in ADAS control unit ignition voltage
PARKING BRAKE ON	×	×			The parking brake is operating
WHEEL SPD UNMATCH	×	×	×		The wheel speeds of 4 wheels are out of the specified values
INCHING LOST	×				A vehicle ahead is not detected during the following driving when the vehicle speed is approximately 24 km/h (15 MPH) or less
CAN COMM ERROR	×	×	×	×	ADAS control unit received an abnormal signal with CAN communication
ABS/TCS/VDC CIRC	×	×	×	×	An abnormal condition occurs in VDC/TCS/ABS system
ECD CIRCUIT	×	×	×	×	An abnormal condition occurs in ECD system
ENG SPEED DOWN	×	×			Engine speed became extremely low while controlling ICC system
ASCD VHCL SPD DTAC		×			Vehicle speed is detached from set vehicle speed
ASCD DOUBLE COMD		×			Cancel switch and operation switch are detected simultaneously
APA HI TEMP			×		The accelerator pedal actuator integrated motor temperature is high
ICC SENSOR CAN COMM ERR	×		×	×	Communication error between ADAS control unit and the ICC sensor
ABS WARNING LAMP	×		×		ABS warning lamp ON
FR RADAR BLOCKED	×		×	×	Inclusion of dirt or stains on the ICC sensor area of the front bumper

FEB) CURVATURE				×	Road curve was more than the specified value
FEB) YAW RATE				×	Detected yawing speed was more than the specified value
FEB) LTRL ACCELERATION				×	Detected lateral speed is the specified value or more
RADAR INTERFERENCE	×		×	×	ICC sensor receives electromagnetic interference
NO RECORD	×	×	×		—

Display Items for The Cause of Automatic Cancellation 2

Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
OPE VDC/TCS/ABS 1	×		The activation of VDC, TCS, or ABS during LDP system control
Vehicle dynamics	×		Vehicle behavior exceeds specified value
Steering speed	×		Steering speed was more than the specified value in evasive direction
End by yaw angle	×		Yaw angle was the end of LDP control
Departure yaw large	×		Detected more than the specified value of yaw angle in departure direction
ICC WARNING	×		Target approach warning of ICC system, FEB system, or PFCW system was activated
CURVATURE	×		Road curve was more than the specified value
Steering angle large	×		Steering angle was more than the specified value
Brake is operated	×		Brake pedal was operated
IGN LOW VOLT	×		Decrease in ADAS control unit IGN voltage
Lateral offset	×		Distance of vehicle and lane was detached in lateral direction more than the specified value
Lane marker lost	×		Lane camera unit lost the trace of lane marker
Lane marker unclear	×		Detected lane marker was unclear
Yaw acceleration	×		Detected yawing speed was more than the specified value
Deceleration large	×		Deceleration in a longitudinal direction was more than the specified value
Accel is operated	×		Accelerator pedal was depressed
Departure steering	×		Steering wheel was steered more than the specified value in departure direction
Evasive steering	×		Steering wheel was steered more than the specified value in the evasive direction
R range	×		Selector lever was operated to R range
Parking brake drift	×		Rear wheels lock was detected
Not operating condition	×		Did not meet the operating condition (vehicle speed, turn signal operation, etc.)
SNOW MODE SW	×		Shifting of the drive mode selector to SNOW position
VDC OFF SW	×		VDC OFF switch was pressed
OPE VDC/ABS 2	×		The activation of VDC or ABS during a standby time of LDP system control
BSI WARNING	×		Blind Spot Intervention system was activated
BSI) OPE VDC/TCS/ABS 1		×	The activation of VDC, TCS, or ABS during Blind Spot Intervention system control
BSI) Vehicle dynamics		×	Vehicle behavior exceeds specified value
BSI) Steering speed		×	Steering speed was more than the specified value in evasive direction

Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
BSI) End by yaw angle		×	Yaw angle was the end of Blind Spot Intervention control
BSI) Departure yaw large		×	Detected more than the specified value of yaw angle in departure direction
BSI) ICC WARNING		×	Target approach warning of ICC system, FEB system or PFCW system was activated
BSI) CURVATURE		×	Road curve was more than the specified value
BSI) Steering angle large		×	Steering angle was more than the specified value
BSI) Brake is operated		×	Brake pedal was operated
BSI) IGN LOW VOLT		×	Decrease in ADAS control unit IGN voltage
BSI) Lateral offset		×	Distance of vehicle and lane was detached in lateral direction more than the specified
BSI) Lane marker lost		×	Lane camera unit lost the trace of lane marker
BSI) Lane marker unclear		×	Detected lane marker was unclear
BSI) Yaw acceleration		×	Detected yawing speed was more than the specified value
BSI) Deceleration large		×	Deceleration in a longitudinal direction was more than the specified value
BSI) Accel is operated		×	Accelerator pedal was depressed
BSI) Departure steering		×	Steering wheel was steered more than the specified value in departure direction
BSI) Evasive steering		×	Steering wheel was steered more than the specified value in the evasive direction
BSI) R range		×	Selector lever was operated to R range
BSI) Parking brake drift		×	Rear wheels lock was detected
BSI) SNOW MODE SW		×	Shifting of the drive mode selector to SNOW position
BSI) VDC OFF SW		×	VDC OFF switch was pressed
BSI) OPE VDC/ABS 2		×	The activation of VDC or ABS during a standby time of Blind Spot Intervention system control
BSI) Not operating condition		×	Did not meet the operating condition (vehicle speed, turn signal operation, etc.)
Side Radar Lost		×	Unrecognized side radar LH or RH by the ADAS control unit
NO RECORD	×	×	—

Display Items for The Cause of Automatic Cancellation 3

Cause of cancellation	Back-up Collision Intervention	Description
CAN COMM ERROR (CAN)	×	ADAS control unit received an abnormal signal with CAN communication
CAN COMM ERROR (ECD)	×	ADAS control unit received an abnormal signal with CAN communication

Cause of cancellation	Back-up Collision Intervention	Description
IGN LOW VOLT	×	Decrease in ADAS control unit ignition voltage
VEHICLE SPEED UP	×	Vehicle speed higher than 8 km/h (5 MPH)
ACCEL IS OPERATED	×	Accelerator pedal was depressed
BRAKE IS OPERATED	×	Brake pedal was operated
APA HI TEMP	×	The accelerator pedal actuator integrated motor temperature is high
APA POWER	×	Decrease in accelerator pedal actuator ignition or battery voltage
NO RECORD	×	—

SELF DIAGNOSTIC RESULT

Refer to DAS-53, "DTC Index".

NOTE:

- The details of time display are as per the following.
- CRNT: A malfunction is detected now
- PAST: A malfunction was detected in the past
- IGN counter is displayed on FFD (Freeze Frame Data).
- 0: The malfunctions that are detected now
  CAN communication system (U1000, U1010)
- 1 - 39: It increases like 0 → 1 → 2 ··· 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.
  Other than CAN communication system (Other than U1000, U1010)
- 1 - 49: It increases like 0 → 1 → 2 ··· 38 → 49 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 49, it is fixed to 49 until the self-diagnosis results are erased.

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]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
MAIN SW [On/Off]	×	×	×	×		Indicates [On/Off] status as judged from ICC steering switch
SET/COAST SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch
CANCEL SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch
RESUME/ACC SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch
DISTANCE SW [On/Off]	×					Indicates [On/Off] status as judged from ICC steering switch
CRUISE OPE [On/Off]	×	×				Indicates whether controlling or not (ON means “controlling”)

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
BRAKE SW [On/Off]	×	×	×	×	×	Indicates [On/Off] status as judged from ICC brake switch signal (ECM transmits ICC brake switch signal through CAN communication)
STOP LAMP SW [On/Off]	×	×	×	×	×	Indicates [On/Off] status as judged from stop lamp switch signal (ECM transmits stop lamp switch signal through CAN communication)
IDLE SW [On/Off]	×				×	Indicates [On/Off] status of idle switch read from ADAS control unit through CAN communication (ECM transmits On/Off status through CAN communication)
SET DISTANCE [Short/Mid/Long]	×	×				Indicates set distance memorized in ADAS control unit
CRUISE LAMP [On/Off]	×	×				Indicates [On/Off] status of MAIN switch indicator output
OWN VHCL [On/Off]	×					**NOTE:** The item is displayed, but it is not monitored
VHCL AHEAD [On/Off]	×					Indicates [On/Off] status of vehicle ahead detection indicator output
ICC WARNING [On/Off]	×					Indicates [On/Off] status of ICC system warning lamp output
VHCL SPEED SE [km/h] or [mph]	×	×	×	×	×	Indicates vehicle speed calculated from ADAS control unit through CAN communication [ABS actuator and electric unit (control unit) transmits vehicle speed signal (wheel speed) through CAN communication]
SET VHCL SPD [km/h] or [mph]	×	×				Indicates set vehicle speed memorized in ADAS control unit
BUZZER O/P [On/Off]	×				×	Indicates [On/Off] status of ICC warning chime output
THRTL SENSOR [deg]	×	×				**NOTE:** The item is displayed, but it is not monitored
ENGINE RPM [rpm]	×					Indicates engine speed read from ADAS control unit through CAN communication (ECM transmits engine speed signal through CAN communication)
WIPER SW [OFF/LOW/HIGH]	×					Indicates wiper [OFF/LOW/HIGH] status (BCM transmits front wiper request signal through CAN communication)
YAW RATE [deg/s]	×					**NOTE:** The item is displayed, but it is not monitored
BA WARNING [On/Off]	×					Indicates [On/Off] status of FEB indicator lamp output
STP LMP DRIVE [On/Off]	×	×			×	Indicates [On/Off] status of ICC brake hold relay drive output
D RANGE SW [On/Off]	×					Indicates [On/Off] status of “D” or “M” positions read from ADAS control unit through CAN communication; ON when position “D” or “M” (TCM transmits shift position signal through CAN communication).
NP RANGE SW [On/Off]	×					Indicates shift position signal read from ADAS control unit through CAN communication (TCM transmits shift position signal through CAN communication)
PKB SW [On/Off]	×					Parking brake switch status [On/Off] judged from the parking brake switch signal that ADAS control unit readout via CAN communication is displayed (combination meter transmits the parking brake switch signal via CAN communication)
PWR SUP MONI [V]	×	×				Indicates IGN voltage input by ADAS control unit
VHCL SPD AT [km/h] or [mph]	×					Indicates vehicle speed calculated from A/T vehicle speed sensor read from ADAS control unit through CAN communication (TCM transmits A/T vehicle speed sensor signal through CAN communication)

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
THRTL OPENING [%]	×	×			×	Indicates throttle position read from ADAS control unit through CAN communication (ECM transmits accelerator pedal position signal through CAN communication).
GEAR [1, 2, 3, 4, 5, 6, 7]	×					Indicates A/T gear position read from ADAS control unit through CAN communication (TCM transmits current gear position signal through CAN communication)
CLUTCH SW SIG [On/Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
NP SW SIG [On/Off]	×					Indicates [On/Off] status as judged from park/neutral position switch signal (ECM transmits park/neutral position switch signal through CAN communication).
MODE SIG [OFF, ICC, ASCD]	×					Indicates the active mode from ICC or ASCD [conventional (fixed speed) cruise control mode]
SET DISP IND [On/Off]	×					Indicates [On/Off] status of SET switch indicator output
DISTANCE [m]	×					Indicates the distance from the vehicle ahead
RELATIVE SPD [m/s]	×					Indicates the relative speed of the vehicle ahead
ON ROOT GUIDANCE [On/Off]	×					**NOTE:** The item is displayed, but it is not monitored
DYNA ASIST SW [On/Off]	×	×		×		Indicates [On/Off] status as judged from ICC steering switch signal (ECM transmits ICC steering switch signal through CAN communication)
DCA ON IND [On/Off]	×					The status [ON/OFF] of DCA system switch indicator output is displayed
DCA VHL AHED [On/Off]	×					The status [ON/OFF] of vehicle ahead detection indicator output in DCA system is displayed
IBA SW [On/Off]	×	×				**NOTE:** The item is displayed, but it is not monitored
FCW SYSTEM ON [On/Off]	×	×				Indicates [On/Off] status of PFCW system
APA TEMP [°C]	×				×	Accelerator pedal actuator integrated motor temperature that the ADAS control unit readout via ITS communication is displayed (Accelerator pedal actuator transmits the integrated motor temperature via ITS communication)
APA PWR [V]	×				×	Accelerator pedal actuator power supply voltage that the ADAS control unit readout via ITS communication is displayed (Accelerator pedal actuator transmits the power supply voltage via ITS communication)
NAVI ICC DISP [On/Off]						**NOTE:** The item is displayed, but it is not monitored
LDW SYSTEM ON [On/Off]			×			Indicates [On/Off] status of LDW system
LDW ON LAMP [On/Off]			×			Indicates [On/Off] status of LDW system display output
LDP ON IND [On/Off]			×			Indicates [On/Off] status of LDP system display output
LANE DPRT W/L [On/Off]			×			Indicates [On/Off] status of LDW/LDP warning display (Yellow) output
LDW BUZER OUTPUT [On/Off]			×			Indicates [On/Off] status of warning buzzer output

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
LDP SYSTEM ON [On/Off]			×			Indicates [On/Off] status of LDP system
WARN REQ [On/Off]			×			Indicates an ADAS control unit judged warning state (ON/OFF) of LDP system
READY signal [On/Off]			×			Indicates LDP system settings
Camera lost [Detect/Deviate/Both]			×	×		Indicates a lane marker detection state judged from a lane marker detection signal read by the ADAS control unit via ITS communication (Lane camera unit transmits a lane marker signal via ITS communication)
Lane unclear [On/Off]			×	×		Indicates an ON/OFF state of the lane marker. The ON/OFF state is judged from a detected lane condition signal read by the ADAS control unit via ITS communication (The lane camera unit transmits a detected lane condition signal via ITS communication)
STATUS signal [Stnby/Warn/Cancl/ Off]			×			Indicates a control state of LDP system
Shift position [Off, P, R, N, D, M/T1 - 7]			×	×	×	Indicates shift position read from ADAS control unit through CAN communication (TCM transmits shift position signal through CAN communication)
Turn signal [OFF/LH/RH/LH&RH]			×	×		Indicates turn signal operation status read from ADAS control unit through CAN communication (BCM transmits turn indicator signal through CAN communication)
SIDE G [G]			×	×		Indicates lateral G acting on the vehicle. This lateral G is judged from a side G sensor signal read by ADAS control unit via CAN communication (The ABS actuator and electric unit (control unit) transmits a side G sensor signal via CAN communication)
STATUS signal [Stnby/Warn/Cancl/ Off]			×			Indicates a control state of LDP system
Lane unclear [On/Off]			×	×		Indicates an ON/OFF state of the lane marker. The ON/OFF state is judged from a detected lane condition signal read by the ADAS control unit via ITS communication (The lane camera unit transmits a detected lane condition signal via ITS communication)
FUNC ITEM (FCW) [On/Off]	×	×	×	×		Indicates systems which can be set to ON/OFF by selecting “Driver Aids” ⇒ “Emergency Assist” of the integral switch Forward Emergency Braking
FUNC ITEM (LDW) [On/Off]	×	×	×	×		Indicates systems which can be set to ON/OFF by selecting “Driver Aids” ⇒ “Lane” of the integral switch Lane Departure Warning
FUNC ITEM (BSW) [On/Off]	×	×	×	×		Indicates systems which can be set to ON/OFF by selecting “Driver Aids” ⇒ “Blind spot” of the integral switch Blind Spot Warning
FUNC ITEM (NV-ICC) [Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
FUNC ITEM (NV-DCA) [Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
DCA SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the DCA system. The DCA system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Front assist” of the integral switch
LDP SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of LDP system. LDP system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Lane”of the integral switch

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
BSI SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of Blind Spot Intervention system. Blind Spot Intervention system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Blind Spot”of the integral switch
FCW SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the PFCW system. The PFCW system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Emergency Assist” of the integral switch
LDW SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the LDW system. The LDW system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Lane” of the integral switch
BSW SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the BSW system. The BSW system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Blind spot” of the integral switch
NAVI ICC SELECT [Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
NAVI DCA SELECT [Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
SYS SELECTABILITY [On/Off]	×	×	×	×		Indicates the availability of ON/OFF switching for “Driving Aids” items received from the integral switch via CAN communication
DRIVE MODE STATS [STD/SPORT/ECO/ SNOW/MID/ERROR]	×	×	×	×		Indicates a drive mode selector select position judged from a drive mode select switch position signal read by the ADAS control unit via CAN communication (The chassis control module transmits a switch position signal of the drive mode select switch signal via CAN communication)
WARN SYS SW [On/Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
BSW/BSI WARN LMP [On/Off]				×		Indicates [On/Off] status of Blind Spot warning malfunction
BSI ON IND [On/Off]				×		Indicates [On/Off] status of Blind Spot Intervention system display
BSW SYSTEM ON [On/Off]				×		Indicates [On/Off] status of BSW system
BSI SYSTEM ON [On/Off]				×		Indicates [On/Off] status of Blind Spot Intervention system
FCW SYSTEM ON [On/Off]	×	×				Indicates [On/Off] status of PFCW system
BCI SYSTEM ON [On/Off]					×	Indicates [On/Off] status of BCI system
BCI SWITCH [On/Off]					×	**NOTE:** The item is displayed, but it is not monitored
BATTERY CIRCUIT OFF [On/Off]	×					**NOTE:** The item is displayed, but it is not used
LDP WARNING INDICATOR [On/Off]			×			Indicates [On/Off] status of LDP warning display (Yellow) output
LDW ON INDICATOR [On/Off]			×			Indicates [On/Off] status of LDW system ON display output
LDW WARNING INDICATOR [On/Off]			×			Indicates [On/Off] status of LDW system warning display output

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
SYSTEM CANCEL MESSAGE [NOREQ/SLIP/ SNOW/VDC OFF]	×	×	×	×		Indicates status of system cancel display output
CAMERA HI TEMP MSG [On/Off]			×	×		Indicates [On/Off] status of lane camera unit high temperature warning display output
ITS SETTING ITEM(DCA) [On/Off]	×	×	×	×		Indicates the presence or absence of DCA system.
ITS SETTING ITEM(LDP) [On/Off]	×	×	×	×		Indicates the presence or absence of LDP system.
ITS SETTING ITEM(BSI) [On/Off]	×	×	×	×		Indicates the presence or absence of Blind Spot Intervention system.
BSI WARNING INDICATOR [On/Off]				×		Indicates [On/Off] status of Blind Spot Intervention warning display output
BSW ON INDICATOR [On/Off]				×		Indicates [On/Off] status of BSW system ON display output
SIDE RADAR BLOCK COND [On/Off]				×		Indicates [On/Off] status of side radar with dirt or foreign materials
LDW WARNING ALERT TIMING [Nothing/Early/Late]			×			**NOTE:** The item is displayed, but it is not monitored
BSW IND BRIGHTNESS [Nothing/Bright/Normal/Dark]				×		Indicates status of brightness of Blind Spot Warning/Blind Spot Intervention indicator
SL MAIN SW [On/Off]		×				Indicates [On/Off] status as judged from steering switch
FUNC ITEM(FEB) [On/Off]	×					Indicates systems which can be set to ON/OFF by selecting “Driver Aids” ⇒ “Emergency Assist” of the integral switch Forward Emergency Braking
FEB SELECT [On/Off]	×					Indicates an ON/OFF state of the FEB system. The FEB system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Emergency Assist” of the integral switch
FEB SW [On/Off]	×					Indicates [On/Off] status of FEB system
SL TARGET VEHICLE SPEED [km/h]	×					Indicates set vehicle speed memorized in ADAS control unit
SL SET LAMP [On/Off]	×					Indicates [On/Off] status of speed limiter SET display output
SL LIMIT LAMP [On/Off]	×					Indicates [On/Off] status of speed limiter MAIN switch display output
ASCD CANCEL (LOW SPEED) [NON/CUT]	×					Indicates the vehicle cruise condition. • NON: Vehicle speed is maintained at the ASCD set speed. • CUT: Vehicle speed decreased to excessively low, and ASCD operation is cut off.

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
ASCD CANCEL (SPEED DIFF) [NON/CUT]	×					Indicates the vehicle cruise condition. • NON: Vehicle speed is maintained at the ASCD set speed. • CUT: Vehicle speed decreased to excessively low compared with the ASCD set speed, and ASCD operation is cut off.
KICK DOWN [On/Off]	×					Display Kick Down decision state. • On: Accelerator pedal is depressed • Off: Accelerator pedal is fully released

ACTIVE TEST

CAUTION:

- **Never perform “Active Test” while driving the vehicle.**
- **The “Active Test” cannot be performed when the following systems malfunction is displayed.**
- **ICC system**
- **DCA**
- **LDW**
- **LDP**
- **Blind Spot Warning**
- **Blind Spot Intervention**
- **BCI**
- **The “Active Test” cannot be performed when the FEB warning lamp is illuminated.**
- **Shift the selector lever to “P” position, and then perform the test.**

Test item	Description
METER LAMP	The MAIN switch indicator and FEB warning lamp can be illuminated by ON/OFF operations as necessary
STOP LAMP	The ICC brake hold relay can be operated by ON/OFF operations as necessary, and the stop lamp can be illuminated
ICC BUZZER	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Intelligent Cruise Control (ICC) • Distance Control Assist (DCA) • Predictive Forward Collision Warning (PFCW) • Forward Emergency Brake (FEB)
BRAKE ACTUATOR	Activates the brake by an arbitrary operation
ACTIVE PEDAL	The accelerator pedal actuator can be operated as necessary
DCA INDICATOR	The DCA system display can be illuminated by ON/OFF operations as necessary
LDP BUZZER	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Lane Departure Warning (LDW) • Lane Departure Prevention (LDP) • Blind Spot Warning (BSW) • Blind Spot Intervention
LDP ON IND	The LDP system display can be illuminated by ON/OFF operations as necessary
LANE DEPARTURE W/L	The LDW/LDP warning can be illuminated by ON/OFF operations as necessary
BSW ON INDICATOR	The Blind Spot Warning system display can be illuminated by ON/OFF operations as necessary
BSI ON INDICATOR	The Blind Spot Intervention system display can be illuminated by ON/OFF operations as necessary
LDW ON INDICATOR	The LDW system display can be illuminated by ON/OFF operations as necessary
LDP WARNING INDICATOR	The LDP malfunction can be illuminated by ON/OFF operations as necessary
LDW WARNING INDICATOR	The LDW malfunction can be illuminated by ON/OFF operations as necessary
BSW WARNING INDICATOR	The BSW malfunction can be illuminated by ON/OFF operations as necessary
BSI WARNING INDICATOR	The Blind Spot Intervention malfunction can be illuminated by ON/OFF operations as necessary

METER LAMP

NOTE:

The test can be performed only when the engine is running.

Test item	Operation	Description	• MAIN switch indicator • ICC system warning • FEB warning lamp
METER LAMP	Off	Stops sending the following signals to exit from the test • Meter display signal • FEB warning lamp signal	OFF
	On	Transmits the following signals to the combination meter via CAN communication • Meter display signal • FEB warning lamp signal	ON

STOP LAMP

Test item	Operation	Description	Stop lamp
STOP LAMP	Off	Stops transmitting the ICC brake hold relay drive signal below to end the test	OFF
	On	Transmits the ICC brake hold relay drive signal	ON

ICC BUZZER

Test item	Operation	Description	Operation sound
ICC BUZZER	MODE1	Transmits the buzzer output signals to the driver assistance buzzer control module via ITS communication	Intermittent beep sound
	Test start	Starts the tests of “MODE1”	—
	Reset	Stops transmitting the buzzer output signal below to end the test	—
	End	Returns to the “SELECT TEST ITEM” screen	—

BRAKE ACTUATOR

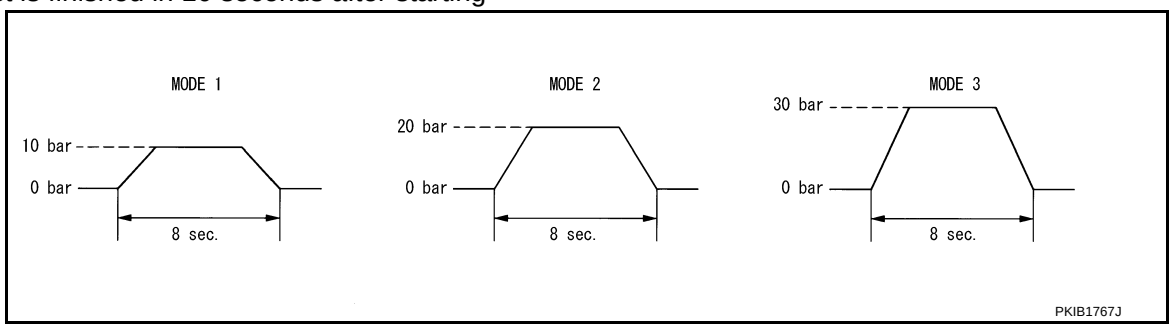
NOTE:

The test can be performed only when the engine is running.

Test item	Operation	Description	“PRESS SENS” value
BRAKE ACTUATOR	MODE1	Transmits the brake fluid pressure control signal to the ABS actuator and electric unit (control unit) via chassis control module	10 bar
	MODE2		20 bar
	MODE3		30 bar
	Test start	Starts the tests of “MODE1”, “MODE2” and “MODE3”	—
	Reset	Stops transmitting the brake fluid pressure control signal below to end the test	—
	End	Returns to the “SELECT TEST ITEM” screen	—

NOTE:

The test is finished in 10 seconds after starting



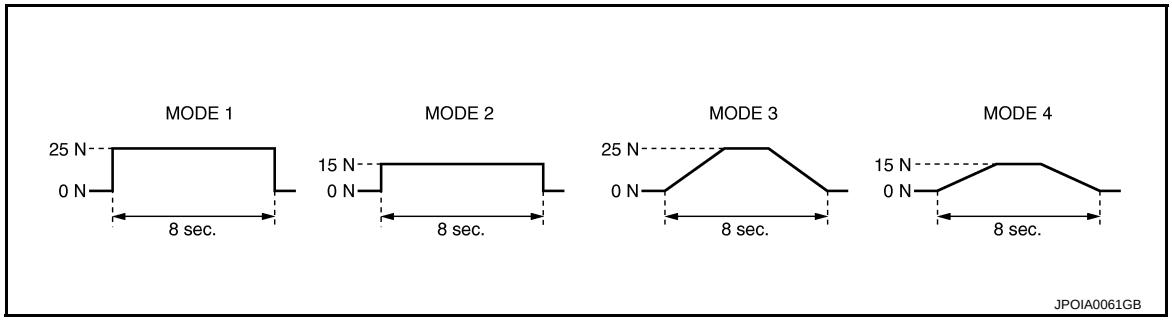
Active Pedal

CAUTION:
- **Shift the selector lever to "P" position, and then perform the test.**
- **Never depress the accelerator pedal excessively. (The engine speed may rise unexpectedly when finishing the test.)**

NOTE:
- Depress the accelerator pedal to check when performing the test.
- The test can be performed only when the engine is running.

Test item	Operation	Description	Accelerator pedal operation
ACTIVE PEDAL	MODE1	Transmit the accelerator pedal feedback force control signal to the accelerator pedal actuator via ITS communication.	Constant with a force of 25 N for 8 seconds
	MODE2		Constant with a force of 15 N for 8 seconds
	MODE3		Change up to a force of 25 N for 8 seconds
	MODE4		Change up to a force of 15 N for 8 seconds
	Test start	Starts the tests of "MODE1", "MODE2", "MODE3" and "MODE4"	—
	Reset	Stops transmitting the accelerator pedal feedback force control signal below to end the test.	—
	End	Returns to the "SELECT TEST ITEM" screen	—

NOTE:
The test is finished in 10 seconds after starting



DCA INDICATOR

NOTE:
The test can be performed only when the engine is running.

Test item	Operation	Description	DCA system display
DCA INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LDP BUZZER

Test item	Operation	Description	Warning buzzer
LDP BUZZER	Off	Stops transmitting the warning buzzer signal below to end the test	—
	On	Transmits the warning buzzer signal to the warning buzzer	ON

LDP ON IND

Test item	Operation	Description	LDP system display (Green)
LDP ON IND	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LANE DEPARTURE W/L

Test item	Operation	Description	Lane departure system display (Yellow)
LANE DEPARTURE W/L	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSW ON INDICATOR

Test item	Operation	Description	Blind Spot Warning system display (Yellow)
BSW ON INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSI ON INDICATOR

Test item	Operation	Description	Blind Spot Intervention system display (Green)
BSI ON INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LDW ON INDICATOR

Test item	Operation	Description	LDW system display (White)
LDW ON INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LDP WARNING INDICATOR

Test item	Operation	Description	LDP malfunction (Yellow)
LDP WARNING INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LDW WARNING INDICATOR

Test item	Operation	Description	LDW malfunction (Yellow)
LDW WARNING INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSW WARNING INDICATOR

Test item	Operation	Description	BSW malfunction (Yellow)
BSW WARNING INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSI WARNING INDICATOR

Test item	Operation	Description	Blind Spot Intervention malfunction (Yellow)
BSI WARNING INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

ECU IDENTIFICATION

Displays ADAS control unit parts number.

DIAGNOSIS SYSTEM (ICC SENSOR)

CONSULT Function (LASER/RADAR)

INFOID:0000000012789865

APPLICATION ITEMS

CONSULT performs the following functions via CAN communication with ADAS control unit and the communication with ICC sensor.

Diagnosis mode	Description
Work Support	It can monitor the adjustment direction indication in order to perform the radar alignment operation smoothly
Self Diagnostic Result	Displays malfunctioning system memorized in ICC sensor
Data Monitor	Displays real-time input/output data of ICC sensor
ECU Identification	Displays ICC sensor part number
CAN Diag Support Monitor	The results of transmit/receive diagnosis of ITS communication can be read

WORK SUPPORT

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

Radar Alignment

Refer to CCS-114, "Application Notice".

SELF DIAGNOSTIC RESULT

Refer to CCS-71, "DTC Index".

NOTE:

- The details of time display are as per the following.

- 0: The malfunctions that are detected now
  CAN communication system (U1000, U1010)
- 1 - 39: It increases like 0 → 1 → 2 ··· 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.
  Other than CAN communication system (Other than U1000, U1010)
- 1 - 49: It increases like 0 → 1 → 2 ··· 38 → 49 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 49, it is fixed to 49 until the self-diagnosis results are erased.

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] or [mph]	Vehicle speed judged from a vehicle speed signal read by the ICC sensor via ITS communication is displayed [ADAS control unit receives a vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication and transmits the calculated vehicle speed to ICC sensor via ITS communication]
YAW RATE [deg/s]	Indicates yaw rate read from ADAS control unit through ITS communication (ADAS control unit receives yaw rate signal from ABS actuator and electric unit (control unit) via CAN communication and transmits yaw rate calculated by the ADAS control unit) Yaw rate judged from a yaw rate signal read by ICC sensor via ITS communication is displayed [ADAS control unit receives a yaw rate signal from ABS actuator and electric unit (control unit) via CAN communication and transmits the calculated yaw rate to ICC sensor via ITS communication]
PWR SUP MONI [V]	Indicates IGN voltage input by ICC sensor

Monitored item [Unit]	Description
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	The horizontal correction value of the radar is displayed
U/D ADJUST	The vertical correction value of the radar is displayed

DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

CONSULT Function (BSW/BUZZER)

INFOID:0000000013398556

DESCRIPTION

CONSULT performs the following functions via CAN communication with ADAS control unit and the communication with driver assistance buzzer control module.

Test mode	Function
Self Diagnostic Result	• Displays malfunctioning system memorized in driver assistance buzzer control module • Displays the Freeze Frame Data when the malfunction is detected
DATA MONITOR	Displays real-time input/output data of driver assistance buzzer control module
ACTIVE TEST	Enables operation check of electrical loads by sending driving signal to them
ECU Identification	Displays driver assistance buzzer control module parts number

SELF DIAGNOSTIC RESULT

Self Diagnostic Result

Refer to DAS-353, "DTC Index".

FFD (Freeze Frame Data)

The drive assistance buzzer control module records the following data when the malfunction is detected.

Freeze Frame Data item [Unit]	Description
IGN Counter[Note]	It displays number of ignition switch OFF → ON after the malfunction is detected

NOTE:

- The number is 0 when is detected now.
- The number increases like 1→ 2 ··· 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

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 [Unit]	FUNCTION DESCRIPTION
Buzzer 1 request (ADAS) [Off/TYPE 1 - 3/Cancel]	Indicates buzzer request type status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 1 volume (ADAS) [Vol. 1- 16]	Indicates buzzer volume status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 1 stop (ADAS) [CYCLE/IMEDIAT]	Indicates buzzer stop status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 2 request (ADAS) [Off/TYPE 1 - 3/Cancel]	Indicates buzzer request type status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 2 volume (ADAS) [Vol. 1- 16]	Indicates buzzer volume status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 2 stop (ADAS) [CYCLE/IMEDIAT]	Indicates buzzer stop status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 3 request (ADAS) [Off/TYPE 1/Cancel]	Indicates buzzer request type status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 3 volume (ADAS) [Vol. 1- 16]	Indicates buzzer volume status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)

Monitor item [Unit]	FUNCTION DESCRIPTION
Buzzer 3 stop (ADAS) [CYCLE/IMEDIAT]	Indicates buzzer stop status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 4 request (ADAS) [Off/TYPE 1 - 7/Cancel]	Indicates buzzer request type status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 4 volume (ADAS) [Vol. 1- 16]	Indicates buzzer volume status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 4 stop (ADAS) [CYCLE/IMEDIAT]	Indicates buzzer stop status as judged from ADAS control unit through ITS communication (The ADAS control unit transmits the driver assistance buzzer signal via ITS communication)
Buzzer 1 request (CCM) [Off/TYPE 1 - 3/Cancel]	Indicates buzzer request type status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 1 volume (CCM) [Vol. 1- 16]	Indicates buzzer volume status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 1 stop (CCM) [CYCLE/IMEDIAT]	Indicates buzzer stop status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 2 request (CCM) [Off/TYPE 1 - 3/Cancel]	Indicates buzzer request type status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 2 volume (CCM) [Vol. 1- 16]	Indicates buzzer volume status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 2 stop (CCM) [CYCLE/IMEDIAT]	Indicates buzzer stop status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 3 request (CCM) [Off/TYPE 1/Cancel]	Indicates buzzer request type status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 3 volume (CCM) [Vol. 1- 16]	Indicates buzzer volume status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 3 stop (CCM) [CYCLE/IMEDIAT]	Indicates buzzer stop status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 4 request (CCM) [Off/TYPE 1 - 7/Cancel]	Indicates buzzer request type status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 4 volume (CCM) [Vol. 1- 16]	Indicates buzzer volume status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
Buzzer 4 stop (CCM) [CYCLE/IMEDIAT]	Indicates buzzer stop status as judged from chassis control module through chassis communication (The ADAS control unit transmits the driver assistance buzzer signal via chassis communication)
ADAS MALFUNCTION [Off/On]	Indicates ADAS control unit status
CCM MALFUNCTION [Off/On]	Indicates chassis control module status
DR ASSIST BUZZ MALF [Off/On]	Indicates driver assistance control buzzer module status
DR ASSIST BUZZ STATUS [1/2/3/1, 2/2, 4/1, 4/4]	Indicates driver assistance control buzzer sound status

ACTIVE TEST

CAUTION:

Never perform ACTIVE TEST while driving the vehicle.

Item list

Active test item	Description
BUZZER 1 (ADAS)	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Lane Departure Warning (LDW) • Blind Spot Warning (BSW) • Blind Spot Intervention
BUZZER 2 (ADAS)	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Intelligent Cruise Control (ICC) • Predictive Forward Collision Warning (PFCW) • Distance Control Assist (DCA)
BUZZER 3 (ADAS)	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Forward Emergency Braking (FEB)
BUZZER 4 (ADAS)	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Predictive Forward Collision Warning (PFCW)
BUZZER 1 (CCM)	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Lane Departure Warning (LDW) • Blind Spot Warning (BSW) • Blind Spot Intervention
BUZZER 2 (CCM)	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Intelligent Cruise Control (ICC) • Predictive Forward Collision Warning (PFCW) • Distance Control Assist (DCA)
BUZZER 3 (CCM)	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Forward Emergency Braking (FEB)
BUZZER 4 (CCM)	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Predictive Forward Collision Warning (PFCW)

BUZZER 1 (ADAS)

Active test item	Operation	Description
BUZZER 1 (ADAS)	Off	Stops transmitting the warning buzzer signal below to end of the test
	On	Transmits the warning buzzer signal to the warning buzzer

BUZZER 2 (ADAS)

Active test item	Operation	Description
BUZZER 2 (ADAS)	Off	Stops transmitting the warning buzzer signal below to end of the test
	On	Transmits the warning buzzer signal to the warning buzzer

BUZZER 3 (ADAS)

Active test item	Operation	Description
BUZZER 3 (ADAS)	Off	Stops transmitting the warning buzzer signal below to end of the test
	On	Transmits the warning buzzer signal to the warning buzzer

BUZZER 4 (ADAS)

Active test item	Operation	Description
BUZZER 4 (ADAS)	Off	Stops transmitting the warning buzzer signal below to end of the test
	On	Transmits the warning buzzer signal to the warning buzzer

BUZZER 1 (CCM)

Active test item	Operation	Description
BUZZER 1 (CCM)	Off	Stops transmitting the warning buzzer signal below to end of the test
	On	Transmits the warning buzzer signal to the warning buzzer

BUZZER 2 (CCM)

Active test item	Operation	Description
BUZZER 2 (CCM)	Off	Stops transmitting the warning buzzer signal below to end of the test
	On	Transmits the warning buzzer signal to the warning buzzer

BUZZER 3 (CCM)

Active test item	Operation	Description
BUZZER 3 (CCM)	Off	Stops transmitting the warning buzzer signal below to end of the test
	On	Transmits the warning buzzer signal to the warning buzzer

BUZZER 4 (CCM)

Active test item	Operation	Description
BUZZER 4 (CCM)	Off	Stops transmitting the warning buzzer signal below to end of the test
	On	Transmits the warning buzzer signal to the warning buzzer

ECU IDENTIFICATION

Displays driver assistance buzzer control module parts number.

ECU DIAGNOSIS INFORMATION

ADAS CONTROL UNIT

Reference Value

INFOID:0000000013398549

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
MAIN SW	Ignition switch ON	When MAIN switch is pressed	On
		When MAIN switch is not pressed	Off
SET/COAST SW	Ignition switch ON	When SET/COAST switch is pressed	On
		When SET/COAST switch is not pressed	Off
CANCEL SW	Ignition switch ON	When CANCEL switch is pressed	On
		When CANCEL switch is not pressed	Off
RESUME/ACC SW	Ignition switch ON	When RESUME/ACCELERATE switch is pressed	On
		When RESUME/ACCELERATE switch is not pressed	Off
DISTANCE SW	Ignition switch ON	When DISTANCE switch is pressed	On
		When DISTANCE switch is not pressed	Off
CRUISE OPE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When ICC system is controlling	On
		When ICC system is not controlling	Off
BRAKE SW	Ignition switch ON	When brake or clutch pedal is depressed	Off
		When brake or clutch pedal is not depressed	On
STOP LAMP 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
SET DISTANCE	• Start the engine and turn the ICC system ON • Press the DISTANCE switch to change the vehicle-to-vehicle distance setting	When set to “long”	Long
		When set to “middle”	Mid
		When set to “short”	Short
CRUISE LAMP	Start the engine and press MAIN switch	ICC system ON (MAIN switch indicator ON)	On
		ICC system OFF (MAIN switch indicator OFF)	Off
OWN VHCL	**NOTE:** The item is indicated, but not monitored		Off
VHCL AHEAD	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	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
ICC WARNING	Start the engine and press MAIN switch	When ICC system is malfunctioning (ICC system malfunction ON)	On
		When ICC system is normal (ICC system malfunction OFF)	Off

Monitor item	Condition		Value/Status
VHCL SPEED SE	While driving		Displays the vehicle speed calculated by ADAS control unit
SET VHCL SPD	While driving	When vehicle speed is set	Displays the set vehicle speed
BUZZER O/P	Engine running	When the buzzer of the following system operates • Vehicle-to-vehicle distance control mode • DCA system • PFCW system • FEB system	On
		When the buzzer of the following system not operates • Vehicle-to-vehicle distance control mode • DCA system • PFCW system • FEB system	Off
THRTL SENSOR	**NOTE:** The item is indicated, but not monitored		0.0
ENGINE RPM	Engine running		Equivalent to tachometer reading
WIPER SW	Ignition switch ON	Wiper not operating	Off
		Wiper LO operation	Low
		Wiper HI operation	High
YAW RATE	**NOTE:** The item is indicated, but not monitored		0.0
BA WARNING	Engine running	FEB OFF indicator lamp ON • When FEB system is malfunctioning • When FEB system is turned to OFF	On
		FEB OFF indicator lamp OFF • When FEB system is normal • When FEB system is turned to ON	Off
STP LMP DRIVE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When ICC brake hold relay is activated	On
		When ICC brake hold relay is not activated	Off
D RANGE SW	Engine running	When the selector lever is in “D” position or manual mode	On
		When the selector lever is in any position other than “D” or manual mode	Off
NP RANGE SW	Engine running	When the selector lever is in “N”, “P” position	On
		When the selector lever is in any position other than “N”, “P”	Off
PKB SW	Ignition switch ON	When the parking brake is applied	On
		When the parking brake is released	Off
PWR SUP MONI	Engine running		Power supply voltage value of ADAS control unit
VHCL SPD AT	While driving		Value of A/T vehicle speed sensor signal
THRTL OPENING	Engine running	Depress accelerator pedal	Displays the throttle position

Monitor item	Condition		Value/Status
GEAR	While driving		Displays the gear position
CLUTCH SW SIG	Ignition switch ON	**NOTE:** The item is indicated, but not monitored.	Off
NP SW SIG	Ignition switch ON	When the shift lever is in neutral position	On
		When the shift lever is in any position other than neutral	Off
MODE SIG	Start the engine and press MAIN switch	When ICC system is deactivated	Off
		When vehicle-to-vehicle distance control mode is activated	ICC
		When conventional (fixed speed) cruise control mode is activated	ASCD
SET DISP IND	• Drive the vehicle and activate the conventional (fixed speed) cruise control mode • Press SET/COAST switch	SET switch indicator ON	On
		SET switch indicator OFF	Off
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
ON ROOT GUIDANCE	**NOTE:** The item is indicated, but not monitored		Off
DYNA ASIST SW	Ignition switch ON	When dynamic driver assistance switch is pressed	On
		When dynamic driver assistance switch is not pressed	Off
DCA ON IND	Start the engine and press dynamic driver assistance switch (When DCA setting is ON)	DCA system OFF	Off
		DCA system ON	On
DCA VHL AHED	Drive the vehicle and activate the DCA system	When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off
		When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
IBA SW	**NOTE:** The item is indicated, but not monitored		Off
FCW SYSTEM ON	Ignition switch ON	When the PFCW system is ON	On
		When the PFCW system is OFF	Off
APA TEMP	Engine running		Display the accelerator pedal actuator integrated motor temperature
APA PWR	Ignition switch ON		Power supply voltage value of accelerator pedal actuator
NAVI-ICC DISP	**NOTE:** The item is indicated, but not monitored		Off
LDW SYSTEM ON	Ignition switch ON	When the LDW system is ON	On
		When the LDW system is OFF	Off

Monitor item	Condition		Value/Status
LDW ON LAMP	Ignition switch ON	When the LDW system is ON	On
		When the LDW system is OFF	Off
LDP ON IND	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDW system is ON	On
		When the LDW system is OFF	Off
LANE DPRT W/L	Drive the vehicle and activate the LDW system or LDP system	Lane departure warning lamp ON	On
		Lane departure warning lamp OFF	Off
LDW BUZZER OUTPUT	Drive the vehicle and activate the LDW/LDP system or Blind Spot Warning/Blind Spot Intervention system	When the buzzer of the following system operates • LDW/LDP system • Blind Spot Warning/Blind Spot Intervention system	On
		When the buzzer of the following system does not operate • LDW/LDP system • Blind Spot Warning/Blind Spot Intervention system	Off
LDP SYSTEM ON	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDP system is ON	On
		When the LDP system is OFF	Off
WARN REQ	Drive the vehicle and activate the LDP system	Lane departure warning is operating	On
		Lane departure warning is not operating	Off
READY signal	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDP system is ON	On
		When the LDP system is OFF	Off
Camera lost	Drive the vehicle and activate the LDW system, LDP system or Blind Spot Intervention system	Both side lane markers are detected	Detect
		Deviate side lane marker is lost	Deviate
		Both side lane markers are lost	Both
Lane unclear	While driving	Lane marker is unclear	On
		Lane marker is clear	Off
STATUS signal	Drive the vehicle and activate the LDP system	When the LDP system is ON	Stnby
		When the LDP system is operating	Warn
		When the LDP system is canceled	Cancl
		When the LDP system is OFF	Off
Shift position	• Engine running • While driving		Displays the shift position
Turn signal	Turn signal lamps OFF		Off
	Turn signal lamp LH blinking		LH
	Turn signal lamp RH blinking		RH
	Turn signal lamp LH and RH blinking		LH&RH
SIDE G	While driving	Vehicle turning right	Negative value
		Vehicle turning left	Positive value
STATUS signal	Drive the vehicle and activate the LDP system	When the LDP system is ON	Stnby
		When the LDP system is operating	Warn
		When the LDP system is canceled	Cancl
		When the LDP system is OFF	Off
Lane unclear	While driving	Lane marker is unclear	On
		Lane marker is clear	Off
FUNC ITEM	Ignition switch ON		FUNC3

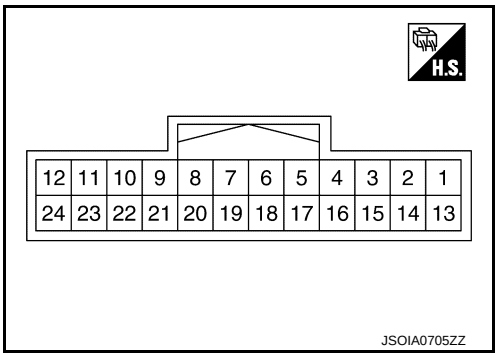
Monitor item	Condition		Value/Status
FUNC ITEM (FCW)	Engine running	“Forward Emergency Braking” set with the integral switch is ON	On
		“Forward Emergency Braking” set with the integral switch is OFF	Off
FUNC ITEM (LDW)	Engine running	“Lane Departure Warning” set with the integral switch is ON	On
		“Lane Departure Warning” set with the integral switch is OFF	Off
FUNC ITEM (BSW)	Engine running	“Blind Spot Warning” set with the integral switch is ON	On
		“Blind Spot Warning” set with the integral switch is OFF	Off
FUNC ITEM (NV-ICC)	**NOTE:** The item is indicated, but not monitored		Off
FUNC ITEM (NV-DCA)	**NOTE:** The item is indicated, but not monitored		Off
DCA SELECT	Ignition switch ON	“Distance Control Assist” set with the integral switch is ON	On
		“Distance Control Assist” set with the integral switch is OFF	Off
LDP SELECT	Ignition switch ON	“Lane Departure Intervention” set with the integral switch is ON	On
		“Lane Departure Intervention” set with the integral switch is OFF	Off
BSI SELECT	Ignition switch ON	“Blind Spot Intervention” set with the integral switch is ON	On
		“Blind Spot Intervention” set with the integral switch is OFF	Off
FCW SELECT	Ignition switch ON	“Forward Emergency Braking” set with the integral switch is ON	On
		“Forward Emergency Braking” set with the integral switch is OFF	Off
LDW SELECT	Ignition switch ON	“Lane Departure Warning” set with the integral switch is ON	On
		“Lane Departure Warning” set with the integral switch is OFF	Off
BSW SELECT	Ignition switch ON	“Blind Spot Warning” set with the integral switch is ON	On
		“Blind Spot Warning” set with the integral switch is OFF	Off
NAVI ICC SELECT	**NOTE:** The item is indicated, but not monitored		Off
NAVI DCA SELECT	**NOTE:** The item is indicated, but not monitored		Off
SYS SELECTABILITY	Ignition switch ON	Items set with the integral switch can be switched normally	On
		Items set with the integral switch cannot be switched normally	Off
DRIVE MODE STATS	Ignition switch ON	When drive mode select switch position is STANDARD	STD
		When drive mode select switch position is in SPORT	SPORT
		When drive mode select switch position is in ECO	ECO
		When drive mode select switch position is in SNOW	SNOW
		When drive mode select switch position is in PERSONAL	STD
		A signal other than those above is input	ERROR

Monitor item	Condition		Value/Status
WARN SYS SW	**NOTE:** The item is indicated, but not monitored		Off
BSW/BSI WARN LMP	Ignition switch ON	When the BSW system is malfunctioning	On
		When the BSW system is normal	Off
BSI ON IND	Ignition switch ON	Blind Spot Intervention warning ON	On
		Blind Spot Intervention warning OFF	Off
BSW SYSTEM ON	Ignition switch ON	When the BSW system is ON	On
		When the BSW system is OFF	Off
BSI SYSTEM ON	Start the engine and press dynamic driver assistance switch (When Blind Spot Intervention system setting is ON)	When the Blind Spot Intervention system is ON	On
		When the Blind Spot Intervention system is OFF	Off
FCW SYSTEM ON	Engine running	When the FEB/PFCW system is ON	On
		When the FEB/PFCW system is OFF	Off
BCI SYSTEM ON	Engine running	When the BCI system is ON	On
		When the BCI system is OFF	Off
BCI SWITCH	**NOTE:** The item is indicated, but not monitored		Off
BATTERY CIRCUIT OFF	**NOTE:** The item is indicated, but not used		Off
LDP WARNING INDICATOR	Engine running	When the LDP system is malfunctioning	On
		When the LDP system is normal	Off
LDW ON INDICATOR	Ignition switch ON	LDW system display ON	On
		LDW system display OFF	Off
LDW WARNING INDICATOR	Ignition switch ON	When the LDW system is malfunctioning	On
		When the LDW system is normal	Off
SYSTEM CANCEL MESSAGE	Ignition switch ON	When the vehicle is normal	NOREQ
		When the wheel is slipping	SLIP
		When the drive mode selector is SNOW mode	SNOW
		When the VDC is OFF	VDC OFF
CAMERA HI TEMP MSG	Ignition switch ON	Lane camera unit high temperature warning display ON	On
		Lane camera unit high temperature warning display OFF	Off
ITS SETTING ITEM(DCA)	Ignition switch ON		On
ITS SETTING ITEM(LDP)	Ignition switch ON		On
ITS SETTING ITEM(BSI)	Ignition switch ON		On
BSI WARNING INDICATOR	Engine running	When the Blind Spot Intervention is malfunctioning	On
		When the Blind Spot Intervention is normal	Off
BSW ON INDICATOR	Ignition switch ON	BSW system display ON	On
		BSW system display OFF	Off
SIDE RADAR BLOCK COND	Ignition switch ON	Front bumper or side radar is dirty	On
		Front bumper and side radar is clean	Off
LDW WARNING ALERT TIMING	Ignition switch ON	LDW system OFF	Nothing
		Lane departure warning timing is early setting	Early
		Lane departure warning timing is late setting	Late

Monitor item	Condition		Value/Status
BSW IND BRIGHTNESS	Ignition switch ON	BSW system OFF	Nothing
		Blind Spot Warning/Blind Spot Intervention indicator brightness bright	Bright
		Blind Spot Warning/Blind Spot Intervention indicator brightness normal	Normal
		Blind Spot Warning/Blind Spot Intervention indicator brightness dark	Dark
SL MAIN SW	Engine running	When speed limiter MAIN switch is pressed	On
		When speed limiter MAIN switch is not pressed	Off
FUNC ITEM (FEB)	Engine running	"Forward Emergency Braking" set with the integral switch is ON	On
		"Forward Emergency Braking" set with the integral switch is OFF	Off
FEB SELECT	Ignition switch ON	“Forward Emergency Braking” set with the integral switch is ON	On
		“Forward Emergency Braking” set with the integral switch is OFF	Off
FEB SW	Engine running	FEB system ON	On
		FEB system OFF	Off
SL TARGET VEHICLE SPEED	While driving	When vehicle speed is set	Displays the set vehicle speed
SL SET LAMP	• Drive the vehicle and activate the speed limiter • Press speed limiter MAIN switch	Speed limiter SET indicator ON	On
		Speed limiter SET indicator OFF	Off
SL LIMIT LAMP	• Drive the vehicle and activate the speed limiter • Press speed limiter MAIN switch	Speed limiter system ON	On
		Speed limiter system OFF	Off
ASCD CANCEL (LOW SPEED)	Drive the vehicle and activate the ASCD	ASCD cancelled by low vehicle speed	On
		Other than above	Off
ASCD CANCEL (SPEED DIFF)	Drive the vehicle and activate the ASCD	ASCD cancelled by difference between set speed and vehicle speed	On
		Other than above	Off
KICK DOWN	Drive the vehicle and activate the speed limiter	When accelerator pedal is full depressed	On
		Other than above	Off

TERMINAL LAYOUT

PHYSICAL VALUES



Terminal No. (Wire color)		Description		Condition		Standard value	Reference value
+	–	Signal name	Input/ Output				
1 (L)	—	CAN -H	—	—		—	—
2 (R)		CAN -L	—	—		—	—
5 (B)	Ground	Ground	—	Ignition switch ON		0 - 0.1 V	Approx. 0 V
6 (L)	—	ITS communication-H	—	—		—	—
7 (Y)		ITS communication-L	—	—		—	—
8 (L)		Chassis communication-H	—	—		—	—
9 (R)		Chassis communication-L	—	—		—	—
12 (GR)[*1] (G)[*2]	5 (B)	Ignition power supply	Input	Ignition switch ON	—	10 - 16 V	Battery voltage
17 (V)		ICC brake hold relay drive signal	Output	Ignition switch ON	—	10 - 16 V	Approx. 12 V
					At “STOP LAMP” test of “Active test”	0 - 0.1 V	Approx. 0 V
23 (Y)		ICC/ASCD steering switch signal ground	—	Ignition switch ON		0 - 0.1 V	Approx. 0 V
24[*3] (SB)	23[*3] (Y)	ICC steering switch signal	Input	Ignition switch ON	ICC steering switch: OFF	4.1 - 4.3 V	Approx. 4.3 V
					CANCEL switch: Pressed	1.1 - 1.6	Approx. 1.3 V
					RESUME/ACCELERATE switch: Pressed	3.5 - 3.7 V	Approx. 3.7 V
					SET/COAST switch: Pressed	2.8 - 3.1 V	Approx. 3.0 V
					DISTANCE switch: Pressed	2.0 - 2.4 V	Approx. 2.2 V
24[*4] (SB)	23[*4] (Y)	ASCD steering switch signal	Input	Ignition switch ON	ASCD steering switch: OFF	3.8 - 4.3 V	Approx. 4.0 V
					CANCEL switch: Pressed	0.8 - 1.3 V	Approx. 1.0 V
					SET/COAST switch: Pressed	1.8 - 2.2 V	Approx. 2.0 V
					RESUME/ACCELERATE switch: Pressed	2.8 - 3.1 V	Approx. 3.0 V

NOTE:
*1: VR30DDTT
*2: 2.0 TURBO GASOLINE ENGINE
*3: Used only in with ICC.
*4: Used only in without ICC.

Fail-safe (ADAS Control Unit)

INFOID:0000000013398550

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

System	Buzzer	Warning lamp/Warning display	Description
Vehicle-to-vehicle distance control mode	High-pitched tone	ICC system warning	Cancel
Conventional (fixed speed) cruise control mode	High-pitched tone	ICC system warning	Cancel
Forward Emergency Braking (FEB)	High-pitched tone	• FEB warning lamp • Warning systems indicator (Forward position: Yellow)	Cancel
Predictive Forward Collision Warning (PFCW)	High-pitched tone	Warning systems indicator (Forward position: Yellow)	Cancel
Distance Control Assist (DCA)	High-pitched tone	Warning systems indicator (Forward position: Yellow)	Cancel
Lane Departure Warning (LDW)	—	Warning systems indicator (Lane position: Yellow)	Cancel
Lane Departure Prevention (LDP)	Low-pitched tone	Warning systems indicator (Lane position: Yellow)	Cancel
Blind Spot Warning (BSW)	—	Warning systems indicator (Blind spot position: Yellow)	Cancel
Blind Spot Intervention	Low-pitched tone	Warning systems indicator (Blind spot position: Yellow)	Cancel
Back-up Collision Intervention (BCI)	High-pitched tone	BCI system warning	Cancel

DTC Inspection Priority Chart

INFOID:0000000013398551

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

Priority	Detected items (DTC)
1	• U1507: LOST COMM (SIDE RDR R) • U1508: LOST COMM (SIDE RDR L)
2	• 1CA0A: CONFIG UNFINISHED • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	• C1B00: CAMERA UNIT MALF • C1F02: APA C/U MALF • C1B53: SIDE RDR R MALF • C1B54: SIDE RDR L MALF • C1B84: DIST SEN MALFUNCTION

Priority	Detected items (DTC)	
4	• C1A01: POWER SUPPLY CIR • C1A02: POWER SUPPLY CIR 2 • C1A04: ABS/TCS/VDC CIRC • C1A05: BRAKE SW/STOP L SW • C1A06: OPERATION SW CIRC • C1A13: STOP LAMP RLY FIX • C1A14: ECM CIRCUIT • C1A24: NP RANGE • C1A26: ECD MODE MALF • C1A27: ECD PWR SUPLY CIR • C1A33: CAN TRANSMISSION ERR • C1A34: COMMAND ERROR • C1A35: APA CIR • C1A36: APA CAN COMM CIR • C1A37: APA CAN CIR 2 • C1A38: APA CAN CIR 1 • C1A39: STRG SEN CIR • C1B01: CAM AIMING INCMP • C1B03: CAM ABNRML TMP DETCT • C1B5D: FEB OPE COUNT LIMIT • C1B56: SONAR CIRCUIT • C1B57: AVM CIRCUIT • C1B59: CCM CIRCUIT • C1B82: DIST SEN OFF-CENTER • C1B85: DIST SEN ABNORMAL TEMP • C1B86: DIST SEN PWR SUP CIR • C1F01: APA MOTOR MALF • C1F05: APA PWR SUPLY CIR	• U0121: VDC CAN CIR 2 • U0126: STRG SEN CAN CIR 1 • U0235: ICC SENSOR CAN CIRC 1 • U0401: ECM CAN CIR 1 • U0402: TCM CAN CIR 1 • U0415: VDC CAN CIR 1 • U0424: HVAC CAN CIR 1 • U0428: STRG SEN CAN CIR 2 • U1500: CAM CAN CIR 2 • U1501: CAM CAN CIR 1 • U1502: ICC SEN CAN COMM CIR • U1503: SIDE RDR L CAN CIR 2 • U1504: SIDE RDR L CAN CIR 1 • U1505: SIDE RDR R CAN CIR 2 • U1506: SIDE RDR R CAN CIR 1 • U150B: ECM CAN CIRC 3 • U150C: VDC CAN CIRC 3 • U150D: TCM CAN CIRC 3 • U150E: BCM CAN CIRC 3 • U150F: AV CAN CIRC 3 • U1512: HVAC CAN CIRC3 • U1513: METER CAN CIRC 3 • U1514: STRG SEN CAN CIRC 3 • U1515: ICC SENSOR CAN CIRC 3 • U1516: CAM CAN CIRC 3 • U1517: APA CAN CIRC 3 • U1518: SIDE RDR L CAN CIRC 3 • U1519: SIDE RDR R CAN CIRC 3 • U1521: SONAR CAN COMMUNICATION 2 • U1522: SONAR CAN COMMUNICATION 1 • U1523: SONAR CAN COMMUNICATION 3 • U1524: AVM CAN COMMUNICATION 1 • U1525: AVM CAN COMMUNICATION 3 • U1527: CCM CAN CIR 1 • U153F: CCM CAN CIR 2 • U1530: DR ASSIST BUZZER CAN CIR 1 • U1538: EMCM CAN CIRCUIT 3 • U1540: DAST 3 CAN CIR 1 • U1541: DAST 3 CAN CIR 2
5	• C1A03: VHCL SPEED SE CIRC	
6	• C1A15: GEAR POSITION	
7	• C1A00: CONTROL UNIT	

DTC Index

INFOID:0000000013398552

Systems for fail-safe
- A: Vehicle-to-vehicle distance control mode
- B: Conventional (fixed speed) cruise control mode
- C: Distance Control Assist (DCA)
- D: Forward Emergency Braking (FEB)
- E: Predictive Forward Collision Warning (PFCW)
- F: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- G: Back-up Collision Intervention (BCI)
- H: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- I: Automatic Speed COntrol Device (ASCD) (Without ICC)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	55	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	—	—
C1A0A	41	CONFIG UNFINISHED	A, B, C, D, E, F, G, H, I	DAS-103
C1A00	0	CONTROL UNIT	A, B, C, D, E, F, G, H, I	DAS-104
C1A01	1	POWER SUPPLY CIR	A, B, C, D, E, F, G, H, I	DAS-105
C1A02	2	POWER SUPPLY CIR 2	A, B, C, D, E, F, G, H, I	DAS-105
C1A03	3	VHCL SPEED SE CIRC	A, B, C, D, E, F, G, H, I	DAS-106
C1A04	4	ABS/TCS/VDC CIRC	A, B, C, D, E, F, G, H, I	DAS-108
C1A05	5	BRAKE SW/STOP L SW	A, B, C, D, G, H	DAS-109
C1A06	6	OPERATION SW CIRC	A, B, C, D, E, H, I	DAS-117
C1A13	13	STOP LAMP RLY FIX	A, B, C, D, E, G	DAS-121
C1A14	14	ECM CIRCUIT	A, B, C, D, E, I	DAS-132
C1A15	15	GEAR POSITION	A, B, C, D, E, I	DAS-134
C1A24	24	NP RANGE	A, B, C, D, E, F, G	DAS-136
C1A26	26	ECD MODE MALF	A, B, C, D, G	DAS-138
C1A27	27	ECD PWR SUPLY CIR	A, B, C, D, G	DAS-140
C1A33	33	CAN TRANSMISSION ERR	A, B, C, D, E, I	DAS-142
C1A34	34	COMMAND ERROR	A, B, C, D, E, I	DAS-143
C1A35	35	APA CIR	A, C, D, E	DAS-144
C1A36	36	APA CAN COMM CIR	A, C, D, E	DAS-145
C1A37	133	APA CAN CIR 2	A, C, D, E	DAS-146
C1A38	132	APA CAN CIR 1	A, C, D, E	DAS-147
C1A39	39	STRG SEN CIR	A, B, C, D, E, F, G	DAS-148
C1B00	81	CAMERA UNIT MALF	F, H	DAS-149
C1B01	82	CAM AIMING INCMP	F, H	DAS-150
C1B03	83	CAN ABNRML TMP DETCT	F, H	DAS-151
C1B5D	198	FEB OPE COUNT LIMIT	C, D, E	DAS-152
C1B53	84	SIDE RDR R MALF	F, G	DAS-153
C1B54	85	SIDE RDR L MALF	F, G	DAS-154
C1B56	86	SONAR CIRCUIT	G	DAS-155
C1B57	87	AVM CIRCUIT	G	DAS-156
C1B59	184	CCM CIRCUIT	A, B, C, F, G	DAS-157

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
- B: Conventional (fixed speed) cruise control mode
- C: Distance Control Assist (DCA)
- D: Forward Emergency Braking (FEB)
- E: Predictive Forward Collision Warning (PFCW)
- F: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- G: Back-up Collision Intervention (BCI)
- H: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- I: Automatic Speed COntrol Device (ASCD) (Without ICC)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
C1B82	12	DIST SEN OFF-CENTER	A, C, D, E	DAS-158
C1B84	17	DIST SEN MALFUNCTION	A, C, D, E	DAS-159
C1B85	21	DIST SEN ABNORMAL TEMP	A, C, D, E	DAS-160
C1B86	80	DIST SEN PWR SUP CIR	A, C, D, E	DAS-161
C1F01	91	APA MOTOR MALF	A, C, D, E	DAS-163
C1F02	92	APA C/U MALF	A, C, D, E	DAS-164
C1F05	95	APA PWR SUPLY CIR	A, C, D, E	DAS-165
U0121	127	VDC CAN CIR 2	A, B, C, D, E, F, G, H, I	DAS-166
U0126	130	STRG SEN CAN CIR 1	A, B, C, D, E, F, G	DAS-167
U0235	144	ICC SENSOR CAN CIRC 1	A, C, D, E	DAS-168
U0401	120	ECM CAN CIR 1	A, B, C, D, E, F, G, I	DAS-169
U0402	122	TCM CAN CIR 1	A, B, C, D, E, F, G, H	DAS-171
U0415	126	VDC CAN CIR 1	A, B, C, D, E, F, G, H, I	DAS-172
U0424	156	HVAC CAN CIR 1		DAS-173
U0428	131	STRG SEN CAN CIR 2	A, B, C, D, E, F, G	DAS-174
U1000[NOTE]	100	CAN COMM CIRCUIT	A, B, C, D, E, F, G, H, I	DAS-175
U1010	110	CONTROL UNIT (CAN)	A, B, C, D, E, F, G, H, I	DAS-177
U150B	157	ECM CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-178
U150C	158	VDC CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-180
U150D	159	TCM CAN CIRC 3	A, B, C, D, E, F, G, H	DAS-181
U150E	160	BCM CAN CIRC 3	A, B, C, D, F, G, H	DAS-182
U150F	161	AV CAN CIRC 3		DAS-183
U1500	145	CAM CAN CIR2	F, H	DAS-184
U1501	146	CAM CAN CIR 1	F, H	DAS-185
U1502	147	ICC SEN CAN COMM CIR	A, C, D, E	DAS-186
U1503	150	SIDE RDR L CAN CIR 2	F, G	DAS-187
U1504	151	SIDE RDR L CAN CIR 1	F, G	DAS-188
U1505	152	SIDE RDR R CAN CIR 2	F, G	DAS-189
U1506	153	SIDE RDR R CAN CIR 1	F, G	DAS-190
U1507	154	LOST COMM (SIDE RDR R)	F, G	DAS-191
U1508	155	LOST COMM (SIDE RDR L)	F, G	DAS-192
U1512	162	HVAC CAN CIRC3		DAS-193
U1513	163	METER CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-194
U1514	164	STRG SEN CAN CIRC 3	A, B, C, D, E, F, G	DAS-195
U1515	165	ICC SENSOR CAN CIRC 3	A, C, D, E	DAS-196

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
- B: Conventional (fixed speed) cruise control mode
- C: Distance Control Assist (DCA)
- D: Forward Emergency Braking (FEB)
- E: Predictive Forward Collision Warning (PFCW)
- F: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- G: Back-up Collision Intervention (BCI)
- H: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- I: Automatic Speed COntrol Device (ASCD) (Without ICC)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
U1516	166	CAM CAN CIRC 3	F, G, H	DAS-197
U1517	167	APA CAN CIRC 3	A, C, D, E	DAS-198
U1518	168	SIDE RDR L CAN CIRC 3	F, G	DAS-199
U1519	169	SIDE RDR R CAN CIRC 3	F, G	DAS-200
U1521	177	SONAR CAN COMMUNICATION 2	G	DAS-201
U1522	178	SONAR CAN COMMUNICATION 1	G	DAS-202
U1523	179	SONAR CAN COMMUNICATION 3	G	DAS-203
U1524	180	AVM CAN COMMUNICATION 1	G	DAS-204
U1525	181	AVM CAN COMMUNICATION 3	G	DAS-205
U1527	185	CCM CAN CIR1	A, B, C, F, G	DAS-206
U153F	186	CCM CAN CIR2	A, B, C, F, G	DAS-207
U1530	183	DR ASSIST BUZZER CAN CIR1		DAS-208
U1538	197	EMCM CAN CIRCUIT 3	A, B, C, D, E, F, G, H, I	DAS-209
U1540	200	DAST CAN CIR 1	C, D, E	DAS-211
U1541	201	DAST CAN CIR 2	C, D, E	DAS-212

NOTE:
With the detection of “U1000” some systems do not perform the fail-safe operation.
A system controlling based on a signal received from the control unit performs fail-safe operation when the communication with the ADAS control unit becomes inoperable.

ICC SENSOR

Reference Value

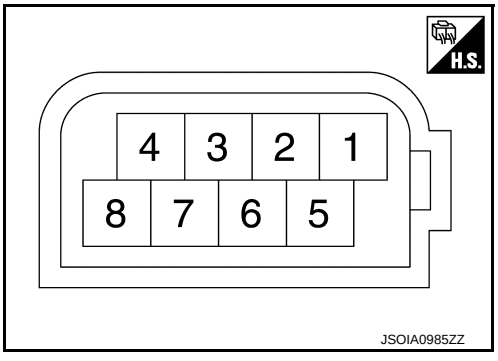
INFOID:0000000012789871

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 ICC sensor
DISTANCE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the distance from the preceding vehicle
		When a vehicle ahead is not detected	0.0
RELATIVE SPD	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the relative speed
		When a vehicle ahead is not detected	0.0
RADAR OFFSET	**NOTE:** The item is indicated, but not used		—
RADAR HEIGHT	**NOTE:** The item is indicated, but not used		—
STEERING ANGLE	Ignition switch ON	When setting the steering wheel in straight-ahead position	0.0
		When turning the steering wheel 90° rightward	+90
		When turning the steering wheel 90° leftward	-90
STRG ANGLE SPEED	Ignition switch ON	At the time of turning the steering wheel	Steering wheel turning speed is displayed
L/R ADJUST	Ignition switch ON	At the completion of radar alignment adjustment	Horizontal correction value is displayed
U/D ADJUST	Ignition switch ON	At the completion of radar alignment adjustment	Vertical correction value is displayed

TERMINAL LAYOUT



PHYSICAL VALUES

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

Fail-safe (ICC Sensor)

INFOID:0000000012789872

If a malfunction occurs in the ICC sensor, ADAS control unit cancels control, sounds a beep, and turns ON the ICC system warning in the information display.

DTC Inspection Priority Chart

INFOID:0000000012789873

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

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

DTC Index

INFOID:0000000012789874

×: Applicable

DTC	CONSULT display	Fail-safe				Reference
CONSULT		Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Distance Control Assist (DCA)	Forward Emergency Braking (FEB) /Predictive Forward Collision Warning (PFCW)	
C1A00	CONTROL UNIT	×	×	×	×	CCS-132
C1A01	POWER SUPPLY CIR	×	×	×	×	CCS-133
C1A02	POWER SUPPLY CIR2	×	×	×	×	CCS-133
C1A12	RADAR OFF-CENTER	×		×	×	CCS-134
C1A16	RADAR BLOCKED	×		×	×	CCS-135
C1A21	UNIT HIGH TEMP	×	×	×	×	CCS-137
C1A23	UNIT LOW TEMP	×	×	×	×	CCS-138
C1A39	STRG SEN CIR	×	×	×	×	CCS-139
C1A50	ADAS MALFUNCTION	×	×	×	×	CCS-140
U0104	ADAS CAN CIR1	×	×	×	×	CCS-141
U0121	VDC CAN CIR2	×	×	×	×	CCS-142
U0126	STRG SEN CAN CIR1	×	×	×	×	CCS-143
U0405	ADAS CAN CIR2	×	×	×	×	CCS-144
U0415	VDC CAN CIR1	×	×	×	×	CCS-145
U0428	STRG SEN CAN CIR2	×	×	×	×	CCS-146
U1000	CAN COMM CIRCUIT	×	×	×	×	CCS-147
U1010	CONTROL UNIT (CAN)	×	×	×	×	CCS-148

DRIVER ASSISTANCE BUZZER CONTROL MODULE

Reference Value

INFOID:0000000013398557

VALUES ON THE DIAGNOSIS TOOL

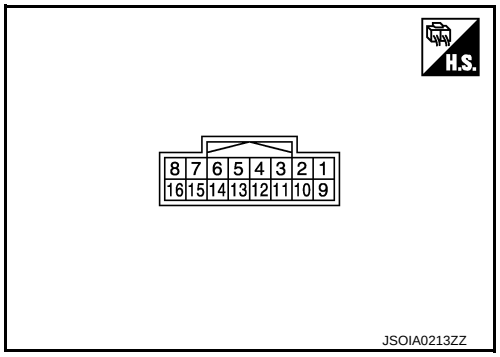
NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item	Condition		Value/Status
Buzzer 1 request (ADAS)	Drive the vehicle and operate each system	Except for the LDW/LDP/Blind Spot Warning/Blind Spot Intervention warning condition	Off
		When the LDW warning condition	TYPE 1
		When the BSW warning condition	TYPE 2
		When the Blind Spot Intervention warning condition	TYPE 3
		When the warning condition cancel	Cancel
Buzzer 1 volume (ADAS)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
Buzzer 1 stop (ADAS)	Ignition switch ON	When the buzzer cancel immediate	IMEDIAT
		When the buzzer cancel other than above	CYCLE
Buzzer 2 request (ADAS)	Drive the vehicle and operate each system	Except for the ICC/PFCW/DCA warning condition	Off
		When the approach warning condition	TYPE 1
		When the PFCW warning condition	TYPE 2
		When the DCA condition	TYPE 3
		When the warning condition cancel	Cancel
Buzzer 2 volume (ADAS)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
Buzzer 2 stop (ADAS)	Ignition switch ON	When the buzzer cancel immediate	IMEDIAT
		When the buzzer cancel other than above	CYCLE
Buzzer 3 request (ADAS)	Drive the vehicle and operate each system	Except for the FEB warning condition	Off
		When the FEB warning condition	TYPE 1
		When the warning condition cancel	Cancel
Buzzer 3 volume (ADAS)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
Buzzer 3 stop (ADAS)	Ignition switch ON	When the buzzer cancel immediate	IMEDIAT
		When the buzzer cancel other than above	CYCLE
Buzzer 4 request (ADAS)	Drive the vehicle and operate each system	Except for the PFCW warning condition	Off
		When the PFCW warning condition	TYPE 1
		When the warning condition cancel	Cancel
Buzzer 4 volume (ADAS)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
Buzzer 4 stop (ADAS)	Ignition switch ON	When the buzzer cancel immediate	IMEDIAT
		When the buzzer cancel other than above	CYCLE

Monitor item	Condition		Value/Status
Buzzer 1 request (CCM)	Drive the vehicle and operate each system	Except for the LDW/LDP/Blind Spot Warning/Blind Spot Intervention warning condition	Off
		When the LDW warning condition	TYPE 1
		When the BSW warning condition	TYPE 2
		When the Blind Spot Intervention warning condition	TYPE 3
		When the warning condition cancel	Cancel
Buzzer 1 volume (CCM)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
Buzzer 1 stop (CCM)	Ignition switch ON	When the buzzer cancel immediate	IMEDIAT
		When the buzzer cancel other than above	CYCLE
Buzzer 2 request (CCM)	Drive the vehicle and operate each system	Except for the ICC/PFCW/DCA warning condition	Off
		When the approach warning condition	TYPE 1
		When the PFCW warning condition	TYPE 2
		When the DCA condition	TYPE 3
		When the warning condition cancel	Cancel
Buzzer 2 volume (CCM)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
Buzzer 2 stop (CCM)	Ignition switch ON	When the buzzer cancel immediate	IMEDIAT
		When the buzzer cancel other than above	CYCLE
Buzzer 3 request (CCM)	Drive the vehicle and operate each system	Except for the FEB warning condition	Off
		When the FEB warning condition	TYPE 1
		When the warning condition cancel	Cancel
Buzzer 3 volume (CCM)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
Buzzer 3 stop (CCM)	Ignition switch ON	When the buzzer cancel immediate	IMEDIAT
		When the buzzer cancel other than above	CYCLE
Buzzer 4 request (CCM)	Drive the vehicle and operate each system	Except for the PFCW warning condition	Off
		When the PFCW warning condition	TYPE 1
		When the warning condition cancel	Cancel
Buzzer 4 volume (CCM)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
Buzzer 4 stop (CCM)	Ignition switch ON	When the buzzer cancel immediate	IMEDIAT
		When the buzzer cancel other than above	CYCLE
ADAS MALFUNCTION	Ignition switch ON	When the ADAS control unit malfunction	On
		When the ADAS control unit normal	Off
CCM MALFUNCTION	Ignition switch ON	When the chassis control module malfunction	On
		When the chassis control module normal	Off
DR ASSIST BUZZ MALF	Ignition switch ON	When the driver assistance control module malfunction	On
		When the driver assistance control module normal	Off

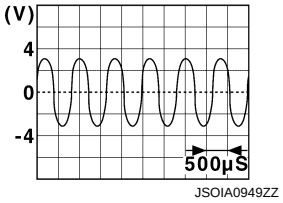
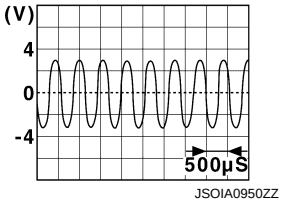
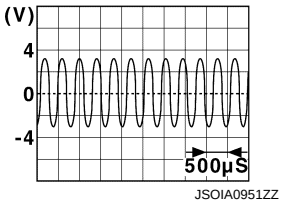
Monitor item	Condition		Value/Status
DR ASSIST BUZZ STATUS	Drive the vehicle and operate each system	Except for the warning condition	Off
		LDW/LDP//Blind Spot Warning/Blind Spot Intervention system warning in progress	1
		ICC/PFCW/DCA system warning in progress	2
		FEB system warning in progress	3
		LDW/LDP//Blind Spot Warning/Blind Spot Intervention/ICC/PFCW/DCA system warning in progress	1, 2
		ICC/PFCW/DCA system warning in progress.	2, 4
		LDW/LDP//Blind Spot Warning/Blind Spot Intervention/PFCW system warning in progress	1, 4
		PFCW system	4

TERMINAL LAYOUT



PHYSICAL VALUES

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

Terminal No. (Wire color)		Description		Condition		Standard value	Reference value
+	–	Signal name	Input/Output				
8 (R)	16 (G)	Warning buzzer signal	Output	Ignition switch ON	Driver assistance buzzer OFF	0 - 0.1 V	Approx. 0 V
					At “BUZZER 1” test of “Active test”	 JSOIA0949ZZ	
					At “BUZZER 2” test of “Active test”	 JSOIA0950ZZ	
					At “BUZZER 3” test of “Active test”	 JSOIA0951ZZ	
11 (Y)	—	ITS communication-L	—	—	—	—	—
13 (B)	Ground	Ground	—	Ignition switch ON	—	0 - 0.1 V	Approx. 0 V
16 (G)	5 (B)	Warning buzzer signal ground	Output	Ignition switch ON	—	0 - 0.1 V	Approx. 0 V

DTC Inspection Priority Chart

INFOID:0000000013398558

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	• U0104: ADAS CAN CIR2 • U1527: CCM CAN CIRCUIT 1
3	• C1B20: CONTROL MODULE

DTC Index

INFOID:0000000013398559

NOTE:
• The details of time display are as per the following.
- CRNT: A malfunction is detected now
- PAST: A malfunction was detected in the past
• IGN counter is displayed in FFD (Freeze Frame Data).
- 0: The malfunctions that are detected now

- 1 - 39: It increases like 0 → 1 → 2 ··· 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.

×: Applicable

DTC		Reference
C1B20	CONTROL MODULE	DAS-447
U0104	ADAS CAN CIR2	DAS-463
U1527	CCM CAN CIRCUIT 1	DAS-478
U1000	CAN COMM CIRCUIT	DAS-472
U1010	CONTROL UNIT (CAN)	DAS-477

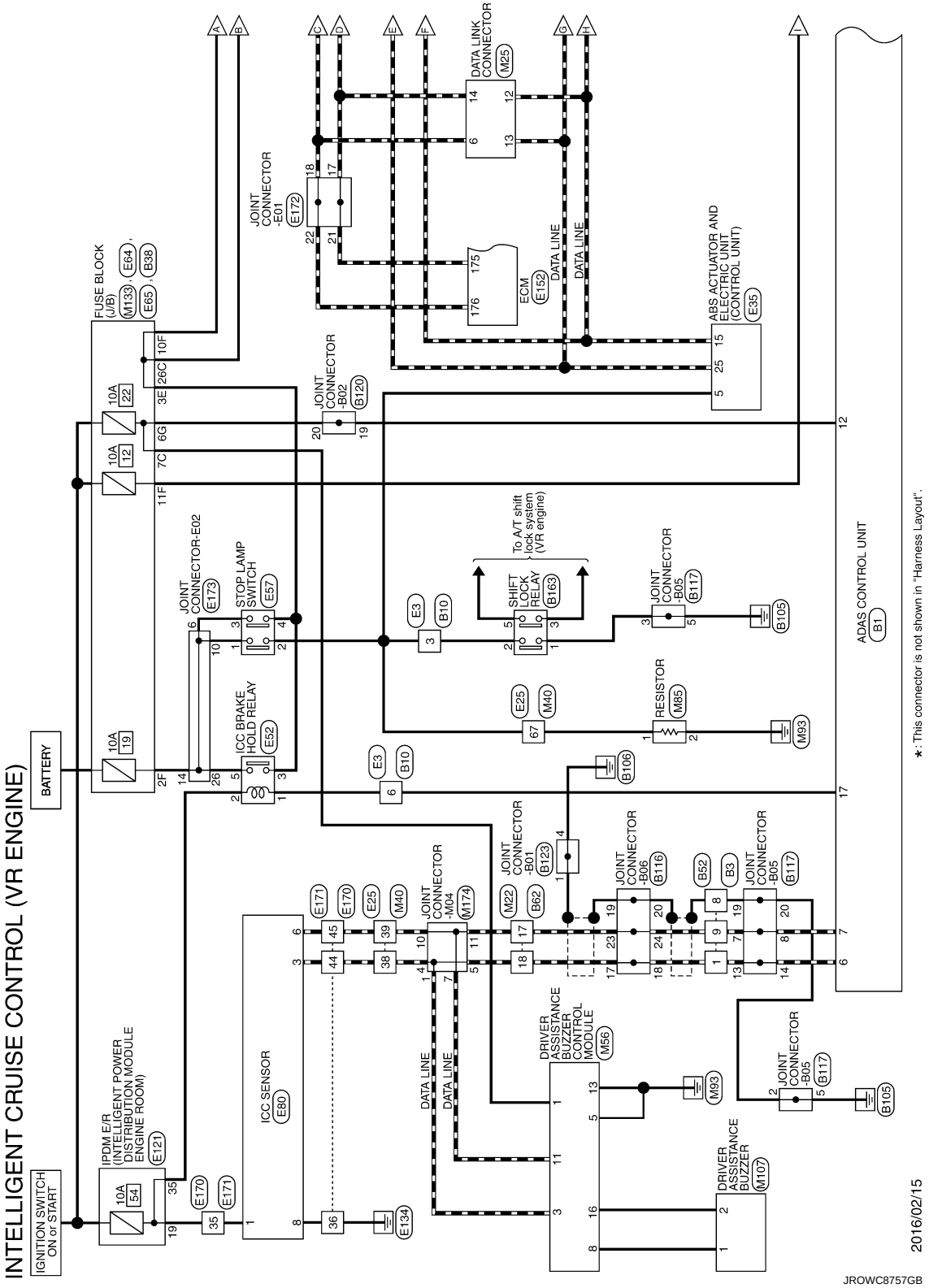
WIRING DIAGRAM

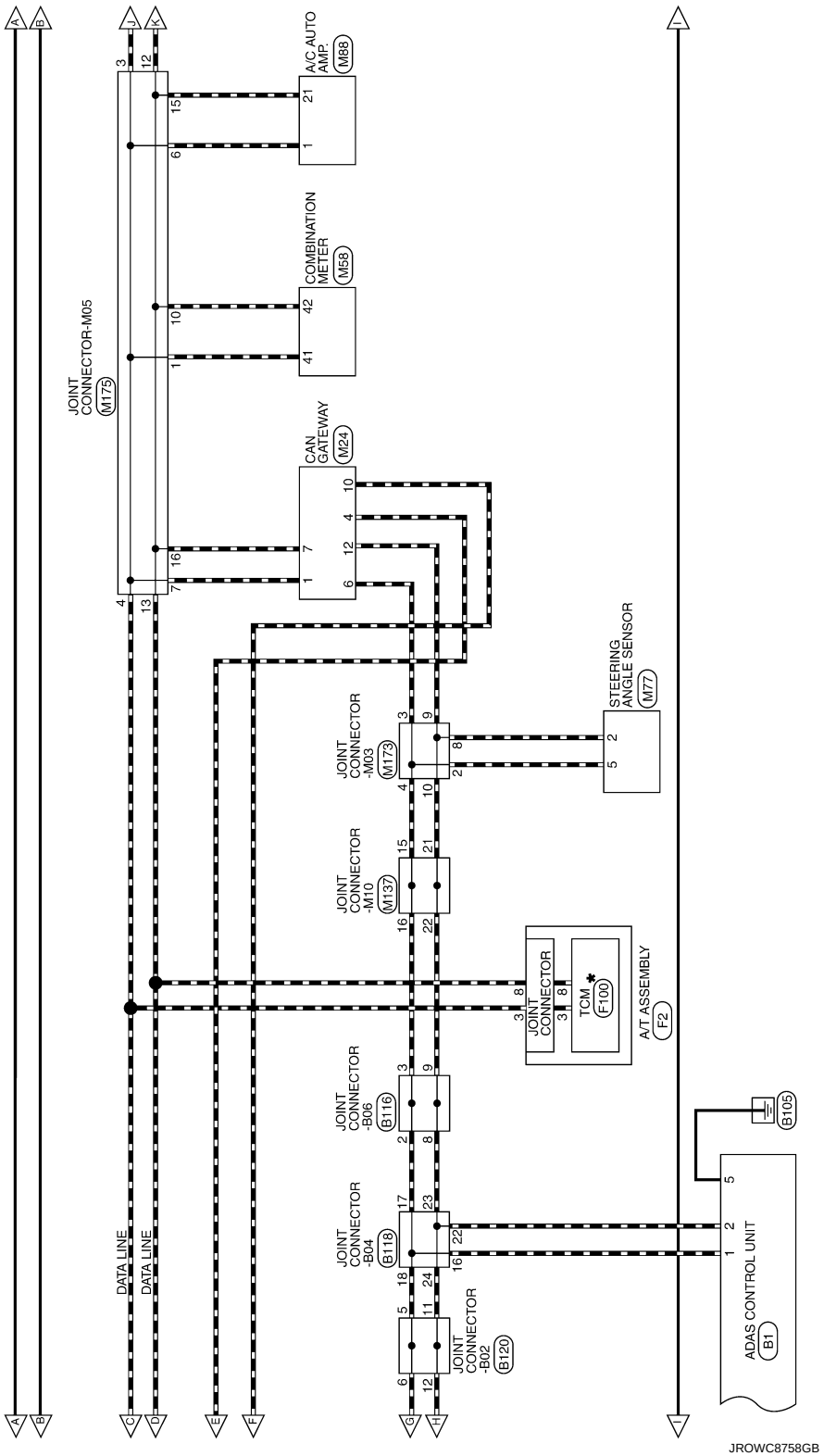
INTELLIGENT CRUISE CONTROL

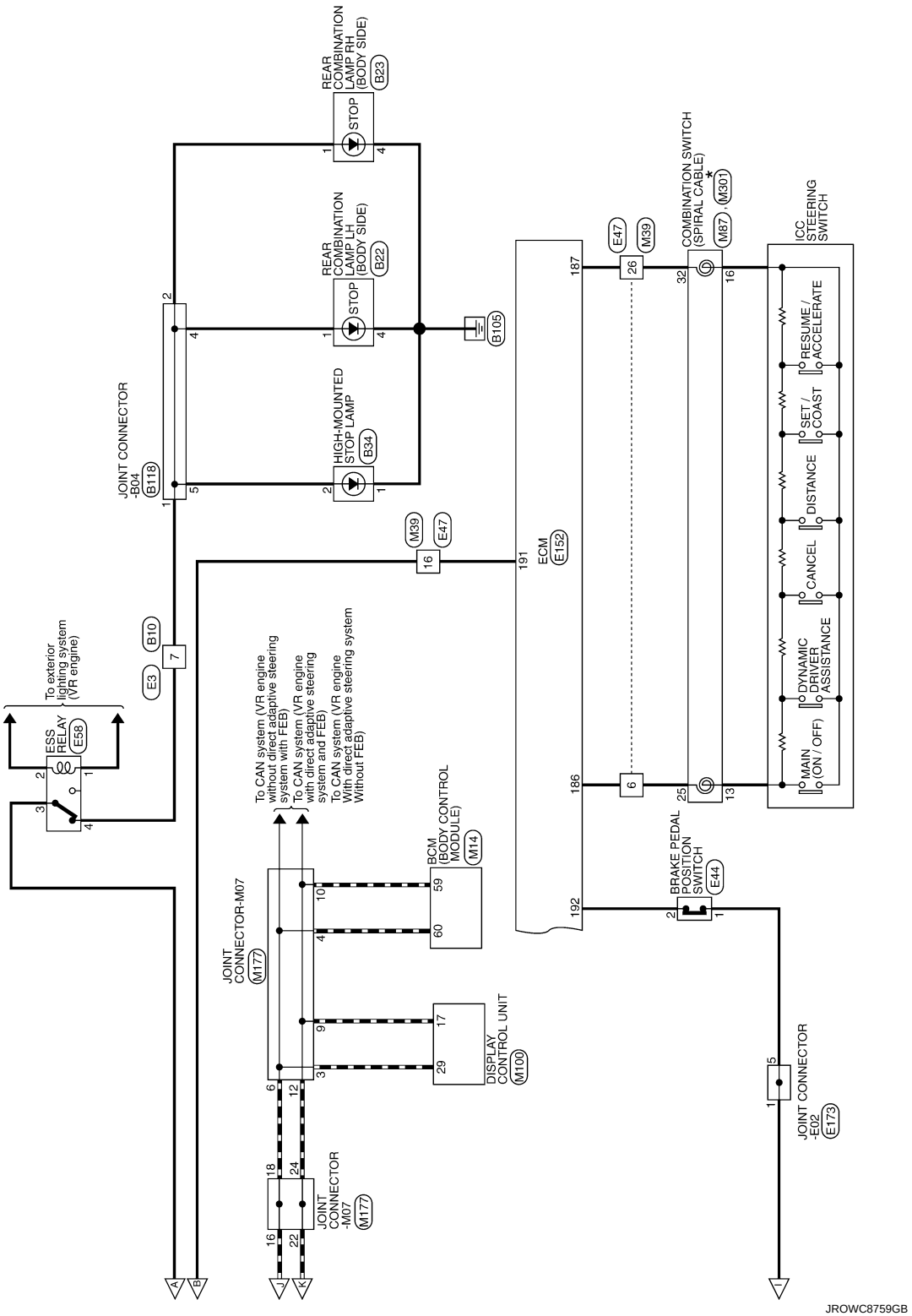
Wiring Diagram

INFOID:0000000012789878

VR ENGINE

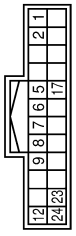



A/C AUTO AMP. M88
COMBINATION METER M58
JOINT CONNECTOR-M05 M175
CAN GATEWAY M24
STEERING ANGLE SENSOR M77
JOINT CONNECTOR -M03 M173
JOINT CONNECTOR -M10 M137
JOINT CONNECTOR
TCM F100
A/T ASSEMBLY F2
JOINT CONNECTOR -B06 B116
JOINT CONNECTOR -B04 B118
JOINT CONNECTOR -B02 B120
B105
ADAS CONTROL UNIT B1
DATA LINE
DATA LINE
JROWC8758GB


REAR COMBINATION LAMP RH (BODY SIDE) B23
STOP
REAR COMBINATION LAMP LH (BODY SIDE) B22
STOP
B105
HIGH-MOUNTED STOP LAMP B34
JOINT CONNECTOR -B04 B118
E3 B10 7
To exterior lighting system (VR engine)
ESS RELAY E58
M39 E47 16
ECM E152 191 186 192 187
E47 M39 26
6
COMBINATION SWITCH (SPIRAL CABLE) M87 M301 32 25 16 13
ICC STEERING SWITCH
RESUME/ ACCELERATE
SET/ COAST
DISTANCE
CANCEL
DYNAMIC DRIVER ASSISTANCE
MAIN (ON / OFF)
BRAKE PEDAL POSITION SWITCH E44 2 1
JOINT CONNECTOR -E02 E173 1 5
To CAN system (VR engine without direct adaptive steering system with FEB)
To CAN system (VR engine with direct adaptive steering system and FEB)
To CAN system (VR engine With direct adaptive steering system Without FEB)
BCM (BODY CONTROL MODULE) M14 59 60
JOINT CONNECTOR-M07 M177 10 4 9 3 6 12 18 24 16 22
DISPLAY CONTROL UNIT M100 17 29
JOINT CONNECTOR -M07 M177
A B J K
JROWC8759GB

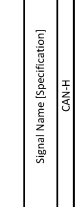
INTELLIGENT CRUISE CONTROL (VR ENGINE)

Connector No.	B1
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-NH



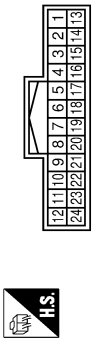
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	R	CAN-L
5	B	GROUND
6	L	ITS COMM-H
7	Y	ITS COMM-L
8	L	CHASSIS COMM-H
9	R	CHASSIS COMM-L
12	G	IGNITION [Except with VR30 engine and without ISS]
12	GR	IGNITION [VR30 engine and without ISS]
17	V	BRAKE HOLD RLY DRIVE SIGNAL
23	Y	STEERING SW SIGNAL GROUND
24	SB	STEERING SW SIGNAL

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
4	B	-
5	BR	- [With BOSE system]
5	Y	- [Without BOSE system]
7	R	-
8	B	-
9	Y	-
11	B	-
12	GR	-
13	G	-
14	B	-
15	W	-
16	BR	-

Connector No.	B10
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With 2.0L turbo gasoline engine]
1	Y	- [With VR30 engine]
2	W	-
3	LG	-
4	P	- [With VR30 engine]
4	SB	- [With 2.0L turbo gasoline engine]
5	L	-
6	V	-
7	LG	-
8	R	-
9	W	-
10	B	-
11	G	-
12	R	-
13	GR	-
14	BG	-
15	BR	-
16	LG	-
17	V	-
18	BR	-
19	LG	- [With 2.0L turbo gasoline engine]
19	Y	- [With VR30 engine]
20	Y	-
21	R	- [With 2.0L turbo gasoline engine]
21	V	- [With VR30 engine]
22	L	-
23	V	-
24	B	- [With VR30 engine]
24	R	- [With 2.0L turbo gasoline engine]

Connector No.	B22
Connector Name	REAR COMBINATION LAMP LH(BODY SIDE)
Connector Type	NS04MW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	P	-
3	SB	-
4	B	-

Connector No.	B23
Connector Name	REAR COMBINATION LAMP RH(BODY SIDE)
Connector Type	NS04MW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	R	-
3	V	-
4	B	-

Connector No.	B34
Connector Name	HIGH-MOUNTED STOP LAMP
Connector Type	TK02MBR-P

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	LG	-

Connector No.	B38
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1G	GR	-
2G	W	-
3G	BR	-
5G	W	-
6G	GR	-

JROWC8760GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)

Connector No.	B52
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
4	B	-
5	BR	- [With BOSE system]
5	Y	- [Without BOSE system]
7	R	-
8	SHIELD	-
9	P	-
11	B	-
12	GR	-
13	G	-
14	B	-
15	W	-
16	BR	-

Connector No.	B62
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	- [With 2.0L turbo gasoline engine and without BOSE system]
1	LG	- [With VR30 engine]
1	W	- [With 2.0L turbo gasoline engine and with BOSE system]
2	L	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine and with BOSE system]

3	W	- [With VR30 engine and without BOSE system]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	B	- [With 2.0L turbo gasoline engine and with BOSE system]
7	BR	- [With VR30 engine and without BOSE system]
7	W	- [With VR30 engine and with BOSE system]
7	Y	- [With 2.0L turbo gasoline engine and without BOSE system]
8	B	- [With VR30 engine and with BOSE system]
8	G	- [With 2.0L turbo gasoline engine]
8	Y	- [With VR30 engine and without BOSE system]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	Y	-
13	R	-
14	BG	-
15	BG	- [With 2.0L turbo gasoline engine]
15	GR	- [With VR30 engine]
16	V	-
17	P	-
18	L	-
19	R	-
20	GR	-
21	R	-
22	V	-
23	W	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
29	LG	-
30	LG	- [With 2.0L turbo gasoline engine]
30	P	- [With VR30 engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
33	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	- [With VR30 engine]
36	W	- [With 2.0L turbo gasoline engine]

37	P	- [With 2.0L turbo gasoline engine and without BOSE system]
37	R	- [With VR30 engine]
37	W	- [With 2.0L turbo gasoline engine and with BOSE system]
38	W	-
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	W	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	-
49	G	-
50	V	-
51	GR	-
52	W	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	V	-
57	R	-
58	LG	-
59	P	-
61	L	-
62	P	- [With VR30 engine]
62	V	- [With 2.0L turbo gasoline engine]
63	L	-
64	W	-
66	LG	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	G	- [With VR30 engine]
72	Y	- [With 2.0L turbo gasoline engine]
73	R	- [With 2.0L turbo gasoline engine]
73	SHIELD	- [With VR30 engine]
74	BG	- [With 2.0L turbo gasoline engine]
74	L	- [With VR30 engine]
75	GR	- [With 2.0L turbo gasoline engine]
75	V	- [With VR30 engine]
76	GR	- [With VR30 engine]
76	V	- [With 2.0L turbo gasoline engine]
77	P	-

78	L	-
79	R	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With 2.0L turbo gasoline engine]
82	SHIELD	- [With VR30 engine]
82	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	- [With VR30 engine]
84	SHIELD	- [With 2.0L turbo gasoline engine]
85	BG	- [With VR30 engine]
85	G	- [With 2.0L turbo gasoline engine]
86	R	- [With 2.0L turbo gasoline engine]
86	W	- [With VR30 engine]
87	LG	- [With VR30 engine]
87	SHIELD	- [With 2.0L turbo gasoline engine]
89	LG	-
90	P	- [With 2.0L turbo gasoline engine]
90	V	- [With VR30 engine]
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	R	- [With VR30 engine]
93	SHIELD	- [With 2.0L turbo gasoline engine]
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	R	- [With 2.0L turbo gasoline engine]
96	W	- [With VR30 engine]
97	L	- [With VR30 engine]
97	R	- [With 2.0L turbo gasoline engine and with BOSE system]
97	W	- [With 2.0L turbo gasoline engine and without BOSE system]
98	LG	-
99	BR	- [With VR30 engine and with BOSE system]
99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

JROWC8761GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)

Connector No.	B116
Connector Name	JOINT CONNECTOR-B06
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	R	-
7	R	-
8	R	- [With Gateway]
8	V	- [Without Gateway]
9	R	- [With Gateway]
9	V	- [Without Gateway]
10	R	- [With VR30 engine]
10	V	- [With 2.0L turbo gasoline engine]
11	V	-
12	P	- [With Gateway]
12	R	- [Without Gateway]
13	SHIELD	-
14	SHIELD	-
15	B	- [With 2.0L turbo gasoline engine]
15	SHIELD	- [With VR30 engine]
16	L	- [With VR30 engine]
16	SHIELD	- [With 2.0L turbo gasoline engine]
17	L	- [With VR30 engine]
17	SHIELD	- [With 2.0L turbo gasoline engine]
18	L	- [With VR30 engine]
18	SHIELD	- [With 2.0L turbo gasoline engine]
19	L	- [With 2.0L turbo gasoline engine]
19	SHIELD	- [With VR30 engine]
20	L	- [With 2.0L turbo gasoline engine]
20	SHIELD	- [With VR30 engine]
21	L	-
22	P	-
23	P	-
24	P	- [With VR30 engine]
24	Y	- [With 2.0L turbo gasoline engine]

Connector No.	B117
Connector Name	JOINT CONNECTOR-B05
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	- [With 2.0L turbo gasoline engine]
1	SHIELD	- [With VR30 engine]
2	B	-
3	B	- [With VR30 engine]
3	SHIELD	- [With 2.0L turbo gasoline engine]
4	B	-
5	B	-
6	B	-
7	Y	-
8	Y	-
9	P	- [With VR30 engine]
9	Y	- [With 2.0L turbo gasoline engine]
10	P	- [With VR30 engine]
10	Y	- [With 2.0L turbo gasoline engine]
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	B	-
20	B	- [With 2.0L turbo gasoline engine]
21	SHIELD	- [With VR30 engine]
22	B	- [With 2.0L turbo gasoline engine]
22	SHIELD	- [With VR30 engine]
23	SHIELD	-
24	SHIELD	-

Connector No.	B118
Connector Name	JOINT CONNECTOR-B04
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With VR30 engine]
1	SHIELD	- [With 2.0L turbo gasoline engine]
2	LG	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	SHIELD	-
4	LG	- [With VR30 engine]
4	SHIELD	- [With 2.0L turbo gasoline engine]
5	LG	- [With VR30 engine]
5	SHIELD	- [With 2.0L turbo gasoline engine]
6	LG	- [With VR30 engine]
6	SHIELD	- [With 2.0L turbo gasoline engine]
7	R	- [Color of wire differs depending on production]
7	V	- [Color of wire differs depending on production]
8	LG	- [With 2.0L turbo gasoline engine]
8	R	- [With VR30 engine and without paddle shift]
8	V	- [With VR30 engine and with paddle shift]
9	LG	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine and without paddle shift]
9	V	- [With VR30 engine and with paddle shift]
10	LG	- [With 2.0L turbo gasoline engine]
10	SHIELD	- [With VR30 engine]
11	LG	- [With 2.0L turbo gasoline engine]
11	SHIELD	- [With VR30 engine]
12	LG	- [With 2.0L turbo gasoline engine]
12	SHIELD	- [With VR30 engine]
13	L	- [With VR30 engine]
13	P	- [With 2.0L turbo gasoline engine and without gateway]
13	R	- [With 2.0L turbo gasoline engine and with gateway]
14	L	- [With VR30 engine]
14	P	- [With 2.0L turbo gasoline engine and without gateway]
14	R	- [With 2.0L turbo gasoline engine and with gateway]
15	L	- [With VR30 engine]
15	R	- [With 2.0L turbo gasoline engine]
16	L	-
17	L	-
18	L	-
19	L	- [With 2.0L turbo gasoline engine]
19	SHIELD	- [With VR30 engine]
20	L	- [With 2.0L turbo gasoline engine]
20	R	- [With VR30 engine]
21	L	- [With 2.0L turbo gasoline engine]
21	SHIELD	- [With VR30 engine]
22	R	-
23	R	-
24	R	-

Connector No.	B120
Connector Name	JOINT CONNECTOR-B02
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	L	- [With VR30 engine]
3	R	- [With 2.0L turbo gasoline engine]
4	L	- [With VR30 engine]
4	R	- [With 2.0L turbo gasoline engine]
5	L	-
6	L	-
7	L	-
8	L	-
9	L	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine]
10	L	- [With 2.0L turbo gasoline engine]
10	R	- [With VR30 engine]
11	R	-
12	R	-
13	W	-
14	W	-
15	W	-
17	SHIELD	-
18	B	-
19	B	- [With 2.0L turbo gasoline engine]
19	GR	- [With VR30 engine]
20	GR	- [With VR30 engine]
20	SHIELD	- [With 2.0L turbo gasoline engine]

JROWC8762GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)

21	B	- [With 2.0L turbo gasoline engine]
21	GR	- [With VR30 engine]
22	W	-
23	W	-
24	W	-

Connector No.	B123
Connector Name	JOINT CONNECTOR-B01
Connector Type	TK04FW-J

H.S.

Connector No.	E3
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With 2.0L turbo gasoline engine]
1	Y	- [With VR30 engine]
2	W	-
3	LG	-
4	P	- [With VR30 engine]
4	SB	- [With 2.0L turbo gasoline engine]
5	L	-
6	Y	-
7	LG	-
8	BG	-
9	W	-
10	B	-
11	G	-
12	R	-
13	GR	-
14	G	-
15	LG	- [With 2.0L turbo gasoline engine]
15	V	- [With VR30 engine]
16	Y	-
17	P	-
18	BR	-
19	LG	- [With 2.0L turbo gasoline engine]
19	Y	- [With VR30 engine]
20	GR	-
21	R	- [With 2.0L turbo gasoline engine]
21	V	- [With VR30 engine]
22	L	-
23	P	-
24	B	- [With VR30 engine]
24	BR	- [With 2.0L turbo gasoline engine]

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	V	-
7	L	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	B	- [With 2.0L turbo gasoline engine]
9	GR	- [With VR30 engine] [Color of wire differs depending on production]
9	LG	- [With VR30 engine] [Color of wire differs depending on production]
10	BR	-
11	L	-
12	GR	- [With VR30 engine]
12	P	- [With 2.0L turbo gasoline engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
13	W	- [With VR30 engine]
14	B	-
15	GR	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	BR	- [With VR30 engine]
17	GR	- [With 2.0L turbo gasoline engine]
18	G	- [With 2.0L turbo gasoline engine]
18	P	- [With VR30 engine]
19	Y	-
31	W	- [With 2.0L turbo gasoline engine]
31	Y	- [With VR30 engine]
32	G	- [With 2.0L turbo gasoline engine]
32	GR	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	GR	-
36	R	-
37	L	- [With 2.0L turbo gasoline engine]
37	V	- [With VR30 engine]
38	L	- [With VR30 engine]

Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

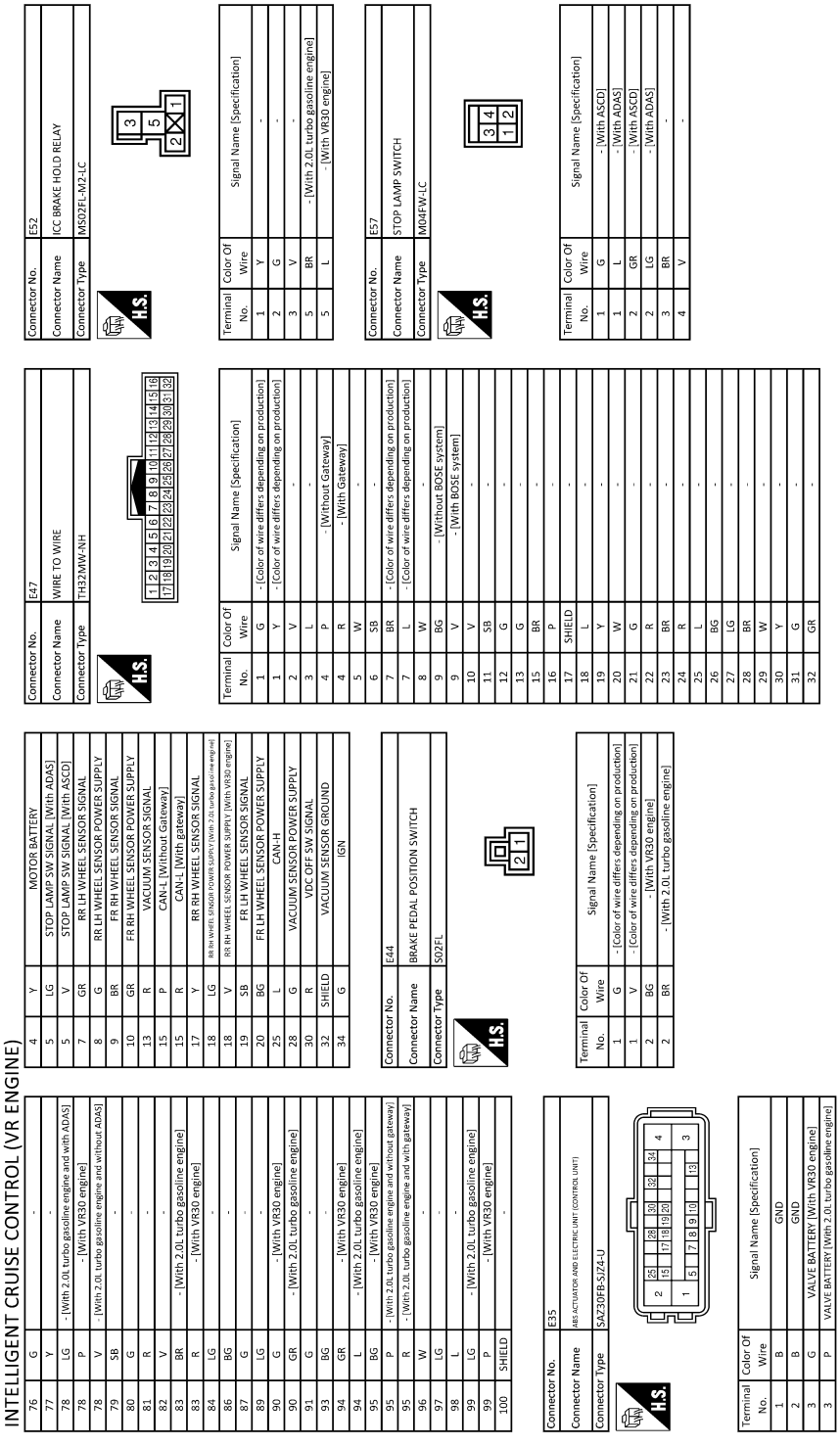
Terminal No.	Color Of Wire	Signal Name [Specification]
38	P	- [With 2.0L turbo gasoline engine and without gateway]
38	R	- [With 2.0L turbo gasoline engine and with gateway]
39	BR	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	SB	-
41	LG	-
44	Y	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	B	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	G	-
48	SHIELD	-
49	R	-
50	BR	- [With VR30 engine]
50	GR	- [With 2.0L turbo gasoline engine]
51	L	-
52	W	-
53	V	-
54	P	- [With VR30 engine]
54	W	- [With 2.0L turbo gasoline engine]
55	B	- [With 2.0L turbo gasoline engine]
55	W	- [With VR30 engine]
56	BG	- [With 2.0L turbo gasoline engine]
56	SB	- [With VR30 engine]
57	BG	- [With VR30 engine]
57	W	- [With 2.0L turbo gasoline engine]
58	B	- [Color of wire differs depending on production]
58	B/W	- [Color of wire differs depending on production]
59	W	-
61	R	-
64	Y	-
65	BR	- [Color of wire differs depending on production]
65	GR	- [Color of wire differs depending on production]
66	GR	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	G	- [With 2.0L turbo gasoline engine]
71	LG	- [With VR30 engine]
72	L	- [With 2.0L turbo gasoline engine]
72	V	- [With VR30 engine]
73	G	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	P	[With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
75	V	- [With VR30 engine]

Connector No.	B163
Connector Name	SHIFT LOCK RELAY
Connector Type	MS02FL-M2-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	LG	-
3	V	-
5	W	-

JROWC8763GB



JROWC8764GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)

Connector No.	E58
Connector Name	ESS RELAY
Connector Type	MS03FB-M2-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	- [With VR30 engine]
1	R	- [With 2.0L turbo gasoline engine]
2	G	-
3	W	-
4	LG	-

Connector No.	E64
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS08FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1E	G	-
2E	P	-
3E	V	-
4E	GR	-
6E	L	-
7E	BG	-

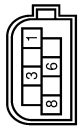
Connector No.	E65
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH12FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10F	W	-
11F	G	- [Color of wire differs depending on production]
11F	R	- [Color of wire differs depending on production]
12F	W	- [With VR30 engine]
12F	Y	- [With 2.0L turbo gasoline engine]
1F	R	-
2F	BR	-
3F	P	-
5F	P	-
6F	L	-
7F	R	-
8F	L	-
9F	L	-

Connector No.	E80
Connector Name	ICC SENSOR
Connector Type	AAZ08FB

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	IGNITION
3	L	ITS COMM-H
6	Y	ITS COMM-L
8	B	GROUND

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH32FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
19	L	- [With 2.0L turbo gasoline engine]
19	P	- [With VR30 engine]
22	BG	-
23	GR	- [With VR30 engine]
23	LG	- [With 2.0L turbo gasoline engine and without Anti-theft diode]
23	P	- [With 2.0L turbo gasoline engine and with Anti-theft diode]
27	GR	-
28	P	-
29	L	-
31	G	-
32	SB	-
33	SB	-
34	Y	-
35	G	-
36	SB	- [With VR30 engine]
36	W	- [With 2.0L turbo gasoline engine]
37	GR	-
38	BR	-
41	GR	-
43	V	-

Connector No.	E152
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-RH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
173	SB	FUEL TANK PRESSURE SENSOR
175	P	CAN-L
176	L	CAN-H
177	G	SENSOR POWER SUPPLY [FUEL TANK PRESSURE SENSOR]
178	V	TACHO METER SIGNAL
180	P	FUEL TANK TEMPERATURE SENSOR
182	W	FUEL PUMP CONTROL MODULE (FPCM) CHECK
185	SB	IGNITION SWITCH
186	SB	ASCD STEERING SWITCH
187	BG	SENSOR GROUND [ASCD STEERING SWITCH]
188	Y	FUEL PUMP CONTROL MODULE (FPCM)
189	Y	ENGINE COMMUNICATION LINE-L
190	L	ENGINE COMMUNICATION LINE-H
191	P	STOP LAMP SWITCH
192	BG	BRAKE PEDAL POSITION SWITCH
193	GR	EVAP CANISTER VENT CONTROL VALVE [Color of wire differs depending on production]
193	LG	EVAP CANISTER VENT CONTROL VALVE [Color of wire differs depending on production]
194	W	SENSOR POWER SUPPLY
195	BR	ACCELERATOR PEDAL POSITION SENSOR 2
196	R	SENSOR GROUND [ACCELERATOR PEDAL POSITION SENSOR 2]
197	R	ECM POWER SUPPLY
198	L	SENSOR POWER SUPPLY
199	B	ECM GROUND
200	V	SENSOR GROUND
201	B	ECM GROUND
202	Y	ACCELERATOR PEDAL POSITION SENSOR 1
203	G	SENSOR GROUND
204	B	ECM GROUND

JROWC8765GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)

Connector No.	E170
Connector Name	WIRE TO WIRE
Connector Type	SAA36WB-RS10-SJZ2

Terminal No.	Color Of Wire	Signal Name [Specification]
10	V	-
11	GR	-
19	V	-
20	SB	-
22	B	-
24	B	-
26	L	-
27	P	-
28	SHIELD	-
29	B	-
30	B	-
31	P	-
32	B	-
33	V	-
34	G	-
35	P	-
36	B	-
37	R	-
38	V	-
39	Y	-
40	P	-
41	L	-
42	W	-
43	B	-
44	L	-
45	Y	-
47	BG	-
48	GR	-

Connector No.	E171
Connector Name	WIRE TO WIRE
Connector Type	SAA36FB-RS10-SJZ2

Terminal No.	Color Of Wire	Signal Name [Specification]
10	V	-
11	GR	-
19	V	-
20	SB	-
22	B	-
24	B	-
26	L	-
27	P	-
28	SHIELD	-
29	B	-
30	B	-
31	P	-
32	B	-
33	V	-
34	G	-
35	R	-
36	B	-
37	BG	-
38	LG	-
39	Y	-
40	P	-
41	L	-
42	W	-
43	B	-
44	L	-
45	Y	-
47	BG	-
48	GR	-

Connector No.	E172
Connector Name	JOINT CONNECTOR-E01
Connector Type	SGA28FLBR-J

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	Y	-
3	W	-
4	L	-
5	GR	-
6	Y	-
7	W	-
8	L	-
9	GR	-
10	Y	-
11	W	-
12	L	-
15	W	-
16	BG	-
17	P	-
18	L	-
19	W	-
20	BG	-
21	P	-
22	L	-
23	SB	- [Color of wire differs depending on production]
23	W	- [Color of wire differs depending on production]
24	BG	- [Color of wire differs depending on production]
24	LG	- [Color of wire differs depending on production]
25	P	-
26	L	-
27	Y	-
28	L	-

Connector No.	E173
Connector Name	JOINT CONNECTOR-E02
Connector Type	SGA28FDGY-J

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [Color of wire differs depending on production]
1	R	- [Color of wire differs depending on production]
3	B	-
4	B	-
5	G	-
6	BR	-
7	B	-
8	B	-
9	G	-
10	L	-
12	B	-
13	G	-
14	BR	-
17	G	-
21	G	-
25	R	-
26	L	-

Connector No.	F2
Connector Name	A/T ASSEMBLY
Connector Type	RK10FG-DGY

Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	IGNITION POWER SUPPLY [With 2.0L turbo gasoline engine]
1	L	IGNITION POWER SUPPLY [With VR30 engine]
2	P	BATTERY POWER SUPPLY [MEMORY BACK-UP]

JROWC8766GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)

3	L	CAN-H
4	R	K-LINE
5	B	GROUND [With 2.0L turbo gasoline engine]
5	BR	GROUND [With VR30 engine]
6	GR	IGNITION POWER SUPPLY
7	BG	BACK-UP LAMP RELAY
8	P	CAN-L
9	V	STARTER RELAY
10	B	GROUND

Connector No.	F100
Connector Name	TCM
Connector Type	SP10FG

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	IGNITION POWER SUPPLY
2	-	BATTERY POWER SUPPLY [MEMORY BACK-UP]
3	-	CAN-H
4	-	K-LINE
5	-	GROUND
6	-	IGNITION POWER SUPPLY
7	-	BACK-UP LAMP RELAY
8	-	CAN-L
9	-	STARTER RELAY
10	-	GROUND

Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
48	R	PUSH-BTN IGN SW ILL PWR
52	G	DONGLE LINK
54	V	COMM LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	I-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT [With VR30 engine]
66	Y	BLOWER FAN RLY CONT [With 2.0L turbo gasoline engine]
67	W/B	IGN RLYAY (F/B) CONT
68	R	DIMMER
69	GR	A/T SHIFT SELECT PWR SPLY
70	B	IGN RLYAY (IPDM E/R) CONT
71	G	DR DOOR REQ SW
72	SB	PASS DOOR REQ SW
75	BR	COMBI SW INPUT 5
76	BG	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LID OPNR SW

Connector No.	M22
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	L	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	LG	- [With VR30 engine]
7	P	- [With 2.0L turbo gasoline engine]
8	G	- [With 2.0L turbo gasoline engine]
8	P	- [With VR30 engine]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	V	-
13	LG	-
14	LG	-
15	BR	- [With 2.0L turbo gasoline engine]
15	P	- [With VR30 engine]
16	SB	- [With DCM]
16	V	- [Without DCM]
17	Y	-
18	L	-
19	G	-
20	GR	-
21	R	-
22	V	-
23	L	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
29	LG	-
30	SB	- [With VR30 engine]
30	W	- [With 2.0L turbo gasoline engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
33	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	- [With VR30 engine]
36	V	- [With 2.0L turbo gasoline engine]
37	R	- [With VR30 engine]
37	V	- [With 2.0L turbo gasoline engine]
38	W	-
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	V	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	- [Except with VR30 engine and with BOSE system]
48	BR	- [With VR30 engine and with BOSE system]
49	G	-
50	V	-
51	V	-
52	L	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	P	-
57	R	-
58	LG	-
59	SB	-
61	L	-
62	P	- [With 2.0L turbo gasoline engine]
62	V	- [With VR30 engine]
63	L	-
64	W	-

JROWC8767GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)

66	R	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	G	- [With VR30 engine]
72	V	- [With 2.0L turbo gasoline engine]
73	LG	- [With 2.0L turbo gasoline engine]
73	SHIELD	- [With VR30 engine]
74	L	- [With VR30 engine]
74	LG	- [With 2.0L turbo gasoline engine]
75	P	-
76	SB	- [With 2.0L turbo gasoline engine]
76	V	- [With VR30 engine]
77	Y	-
78	L	-
79	G	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With 2.0L turbo gasoline engine]
82	SHIELD	- [With VR30 engine]
83	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	- [With VR30 engine]
84	SHIELD	- [With 2.0L turbo gasoline engine]
85	BR	- [With VR30 engine]
85	G	- [With 2.0L turbo gasoline engine]
86	R	- [With 2.0L turbo gasoline engine]
86	V	- [With VR30 engine]
87	LG	- [With 2.0L turbo gasoline engine]
87	SHIELD	- [With VR30 engine]
89	BR	- [With VR30 engine]
89	LG	- [With 2.0L turbo gasoline engine]
90	SB	- [With 2.0L turbo gasoline engine]
90	V	- [With VR30 engine]
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	R	- [With VR30 engine]
93	SHIELD	- [With 2.0L turbo gasoline engine]
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	R	- [With 2.0L turbo gasoline engine]
96	W	- [With VR30 engine]
97	L	- [With VR30 engine]
97	R	- [With 2.0L turbo gasoline engine]
98	BR	-
99	BR	- [With VR30 engine and with BOSE system]
99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	M24
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH

H.S.

1	3	4	5	6
7	9	10	11	12

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H (CAN COMMUNICATION CIRCUIT 1)
3	W	BATTERY POWER SUPPLY
4	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
5	B	GROUND
6	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
7	P	CAN-L (CAN COMMUNICATION CIRCUIT 1)
9	R	IGNITION POWER SUPPLY [With VR30 engine and without ISS]
9	W	IGNITION POWER SUPPLY [Except with VR30 engine and without ISS]
10	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)
11	B	GROUND
12	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)

Connector No.	M25
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

H.S.

11	12	13	14	16
3	4	5	6	7	8

Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	M_CAN_L
4	B	EARTH
5	B	EARTH
6	L	CAN-H
7	W	KLINE [With 2.0L turbo gasoline engine]
7	W	KLINE [With VR30 engine]
8	W	IGN_SW
11	SB	M_CAN_H
12	R	CAN-L
13	L	CAN-H
14	P	CAN-I
16	W	POWER

Connector No.	M39
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W/B	-
2	SB	-
3	L	-
4	P	- [Without Gateway]
4	R	- [With Gateway]
5	BR	-
6	SB	-
7	L	-
8	W	-
9	P	- [Without BOSE system]
9	V	- [With BOSE system]
10	V	-
11	SB	-
12	G	-
13	G	-
15	R	-
16	SB	-
17	SHIELD	-
18	W	-
19	Y	-
20	L	-
21	G	-
22	R	-
23	BR	-
24	R	-
25	L	-
26	Y	-
27	LG	-
28	BR	-
29	W/B	-
30	Y	-
31	W	-
32	L	- [With Anti-theft diode]
32	LG	- [Without Anti-theft diode]

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	W/B	-
7	V	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	LG	- [With VR30 engine]
9	P	- [With 2.0L turbo gasoline engine]
10	W	-
11	W	- [With VR30 engine]
11	Y	- [With 2.0L turbo gasoline engine]
12	B	- [With VR30 engine]
12	BR	- [With 2.0L turbo gasoline engine]
13	GR	- [With VR30 engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
14	B	-
15	BG	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	B	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
17	LG	-
18	B	- [With VR30 engine]
18	W/B	- [With 2.0L turbo gasoline engine]
19	Y	-
31	W	-
32	G	- [With 2.0L turbo gasoline engine]

JROWC8768GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)

32	V	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	BG	-
36	G	-
37	B	- [With VR30 engine]
37	L	- [With 2.0L turbo gasoline engine]
38	L	- [With 2.0L turbo gasoline engine and without gateway]
38	P	- [With 2.0L turbo gasoline engine and without gateway]
38	R	- [With 2.0L turbo gasoline engine and with gateway]
39	R	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	GR	-
41	L	-
44	BR	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	G	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	BG	- [With 2.0L turbo gasoline engine]
47	R	- [With VR30 engine]
48	SHIELD	-
49	B	- [With VR30 engine]
49	G	- [With 2.0L turbo gasoline engine]
50	B	- [With 2.0L turbo gasoline engine]
50	BR	- [With VR30 engine]
51	L	-
52	W	-
53	G	-
54	SB	- [With 2.0L turbo gasoline engine]
54	Y	- [With VR30 engine]
55	B	- [With 2.0L turbo gasoline engine]
55	P	- [With VR30 engine]
56	BG	- [With VR30 engine]
56	GR	- [With 2.0L turbo gasoline engine]
57	GR	- [With VR30 engine]
57	P	- [With 2.0L turbo gasoline engine]
58	B	-
59	SB	-
61	W/B	-
64	Y	-
65	R	-
66	P	- [Color of wire differs depending on production]
66	V	- [Color of wire differs depending on production]
67	LG	-
68	BG	-
69	L	-
70	R	-
71	V	- [With VR30 engine]
71	W	- [With 2.0L turbo gasoline engine]
72	L	- [With 2.0L turbo gasoline engine]
72	LG	- [With VR30 engine]
73	R	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	B	- [With VR30 engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
76	W/B	
77	SB	-
78	G	- [With VR30 engine]
78	LG	- [With 2.0L turbo gasoline engine]
79	R	-
80	G	-
81	R	-
82	LG	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	V	-
86	V	-
87	G	-
89	V	-
90	G	- [With VR30 engine]
90	V	- [With 2.0L turbo gasoline engine]
91	W	-
92	G	-
93	BR	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BR	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]
95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	Y	-
99	BR	- [With VR30 engine]
99	LG	- [With 2.0L turbo gasoline engine]
100	SHIELD	-

Connector No.	M56
Connector Name	DRIVER ASSISTANCE BUZZER CONTROL MODULE
Connector Type	TH16FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	IGNITION
3	L	ITS COMM-H
5	B	GROUND
8	R	WARNING BUZZER SIGNAL
11	Y	ITS COMM-L
13	B	GROUND
16	G	WARNING BUZZER SIGNAL GROUND

Connector No.	M58
Connector Name	COMBINATION METER
Connector Type	TH12FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	B	ILLUMINATION CONTROL SIGNAL
44	Y	FUEL LEVEL SENSOR GROUND
45	W	BATTERY POWER SUPPLY
46	BG	IGNITION SIGNAL [Except with VR30 engine and without ISS]
46	R	IGNITION SIGNAL [With VR30 engine and without ISS]
47	SB	AV COMMUNICATION SIGNAL (H)
48	LG	AV COMMUNICATION SIGNAL (L)
51	BR	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

Connector No.	M77
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	P	CAN-L [Without Gateway]
2	R	CAN-L [With Gateway]
4	G	IGN
5	L	CAN-H

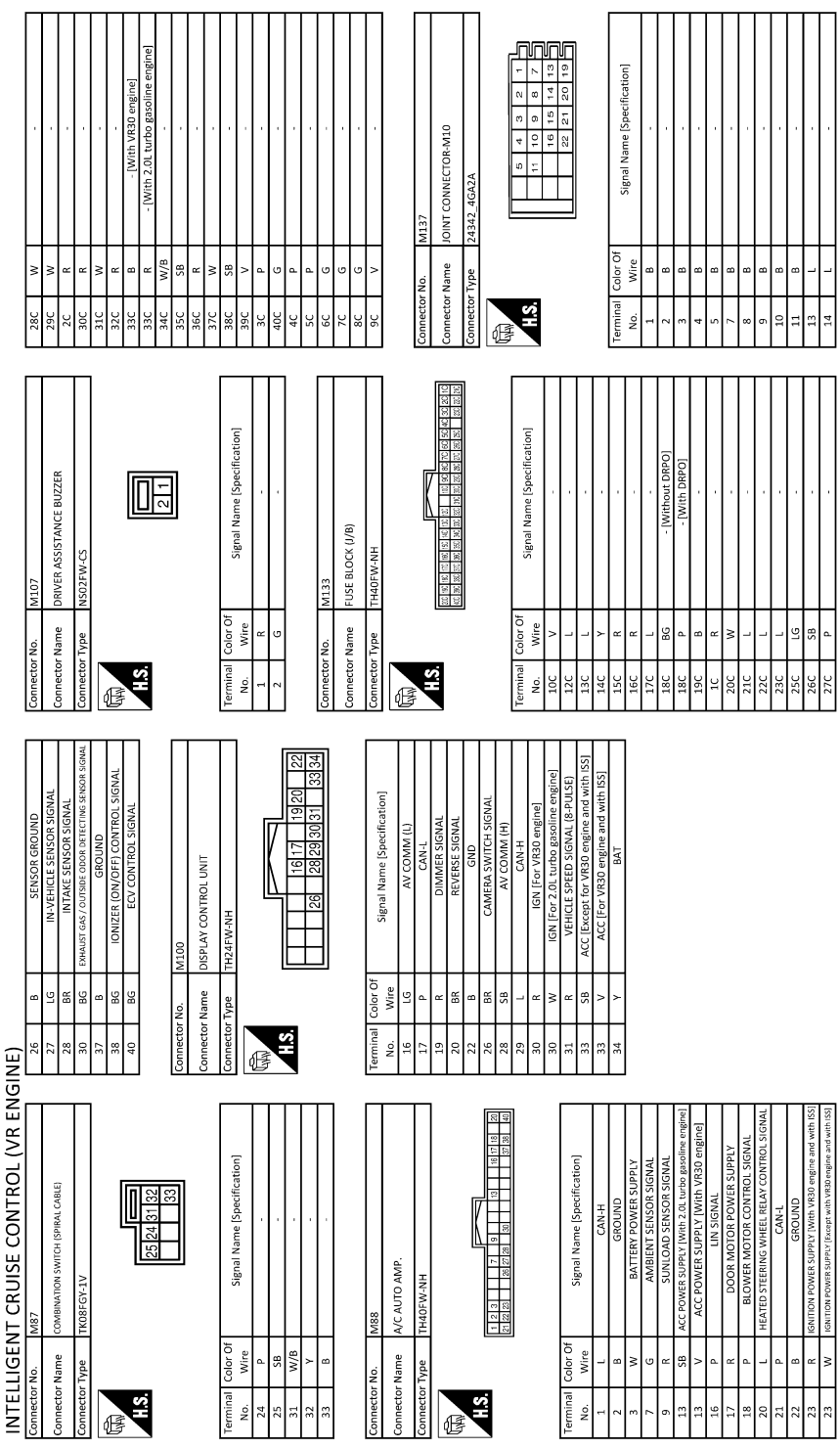
Connector No.	M85
Connector Name	RESISTOR
Connector Type	M02FBR-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	B	-

JROWC8769GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)



JROWC8770GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)

15	L	-
16	L	-
19	R	-
20	R	-
21	R	-
22	R	-

22	SB	- [With VR30 engine and without ISS]
22	V	- [With VR30 engine and with ISS]
23	R	- [With 2.0L turbo gasoline engine]
23	SB	- [With VR30 engine and without ISS]
23	V	- [With VR30 engine and with ISS]
24	R	- [With 2.0L turbo gasoline engine]
24	SB	- [With VR30 engine and without ISS]
24	V	- [With VR30 engine and with ISS]

Connector No.	M173
Connector Name	JOINT CONNECTOR-M03
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	-
9	R	-
10	R	-
11	R	-
12	R	-
13	SB	-
14	SB	-
15	SB	-
16	L	- [With 2.0L turbo gasoline engine]
16	SB	- [With VR30 engine]
17	L	- [With 2.0L turbo gasoline engine]
17	SB	- [With VR30 engine]
18	L	- [With 2.0L turbo gasoline engine]
18	SB	- [With VR30 engine]
19	BR	- [With VR30 engine]
19	LG	- [With 2.0L turbo gasoline engine]
20	BR	- [With VR30 engine]
20	LG	- [With 2.0L turbo gasoline engine]
21	BR	- [With VR30 engine]
21	LG	- [With 2.0L turbo gasoline engine]
22	R	- [With 2.0L turbo gasoline engine]

Connector No.	M174
Connector Name	JOINT CONNECTOR-M04
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	Y	-
8	Y	-
9	Y	-
10	Y	-
11	Y	-
12	Y	-
13	SB	-
14	SB	-
15	SB	-
16	SB	-
17	SB	-
18	SB	-
19	LG	-
20	LG	-
21	LG	-
22	LG	-
23	LG	-
24	LG	-

Connector No.	M175
Connector Name	JOINT CONNECTOR-M05
Connector Type	NH20FL-DC

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	L	-
8	L	-
9	P	-
10	P	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	R	- [With VR30 engine]
16	R	- [With 2.0L turbo gasoline engine]
17	P	- [With VR30 engine]
17	R	- [With 2.0L turbo gasoline engine]
19	R	- [With VR30 engine and with ISS]
19	W	- [Except with VR30 engine and with ISS]
20	R	- [With VR30 engine and with ISS]
20	W	- [Except with VR30 engine and with ISS]

Connector No.	M177
Connector Name	JOINT CONNECTOR-M07
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	P	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	W	-
20	W	-
21	W	-
22	P	-
23	P	-
24	P	-

JROWC8771GB

INTELLIGENT CRUISE CONTROL (VR ENGINE)

Connector No.	M301
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY

H.S.

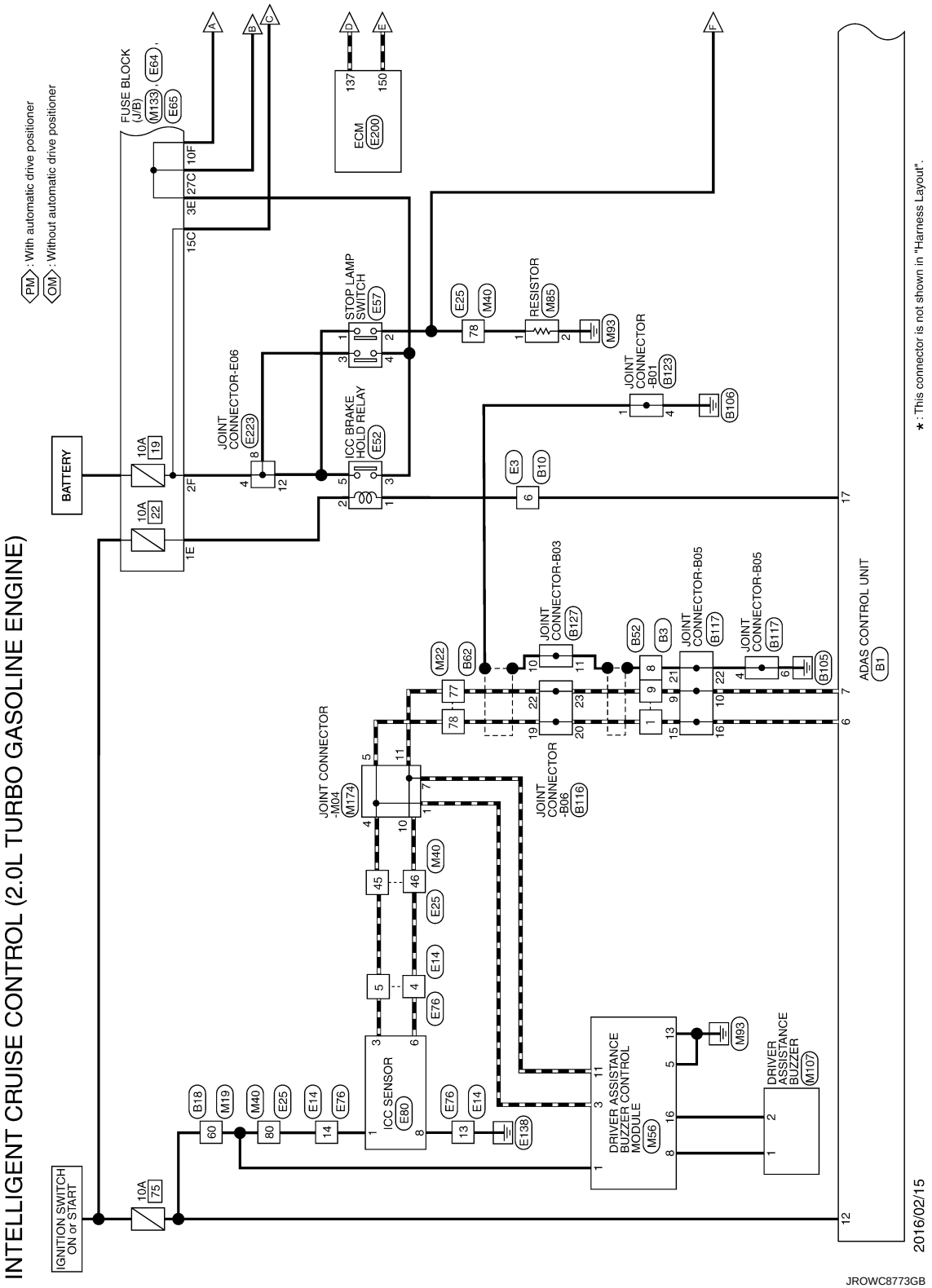
20 19 18 17 16 15 14 13

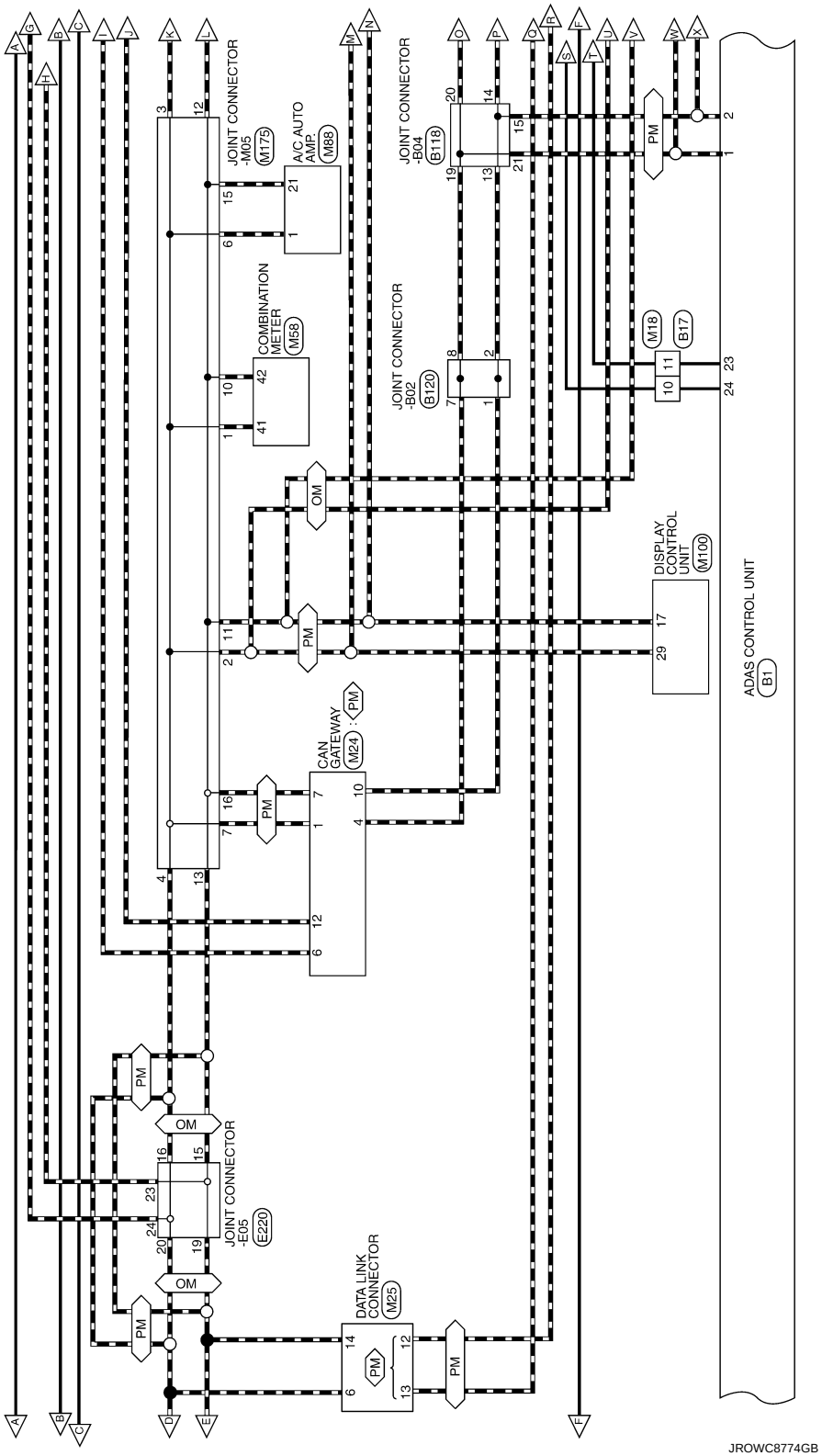
Terminal No.	Color Of Wire	Signal Name [Specification]
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-

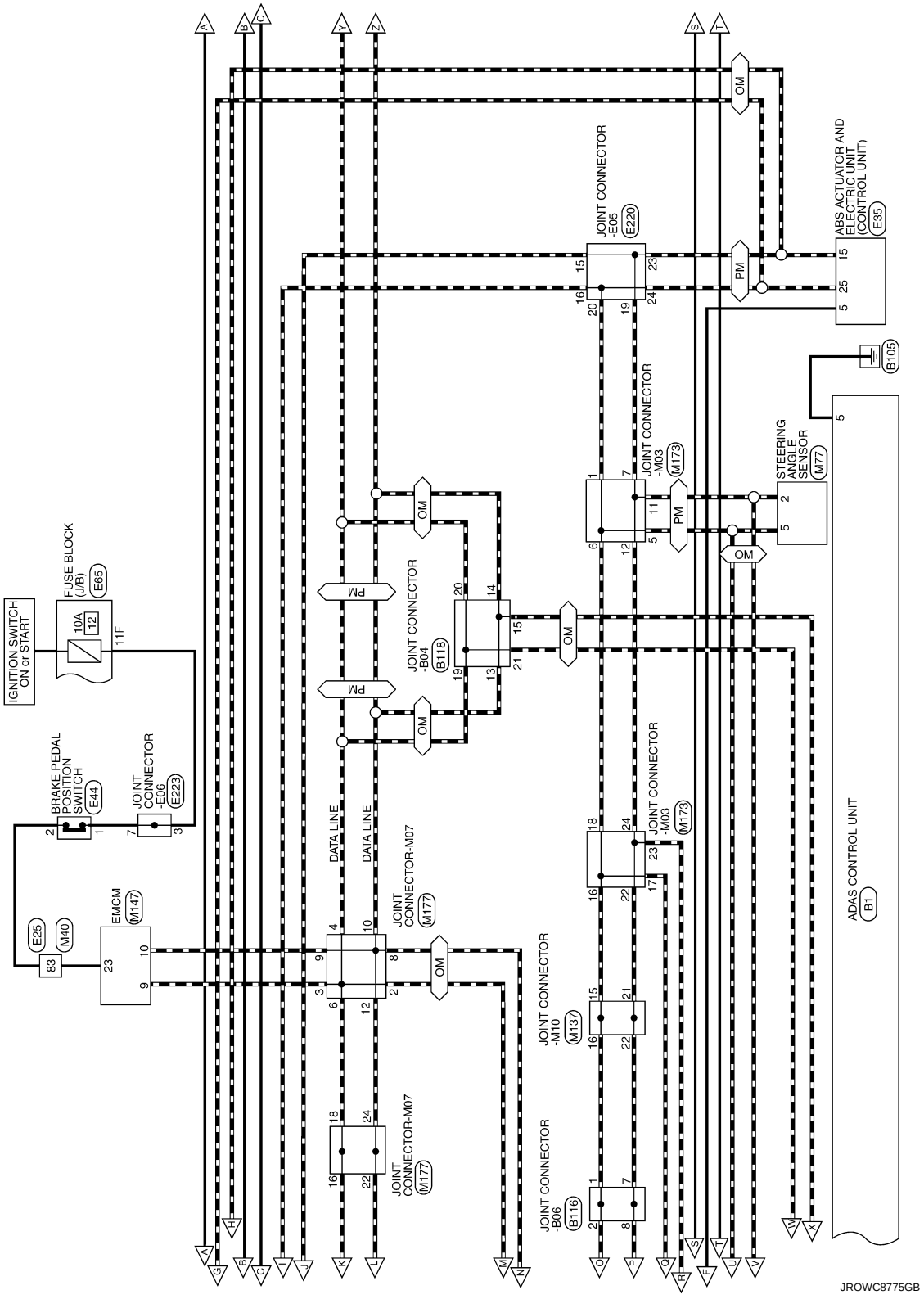
JROWC8772GB

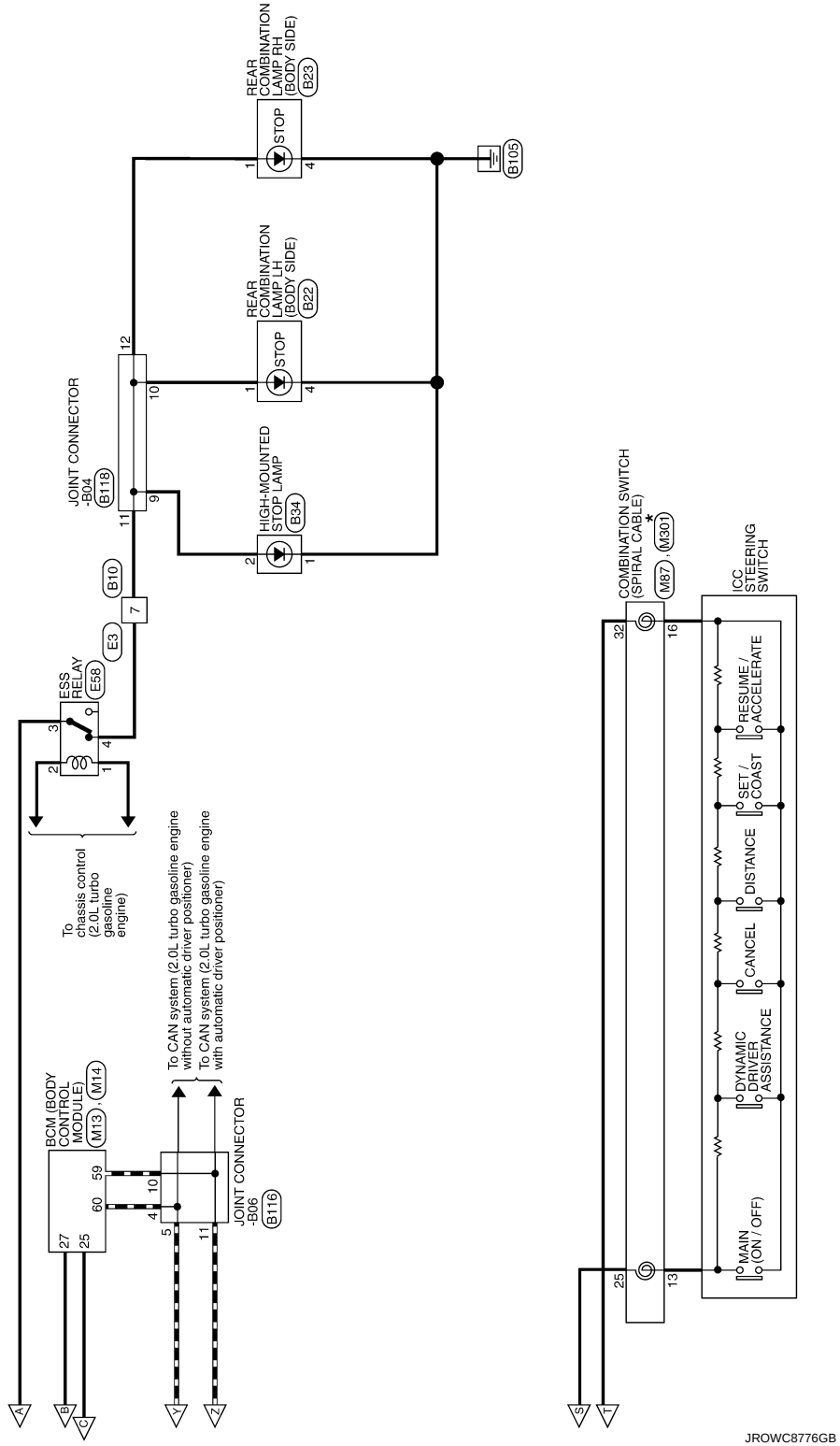
2.0L TURBO GASOLINE ENGINE

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)




JOINT CONNECTOR -M05 (M175)
A/C AUTO AMP. (M88)
JOINT CONNECTOR -B04 (B118)
COMBINATION METER (M58)
JOINT CONNECTOR -B02 (B120)
M18
B17
DISPLAY CONTROL UNIT (M100)
ADAS CONTROL UNIT (B1)
CAN GATEWAY (M24)
JOINT CONNECTOR -E05 (E220)
DATA LINK CONNECTOR (M25)
PM
OM
JROWC8774GB


IGNITION SWITCH ON or START
FUSE BLOCK (J/B) E65
10A 12
11F
BRAKE PEDAL POSITION SWITCH E44
JOINT CONNECTOR -E06 E223
EMCM M147
E25 M40 83
DATA LINE
DATA LINE
JOINT CONNECTOR-M07 M177
JOINT CONNECTOR-M07 M177
JOINT CONNECTOR -B04 B118
JOINT CONNECTOR -B06 B116
JOINT CONNECTOR -M10 M137
JOINT CONNECTOR -E05 E220
JOINT CONNECTOR -M03 M173
JOINT CONNECTOR -M03 M173
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) E35
STEERING ANGLE SENSOR M77
ADAS CONTROL UNIT B1
B105
OM
PM
JROWC8775GB


REAR COMBINATION LAMP RH (BODY SIDE) B23
STOP
B105
REAR COMBINATION LAMP LH (BODY SIDE) B22
HIGH-MOUNTED STOP LAMP B34
JOINT CONNECTOR -B04 B118
B10
E3
ESS RELAY E58
To chassis control (2.0L turbo gasoline engine)
To CAN system (2.0L turbo gasoline engine without automatic driver positioner)
To CAN system (2.0L turbo gasoline engine with automatic driver positioner)
JOINT CONNECTOR -B06 B116
BCM (BODY CONTROL MODULE) M13, M14
COMBINATION SWITCH (SPIRAL CABLE) * M87, M301
ICC STEERING SWITCH
RESUME / ACCELERATE
SET / COAST
DISTANCE
CANCEL
DYNAMIC DRIVER ASSISTANCE
MAIN (ON / OFF)
JROWC8776GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

Connector No.	B1
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-NH

H.S.

12		9	8	7	6	5		2	1
24	23					17			

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	R	CAN-L
5	B	GROUND
6	L	ITS COMM-H
7	Y	ITS COMM-L
8	L	CHASSIS COMM-H
9	R	CHASSIS COMM-L
12	G	IGNITION [Except with VR30 engine and without ISS]
12	GR	IGNITION [VR30 engine and without ISS]
17	V	BRAKE HOLD RLY DRIVE SIGNAL
23	Y	STEERING SW SIGNAL GROUND
24	SB	STEERING SW SIGNAL

Connector No.	B3
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
4	B	-
5	BR	- [With BOSE system]
5	Y	- [Without BOSE system]
7	R	-
8	B	-
9	Y	-

11	B	-
12	GR	-
13	G	-
14	B	-
15	W	-
16	BR	-

Connector No.	B10
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With 2.0L turbo gasoline engine]
1	Y	- [With VR30 engine]
2	W	-
3	LG	-
4	P	- [With VR30 engine]
4	SB	- [With 2.0L turbo gasoline engine]
5	L	-
6	V	-
7	LG	-
8	R	-
9	W	-
10	B	-
11	G	-
12	R	-
13	GR	-
14	BG	-
15	BR	-
16	LG	-
17	V	-
18	BR	-
19	LG	- [With 2.0L turbo gasoline engine]
19	Y	- [With VR30 engine]
20	Y	-
21	R	- [With 2.0L turbo gasoline engine]
21	V	- [With VR30 engine]
22	L	-
23	V	-

24	B	- [With VR30 engine]
24	R	- [With 2.0L turbo gasoline engine]

Connector No.	B17
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
10	SB	-
11	Y	-
12	GR	-

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	L	-
4	LG	-
5	Y	-
6	R	-
7	V	-
8	LG	-
10	BG	-
11	BG	-
12	LG	-
13	GR	-

14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
22	R	-
23	V	-
24	R	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	P	- [With 2.0L turbo gasoline engine and without gateway]
25	V	- [With 2.0L turbo gasoline engine and with gateway]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	B	- [With VR30 engine]
31	BR	- [With 2.0L turbo gasoline engine]
32	B	-
33	B	-
34	LG	-
35	P	-
36	W	-
37	SB	-
38	LG	-
40	P	-
41	SB	-
42	BR	-
43	BG	-
44	BG	-
46	R	-
50	W	-
51	SB	-
52	V	-
53	LG	-
54	R	-
55	R	-
57	W	-
58	V	-
59	GR	-
60	G	-
61	G	-
62	BG	-
63	BR	-
64	Y	-
66	R	-
70	R	-
71	W	-
72	B	-

JROWC8777GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

73	W	-
74	L	-
75	R	- [Without paddle shift]
75	V	- [With paddle shift]
76	BR	-
77	B	-
78	SB	-
79	V	- [With VR30 engine]
79	W	- [With 2.0L turbo gasoline engine]
81	B	-
82	R	-
83	BG	-
84	L	-
85	R	- [Without paddle shift]
85	V	- [With paddle shift]
86	B	-
88	G	-
89	V	- [With 2.0L turbo gasoline engine]
89	W	- [With VR30 engine]
91	GR	-
94	GR	-
96	Y	-
97	V	-
98	BR	- [With VR30 engine and with BOSE system]
98	Y	- [Except with VR30 engine and with BOSE system]

Connector No.	B22
Connector Name	REAR COMBINATION LAMP LH(BODY SIDE)
Connector Type	NS04MW-CS

H.S.

4 3 2 1

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	P	-
3	SB	-
4	B	-

Connector No.	B23
Connector Name	REAR COMBINATION LAMP RH(BODY SIDE)
Connector Type	NS04MW-CS

H.S.

4 3 2 1

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	R	-
3	V	-
4	B	-

Connector No.	B34
Connector Name	HIGH-MOUNTED STOP LAMP
Connector Type	TK02MBR-P

H.S.

2 1

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	LG	-

Connector No.	B52
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
4	B	-
5	BR	- [With BOSE system]
5	Y	- [Without BOSE system]
7	R	-
8	SHIELD	-
9	P	-
11	B	-
12	GR	-
13	G	-
14	B	-
15	W	-
16	BR	-

Connector No.	B62
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	- [With 2.0L turbo gasoline engine and without BOSE System]
1	LG	- [With VR30 engine]
1	W	- [With 2.0L turbo gasoline engine and with BOSE system]
2	L	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine and with BOSE system]
3	W	- [With VR30 engine and without BOSE system]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	B	- [With 2.0L turbo gasoline engine and with BOSE system]
7	BR	- [With VR30 engine and without BOSE system]
7	W	- [With VR30 engine and with BOSE system]
7	Y	- [With 2.0L turbo gasoline engine and without BOSE system]
8	B	- [With VR30 engine and with BOSE system]
8	G	- [With 2.0L turbo gasoline engine]
8	Y	- [With VR30 engine and without BOSE system]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-
12	Y	-
13	R	-
14	BG	-
15	BG	- [With 2.0L turbo gasoline engine]
15	GR	- [With VR30 engine]
16	V	-
17	P	-
18	L	-
19	R	-
20	GR	-
21	R	-
22	V	-
23	W	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
29	LG	-
30	LG	- [With 2.0L turbo gasoline engine]
30	P	- [With VR30 engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
33	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	- [With VR30 engine]
36	W	- [With 2.0L turbo gasoline engine]

JROWC8778GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

37	P	- [With 2.0L turbo gasoline engine and without BOSE system]
37	R	- [With VR30 engine]
37	W	- [With 2.0L turbo gasoline engine and with BOSE system]
38	W	-
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	W	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	[With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	-
49	G	-
50	V	-
51	GR	-
52	W	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	V	-
57	R	-
58	LG	-
59	P	-
61	L	-
62	P	- [With VR30 engine]
62	V	- [With 2.0L turbo gasoline engine]
63	L	-
64	W	-
66	LG	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	G	- [With VR30 engine]
72	Y	- [With 2.0L turbo gasoline engine]
73	R	- [With 2.0L turbo gasoline engine]
73	SHIELD	- [With VR30 engine]
74	BG	- [With 2.0L turbo gasoline engine]
74	L	- [With VR30 engine]
75	GR	- [With 2.0L turbo gasoline engine]
75	V	- [With VR30 engine]
76	GR	- [With VR30 engine]
76	V	- [With 2.0L turbo gasoline engine]
77	P	-
78	L	-
79	R	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With 2.0L turbo gasoline engine]
82	SHIELD	- [With VR30 engine]
83	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	-
84	SHIELD	- [With 2.0L turbo gasoline engine]
85	BG	- [With VR30 engine]
85	G	- [With 2.0L turbo gasoline engine]
86	R	- [With 2.0L turbo gasoline engine]
86	W	- [With VR30 engine]
87	LG	- [With VR30 engine]
87	SHIELD	- [With 2.0L turbo gasoline engine]
89	LG	-
90	P	- [With 2.0L turbo gasoline engine]
90	V	- [With VR30 engine]
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	R	- [With VR30 engine]
93	SHIELD	- [With 2.0L turbo gasoline engine]
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	R	- [With 2.0L turbo gasoline engine]
96	W	- [With VR30 engine]
97	L	- [With VR30 engine]
97	R	- [With 2.0L turbo gasoline engine and with BOSE system]
97	W	- [With 2.0L turbo gasoline engine and without BOSE system]
98	LG	-
99	BR	- [With VR30 engine and with BOSE system]
99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	B116
Connector Name	JOINT CONNECTOR-B06
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	- [With Gateway]
8	V	- [Without Gateway]
9	R	- [With Gateway]
9	V	- [Without Gateway]
10	R	- [With VR30 engine]
10	V	- [With 2.0L turbo gasoline engine]
11	V	-
12	P	- [With Gateway]
12	R	- [Without Gateway]
13	SHIELD	-
14	SHIELD	-
15	B	- [With 2.0L turbo gasoline engine]
15	SHIELD	- [With VR30 engine]
16	L	-
16	SHIELD	- [With 2.0L turbo gasoline engine]
16	SHIELD	- [With VR30 engine]
17	L	- [With 2.0L turbo gasoline engine]
17	SHIELD	- [With VR30 engine]
18	L	- [With 2.0L turbo gasoline engine]
18	SHIELD	- [With VR30 engine]
19	L	- [With 2.0L turbo gasoline engine]
19	SHIELD	- [With VR30 engine]
20	L	- [With 2.0L turbo gasoline engine]
20	SHIELD	- [With VR30 engine]
21	L	-
22	P	-
23	P	-
24	P	- [With VR30 engine]
24	Y	- [With 2.0L turbo gasoline engine]

Connector No.	B117
Connector Name	JOINT CONNECTOR-B05
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	- [With 2.0L turbo gasoline engine]
1	SHIELD	- [With VR30 engine]
2	B	-
3	B	- [With VR30 engine]
3	SHIELD	- [With 2.0L turbo gasoline engine]
4	B	-
5	B	-
6	B	-
7	Y	-
8	Y	-
9	P	- [With VR30 engine]
9	Y	- [With 2.0L turbo gasoline engine]
10	P	- [With VR30 engine]
10	Y	- [With 2.0L turbo gasoline engine]
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	B	-
20	B	- [With 2.0L turbo gasoline engine]
21	B	- [With VR30 engine]
21	SHIELD	- [With 2.0L turbo gasoline engine]
22	B	- [With VR30 engine]
22	SHIELD	-
23	SHIELD	-
24	SHIELD	-

JROWC8779GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

Connector No.	B118
Connector Name	JOINT CONNECTOR-B04
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With VR30 engine]
1	SHIELD	- [With 2.0L turbo gasoline engine]
2	LG	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	SHIELD	-
4	LG	- [With VR30 engine]
4	SHIELD	- [With 2.0L turbo gasoline engine]
5	LG	- [With VR30 engine]
5	SHIELD	- [With 2.0L turbo gasoline engine]
6	LG	- [With VR30 engine]
6	SHIELD	- [With 2.0L turbo gasoline engine]
7	R	- [Color of wire differs depending on production]
7	V	- [Color of wire differs depending on production]
8	LG	- [With 2.0L turbo gasoline engine]
8	R	- [With VR30 engine and without paddle shift]
8	V	- [With VR30 engine and with paddle shift]
9	LG	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine and without paddle shift]
9	V	- [With VR30 engine and with paddle shift]
10	LG	- [With 2.0L turbo gasoline engine]
10	SHIELD	- [With VR30 engine]
11	LG	- [With 2.0L turbo gasoline engine]
11	SHIELD	- [With VR30 engine]
12	LG	- [With 2.0L turbo gasoline engine]
12	SHIELD	- [With VR30 engine]
13	L	- [With VR30 engine]
13	P	- [With 2.0L turbo gasoline engine and without gateway]
13	R	- [With 2.0L turbo gasoline engine and with gateway]
14	L	- [With VR30 engine]
14	P	- [With 2.0L turbo gasoline engine and without gateway]
14	R	- [With 2.0L turbo gasoline engine and with gateway]
15	L	- [With VR30 engine]
15	R	- [With 2.0L turbo gasoline engine]
16	L	-
17	L	-
18	L	-
19	L	- [With 2.0L turbo gasoline engine]
19	SHIELD	- [With VR30 engine]
20	L	- [With 2.0L turbo gasoline engine]
20	SHIELD	- [With VR30 engine]
21	L	- [With 2.0L turbo gasoline engine]
21	R	- [With VR30 engine]
22	R	-
23	R	-
24	R	-

Connector No.	B120
Connector Name	JOINT CONNECTOR-B02
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	L	- [With VR30 engine]
3	R	- [With 2.0L turbo gasoline engine]
4	L	- [With VR30 engine]
4	R	- [With 2.0L turbo gasoline engine]
5	L	-
6	L	-
7	L	-
8	L	-
9	L	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine]
10	L	- [With 2.0L turbo gasoline engine]
10	R	- [With VR30 engine]
11	R	-
12	R	-
13	W	-
14	W	-
15	W	-
17	SHIELD	-
18	B	-
19	B	- [With 2.0L turbo gasoline engine]
19	GR	- [With VR30 engine]
20	GR	- [With VR30 engine]
20	SHIELD	- [With 2.0L turbo gasoline engine]
21	B	- [With 2.0L turbo gasoline engine]
21	GR	- [With VR30 engine]
22	W	-
23	W	-
24	W	-

Connector No.	B123
Connector Name	JOINT CONNECTOR-B01
Connector Type	TK04FW-J

H.S.

4	3	2	1	0

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SHIELD	-
2	SHIELD	-
3	B	- [With 2.0L turbo gasoline engine]
3	SHIELD	- [With VR30 engine]
4	B	-

Connector No.	B127
Connector Name	JOINT CONNECTOR-B03
Connector Type	NH20FG-DC

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	SHIELD	-
3	SHIELD	-
4	SHIELD	-
5	SHIELD	-
6	P	-
7	P	-
8	P	-
9	P	-
10	LG	- [With VR30 engine]
10	SHIELD	- [With 2.0L turbo gasoline engine]
11	LG	- [With VR30 engine]
11	SHIELD	- [With 2.0L turbo gasoline engine]
13	BG	-
14	BG	-
15	BG	-
17	LG	-
18	LG	-
19	LG	-
20	LG	-

Connector No.	E3
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-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	23	24

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With 2.0L turbo gasoline engine]
1	Y	- [With VR30 engine]
2	W	-
3	LG	-
4	P	- [With VR30 engine]
4	SB	- [With 2.0L turbo gasoline engine]
5	L	-
6	Y	-
7	LG	-
8	BG	-
9	W	-
10	B	-
11	G	-
12	R	-
13	GR	-
14	G	-
15	LG	- [With 2.0L turbo gasoline engine]
15	V	- [With VR30 engine]
16	Y	-
17	P	-
18	BR	-
19	LG	- [With 2.0L turbo gasoline engine]

JROWC8780GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

19	Y	- [With VR30 engine]
20	GR	-
21	R	- [With 2.0L turbo gasoline engine]
21	V	- [With VR30 engine]
22	L	-
23	P	-
24	B	- [With VR30 engine]
24	BR	- [With 2.0L turbo gasoline engine]

Connector No.	E14
Connector Name	WIRE TO WIRE
Connector Type	SAA18MB-RS10-SIZ2

Terminal No.	Color Of Wire	Signal Name [Specification]
4	Y	-
5	L	-
6	B	-
7	BG	-
8	LG	-
9	R	-
11	GR	-
12	R	-
13	B	-
14	G	-
15	G	-
16	V	-
17	B	-
18	SB	-
21	B	-
22	SHIELD	-
23	P	-
24	L	-
25	V	-
26	B	-
28	B	-

Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	V	-
7	L	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	B	- [With 2.0L turbo gasoline engine]
9	GR	- [With VR30 engine] (Color of wire differs depending on production)
9	LG	- [With VR30 engine] (Color of wire differs depending on production)
10	BR	-
11	L	-
12	GR	- [With VR30 engine]
12	P	- [With 2.0L turbo gasoline engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
13	W	- [With VR30 engine]
14	B	-
15	GR	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	BR	- [With VR30 engine]
17	GR	- [With 2.0L turbo gasoline engine]
18	G	- [With 2.0L turbo gasoline engine]
18	P	- [With VR30 engine]
19	Y	-
31	W	- [With 2.0L turbo gasoline engine]
31	Y	- [With VR30 engine]
32	G	- [With 2.0L turbo gasoline engine]
32	GR	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	GR	-
36	R	-
37	L	- [With 2.0L turbo gasoline engine]
37	V	- [With VR30 engine]
38	L	- [With VR30 engine]

38	P	- [With 2.0L turbo gasoline engine and without gateway]
38	R	- [With 2.0L turbo gasoline engine and with gateway]
39	BR	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	SB	-
41	LG	-
44	Y	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	B	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	G	-
48	SHIELD	-
49	R	-
50	BR	- [With VR30 engine]
50	GR	- [With 2.0L turbo gasoline engine]
51	L	-
52	W	-
53	V	-
54	P	- [With VR30 engine]
54	W	- [With 2.0L turbo gasoline engine]
55	B	- [With 2.0L turbo gasoline engine]
55	W	- [With VR30 engine]
56	BG	- [With 2.0L turbo gasoline engine]
56	SB	- [With VR30 engine]
57	BG	- [With VR30 engine]
57	W	- [With 2.0L turbo gasoline engine]
58	B	- [Color of wire differs depending on production]
58	B/W	- [Color of wire differs depending on production]
59	W	-
61	R	-
64	Y	-
65	BR	- [Color of wire differs depending on production]
65	GR	- [Color of wire differs depending on production]
66	GR	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	G	- [With 2.0L turbo gasoline engine]
71	LG	- [With VR30 engine]
72	L	- [With 2.0L turbo gasoline engine]
72	V	- [With VR30 engine]
73	G	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
75	V	- [With VR30 engine]

76	G	-
77	Y	-
78	LG	- [With 2.0L turbo gasoline engine and with ADAS]
78	P	- [With VR30 engine]
78	V	- [With 2.0L turbo gasoline engine and without ADAS]
79	SB	-
80	G	-
81	R	-
82	V	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	LG	-
86	BG	-
87	G	-
89	LG	-
90	G	- [With VR30 engine]
90	GR	- [With 2.0L turbo gasoline engine]
91	G	-
93	BG	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BG	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]
95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	L	-
99	LG	- [With 2.0L turbo gasoline engine]
99	P	- [With VR30 engine]
100	SHIELD	-

Connector No.	E35
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type	SAZ30FB-SJZ4-LI

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	GND
3	G	-
3	G	VALVE BATTERY [With VR30 engine]
3	P	VALVE BATTERY [With 2.0L turbo gasoline engine]

JROWC8781GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

4	Y	MOTOR BATTERY
5	LG	STOP LAMP SW SIGNAL [With ADAS]
5	V	STOP LAMP SW SIGNAL [With ASCD]
7	GR	RR LH WHEEL SENSOR SIGNAL
8	G	RR LH WHEEL SENSOR POWER SUPPLY
9	BR	FR RH WHEEL SENSOR SIGNAL
10	GR	FR RH WHEEL SENSOR POWER SUPPLY
13	R	VACUUM SENSOR SIGNAL
15	P	CAN-L [Without Gateway]
15	R	CAN-L [With gateway]
17	Y	RR RH WHEEL SENSOR SIGNAL
18	LG	RR RH WHEEL SENSOR POWER SUPPLY [With 2.0L turbo gasoline engine]
18	V	RR RH WHEEL SENSOR POWER SUPPLY [With VR30 engine]
19	SB	FR LH WHEEL SENSOR SIGNAL
20	BG	FR LH WHEEL SENSOR POWER SUPPLY
25	L	CAN-H
28	G	VACUUM SENSOR POWER SUPPLY
30	R	VDC OFF SW SIGNAL
32	SHIELD	VACUUM SENSOR GROUND
34	G	IGN

Connector No.	E44
Connector Name	BRAKE PEDAL POSITION SWITCH
Connector Type	S02FL

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [Color of wire differs depending on production]
1	V	- [Color of wire differs depending on production]
2	BG	- [With VR30 engine]
2	BR	- [With 2.0L turbo gasoline engine]

Connector No.	E52
Connector Name	ICC BRAKE HOLD RELAY
Connector Type	M502FL-M2-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	V	-
5	BR	- [With 2.0L turbo gasoline engine]
5	L	- [With VR30 engine]

Connector No.	E57
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [With ASCD]
1	L	- [With ADAS]
2	GR	- [With ASCD]
2	LG	- [With ADAS]
3	BR	-
4	V	-

Connector No.	E58
Connector Name	ESS RELAY
Connector Type	M503FB-M2-LC

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	- [With VR30 engine]
1	R	- [With 2.0L turbo gasoline engine]
2	G	-
3	W	-
4	LG	-

Connector No.	E64
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS08FW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1E	G	-
2E	P	-
3E	V	-
4E	GR	-
6E	L	-
7E	BG	-

Connector No.	E65
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH12FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10F	W	-
11F	G	- [Color of wire differs depending on production]
11F	R	- [Color of wire differs depending on production]
12F	W	- [With VR30 engine]
12F	Y	- [With 2.0L turbo gasoline engine]
1F	R	-
2F	BR	-
3F	P	-
5F	P	-
6F	L	-
7F	R	-
8F	L	-
9F	L	-

Connector No.	E76
Connector Name	WIRE TO WIRE
Connector Type	SAA18FB-RS10-SJZ2

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
4	Y	-
5	L	-
6	B	-
7	BR	-
8	LG	-
9	GR	-
11	LG	-

JROWC8782GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

12	BG
13	B
14	R
15	G
16	V
17	B
18	P
21	B
22	SHIELD
23	P
24	L
25	V
26	B
28	B

8	BR
11	G
12	L
18	V
19	W
20	BG
22	GR
23	P
24	BR
26	V
27	W
28	BG

Connector No.	E220
Connector Name	JOINT CONNECTOR-E05
Connector Type	NH24FB-J

Terminal No.	Color Of Wire	Signal Name [Specification]
3	W	-
4	L	-
7	W	-
8	L	-
11	W	-
12	L	-
15	P	- [Without Gateway]
15	R	- [With Gateway]
16	L	-
19	P	- [Without Gateway]
19	R	- [With Gateway]
20	L	-
23	P	- [Without Gateway]
23	R	- [With Gateway]
24	L	-

Connector No.	M13
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	PUSH SW
3	Y	SENS PWR SPLY
4	BG	OPTICAL SENSOR
5	LG	-
10	W	COMBI SW OUTPUT 5
11	SB	COMBI SW OUTPUT 4
12	L	COMBI SW OUTPUT 3
13	G	COMBI SW OUTPUT 2
14	P	COMBI SW OUTPUT 1
15	G	ONE TOUCH UNLK SENS (DR)
16	G	ONE TOUCH UNLK SENS (PASS)
17	P	RECEIVER/SENSOR GND
18	L	SECURITY IND LAMP CONT
20	R	DETENT SW
21	SB	STEP LAMP CONT
25	R	STOP LAMP SW2
26	R	EXTENDED STORAGE FUSE SW
27	P	STOP LAMP SW
30	W	DR DOOR UNLK SENS
33	V	TR LID OPˆCANCEL SW
36	G	HAZARD SW
39	BR	P/N POSITION

Connector No.	E200
Connector Name	ECM
Connector Type	ADA52FB-AHZ6

Terminal No.	Color Of Wire	Signal Name [Specification]
97	G	POWER SUPPLY (MAIN)
98	B	ECM GROUND
99	G	POWER SUPPLY (MAIN)
100	B	ECM GROUND
101	G	POWER SUPPLY (MAIN)
102	B	ECM GROUND
103	V	COOLING FAN CONTROL SIGNAL (PWM)
104	Y	SENSOR POWER SUPPLY
105	R	SENSOR POWER SUPPLY
106	W	SENSOR GROUND
109	P	ENGINE SPEED SIGNAL
111	G	POWER SUPPLY
116	LG	STARTER RELAY-L
119	BR	SENSOR GROUND
120	BG	SENSOR GROUND
123	BR	MAIN RELAY CONTROL SIGNAL
127	V	FUEL PUMP ON SIGNAL
132	G	ACCELERATOR PEDAL POSITION SENSOR 1
137	L	CAN-H
138	L	DRIVETRAIN CAN-H
142	GR	BACK-UP LAMP SWITCH
143	LG	REFRIGERANT PRESSURE SENSOR
145	L	ACCELERATOR PEDAL POSITION SENSOR 2
146	L	FUEL TANK PRESSURE SENSOR
148	L	STARTER RELAY-H
150	P	CAN-L
151	P	DRIVETRAIN CAN-L
152	B	EVAP CANISTER VENT CONTROL VALVE
153	G	EVAP PURGE CONTROL VALVE

Connector No.	E223
Connector Name	JOINT CONNECTOR-E06
Connector Type	SGA28FB-J

Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	-
3	G	-
4	BR	-
6	BG	-
7	G	-

Connector No.	E80
Connector Name	ICC SENSOR
Connector Type	AAZ08FB

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	IGNITION
3	L	ITS COMM-H
6	Y	ITS COMM-L
8	B	GROUND

JROWC8783GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
48	R	PUSH-BTN IGN SW ILL PWR
52	G	DONGLE LINK
54	V	COMM LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	I-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT [With VR30 engine]
66	Y	BLOWER FAN RLY CONT [With 2.0L turbo gasoline engine]
67	W/B	IGN RLYAY (F/B) CONT
68	R	DIMMER
69	GR	A/T SHIFT SELECT PWR SPLY
70	B	IGN RLYAY (IPDM E/R) CONT
71	G	DR DOOR REQ SW
72	SB	PASS DOOR REQ SW
75	BR	COMBI SW INPUT 5
76	BG	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LID OPNR SW

Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
10	SB	-
11	Y	-
12	GR	-

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	G	-
3	SB	-
4	BR	-
5	Y	-
6	R	-
7	W	-
8	V	-
10	BG	-
11	BR	-
12	LG	-
13	GR	-
14	R	-
15	L	-
16	V	-
18	W	-
19	BR	-
20	W	-
22	SB	-
23	R	-
24	R	- [With 2.0L turbo gasoline engine]
24	Y	- [With VR30 engine]
25	P	- [With 2.0L turbo gasoline engine]
25	W	- [With VR30 engine]
26	G	-
27	R	-
28	R	-
31	BR	-
32	B	-
33	B	-
34	V	-
35	P	-
36	W	-
37	SB	-
38	LG	-
40	P	-
41	G	-
42	BR	-
43	BR	-
44	BR	-
46	BG	-
50	W	-
51	Y	-
52	V	-
53	LG	-
54	R	-
55	R	-
57	W	-
58	V	-
59	BG	-
60	G	-
61	G	-
62	BG	-
63	BR	-
64	Y	-
66	R	-
70	LG	-
71	W	-
72	B	-
73	W	-
74	L	-
75	W	-
76	BR	-
77	B	-
78	SB	-
79	P	- [With VR30 engine]
79	W	- [With 2.0L turbo gasoline engine]
81	B	-
82	R	-
83	BG	-
84	L	-
85	W	-
86	B	-
88	G	-
89	V	- [With 2.0L turbo gasoline engine]
89	W	- [With VR30 engine]
91	GR	-
94	GR	-
96	W	-
97	V	-
98	BR	- [With VR30 engine and with BOSE system]
98	Y	- [Except with VR30 engine and with BOSE system]

Connector No.	M22
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	L	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	BR	- [With 2.0L turbo gasoline engine]
3	R	- [With VR30 engine]
4	SHIELD	- [With VR30 engine]
4	Y	- [With 2.0L turbo gasoline engine]
5	G	- [With VR30 engine]
5	V	- [With 2.0L turbo gasoline engine]
6	BG	- [With VR30 engine]
6	BR	- [With 2.0L turbo gasoline engine]
7	LG	- [With VR30 engine]
7	P	- [With 2.0L turbo gasoline engine]
8	G	- [With 2.0L turbo gasoline engine]
8	P	- [With VR30 engine]
9	LG	- [With 2.0L turbo gasoline engine]
9	SHIELD	- [With VR30 engine]
10	V	-
11	GR	-

JROWC8784GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

12	V	-
13	LG	-
14	LG	-
15	BR	- [With 2.0L turbo gasoline engine]
15	P	- [With VR30 engine]
16	SB	- [With DCM]
16	V	- [Without DCM]
17	Y	-
18	L	-
19	G	-
20	GR	-
21	R	-
22	V	-
23	L	-
24	BG	- [With 2.0L turbo gasoline engine]
24	V	- [With VR30 engine]
25	L	- [With 2.0L turbo gasoline engine]
25	SB	- [With VR30 engine]
26	G	- [With VR30 engine]
26	W	- [With 2.0L turbo gasoline engine]
27	R	-
29	LG	-
30	SB	- [With VR30 engine]
30	W	- [With 2.0L turbo gasoline engine]
31	SHIELD	-
32	L	-
33	B	- [With VR30 engine]
33	LG	- [With 2.0L turbo gasoline engine]
34	SHIELD	-
35	LG	- [With VR30 engine]
35	W	- [With 2.0L turbo gasoline engine]
36	R	- [With VR30 engine]
36	V	- [With 2.0L turbo gasoline engine]
37	R	- [With VR30 engine]
37	V	- [With 2.0L turbo gasoline engine]
38	W	-
39	P	- [With VR30 engine and without BOSE system]
39	R	- [With 2.0L turbo gasoline engine]
39	V	- [With VR30 engine and with BOSE system]
40	G	-
41	L	-
42	R	-
43	SHIELD	-
44	P	-
45	B	- [With 2.0L turbo gasoline engine]
45	G	- [With VR30 engine]
46	SHIELD	-
47	G	-
48	BG	- [Except with VR30 engine and with BOSE system]
48	BR	- [With VR30 engine and with BOSE system]
49	G	-
50	V	-
51	V	-
52	L	- [With 2.0L turbo gasoline engine]
52	Y	- [With VR30 engine]
53	R	-
54	GR	-
55	L	-
56	P	-
57	R	-
58	LG	-
59	SB	-
61	L	-
62	P	- [With 2.0L turbo gasoline engine]
62	V	- [With VR30 engine]
63	L	-
64	W	-
66	R	-
68	L	-
69	P	-
71	GR	- [With 2.0L turbo gasoline engine]
71	R	- [With VR30 engine]
72	G	- [With VR30 engine]
72	V	- [With 2.0L turbo gasoline engine]
73	LG	- [With 2.0L turbo gasoline engine]
73	SHIELD	- [With VR30 engine]
74	L	- [With VR30 engine]
74	LG	- [With 2.0L turbo gasoline engine]
75	P	-
76	SB	- [With 2.0L turbo gasoline engine]
76	V	- [With VR30 engine]
77	Y	-
78	L	-
79	G	-
80	GR	- [With 2.0L turbo gasoline engine]
80	W	- [With VR30 engine]
81	B	- [With VR30 engine]
81	R	- [With 2.0L turbo gasoline engine]
82	G	- [With 2.0L turbo gasoline engine]
82	SHIELD	- [With VR30 engine]
83	R	- [With 2.0L turbo gasoline engine]
83	W	- [With VR30 engine]
84	BR	- [With VR30 engine]
84	SHIELD	- [With 2.0L turbo gasoline engine]
85	BR	- [With VR30 engine]
85	G	- [With 2.0L turbo gasoline engine]
86	R	- [With 2.0L turbo gasoline engine]
86	V	- [With VR30 engine]
87	LG	- [With VR30 engine]
87	SHIELD	- [With 2.0L turbo gasoline engine]
89	BR	- [With VR30 engine]
89	LG	- [With 2.0L turbo gasoline engine]
90	SB	- [With 2.0L turbo gasoline engine]
90	V	- [With VR30 engine]
92	L	- [With 2.0L turbo gasoline engine]
92	W	- [With VR30 engine]
93	R	- [With VR30 engine]
93	SHIELD	- [With 2.0L turbo gasoline engine]
94	R	-
95	L	- [With 2.0L turbo gasoline engine]
95	Y	- [With VR30 engine]
96	R	- [With 2.0L turbo gasoline engine]
96	W	- [With VR30 engine]
97	L	- [With 2.0L turbo gasoline engine]
97	R	- [With VR30 engine]
98	BR	-
99	BR	- [With VR30 engine and with BOSE system]
99	P	- [With 2.0L turbo gasoline engine]
99	Y	- [With VR30 engine and without BOSE system]
100	BR	- [With VR30 engine]
100	W	- [With 2.0L turbo gasoline engine]

Connector No.	M24
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H [CAN COMMUNICATION CIRCUIT 1]
3	W	BATTERY POWER SUPPLY
4	L	CAN-H [CAN COMMUNICATION CIRCUIT 2]
5	B	GROUND
6	L	CAN-H [CAN COMMUNICATION CIRCUIT 2]
7	P	CAN-L [CAN COMMUNICATION CIRCUIT 1]
9	R	IGNITION POWER SUPPLY [With VR30 engine and without ISS]
9	W	IGNITION POWER SUPPLY [Except with VR30 engine and without ISS]
10	R	CAN-L [CAN COMMUNICATION CIRCUIT 2]
11	B	GROUND
12	R	CAN-L [CAN COMMUNICATION CIRCUIT 2]

Connector No.	M25
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	M_CAN_L
4	B	EARTH
5	B	EARTH
6	L	CAN-H
7	V	KLINE [With 2.0L turbo gasoline engine]
7	W	KLINE [With VR30 engine]
8	W	IGN_SW
11	SB	M_CAN_H
12	R	CAN-L
13	L	CAN-H
14	P	CAN-L
16	W	POWER

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	W/B	-
7	V	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	LG	- [With VR30 engine]
9	P	- [With 2.0L turbo gasoline engine]
10	W	-

JROWC8785GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

11	W	- [With VR30 engine]
11	Y	- [With 2.0L turbo gasoline engine]
12	B	- [With VR30 engine]
12	BR	- [With 2.0L turbo gasoline engine]
13	GR	- [With VR30 engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
14	B	-
15	BG	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	B	- [With 2.0L turbo gasoline engine]
16	BR	- [With 2.0L turbo gasoline engine]
17	LG	-
18	B	- [With VR30 engine]
18	W/B	- [With 2.0L turbo gasoline engine]
19	Y	-
31	W	-
32	G	- [With 2.0L turbo gasoline engine]
32	V	- [With VR30 engine]
33	L	- [With 2.0L turbo gasoline engine]
33	Y	- [With VR30 engine]
34	P	-
35	BG	-
36	G	-
37	B	- [With VR30 engine]
37	L	- [With 2.0L turbo gasoline engine]
38	L	- [With VR30 engine]
38	P	- [With 2.0L turbo gasoline engine and without gateway]
38	R	- [With 2.0L turbo gasoline engine and with gateway]
39	R	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	GR	-
41	L	-
44	BR	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	G	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	BG	- [With 2.0L turbo gasoline engine]
47	R	- [With VR30 engine]
48	SHIELD	-
49	B	- [With VR30 engine]
49	G	- [With 2.0L turbo gasoline engine]
50	B	- [With 2.0L turbo gasoline engine]
50	BR	- [With VR30 engine]
51	L	-
52	W	-
53	G	-
54	SB	- [With 2.0L turbo gasoline engine]
54	Y	- [With VR30 engine]
55	B	- [With 2.0L turbo gasoline engine]
55	P	- [With VR30 engine]
56	BG	- [With VR30 engine]
56	GR	- [With 2.0L turbo gasoline engine]
57	GR	- [With VR30 engine]
57	P	- [With 2.0L turbo gasoline engine]
58	B	-
59	SB	-
61	W/B	
64	Y	-
65	R	-
66	P	- [Color of wire differs depending on production]
66	V	- [Color of wire differs depending on production]
67	LG	-
68	BG	-
69	L	-
70	R	-
71	V	- [With VR30 engine]
71	W	- [With 2.0L turbo gasoline engine]
72	L	- [With 2.0L turbo gasoline engine]
72	LG	- [With VR30 engine]
73	R	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	B	- [With VR30 engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
76	W/B	-
77	SB	-
78	G	- [With VR30 engine]
78	LG	- [With 2.0L turbo gasoline engine]
79	R	-
80	G	-
81	R	-
82	LG	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	V	-
86	V	-
87	G	-
89	V	-
90	G	- [With VR30 engine]
90	V	- [With 2.0L turbo gasoline engine]
91	W	-
92	G	-
93	BR	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BR	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]
95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	Y	-
99	BR	- [With VR30 engine]
99	LG	- [With 2.0L turbo gasoline engine]
100	SHIELD	-

Connector No. M56
Connector Name DRIVER ASSISTANCE BUZZER CONTROL MODULE
Connector Type TH16FW-NH

H.S.

8		5		3	1
16		13		11	

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	IGNITION
3	L	ITS COMM-H
5	B	GROUND
8	R	WARNING BUZZER SIGNAL
11	Y	ITS COMM-L
13	B	GROUND
16	G	WARNING BUZZER SIGNAL GROUND

Connector No. M58
Connector Name COMBINATION METER
Connector Type TH12FW-NH

H.S.

41	42	43	44	45	46
47	48			51	52

Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	B	ILLUMINATION CONTROL SIGNAL
44	Y	FUEL LEVEL SENSOR GROUND
45	W	BATTERY POWER SUPPLY
46	BG	IGNITION SIGNAL [Except with VR30 engine and without ISS]
46	R	IGNITION SIGNAL [With VR30 engine and without ISS]
47	SB	AV COMMUNICATION SIGNAL (H)
48	LG	AV COMMUNICATION SIGNAL (L)
51	BR	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

Connector No. M77
Connector Name STEERING ANGLE SENSOR
Connector Type TH08FW-NH

H.S.

1	2	4
5		

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
2	P	CAN-L [Without Gateway]
2	R	CAN-L [With Gateway]
4	G	IGN
5	L	CAN-H

Connector No. M85
Connector Name RESISTOR
Connector Type M02FBR-LC

H.S.

1
2

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	-
2	B	-

JROWC8786GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

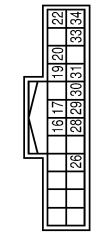
Connector No.	M87
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-1V

Terminal No.	Color Of Wire	Signal Name [Specification]
24	P	-
25	SB	-
31	W/B	-
32	Y	-
33	B	-

Connector No.	M88
Connector Name	A/C AUTO AMP.
Connector Type	TH40FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	B	GROUND
3	W	BATTERY POWER SUPPLY
7	G	AMBIENT SENSOR SIGNAL
9	R	SUNLOAD SENSOR SIGNAL
13	SB	ACC POWER SUPPLY [With 2.0L turbo gasoline engine]
13	V	ACC POWER SUPPLY [With VR30 engine]
16	P	LIN SIGNAL
17	R	DOOR MOTOR POWER SUPPLY
18	P	BLOWER MOTOR CONTROL SIGNAL
20	L	HEATED STEERING WHEEL RELAY CONTROL SIGNAL
21	P	CAN-L
22	B	GROUND
23	R	IGNITION POWER SUPPLY [With VR30 engine and with ISS]
23	W	IGNITION POWER SUPPLY [Except with VR30 engine and with ISS]
26	B	SENSOR GROUND
27	LG	IN-VEHICLE SENSOR SIGNAL
28	BR	INTAKE SENSOR SIGNAL
30	BG	EXHAUST GAS / OUTSIDE ODOR DETECTING SENSOR SIGNAL
37	B	GROUND
38	BG	IONIZER (ON/OFF) CONTROL SIGNAL
40	BG	ECV CONTROL SIGNAL

Connector No.	M100
Connector Name	DISPLAY CONTROL UNIT
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
16	LG	AV COMM (L)
17	P	CAN-L
19	R	DIMMER SIGNAL
20	BR	REVERSE SIGNAL
22	B	GND
26	BR	CAMERA SWITCH SIGNAL
28	SB	AV COMM (H)
29	L	CAN-H
30	R	IGN [For VR30 engine]
30	W	IGN [For 2.0L turbo gasoline engine]
31	R	VEHICLE SPEED SIGNAL (8-PULSE)
33	SB	ACC [Except for VR30 engine and with ISS]
33	V	ACC [For VR30 engine and with ISS]
34	Y	BAT

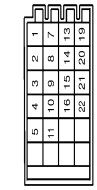
Connector No.	M107
Connector Name	DRIVER ASSISTANCE BUZZER
Connector Type	NS02FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	G	-

Connector No.	M133
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH40FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	-
12C	L	-
13C	L	-
14C	Y	-
15C	R	-
16C	R	-
17C	L	-
18C	BG	- [Without DRPO]
18C	P	- [With DRPO]
19C	B	-
1C	R	-
20C	W	-
21C	L	-
22C	L	-
23C	L	-
25C	LG	-
26C	SB	-
27C	P	-
28C	W	-
29C	W	-
2C	R	-
30C	R	-
31C	W	-
32C	R	-
33C	B	- [With VR30 engine]
33C	R	- [With 2.0L turbo gasoline engine]
34C	W/B	-
35C	SB	-
36C	R	-
37C	W	-
38C	SB	-
39C	V	-
3C	P	-
40C	G	-
4C	P	-
5C	P	-
6C	G	-
7C	G	-
8C	G	-
9C	V	-

Connector No.	M137
Connector Name	JOINT CONNECTOR-M10
Connector Type	24342_4GA2A



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
7	B	-
8	B	-
9	B	-
10	B	-
11	B	-
13	L	-
14	L	-

JROWC8787GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

15	L
16	L
19	R
20	R
21	R
22	R

Connector No.	M147
Connector Name	EMCM
Connector Type	RH40FB-RZ8-R-LH-Z

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	EMCM RELAY CONTROL (SSOFF)
5	L	IGNITION SWITCH
6	LG	STOP LAMP SWITCH
9	L	CAN-H
10	P	CAN-L
13	W	STOP/START OFF SWITCH
15	Y	SENSOR POWER SUPPLY (MAIN BATTERY CURRENT/TEMPERATURE SENSOR)
16	W	SENSOR POWER SUPPLY (SUB BATTERY CURRENT/TEMPERATURE SENSOR)
21	V	SUB BATTERY RELAY CONTROL
22	G	ENGINE RESTART BYPASS CONTROL RELAY
23	BR	BRAKE PEDAL POSITION SWITCH
24	GR	MAIN BATTERY CURRENT SENSOR
25	BG	MAIN BATTERY TEMPERATURE SENSOR
26	R	SUB BATTERY CURRENT SENSOR
27	BR	SUB BATTERY TEMPERATURE SENSOR
35	SB	SENSOR GROUND (MAIN BATTERY CURRENT/TEMPERATURE SENSOR)
36	G	SENSOR GROUND (SUB BATTERY CURRENT/TEMPERATURE SENSOR)
42	G	EMCM POWER SUPPLY
45	R	SUB BATTERY VOLTAGE MONITOR
47	B	EMCM GROUND
48	B	EMCM GROUND

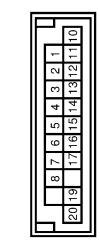
Connector No.	M173
Connector Name	JOINT CONNECTOR-M03
Connector Type	24342_4GA2A

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	-
9	R	-
10	R	-
11	R	-
12	R	-
13	SB	-
14	SB	-
15	SB	-
16	L	- [With 2.0L turbo gasoline engine]
16	SB	[With VR30 engine]
17	L	- [With 2.0L turbo gasoline engine]
17	SB	- [With VR30 engine]
18	L	- [With 2.0L turbo gasoline engine]
18	SB	- [With VR30 engine]
19	BR	- [With VR30 engine]
19	LG	- [With 2.0L turbo gasoline engine]
20	BR	- [With VR30 engine]
20	LG	- [With 2.0L turbo gasoline engine]
21	BR	- [With VR30 engine]
21	LG	- [With 2.0L turbo gasoline engine]
22	R	- [With VR30 engine and without ISS]
22	SB	- [With VR30 engine and with ISS]
22	V	- [With 2.0L turbo gasoline engine]
23	R	- [With VR30 engine and without ISS]
23	SB	- [With VR30 engine and with ISS]
23	V	- [With 2.0L turbo gasoline engine]
24	R	- [With 2.0L turbo gasoline engine]
24	SB	- [With VR30 engine and without ISS]
24	V	- [With VR30 engine and with ISS]

Connector No.	M174
Connector Name	JOINT CONNECTOR-M04
Connector Type	24342_4GA2A

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	Y	-
8	Y	-
9	Y	-
10	Y	-
11	Y	-
12	Y	-
13	SB	-
14	SB	-
15	SB	-
16	SB	-
17	SB	-
18	SB	-
19	LG	-
20	LG	-
21	LG	-
22	LG	-
23	LG	-
24	LG	-

Connector No.	M175
Connector Name	JOINT CONNECTOR-M05
Connector Type	NH20FL-DC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	L	-
8	L	-
10	P	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	P	- [With VR30 engine]
16	R	- [With 2.0L turbo gasoline engine]
17	P	[With VR30 engine]
17	R	- [With 2.0L turbo gasoline engine]
19	R	- [With VR30 engine and with ISS]
19	W	- [Except with VR30 engine and with ISS]
20	R	- [With VR30 engine and with ISS]
20	W	- [Except with VR30 engine and with ISS]

JROWC8788GB

INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)

Connector No.	M177
Connector Name	JOINT CONNECTOR-M07
Connector Type	24342-4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	P	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	W	-
20	W	-
21	W	-
22	P	-
23	P	-
24	P	-

Connector No.	M301
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY

H.S.

20	19	18	17	16	15	14	13

Terminal No.	Color Of Wire	Signal Name [Specification]
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-

JROWC8789GB

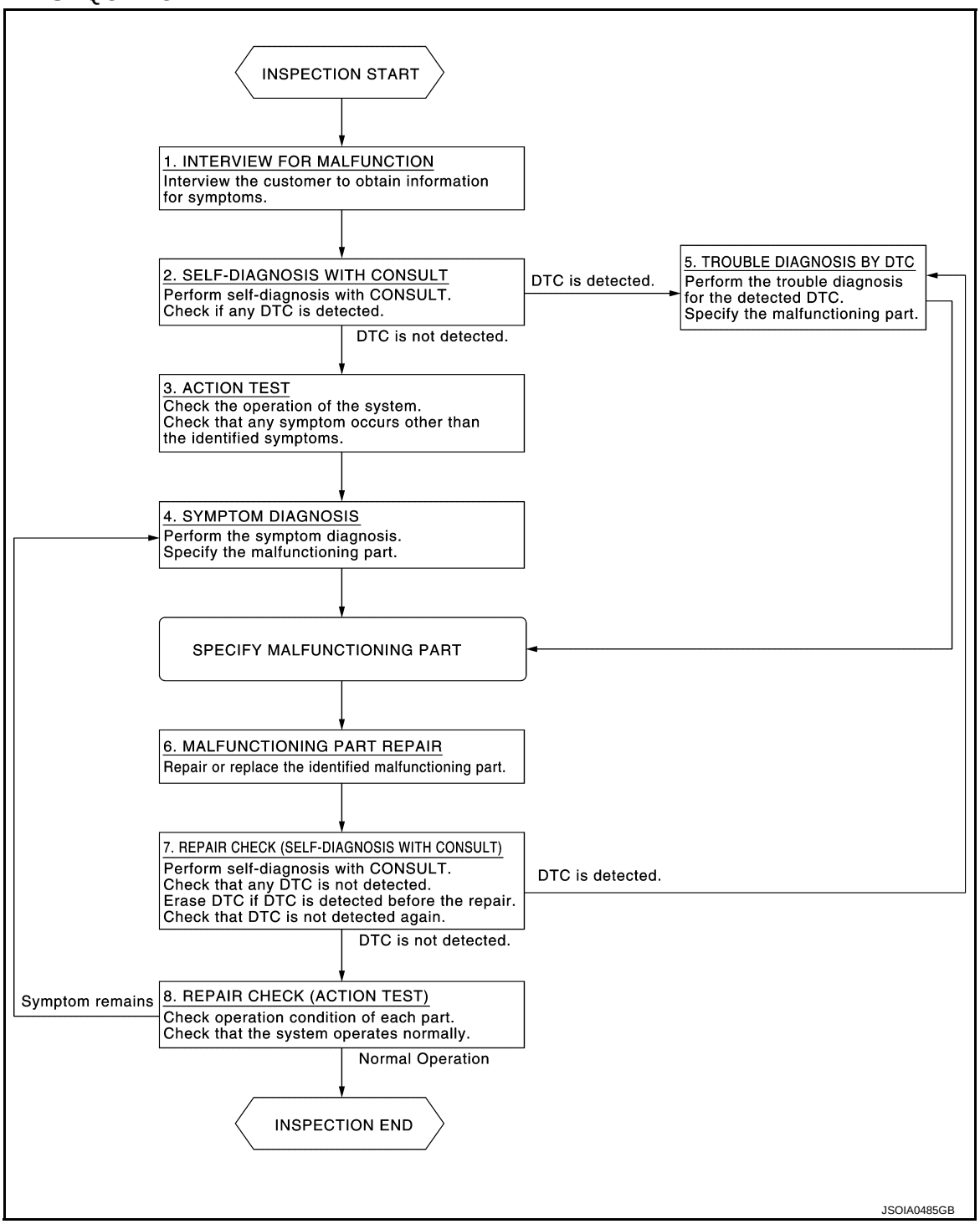
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000012789879

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 any DTC is detected in self-diagnosis results of “ICC/ADAS”, “LASER/RADAR”, and “BSW/BUZZER”.

Is any DTC detected?

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

3.ACTION TEST

Perform the ICC system action test to check the operation status. Refer to CCS-126, "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 CCS-150, "Symptom Table".

>> GO TO 6.

5.TROUBLE DIAGNOSIS BY DTC

1. Check the DTC in the self-diagnosis results.
2. Perform trouble diagnosis for the detected DTC. Refer to CCS-67, "DTC Index" (ICC/ADAS) or CCS-71, "DTC Index" (LASER/RADAR) or DAS-353, "DTC Index" (BSW/BUZZER).

NOTE:
If “DTC: U1000” is detected, first diagnose the CAN communication system or ITS communication system.

>> GO TO 6.

6.MALFUNCTIONING PART REPAIR

Repair or replace the identified malfunctioning parts.

>> GO TO 7.

7.REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)

1. Erases self-diagnosis results.
2. Perform “All DTC Reading” again after repairing or replacing the malfunctioning parts.
3. Check if any DTC is detected in self-diagnosis results of “ICC/ADAS”, “LASER/RADAR”, and “BSW/BUZZER”.

Is any DTC detected?

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

8.REPAIR CHECK (ACTION TEST)

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

Is there any malfunction symptom?

YES >> GO TO 4.
NO >> INSPECTION END

ADDITIONAL SERVICE WHEN REPLACING ICC SENSOR

Description

INFOID:0000000012789880

- Always perform the radar alignment after removing and installing or replacing the ICC sensor.
  CAUTION:
  The system does not operate normally unless the radar alignment is performed. Always perform it.
- Perform the ICC system action test to check that the ICC system operates normally.

Work Procedure

INFOID:0000000012789881

1.PERFORM RADAR ALIGNMENT

Perform the radar alignment. Refer to CCS-114, "Application Notice".

>> GO TO 2.

2.ICC SYSTEM ACTION TEST

1. Perform the ICC system action test. Refer to CCS-126, "Description".
2. Check that the ICC system operates normally.

>> INSPECTION END

ICC SENSOR ALIGNMENT

Application Notice

INFOID:0000000012789882

Type	Description
TYPE 1	When using KV99112700 for radar alignment. Refer to CCS-114, "TYPE 1 : Description".
TYPE 2	When using following tools for radar alignment. Refer to CCS-118, "TYPE 2 : Description". • ICC Alignment Kit (1-20-2721-1-IF) • Wheel Adaptor (1-20-2722-1-IF) • ICC alignment kit attachment board (J-50808)

TYPE 1

TYPE 1 : Description

INFOID:0000000012789883

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 ICC 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. Set the distance sensor target board (SST: KV99112700) to the correct position in front of the vehicle.
2. Set the radar alignment mode (“MILLIWAVE RADAR ADJUST” on “Work support”) with CONSULT, and then perform the adjustment according to the display. (ICC sensor automatically adjusts.)

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.**

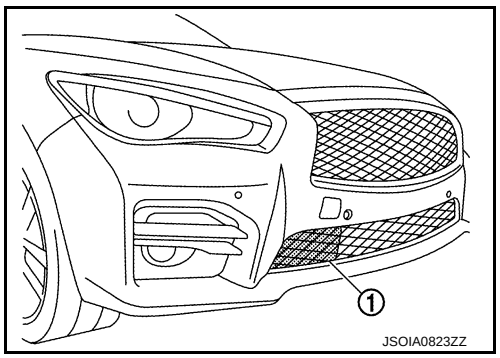
TYPE 1 : Work Procedure (Preparation)

INFOID:0000000012789884

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.

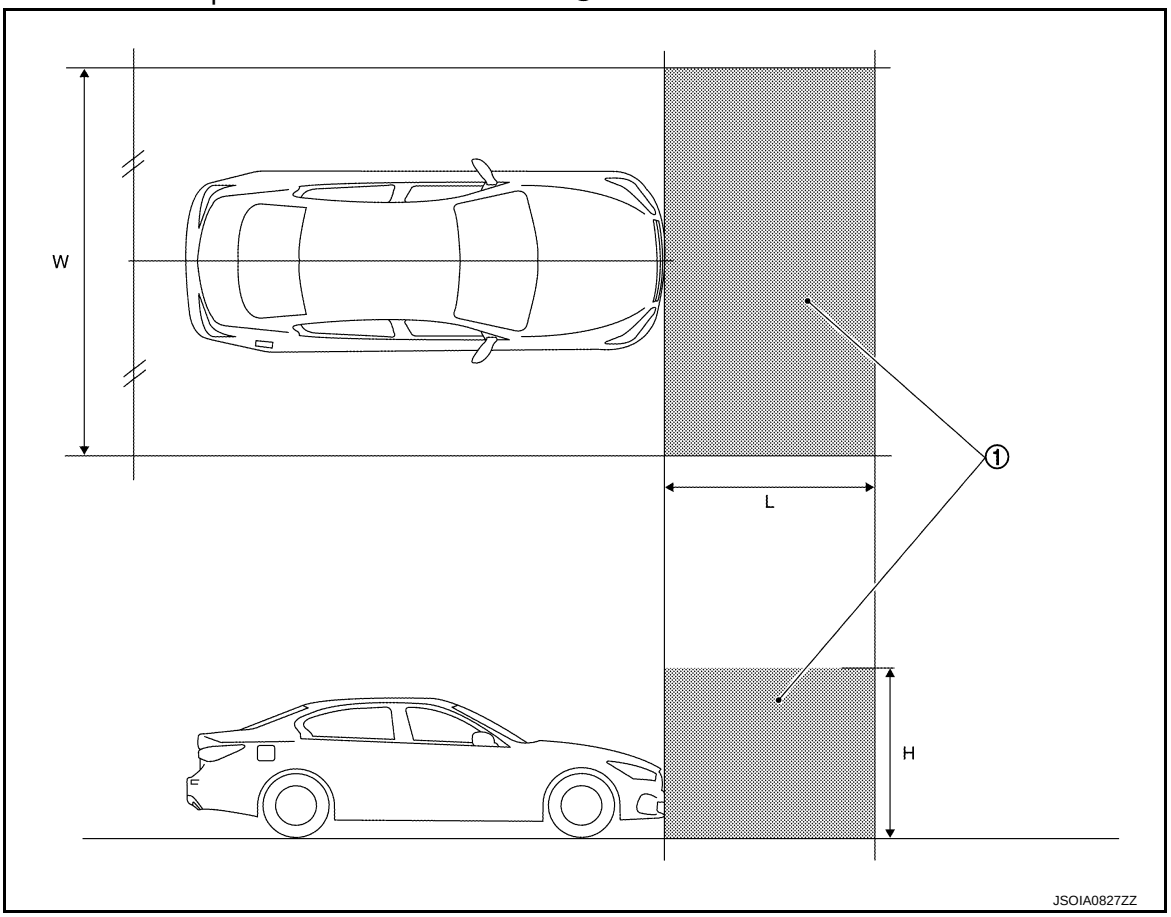
5. Clean the ICC sensor area ① of the front bumper grille.



>> GO TO 2.

2.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 CCS-115, "TYPE 1 : Work Procedure (Setting The ICC Target Board)".

TYPE 1 : Work Procedure (Setting The ICC Target Board)

INFOID:0000000012789885

DESCRIPTION

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

CAUTION:

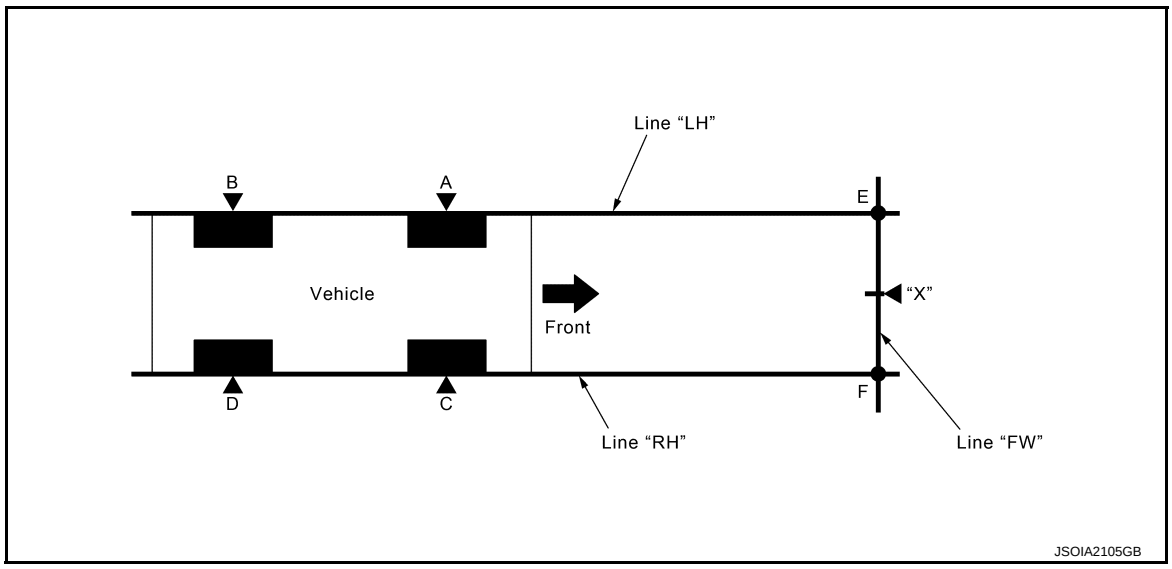
If the radar alignment is adjusted with the distance sensor target board in the incorrect position, the ICC system does not function normally.

1. DISTANCE SENSOR TARGET BOARD HEIGHT ADJUSTMENT

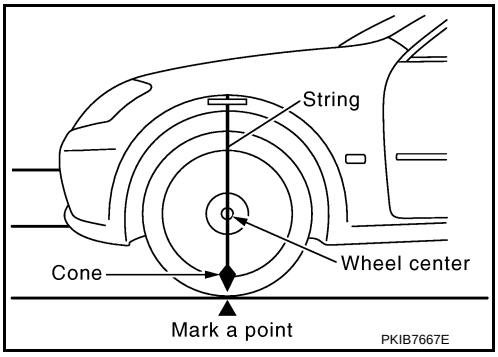
Adjust the base of ICC target board to approximately 30 mm (1.18 in) from the ground.

>> GO TO 2.

2. PREPARATION OF SETTING DISTANCE SENSOR TARGET BOARD (1)



“A” – “E” (“C” – “F”) : 1727 mm (67.99 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 1727 mm (67.99 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 1727 mm (67.99 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”.

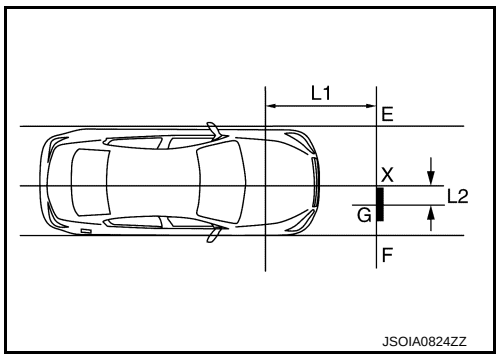
>> GO TO 3.

3. SETTING DISTANCE SENSOR 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.

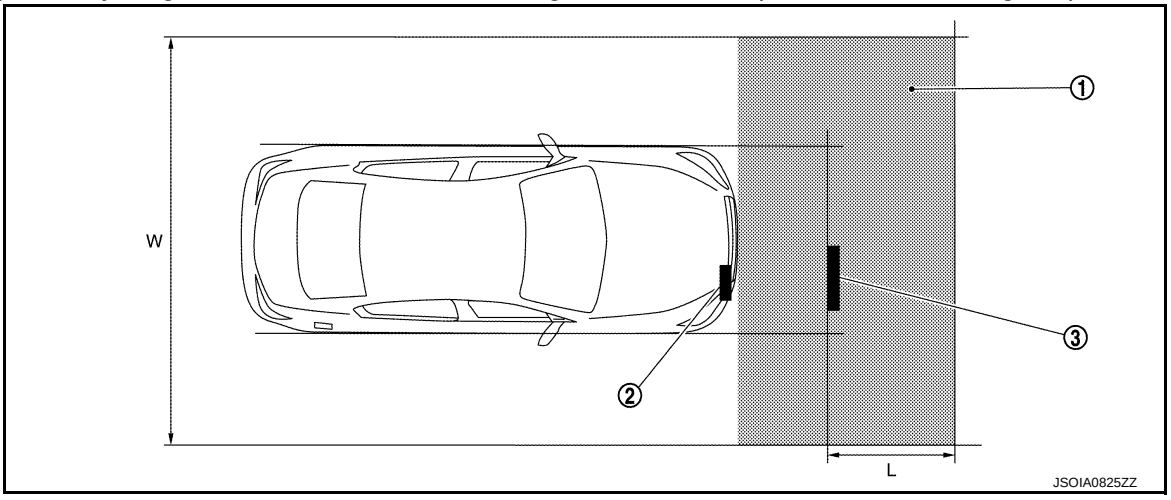
L1 : 1727 mm (67.99 in)
L2 : 368 mm (14.49 in)



>> GO TO 4.

4. CHECK THE DISTANCE SENSOR TARGET BOARD INSTALLATION AREA

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



① No object zone
② ICC sensor
③ ICC target board
W. 3000 mm (118.11 in)
L. 1500 mm (59.06 in)

>> Go to CCS-117, "TYPE 1 : Work Procedure (Radar Alignment)".

TYPE 1 : Work Procedure (Radar Alignment)

INFOID:0000000012789886

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 ICC system is inoperable.

1. PERFORM RADAR ALIGNMENT

1. Start the engine.
2. Connect CONSULT and select “Work support” of “LASER/RADAR”.
3. Select “MILLIWAVE RADAR ADJUST” after the “Work support” screen is displayed.
   NOTE:
   Confirm the following items;
   - The target should be accurately placed.
   - The vehicle should be stopped.
4. Select “Start” after the “MILLIWAVE RADAR ADJUST” screen is displayed.
   CAUTION:
   Never select “Start” when the target is not accurately placed.
5. Select “Start” after the preparation information is displayed.
6. Select “Next” after the “Starting alignment.” screen is displayed.
   NOTE:

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

7. Confirm the displayed item.

- “Alignment completed.”: Go to 8.
- Except “Alignment completed.”: Perform the following services.

Displayed item	Possible cause	Service procedure
Alignment condition is not ready.	• DTC is detected (Except C1A12). • The position of the ICC target board is not correct. • Vehicle is moving.	Check the vehicle condition and perform radar alignment again.
Alignment condition is not ready. (Stop the vehicle.)	Vehicle is moving.	Stop the vehicle and perform radar alignment again.
Target is not detected.	• A target is not-yet-placed. (The ICC sensor cannot detect target) • The position of the ICC target board is not correct. • The position of the ICC sensor is not correct.	Check the target board condition and perform radar alignment again.
Sensor malfunction.	ICC sensor malfunction.	Check the vehicle condition and perform radar alignment again.

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

8. Confirm displayed value.

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

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

NOTE:

- Check the condition of the ICC sensor installation.
- Check the vehicle for damage.
- Replace ICC sensor if it is outside the reference value, even when ICC sensor installation is installed normally and the vehicle is not damaged.

9. Select “OK” after the “No error detected.” is displayed.
10. Select “OK” after the “End of alignment.” is displayed.

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

>> RADAR ALIGNMENT END

TYPE 2

TYPE 2 : Description

INFOID:0000000012789887

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 ICC sensor.
- Always perform the radar alignment if rear axle toe settings have been made.

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 ICC sensor is aligned properly.

1. Required tools, refer to CCS-119, "TYPE 2 : Required Tools".
2. Preparation, refer to CCS-120, "TYPE 2 : Preparation".
3. Vehicle set up, refer to CCS-120, "TYPE 2 : Vehicle Set Up".
4. Setting the ICC target board, refer to CCS-123, "TYPE 2 : Setting The ICC Target Board".
5. ICC sensor adjustment, refer to CCS-124, "TYPE 2 : ICC Sensor Adjustment".

CAUTIONARY POINT FOR RADAR ALIGNMENT PROCEDURE

CAUTION:

- **For radar alignment procedure, choose a level location with a few feet of working space in front and surrounding the vehicle.**
- **Vehicle must be stationary and unoccupied during the whole alignment procedure.**
- **Any slight vibration during the alignment procedure can cause the test to fail. If this happens, you will have to restart the alignment process.**
- **The 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.**

TYPE 2 : Required Tools

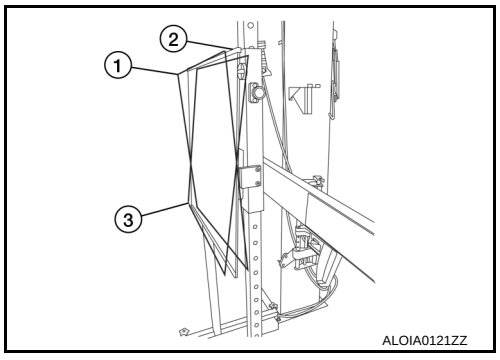
INFOID:0000000012789888

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

The following ICC alignment kit are necessary to perform the ICC sensor alignment:

- ICC target board.

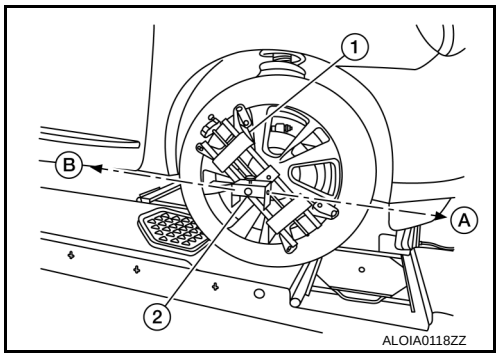
- ①: Position 1, with top tilted 2° toward vehicle (Not used).
- ②: Position 2, vertical.
- ③: Position 3, with top tilted 2° away from vehicle (Not used).



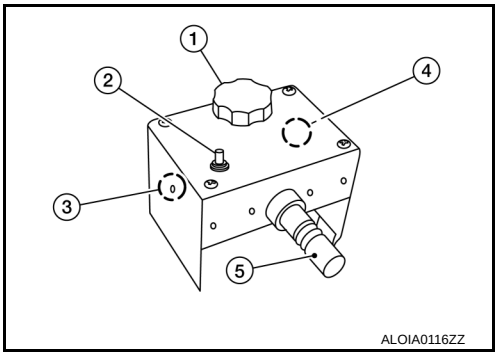
- Hunter self-centering wheel adapter ① [shown with laser assembly ② installed] (Hunter alignment rack head may be substituted).

NOTE:

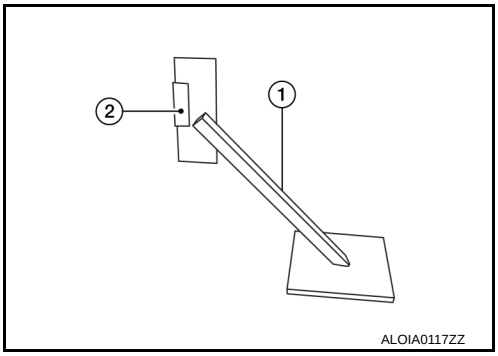
- Retailers that are not equipped with a Hunter self-centering wheel adapter will require the following kit:
  Part No. 1-20-2722-1-IF (kit SCA W/Tire Clamp-ICC Aiming)
- Directional arrows Ⓐ and Ⓑ are shown to illustrate the direction of the laser assembly beams.



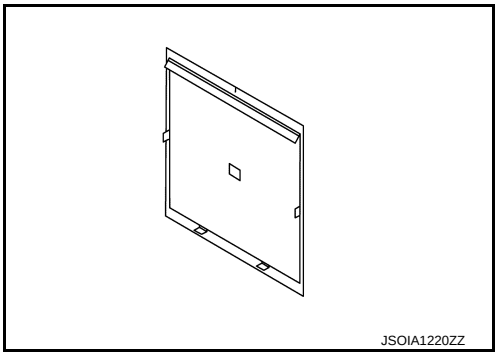
- Laser assembly (with bi-directional laser beam) as shown in the illustration.
- Tightening knob ①
- Power ON/OFF button ②
- Front laser beam opening ③
- Rear laser beam opening ④
- Attaching shaft ⑤



- Stationary target as shown in the illustration.
- Stationary target ①
- Laser signal reception plate ②



- ICC alignment kit attachment board as shown in the illustration.

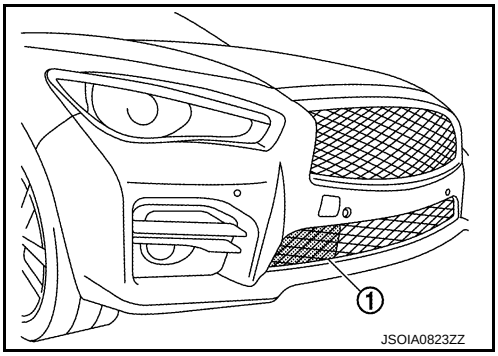


TYPE 2 : Preparation

INFOID:0000000012789889

1. ADVANCE PREPARATION FOR RADAR ALIGNMENT PROCEDURE

1. Adjust all tire pressure to the specified value.
2. Empty the vehicle. (Remove any luggage from the passenger compartment, luggage room, etc.)
3. Shift the selector lever to “P” position, and release the parking brake.
4. Fully fill the fuel tank, and then check that the coolant and oils are filled up to correct level.
5. Clean the ICC sensor area ① of the front bumper grille.



>> Refer to CCS-120, "TYPE 2 : Vehicle Set Up".

TYPE 2 : Vehicle Set Up

INFOID:0000000012789890

DESCRIPTION

ICC SENSOR ALIGNMENT

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

CAUTION:

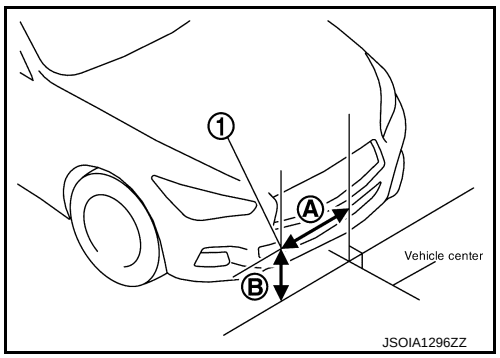
If the radar alignment is adjusted with the ICC target board, wheel adapter, laser assembly, or stationary target in the incorrect position, the ICC system will not function properly or the alignment procedure may not be completed successfully.

1. PREPOSITION TARGET BOARD

NOTE:

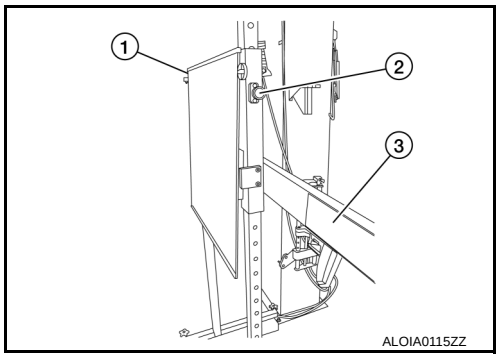
- To identify the sensor wave axis center, measure the point ① as shown in the illustration.

A : 368 mm (14.49 in)
B : 320 mm (12.6 in)

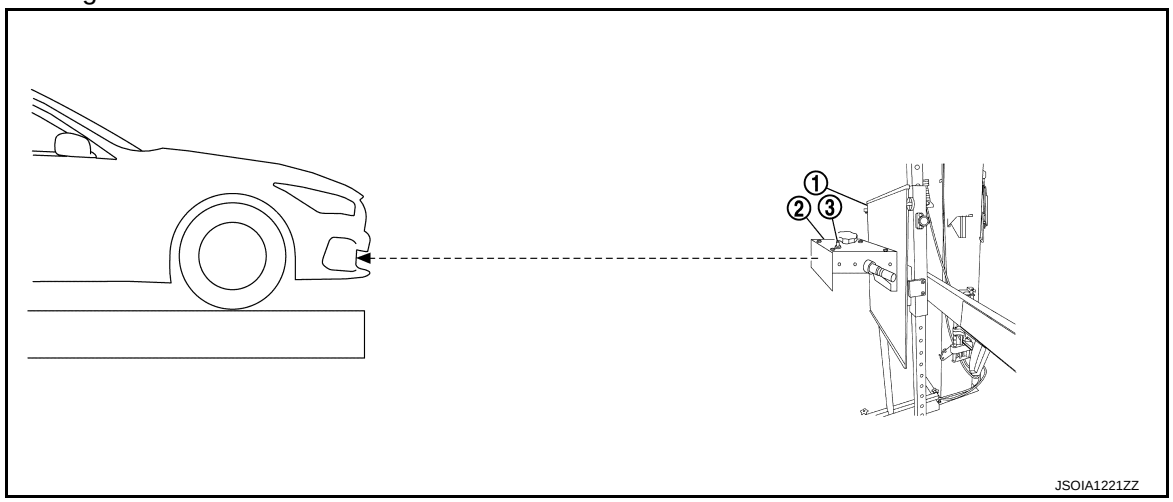


- ICC target board setting must be in the center position. (Position 2)
- Attaching the ICC alignment kit attachment board to the ICC target board.

1. Position the ICC target board in front facing the right front side of the vehicle:
   - Place the marked center of the ICC target board ① 1060 mm (41.73 in.) ± 50 mm (1.97 in) facing the ICC sensor.
   - Adjust the height of the ICC target board using the adjustable nut ② to achieve the proper height. The up/down tolerance is ± 30 mm (1.18 in).
   - Adjust the ICC target board lateral position aligning the marked center of the board horizontally with the center of the ICC sensor. The right/left tolerance is ± 80 mm (3.15 in).
2. Extend the machined arm of the ICC target board exposing the reflective surface ③ to the right front side of the vehicle.



3. Place one side of the laser assembly ② flush against the center of the ICC target board ① to assist in the positioning.



4. Turn the laser assembly ON ③ allowing the laser beam to emit through the opening of the laser assembly toward the center of the ICC sensor.
5. Move the ICC target board ① as necessary so that center of ICC target board aligns with center of ICC sensor.

6. Turn the laser assembly OFF when done.

Are using Hunter alignment equipment?

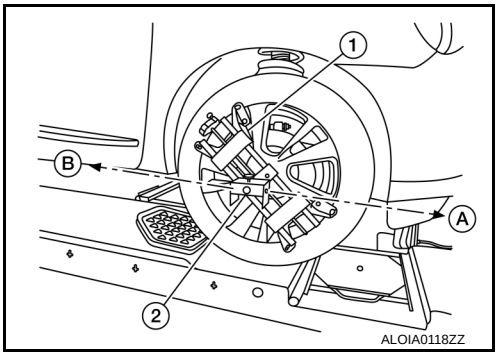
YES >> Refer to Hunter's equipment instructions for complete vehicle set up and ICC target board setting. Then, refer to CCS-124, "TYPE 2 : ICC Sensor Adjustment".

NO >> GO TO 2.

2. INSTALLING LASER ASSEMBLY

NOTE:
- Insure the steering wheel is positioned in the center straight forward position.
- Insure all 4 vehicle wheels do not contain any physical damage.

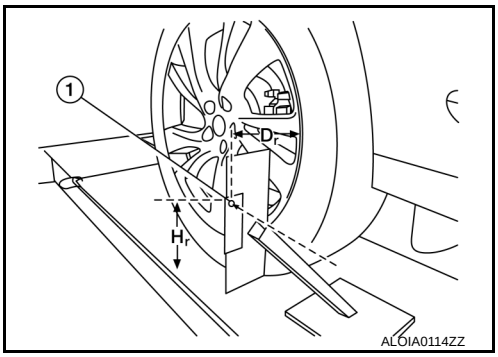
1. Install the wheel adapter ① on the right front wheel.
2. Mount the laser assembly ② to the wheel adapter ① as shown in the figure.
   NOTE:
   When the power switch is turned ON, the front laser signal Ⓐ will be emitted toward the front ICC target board, and the rear laser signal Ⓑ will be emitted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



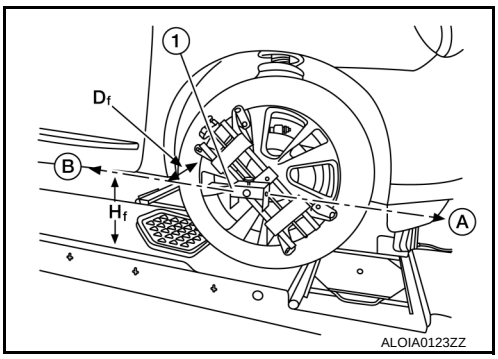
>> GO TO 3.

3. SETTING UP STATIONARY TARGET

1. Place the stationary target next to the right rear tire as shown in the figure.



2. Turn the laser assembly ON allowing the laser beam to be emitted through the front and rear laser assembly openings.
3. Measure and record the distance (D_r) between the edge of the right rear wheel and the laser beam ① on the stationary target (horizontal line).
4. Measure and record the height (H_r) between the laser beam ① on the stationary target and ground level (vertical line).
5. Measure and record the distance (D_f) between the edge of the right front wheel and the laser beam signal/opening ① on the laser assembly (horizontal line).
6. Measure and record the height (H_f) between the laser beam signal/opening ① on the laser assembly and ground level (vertical line).
   NOTE:
   - Horizontal adjustment [front distance (D_f) and rear distance (D_r)] is accomplished by slowly turning the steering wheel until the 2 distances are the same.
   - Vertical adjustment [front height (H_f) and rear height (H_r)] is accomplished by rotating the laser assembly around its axis until the two heights are the same.
   - Directional arrows Ⓐ and Ⓑ are shown to illustrate the direction of the laser assembly beams.



7. Adjust laser beam as necessary until the two distances match and the two heights match.
   NOTE:
   Must be verify both horizontal and vertical adjustments anytime one adjustment is made.

>> Refer to CCS-123, "TYPE 2 : Setting The ICC Target Board".

TYPE 2 : Setting The ICC Target Board

INFOID:0000000012789891

DESCRIPTION

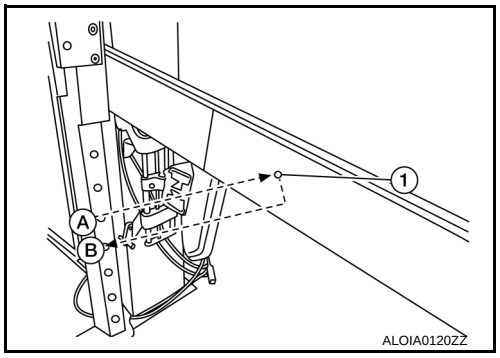
Accurate adjustment of the radar alignment requires that the ICC target board be accurately positioned.

CAUTION:

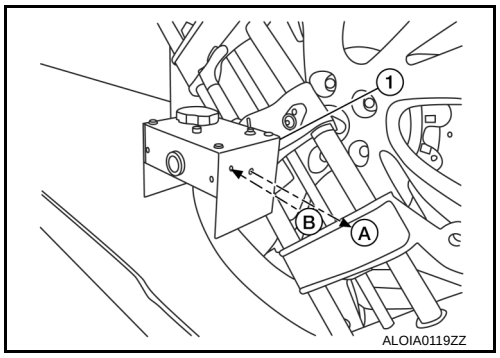
If the radar alignment is adjusted with the ICC target board in the incorrect position, the ICC system will not function properly or the alignment procedure may not be completed successfully.

1.ICC TARGET BOARD FINAL SETTING

1. With the ICC target board arm extended, the laser beam ① emitted by the laser assembly Ⓐ will be reflected back Ⓑ toward the laser assembly.
   NOTE:
   When adjusted properly, reflected laser beam Ⓑ must align with emitted laser beam Ⓐ and the two laser beams will be seen as one.
2. Rotate the ICC target board to achieve the necessary horizontal adjustment.
3. Adjust the ICC target board leveling screws to achieve the necessary vertical adjustment.



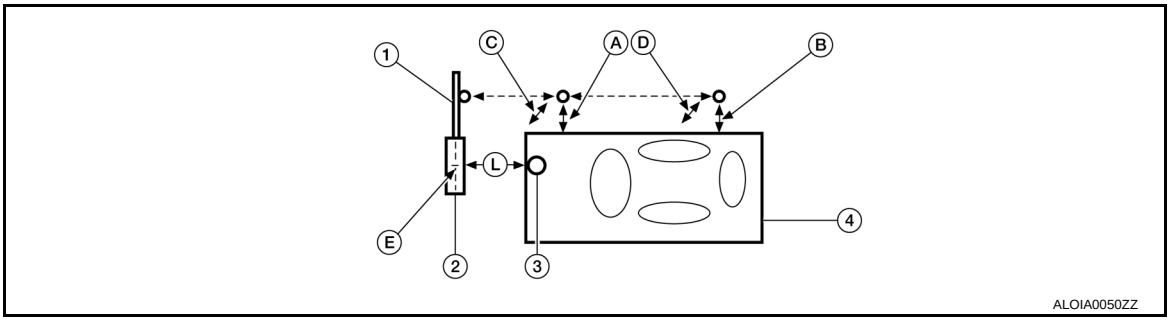
4. The figure shown illustrates the laser beam Ⓐ emitted by the laser assembly ① and its reflection Ⓑ off of the ICC target board arm.



>> GO TO 2.

2.CHECK THE POSITION OF THE ICC TARGET BOARD

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



① ICC target board arm ② ICC target board ③ ICC sensor
④ Vehicle

Ⓐ Distance between front wheel and laser beam (D_f)
Ⓑ Distance between rear wheel and laser beam (D_r)
Ⓒ Height between front laser beam and ground (H_f)
Ⓓ Height between rear laser beam and ground (H_r)
Ⓔ ICC target board center position
Ⓛ 1010 - 1110 mm (39.76 - 43.7 in)

>> Refer to CCS-124, "TYPE 2 : ICC Sensor Adjustment".

TYPE 2 : ICC Sensor Adjustment

INFOID:0000000012789892

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 ICC system is inoperable.

1. PERFORM RADAR ALIGNMENT

1. Start the engine.
2. Connect CONSULT and select “Work support” of “LASER/RADAR”.
3. Select “MILLIWAVE RADAR ADJUST” after the “Work support” screen is displayed.
   NOTE:
   Confirm the following items;
   - The target should be accurately placed.
   - The vehicle should be stopped.
4. Select “Start” after the “MILLIWAVE RADAR ADJUST” screen is displayed.
   CAUTION:
   Never select “Start” when the target is not accurately placed.
5. Select “Start” after the preparation information is displayed.
6. Select “Next” after the “Starting alignment.” screen is displayed.
   NOTE:
   If the radar is in alignment at this time, “Alignment in progress” is displayed. It may take several 10s of seconds until the result is displayed.
7. Confirm the displayed item.

- “Alignment completed.”: Go to 8.
- Except “Alignment completed.”: Perform the following services.

Displayed item	Possible cause	Service procedure
Alignment condition is not ready.	• DTC is detected (Except C1A12). • The position of the ICC target board is not correct. • Vehicle is moving.	Check the vehicle condition and perform radar alignment again.
Alignment condition is not ready. (Stop the vehicle.)	Vehicle is moving.	Stop the vehicle and perform radar alignment again.
Target is not detected.	• A target is not-yet-placed. (The ICC sensor cannot detect target) • The position of the ICC target board is not correct. • The position of the ICC sensor is not correct.	Check the target board condition and perform radar alignment again.
Sensor malfunction.	ICC sensor malfunction.	Check the vehicle condition and perform radar alignment again.

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

8. Confirm displayed value.

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

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

NOTE:

- Check the condition of the ICC sensor installation.
- Check the vehicle for damage.
- Replace ICC sensor if it is outside the reference value, even when ICC sensor installation is installed normally and the vehicle is not damaged.

9. Select “OK” after the “No error detected.” is displayed.
10. Select “OK” after the “End of alignment.” is displayed.

CAUTION:

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

>> RADAR ALIGNMENT END

ACTION TEST

Description

INFOID:0000000012789893

Always perform the ICC system action test to check that the ICC system operates normally after replacing the ICC sensor or repairing any ICC system malfunction.

CAUTION:

- **Always drive safely when performing the action test.**
- **Turn the DCA system to OFF when performing the action test.**

Work Procedure (Vehicle-To-Vehicle Distance Control Mode)

INFOID:0000000012789894

NOTE:

- When there is no vehicle ahead, drive at the set speed steadily.
- When there is a vehicle ahead, control to maintain distance from the vehicle ahead, watching its speed.
- The running speed can be set between 32 km/h (20 MPH) and 144 km/h (90 MPH).

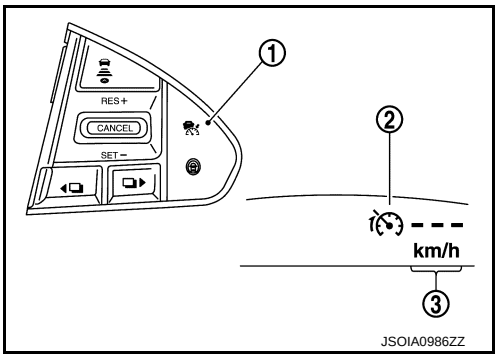
CAUTION:

Never set the cruise speed exceeding the posted speed limit.

1.CHECK FOR MAIN SWITCH

1. Start the engine.
2. Press the MAIN switch ① (less than 1.5 seconds).

Information display status		
MAIN switch indicator ②	:	ON
Set distance indicator ③	:	Long mode
Set vehicle speed indicator ④	:	“— — —” “km/h” (“MPH”)



3. Check the ICC system display on the information display to check that the vehicle-to-vehicle distance control mode is ready for activation.
4. Press the MAIN switch, and check that the ICC system display on the information display turns OFF when the ICC system is deactivated.
5. Check that the ICC system display on the information display turns OFF after starting the engine again.

>> GO TO 2.

2.CHECK FOR DISTANCE SWITCH

1. Start the engine.
2. Press the MAIN switch (less than 1.5 seconds).
3. Press the DISTANCE switch.

4. Check that the set distance indicator changes display in order of: (Long)→(Middle)→(Short).

Distance	Display	Approximate distance at 100 km/h (60 MPH) [m (ft)]
Long	100 km/h	60 (200)
Middle	100 km/h	45 (150)
Short	100 km/h	30 (90)

JSOIA1051GB

NOTE:
When the MAIN switch is turned ON, initial setting set to (Long).

>> GO TO 3.

3. CHECK FOR RESUME/ACCELERATE, SET/COAST, AND CANCEL SWITCHES

1. Check that RESUME/ACCELERATE, SET/COAST, CANCEL switches are operated smoothly.
2. Check that switches come up as hand is released from the switches.

>> GO TO 4.

4. SET CHECKING (1)

1. Start the engine.
2. Press the MAIN switch (less than 1.5 seconds) and turn the vehicle-to-vehicle distance control mode ON.
3. Drive the vehicle at 32 km/h (20 MPH) or more.
4. Push down the SET/COAST switch.
5. Check that the desired speed is set and vehicle-to-vehicle distance control mode control starts when releasing SET/COAST switch.

NOTE:
The set vehicle speed is indicated on the set vehicle speed indicator in the ICC system display on the information display.

>> GO TO 5.

5. CHECK FOR INCREASE OF CRUISING SPEED (1)

1. Set the vehicle-to-vehicle distance control mode at desired speed.
2. Check that the set speed increases by 1 km/h (1 MPH) as RESUME/ACCELERATE switch is pushed up.

NOTE:
The maximum set speed of the vehicle-to-vehicle distance control mode is 144 km/h (90 MPH).
CAUTION:
Never set the cruise speed exceeding the posted speed limit.

>> GO TO 6.

6. CHECK FOR DECREASE OF CRUISING SPEED (1)

1. Set the vehicle-to-vehicle distance control mode at desired speed.
2. Check that the set speed decreases by 1 km/h (1 MPH) as SET/COAST switch is pushed down.

NOTE:
- The minimum set speed is approximately 32 km/h (20 MPH).

- Cancel the control automatically when the vehicle speed is less than approximately 24 km/h (15 MPH) and when the system does not detect any vehicle ahead.

>> GO TO 7.

7. SET CHECKING (2)

1. Stop the vehicle.
2. Drive the vehicle at less than approximately 32 km/h (20 MPH).
3. Push down the SET/COAST switch when the system detects a vehicle ahead.
4. Check that the vehicle-to-vehicle distance control mode is performed so that the vehicle maintains a proper distance according to the vehicle speed [maximum: approximately 32 km/h (20 MPH)] when releasing SET/COAST switch.

NOTE:

- The vehicle-to-vehicle distance control mode cannot be set when the vehicle speed is less than 32 km/h (20 MPH) and when a vehicle ahead is not detected.
- Cancel the control automatically when the vehicle speed is 24 km/h (15 MPH) or less during the control and when the system does not detect any vehicle ahead.
- The set vehicle speed indicator in the ICC system display on the information display is set to 32 km/h (20 MPH).

>> GO TO 8.

8. CHECK FOR INCREASE OF CRUISING SPEED (2)

1. Set the vehicle-to-vehicle distance control mode when the vehicle speed is less than approximately 32 km/h (20 MPH) and when a vehicle ahead is detected.
2. Check that the set speed increases by 1 km/h (1 MPH) as RESUME/ACCELERATE switch is pushed up.

NOTE:

The maximum set speed of the vehicle-to-vehicle distance control mode is 144 km/h (90 MPH).

CAUTION:

Never set the cruise speed exceeding the posted speed limit.

>> GO TO 9.

9. CHECK FOR DECREASE OF CRUISING SPEED INSPECTION (2)

1. Set the vehicle-to-vehicle distance control mode when the vehicle speed is less than approximately 32 km/h (20 MPH) and when a vehicle ahead is detected.
2. Set the set vehicle speed to the desired vehicle speed according to “check for increase of cruising speed”.
3. Check that the set speed decreases by 1 km/h (1 MPH) as SET/COAST switch is pushed down.

NOTE:

- The minimum the set speed is approximately 32 km/h (20 MPH).
- If the vehicle ahead comes to a stop, the vehicle decelerates to a standstill within the limitations of the system. The system will cancel once it judges a standstill with a warning chime.

CAUTION:

The creep occurs because the stop status is not maintained.

>> GO TO 10.

10. CHECK FOR CANCELLATION OF VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE

Check that the vehicle-to-vehicle distance control mode is canceled when performing the following operations.

- When the brake pedal is depressed after vehicle-to-vehicle distance control mode is set and the vehicle is driven.
- When the selector lever is in the “N” position after vehicle-to-vehicle distance control mode is set and the vehicle is driven.
- When the MAIN switch is turned OFF after vehicle-to-vehicle distance control mode is set and the vehicle is driven.
- When the CANCEL switch is pressed after vehicle-to-vehicle distance control mode is set and the vehicle is driven.

>> GO TO 11.

11. CHECK FOR RESTORING SPEED THAT IS SET BY VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE BEFORE CANCELLATION

Check that the vehicle restores the previous speed kept before the system deactivation when performing the following operations.

- Drive the vehicle when the vehicle-to-vehicle distance control mode is set and depress the brake pedal to cancel the control. Check that the vehicle restores the previous vehicle speed kept before the system deactivation when pushing up the RESUME/ACCELERATE switch.
- Drive the vehicle when the vehicle-to-vehicle distance control mode is set and shift the selector lever to the "N" position to cancel the control. Check that the vehicle restores the previous vehicle speed kept before the system deactivation when shifting the selector lever to the "D" position and pushing up the RESUME/ACCELERATE switch.
- Drive the vehicle when the vehicle-to-vehicle distance control mode is set and press the CANCEL switch to cancel the control. Check that the vehicle restores the previous vehicle speed kept before the system deactivation when pushing up the RESUME/ACCELERATE switch.

>> INSPECTION END

Work Procedure [Conventional (Fixed Speed) Cruise Control Mode]

INFOID:0000000012789895

NOTE:
The running speed can be set between 40 km/h (25 MPH) and 144 km/h (90 MPH)

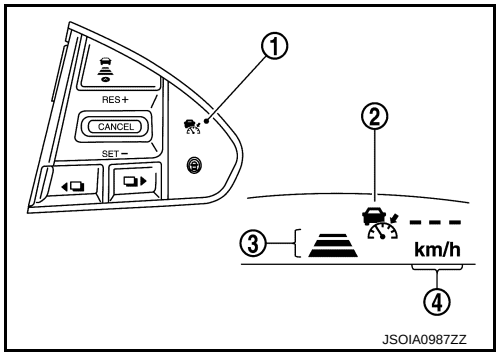
CAUTION:
Never set the cruise speed exceeding the posted speed limit.

1. CHECK FOR MAIN SWITCH

1. Start the engine.
2. Press the MAIN switch ① (1.5 seconds or more).

Information display status

MAIN switch indicator ②	:	ON
Set vehicle speed indicator ③	:	"— — —" "km/h" ("MPH")



3. Check that the ICC system display on the information display turns on and the display is ready for activation.
4. Press the MAIN switch, and check that the ICC system display on the information display turns OFF when the ICC system is deactivated.
5. Check that the ICC system display on the information display turns OFF after starting the engine again.

>> GO TO 2.

2. CHECK FOR RESUME/ACCELERATE, SET/COAST, AND CANCEL SWITCHES

1. Check that RESUME/ACCELERATE, SET/COAST, CANCEL switches are operated smoothly.
2. Check that switches come up as hand is released from the switches.

>> GO TO 3.

3. SET CHECKING

1. Start the engine.
2. Press the MAIN switch (1.5 seconds or more) and turn the conventional (fixed speed) cruise control mode to ON.
3. Drive the vehicle at 40 km/h (25 MPH) or more.
4. Push down the SET/COAST switch.

5. Check that the desired speed is set and conventional (fixed speed) cruise control mode control starts when releasing SET/COAST switch.

NOTE:
- The set vehicle speed is not displayed in the ICC system display on the information display.
- Display the set status in the ICC system display on the information display.

>> GO TO 4.

4. CHECK FOR INCREASE OF CRUISING SPEED

1. Set the vehicle speed to any desired speed, and drive the vehicle.
2. Check that the set speed increases by 1.6 km/h (1 MPH) as RESUME/ACCELERATE switch is pushed up.

NOTE:
- The maximum set speed is 144 km/h (90 MPH).
- The set vehicle speed increases while pushing up the RESUME/ACCELERATE switch.

CAUTION:
Never set the cruise speed exceeding the posted speed limit.

>> GO TO 5.

5. CHECK FOR DECREASE OF CRUISING SPEED

1. Set the vehicle speed to any desired speed, and drive the vehicle.
2. Check that the set speed decreases by 1.6 km/h (1 MPH) as SET/COAST switch is pushed down.

NOTE:
- The minimum set speed is 40 km/h (25 MPH).
- The set vehicle speed decreases while pressing down the SET/COAST switch.

>> GO TO 6.

6. CHECK FOR CANCELLATION OF CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE

Check that the conventional (fixed speed) cruise control mode is canceled when performing the following operations.
- When the brake pedal is depressed after the conventional (fixed speed) cruise control mode is set and the vehicle is driven.
- When the selector lever is in the “N” position after the conventional (fixed speed) cruise control mode is set and the vehicle is driven.
- When the MAIN switch is turned OFF after the conventional (fixed speed) cruise control mode is set and the vehicle is driven.
- When the CANCEL switch is pressed after the conventional (fixed speed) cruise control mode is set and the vehicle is driven.

>> GO TO 7.

7. CHECK FOR RESTORING SPEED THAT IS SET BY CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE BEFORE CANCELLATION

Check that the vehicle restores the previous speed kept before the system deactivation when performing the following operations.
- Drive the vehicle when the conventional (fixed speed) cruise control mode is set and depress the brake pedal to cancel the control. Check that the vehicle restores the previous vehicle speed kept before the system deactivation when pushing up the RESUME/ACCELERATE switch at the vehicle speed approximately 40 km/h (25 MPH) or more.
- Drive the vehicle when the conventional (fixed speed) cruise control mode is set and shift the selector lever is in the “N” position to cancel the control. Check that the vehicle restores the previous vehicle speed kept before the system deactivation when shifting the selector lever is in the “D” position and pushing up the RESUME/ACCELERATE switch at the vehicle speed of approximately 40 km/h (25 MPH) or more.
- Drive the vehicle when the conventional (fixed speed) cruise control mode is set and press the CANCEL switch to cancel the control. Check that the vehicle restores the previous vehicle speed kept before the system deactivation when pushing up the RESUME/ACCELERATE switch at the vehicle speed of approximately 40 km/h (25 MPH) or more.

>> INSPECTION END

DTC/CIRCUIT DIAGNOSIS

C1A00 CONTROL UNIT

DTC Logic

INFOID:0000000012789896

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1A00	CONTROL UNIT (Control unit malfunction)	ICC sensor internal malfunction

POSSIBLE CAUSE

ICC sensor

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform “All DTC Reading” with CONSULT.
3. Check if the “C1A00” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “C1A00” detected as the current malfunction?

YES >> Refer to CCS-132, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789897

1. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC other than “C1A00” is detected in “Self Diagnostic Result” of “LASER/RADAR”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-71, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

DTC Logic

INFOID:0000000012789898

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1A01	POWER SUPPLY CIR (Power supply circuit)	The battery voltage sent to ICC sensor remains less than 7.9 V for 5 seconds
C1A02	POWER SUPPLY CIR 2 (Power supply circuit 2)	The battery voltage sent to ICC sensor remains more than 19.3 V for 5 seconds

POSSIBLE CAUSE

- Connector, harness, fuse
- ICC sensor

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “C1A01” or “C1A02” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “C1A01” or “C1A02” detected as the current malfunction?

YES >> Refer to CCS-133, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789899

1.CHECK ICC SENSOR POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of ICC sensor. Refer to CCS-149, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

C1A12 RADAR OFF-CENTER

DTC Logic

INFOID:0000000012789900

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1A12	RADAR OFF-CENTER (Radar off-center)	Radar of ICC sensor is off the aiming point

POSSIBLE CAUSE

Radar is off the aiming point

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “C1A12” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “C1A12” detected as the current malfunction?

YES >> Refer to CCS-134, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789901

1. ADJUST RADAR AIMING

1. Adjust the radar beam aiming with CONSULT. Refer to CCS-114, "TYPE 1 : Description".
2. Perform “All DTC Reading”.
3. Check if the “C1A12” is detected in “Self Diagnostic Result” of “LASER/RADAR”.

Is “C1A12” detected?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".
NO >> INSPECTION END

C1A16 RADAR BLOCKED

DTC Logic

INFOID:0000000012789902

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1A16	RADAR BLOCKED (Radar blocked)	Inclusion of dirt or stains on the ICC sensor area of the front bumper

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 malfunction”.)
- When contamination or foreign materials adhere to the ICC sensor area of the front bumper
- When driving while it is snowing or when frost forms on the ICC sensor area of the front bumper
- When ICC sensor area of the front bumper is temporarily fogged

POSSIBLE CAUSE
- Stain or foreign materials is deposited
- Cracks or scratches exist

FAIL-SAFE
The following systems are canceled.
- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “C1A16” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “C1A16” detected as the current malfunction?

YES >> Refer to CCS-135, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789903

1.VISUAL CHECK 1

Check the contamination and foreign matter on the ICC sensor area of the front bumper.

Does contamination or foreign materials adhere?

YES >> Wipe out the contamination and foreign matter on the ICC sensor area of the front bumper.
NO >> GO TO 2.

2.VISUAL CHECK 2

1. Remove the front bumper.Refer to EXT-15, "Removal and Installation".
2. Check ICC sensor for contamination and foreign matter.

Does contamination or foreign matter adhere?

YES >> Wipe out the contamination and foreign matter from the ICC sensor.
NO >> GO TO 3.

3.VISUAL CHECK 3

Check ICC sensor for cracks and scratches.

Is it found?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".
NO >> GO TO 4.

4. PERFORM RADAR ALIGNMENT

1. Adjust the radar alignment with CONSULT. Refer to CCS-114, "TYPE 1 : Description" (TYPE 1), or CCS-118, "TYPE 2 : Description" (TYPE 2).
2. Perform ICC system action test to check the operation status. Refer to CCS-126, "Description"
3. Perform “All DTC Reading”.
4. Check the “C1A16” is detected in “Self Diagnostic Result” of “LASER/RADAR”.

Is “C1A16” detected?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".
NO >> GO TO 5.

5. INTERVIEW

1. Ask if there is any trace of contamination or foreign materials adhering to the ICC sensor area of the front bumper.
2. Ask if ICC sensor area of the front bumper was frosted during driving or if vehicle was driven in snow.
3. Ask if ICC sensor area of the front bumper was temporarily fogged. (Windshield glass may also tend to fog, etc.)

Is any of above conditions seen?

YES >> Explain to the customer about the difference between the contamination detection function and the indication when the malfunction is detected and tell them “This is not malfunction”.
NO >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

C1A21 UNIT HIGH TEMP

DTC Logic

INFOID:0000000012789904

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1A21	UNIT HIGH TEMP (Unit high temperature)	Temperature detected by the temperature sensor integrated in ICC sensor remains more than 105 °C (221 °F) for 5 seconds or more

POSSIBLE CAUSE

Temperature around the ICC sensor becomes extremely low or high

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Wait for 10 minutes or more.
3. Start the engine.
4. Turn the MAIN switch of ICC system ON.
5. Perform “All DTC Reading” with CONSULT.
6. Check if the “C1A21” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “C1A21” detected as the current malfunction?

YES >> Refer to CCS-137, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789905

1.CHECK ENGINE COOLING SYSTEM

Check for any malfunctions in engine cooling system.

Is engine cooling system normal?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".
NO >> Repair engine cooling system.

C1A23 UNIT LOW TEMP

DTC Logic

INFOID:0000000012789906

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1A23	UNIT LOW TEMP (Unit low temperature)	Temperature detected by the temperature sensor integrated in ICC sensor remains less than -45 °C (-49 °F) for 5 seconds or more

POSSIBLE CAUSE

Temperature around the ICC sensor becomes extremely low or high

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Wait for 10 minutes or more.
3. Start the engine.
4. Turn the MAIN switch of ICC system ON.
5. Perform “All DTC Reading” with CONSULT.
6. Check if the “C1A23” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “C1A23” detected as the current malfunction?

YES >> Refer to CCS-138, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789907

1. CHECK ENVIRONMENT CONDITION

Check ambient temperature.

Is ambient temperature 0°C (32°F) or more?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".
NO >> Perform check again at 0°C (32°F) or more.

C1A39 STEERING ANGLE SENSOR

DTC Logic

INFOID:0000000012789908

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1A39	STRG SEN CIR (Steering angle sensor circuit)	If the steering angle sensor is malfunction

POSSIBLE CAUSE

Steering angle sensor

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A39” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to DAS-175, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “C1A39” is detected as the current malfunction in self-diagnosis results of “LASER/RADAR”.

Is “C1A39” detected as the current malfunction?

YES >> Refer to CCS-139, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789909

1.CHECK DTC PRIORITY

If DTC “C1A39” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to DAS-175, "DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

C1A50 ADAS CONTROL UNIT

DTC Logic

INFOID:0000000012789910

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1A50	ADAS MALFUNCTION (ADAS control unit malfunction)	If ADAS control unit is malfunctioning

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A50” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “C1A50” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “C1A50” detected as the current malfunction?

YES >> Refer to CCS-140, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789911

1.CHECK DTC PRIORITY

If DTC “C1A50” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

U0104 ADAS CAN 1

DTC Logic

INFOID:0000000012789912

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U0104	ADAS CAN CIR 1 (ADAS control unit CAN circuit 1)	If ICC sensor detects an error signal that is received from ADAS control unit via ITS communication

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0104” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0104” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “U0104” detected as the current malfunction?

YES >> Refer to CCS-141, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789913

1.CHECK DTC PRIORITY

If DTC “U0104” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

U0121 VDC CAN 2

DTC Logic

INFOID:0000000012789914

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U0121	VDC CAN CIR2 (VDC CAN circuit2)	If ICC sensor detects an error signal that is received from ABS actuator and electric unit (control unit) via ADAS control unit

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0121” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0121” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “U0121” detected as the current malfunction?

YES >> Refer to CCS-142, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789915

1.CHECK DTC PRIORITY

If DTC “U0121” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

U0126 STRG SEN CAN 1

DTC Logic

INFOID:0000000012789916

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U0126	STRG SEN CAN CIR1 (Steering angle sensor CAN circuit1)	If ICC sensor detects an error signal that is received from steering angle sensor via ADAS control unit

POSSIBLE CAUSE

Steering angle sensor error

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0126” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0126” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “U0126” detected as the current malfunction?

YES >> Refer to CCS-143, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789917

1.CHECK DTC PRIORITY

If DTC “U0126” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

U0405 ADAS CAN 2

DTC Logic

INFOID:0000000012789918

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U0405	ADAS CAN CIR 2 (ADAS control unit CAN circuit 2)	If ICC sensor detects an error signal that is received from ADAS control unit via ITS communication

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0405” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0405” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “U0405” detected as the current malfunction?

YES >> Refer to CCS-144, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789919

1.CHECK DTC PRIORITY

If DTC “U0405” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

U0415 VDC CAN 1

DTC Logic

INFOID:0000000012789920

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U0415	VDC CAN CIR1 (VDC CAN circuit1)	If ICC sensor detects an error signal that is received from ABS actuator and electric unit (control unit) via ADAS control unit

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0415” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0415” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “U0415” detected as the current malfunction?

YES >> Refer to CCS-145, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789921

1.CHECK DTC PRIORITY

If DTC “U0415” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

U0428 STRG SEN CAN 2

DTC Logic

INFOID:0000000012789922

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U0428	STRG SEN CAN CIR2 (Steering angle sensor CAN circuit2)	If ICC sensor detects an error signal that is received from steering angle sensor via ADAS control unit

POSSIBLE CAUSE

Steering angle sensor

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0428” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0428” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “U0428” detected as the current malfunction?

YES >> Refer to CCS-146, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789923

1.CHECK DTC PRIORITY

If DTC “U0428” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

U1000 CAN COMM CIRCUIT

Description

INFOID:0000000012789924

ITS COMMUNICATION

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

DTC Logic

INFOID:0000000012789925

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U1000	CAN COMM CIRCUIT (CAN communication circuit)	If ICC sensor is not transmitting or receiving ITS communication signal for 2 seconds or more

POSSIBLE CAUSE

ITS communication system

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U1000” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U1000” detected as the current malfunction?

YES >> Refer to CCS-147, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789926

1. PERFORM THE SELF-DIAGNOSIS

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

Is “U1000” detected as the current malfunction?

YES >> Refer to LAN-41, "Trouble Diagnosis Flow Chart".
NO >> INSPECTION END

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000012789927

CAN controller controls the communication of ITS communication signal and the error detection.

DTC Logic

INFOID:0000000012789928

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	If ICC sensor detects malfunction by CAN controller initial diagnosis

POSSIBLE CAUSE

ICC sensor

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U1010” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U1000” detected as the current malfunction?

YES >> Refer to CCS-147, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789929

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the MAIN switch of ICC system ON.
2. Perform “All DTC Reading” with CONSULT.
3. Check if the “U1010” is detected as the current malfunction in “Self Diagnostic Result” of “LASER/RADAR”.

Is “U1010” detected as the current malfunction?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".
NO >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000012789930

1.CHECK FUSES

Check if any of the following fuses are blown:

Signal name	Fuse No.
Ignition power supply (VR30DDTT models)	54
Ignition power supply (2.0L turbo gasoline engine models)	75

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

2.CHECK ICC SENSOR POWER SUPPLY CIRCUIT

Check voltage between ICC sensor harness connector and ground.

Terminal			Condition	Voltage (Approx.)
(+)		(–)		
ICC sensor		Ground	Ignition switch	
Connector	Terminal			
E80	1		OFF	0 V
			ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the ICC sensor power supply circuit.

3.CHECK ICC SENSOR GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the ICC sensor connector.
3. Check for continuity between ICC sensor harness connector and ground.

ICC sensor		Ground	Continuity
Connector	Terminal		
E80	8		Existed

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair the ICC sensor ground circuit.

SYMPTOM DIAGNOSIS

INTELLIGENT CRUISE CONTROL SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000012789931

Symptoms		Reference page
Operation	MAIN switch does not turn ON	Refer to CCS-151, "Description"
	MAIN switch does not turn OFF	
	ICC system cannot be set (MAIN switch turns ON/OFF)	Refer to CCS-152, "Description"
	CANCEL switch does not function	Refer to CCS-154, "Description"
	Resume does not function	
	Set speed does not increase	
	Set distance to a vehicle ahead cannot be changed	
	ICC is not canceled when the A/T selector lever is “N” position	Refer to CCS-155, "Description"
Display/Chime	ICC system display not appear	Refer to MWI-68, "On Board Diagnosis Function"
	Chime does not sound	Refer to CCS-156, "Description"
Control	Driving force is hunting	Refer to CCS-158, "Description"
Function to detect a vehicle ahead	System frequently cannot detect a vehicle ahead	Refer to CCS-159, "Description"
	Distance to detect a vehicle ahead is short	
	System misidentifies a vehicle even though there is no vehicle ahead	• Perform radar alignment: Refer to CCS-114, "Application Notice" • Perform ICC system action test. Refer to CCS-126, "Description"
	System misidentifies a vehicle in the next lane	
	System does not detect a vehicle at all	Refer to CCS-161, "Description"

MAIN SWITCH DOES NOT TURN ON, MAIN SWITCH DOES NOT TURN OFF

Description

INFOID:0000000012789932

MAIN switch does not turn ON
- ICC system display does not appear even when MAIN switch is pressed.

MAIN switch does not turn OFF
- When ICC system display is ON, display does not turn OFF even if MAIN switch is pressed.

NOTE:
When ICC system warning illuminates, perform the self-diagnosis of ICC system, and then repair or replace the malfunctioning parts.

Diagnosis Procedure

INFOID:0000000012789933

1.MAIN SWITCH INSPECTION

1. Start the engine.
2. Check that “MAIN SW” and “CRUISE LAMP” operate normally in “DATA MONITOR” of “ICC/ADAS” with CONSULT.

Is the inspection result normal?

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

2.CHECK COMBINATION METER

Check that “CRUISE IND” operates normally in “DATA MONITOR” of “METER/M&A”.

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 4.

3.PERFORM SELF-DIAGNOSIS OF COMBINATION METER

1. Perform “Self Diagnostic Result” of “METER/M&A”.
2. Check if DTC is detected. Refer to MWI-87, "DTC Index".

Is any DTC detected?

YES >> Repair or replace malfunctioning parts.
NO >> GO TO 4.

4.PERFORM SELF-DIAGNOSIS RESULTS OF ICC SYSTEM

1. Perform “All DTC Reading”.
2. Check if the “U1000” is detected in self-diagnosis results of “ICC/ADAS”.

Is “U1000” detected?

YES >> GO TO 5.
NO >> GO TO 6.

5.CAN COMMUNICATIONS INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to CCS-147, "DTC Logic".

>> INSPECTION END

6.CHECK ICC STEERING SWITCH

Check the ICC steering switch. Refer to DAS-119, "Diagnosis Procedure (2.0 TURBO GASOLINE ENGINE)" (2.0L turbo gasoline engine) or DAS-117, "Diagnosis Procedure (VR30DDTT)" (VR30DDTT).

>> INSPECTION END

ICC SYSTEM CANNOT BE SET (MAIN SWITCH TURNS ON/OFF)

Description

INFOID:0000000012789934

The MAIN switch can be turned ON/OFF, but the ICC system cannot be set even if the SET/COAST switch is pressed.

NOTE:

The system cannot be set in the following case.

- When the vehicle ahead is not detected below the speed of 32 km/h (20 MPH).
- When the selector lever is not in the “D” position or manual mode.
- When the brake pedal is depressed.
- When the VDC is turned OFF.
- When ABS or VDC (including the TCS) operates.
- When a wheel slips.
- When ABS warning lamp is ON.
- When drive mode select switch is in SNOW position.
- When the radar is temporarily interrupted.

Diagnosis Procedure

INFOID:0000000012789935

1.CHECK CAUSE OF AUTOMATIC CANCELLATION

Check if there is the cancellation cause in the “CAUSE OF AUTO-CANCEL” on “WORK SUPPORT” of “ICC/ADAS” with CONSULT.

Is it displayed?

Not displayed>>GO TO 2.
“OPE SW VOLT CIRC”>>Refer to DAS-117, "DTC Logic".
“VHCL SPD UNMATCH”>>Refer to DAS-106, "DTC Logic".
“IGN LOW VOLT”>>Refer to CCS-133, "DTC Logic".
“ECM CIRCUIT”>>Refer to DAS-132, "DTC Logic".
“CAN COMM ERROR”>>Refer to DAS-168, "DTC Logic".
“ICC SENSOR CAN COMM ERR”>>Refer to DAS-168, "DTC Logic".
“ABS/TCS/VDC CIRC”>>Refer to DAS-108, "DTC Logic".
“ECD CIRCUIT”>>Refer to DAS-138, "DTC Logic".

2.PERFORM THE SELF-DIAGNOSIS

1. Perform “All DTC Reading”.
2. Check if any DTC is detected in “Self Diagnostic Result” of “ICC/ADAS” or “LASER/RADAR”. Refer to CCS-67, "DTC Index" (ICC/ADAS) or CCS-71, "DTC Index" (LASER/RADAR).

Is any DTC detected?

YES >> GO TO 3.
NO >> GO TO 4.

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts identified by the self-diagnosis result.

>> GO TO 6.

4.CHECK EACH SWITCH AND VEHICLE SPEED SIGNAL

1. Start the engine.
2. Check that the following items operate normally in “DATA MONITOR” of “ICC/ADAS”.

- “VHCL SPEED SE”
- “D RANGE SW”
- “SET/COAST SW”
- “BRAKE SW”
- “PKB SW”

Is there a malfunctioning item?

All items are normal>>GO TO 5.
“VHCL SPEED SE”>>Refer to DAS-106, "DTC Logic".
“D RANGE SW”>>Refer to CCS-155, "Diagnosis Procedure".

“SET/COAST SW”>>Refer to DAS-117, "DTC Logic".
“BRAKE SW”>>Refer to DAS-109, "DTC Logic".
“PKB SW”>>Refer to WCS-65, "Diagnosis Procedure".

5. REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to DAS-214, "Removal and Installation".

>> GO TO 6.

6. CHECK ICC SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action test. (Refer to CCS-126, "Description" for action test.)
2. Check that the ICC system is normal.

>> INSPECTION END

ICC STEERING SWITCH (OTHER THAN MAIN SWITCH) DOES NOT FUNCTION

Description

INFOID:0000000012789936

ICC MAIN switch can be turned ON/OFF, but the operation of RESUME/ACCELERATE switch, CANCEL switch, and DISTANCE switch cannot be performed during ICC system operation.

NOTE:

Resume is not accepted when the following condition is met.

- When the MAIN switch is turned OFF once.

The set distance change is not accepted when any of the following condition is met.

- When the DCA system is turned ON.

Diagnosis Procedure

INFOID:0000000012789937

1.CHECK EACH SWITCH

1. Start the engine.
2. Check that each switch operates normally on “DATA MONITOR” of “ICC/ADAS” with CONSULT.

- “RESUME/ACC SW”
- “CANCEL SW”
- “DISTANCE SW”

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 2.

2.PERFORM ALL OF THE SELF-DIAGNOSIS ITEMS

1. Perform “All DTC Reading”.
2. Check if the “U1000” is detected in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U1000” detected?

YES >> GO TO 3.
NO >> GO TO 4.

3.CAN COMMUNICATIONS INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to CCS-147, "DTC Logic".

>> INSPECTION END

4.CHECK ICC STEERING SWITCH

Check the ICC steering switch. Refer to DAS-120, "Component Inspection (With ICC)".

>> GO TO 6.

5.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to DAS-214, "Removal and Installation".

>> GO TO 6.

6.CHECK ICC SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action test. (Refer to CCS-126, "Description" for action test.)
2. Check that the ICC system is normal.

>> INSPECTION END

ICC SYSTEM DOES NOT CANCEL WHEN A/T SELECTOR LEVER SETS ON "N"

Description

INFOID:0000000012789938

The ICC system is not canceled even when the A/T selector lever is shifted to the N position while the ICC system is active.

Diagnosis Procedure

INFOID:0000000012789939

1.CHECK D RANGE SWITCH

Check if “D RANGE SW” operates normally in “DATA MONITOR” of “ICC/ADAS” with CONSULT.

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 2.

2.PERFORM ALL SELF-DIAGNOSIS ITEMS

1. Perform “All DTC Reading”.
2. Check if the “U1000” is detected in “self-diagnosis results” of “ICC/ADAS”.

Is “U1000” detected?

YES >> GO TO 3.
NO >> GO TO 4.

3.CAN COMMUNICATIONS INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to CCS-147, "DTC Logic".

>> INSPECTION END

4.CHECK POSITION SWITCH

Check if “SLCT LVR POSI” operates normally in “DATA MONITOR” of “TRANSMISSION”.

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 5.

5.PERFORM TCM SELF-DIAGNOSIS

1. Perform the “Self Diagnostic Result” of “TRANSMISSION”.
2. Repair or replace malfunctioning parts. Refer to TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index" (2.0L turbo gasoline engine) or TM-111, "VR30DDTT : DTC Index" (VR30DDTT).

>> GO TO 7.

6.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to DAS-214, "Removal and Installation".

>> GO TO 7.

7.CHECK ICC SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action test. (Refer to CCS-126, "Description" for action test.)
2. Check that the ICC system is normal.

>> INSPECTION END

CHIME DOES NOT SOUND

Description

INFOID:0000000012789940

Symptom check: In the following conditions, the warning chime may not sound even if the vehicle distance is short.

- When the vehicles are traveling at the same speed and the distance between vehicles is not changing.
- When the vehicle ahead is traveling faster and the distance between vehicles is increasing.
- The warning chime will not sound when the accelerator pedal is depressed, overriding the system.
- The warning chime will not sound when own vehicle approaches vehicles that are parked or moving slowly.
- The warning chime does not sound when the system does not detect any vehicle ahead. (Diagnose the conditions under which the system is detecting the vehicle ahead and when the system is malfunctioning. If there is any malfunction in detecting the vehicle ahead, check the system following the CCS-159, "Description".)

Diagnosis Procedure

INFOID:0000000012789941

1.PERFORM ACTIVE TEST

Check if the warning chime sounds on the active test item “ICC BUZZER” of “ICC/ADAS” with CONSULT.

Does the warning chime sound?

YES >> GO TO 2.
NO >> GO TO 3.

2.CHECK THE MALFUNCTION SYMPTOM DURING WARNING CHIME OPERATION

Understand the vehicle ahead detecting condition when the malfunction occurred. If the warning chime should have sounded, replace the ADAS control unit. Refer to DAS-214, "Removal and Installation".

>> GO TO 8.

3.CHECK DRIVER ASSISTANCE BUZZER

Check if the warning chime sounds on the active test item BUZZER 2 (ADAS) of “BSW/BUZZER” with CONSULT.

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 5.

4.PERFORM THE SELF-DIAGNOSIS OF ADAS CONTROL UNIT

1. Perform “All DTC Reading” with CONSULT.
2. Check if the any DTC is detected in self-diagnosis results of “ICC/ADAS”.

Is any DTC detected?

YES >> GO TO 6.
NO >> GO TO 5.

5.PERFORM THE SELF-DIAGNOSIS OF DRIVER ASSISTANCE BUZZER CONTROL MODULE

1. Perform “All DTC Reading” with CONSULT.
2. Check if the “any DTC” is detected in self-diagnosis results of “BSW/BUZZER”.

Is “any DTC” detected?

YES >> GO TO 6.
NO >> GO TO 7.

6.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts.

>> GO TO 8.

7.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to DAS-214, "Removal and Installation".

>> GO TO 8.

8. CHECK ICC SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action test. (Refer to CCS-126, "Description" for action test.)
2. Check that the ICC system is normal.

>> INSPECTION END

DRIVING FORCE IS HUNTING

Description

INFOID:0000000012789942

The vehicle causes hunting when the ICC system is active.

Diagnosis Procedure

INFOID:0000000012789943

1.PERFORM SELF-DIAGNOSIS OF ECM

1. Perform “All DTC Reading” with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of “ENGINE”.

- 2.0L turbo gasoline engine: Refer to EC4-146, "DTC Index".
- VR30DDTT for USA and Canada
  - Turbo high pressure model: Refer to EC6-164, "TURBO HIGH PRESSURE MODEL : DTC Index".
  - Turbo low pressure model: Refer to EC6-205, "TURBO LOW PRESSURE MODEL : DTC Index".
- VR30DDTT for Mexico: Refer to EC6-1139, "DTC Index".

Is any DTC detected?

YES >> GO TO 3.
NO >> GO TO 2.

2.CHECK ICC SENSOR

1. Check the vehicle driving conditions. Refer to CCS-159, "Description".
2. Check the ICC sensor for contamination, foreign materials, or cracks. Refer to CCS-159, "Diagnosis Procedure".

>> INSPECTION END

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts identified by the self-diagnosis result.

>> GO TO 4.

4.CHECK ICC SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action test. (Refer to CCS-126, "Description" for action test.)
2. Check that the ICC system is normal.

>> INSPECTION END

FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT

Description

INFOID:0000000012789944

The detection function may become unstable in the following cases.
- When radar reflections from the vehicle ahead is interrupted.
- When driving a road with extremely sharp corners.
- When the sensor cannot detect a vehicle ahead while the vehicle ahead passes a hill or valley.

Diagnosis Procedure

INFOID:0000000012789945

1. VISUAL CHECK (1)

Check the contamination and foreign matter on the ICC sensor area of the front bumper.

Do foreign matter adhere?

YES >> GO TO 3.
NO >> GO TO 2.

2. VISUAL CHECK (2)

1. Remove the front bumper. Refer to EXT-15, "Removal and Installation".
2. Check ICC sensor for contamination and foreign matter.

Do foreign matter adhere?

YES >> GO TO 3.
NO >> GO TO 4.

3. WIPE OUT DIRT AND FOREIGN MATERIALS

Wipe out the contamination and foreign matter in the area around the ICC sensor.

>> GO TO 8.

4. VISUAL CHECK (3)

Check ICC sensor for cracks and scratches.

Are there any cracks or scratches?

YES >> GO TO 6.
NO >> GO TO 5.

5. PERFORM RADAR ALIGNMENT

1. Install the front bumper. Refer to EXT-15, "Removal and Installation".
2. Perform the radar alignment. Refer to CCS-114, "Application Notice".
3. Perform ICC system action test. Refer to CCS-126, "Description".
4. Check that the vehicle ahead detection performance improves.

Does it improve?

YES >> INSPECTION END
NO >> GO TO 6.

6. REPLACE ICC SENSOR

1. Replace the ICC sensor. Refer to CCS-166, "Exploded View".
2. Install the front bumper. Refer to EXT-15, "Removal and Installation".
3. Perform the radar alignment. Refer to CCS-114, "Application Notice".
4. Perform ICC system action test. Refer to CCS-126, "Description".
5. Check that the vehicle ahead detection performance improves.

Does it improve?

YES >> INSPECTION END
NO >> GO TO 7.

7. REPLACE ADAS CONTROL UNIT

Replace ADAS control unit. Refer to DAS-214, "Removal and Installation".

>> GO TO 8.

8.CHECK ICC SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action-test. (Refer to CCS-126, "Description" for action test).
2. Check that the ICC system is normal.

>> INSPECTION END

THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL

Description

INFOID:0000000012789946

When ICC system is active, the ICC system does not perform any control even through there is a vehicle ahead.

Diagnosis Procedure

INFOID:0000000012789947

1. CHECK ICC SYSTEM DISPLAY ON MULTI INFORMATION DISPLAY

1. Start the self-diagnosis mode of combination meter. Refer to MWI-68, "On Board Diagnosis Function".
2. Check that the multi information display turns on normally.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace the combination meter.

2. VISUAL CHECK (1)

Check the contamination and foreign matter on the ICC sensor area of the front bumper.

Do foreign materials adhere?

YES >> GO TO 4.
NO >> GO TO 3.

3. VISUAL CHECK (2)

1. Remove the front bumper. Refer to EXT-15, "Removal and Installation".
2. Check ICC sensor for contamination and foreign matter.

Do foreign matter adhere?

YES >> GO TO 4.
NO >> GO TO 5.

4. WIPE OUT DIRT AND FOREIGN MATERIALS

Wipe out the contamination and foreign matter in the area around the ICC sensor.

>> GO TO 9.

5. VISUAL CHECK (3)

Check ICC sensor for cracks and/or scratches.

Are there cracks?

YES >> GO TO 7.
NO >> GO TO 6.

6. PERFORM RADAR ALIGNMENT

1. Install the front bumper. Refer to EXT-15, "Removal and Installation".
2. Perform the radar alignment. Refer to CCS-114, "Application Notice".
3. Perform ICC system action test. Refer toCCS-126, "Description".
4. Check that the vehicle ahead detection performance improves.

Does it improve?

YES >> INSPECTION END
NO >> GO TO 8.

7. REPLACE ICC SENSOR

1. Replace the ICC sensor. Refer to CCS-166, "Exploded View".
2. Install the front bumper. Refer to EXT-15, "Removal and Installation".
3. Perform the radar alignment. Refer to CCS-114, "Application Notice".
4. Perform ICC system action test. Refer to CCS-126, "Description"
5. Check that the vehicle ahead detection performance improves.

Does it improve?

YES >> INSPECTION END

NO >> GO TO 8.

8.REPLACE ADAS CONTROL UNIT

Replace ADAS control unit. Refer to DAS-214, "Removal and Installation".

>> GO TO 9.

9.CHECK ICC SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action test. (Refer to CCS-126, "Description" for action test.)
2. Check that the ICC system is normal.

>> INSPECTION END

NORMAL OPERATING CONDITION

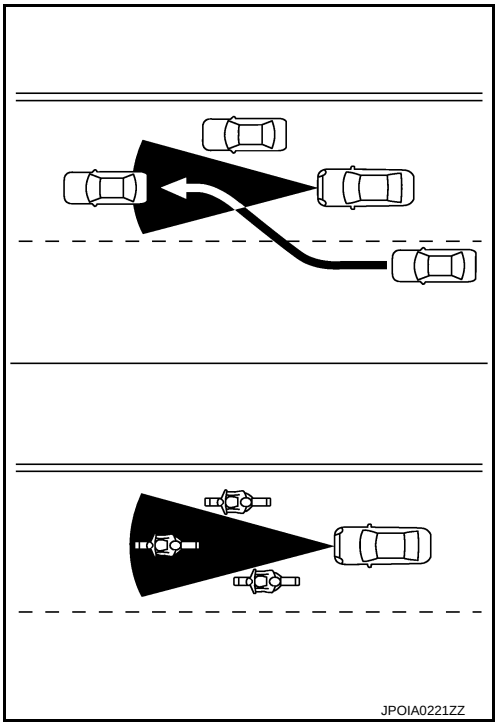
Description

INFOID:0000000012789948

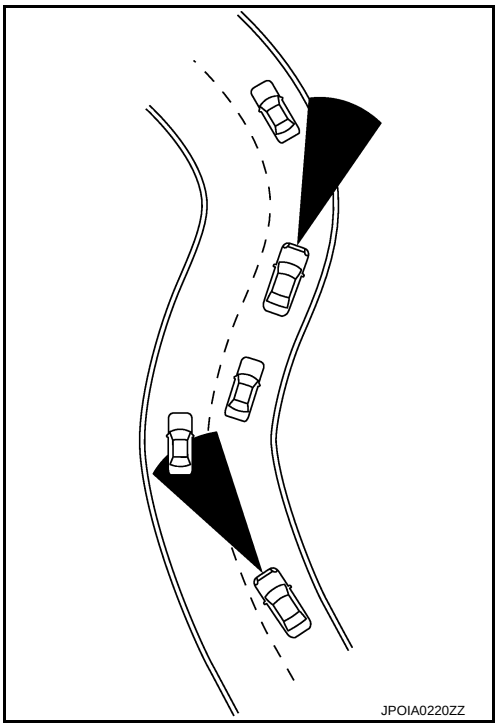
PRECAUTIONS FOR VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE

- ICC system is only an aid to assist the driver and is not a collision warning or avoidance device. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times.
- The system is primarily intended for use on straight, dry, open roads with light traffic. It is not advisable to use the system in city traffic or congested areas.
- This system will not adapt automatically to road conditions. This system should be used in evenly flowing traffic. Do not use the system on roads with sharp curves, or on icy roads, in heavy rain or in fog.
- The ICC sensor will not detect under most conditions.
  - Stationary and slow moving vehicles.
  - Pedestrians or objects in the roadway.
  - Oncoming vehicles in the some lane.
  - Motorcycles traveling offset in the travel lane.
- As there is a performance limit to the distance control function, never rely solely on the ICC system. This system does not correct careless, inattentive or absent-minded driving, or overcome poor visibility in rain, fog, or other bad weather. Decelerate the vehicle speed by depressing the brake pedal, depending on the distance to the vehicle ahead and the surrounding circumstances in order to maintain a safe distance between vehicles.
- If the vehicle ahead comes to a stop, the vehicle decelerates to a standstill within the limitations of the system. The system will cancel once it judges that the vehicle has come to a standstill and sound a warning chime. To prevent the vehicle from moving, the driver must depress the brake pedal.
- The system may not detect the vehicle in front of the driver in certain road or weather conditions. To avoid accidents, never use the ICC system under the following conditions:
  - On roads where the traffic is heavy or there are sharp curves.
  - On slippery road surfaces such as on ice or snow, etc.
  - During bad weather (rain, fog, snow, etc.)
  - When rain, snow or dirt adhere to the system sensor.
  - On steep downhill roads (the vehicle may go beyond the set vehicle speed and frequent braking may result in overheating the brakes).
  - On repeated uphill and downhill roads.
  - When traffic conditions make it difficult to keep a proper distance between vehicles because of frequent acceleration or deceleration.
- In some road or traffic conditions, a vehicle or object can unexpectedly come into the sensor detection zone and cause automatic braking. The driver may need to control the distance from other vehicles using the accelerator pedal. Always stay alert and avoid using the ICC system when it is not recommended in this section.
- The vehicle-to-vehicle distance control mode uses a sensor located behind the lower grille of the front bumper to detect vehicles traveling ahead. The sensor generally detects the signals returned from the vehicle ahead. Therefore, if the sensor cannot detect the reflection from the vehicle ahead, the ICC system may not maintain the selected distance.
- The following are some conditions in which the sensor cannot detect the signals:
  - When the snow or road spray from traveling vehicles reduces the sensor's visibility.
  - When excessively heavy baggage is loaded in the rear seat or the trunk room of own vehicle.
- The ICC system is designed to automatically check the sensor's operation within the limitation of the system. When the sensor area of the front bumper is covered with dirt or is obstructed, the system will automatically be canceled. If the sensor is covered with ice, a transparent or translucent vinyl bag, etc., the ICC system may not detect them. In these instances, the vehicle-to-vehicle distance control mode may not cancel and may not be able to maintain the selected following distance from the vehicle ahead. Be sure to check and clean the sensor regularly.
- The ICC system does not control vehicle speed or warn the driver when own vehicle approaches stationary and slow moving vehicles. The driver must pay attention to vehicle operation to maintain proper distance from vehicles ahead when approaching toll gates or traffic congestion.

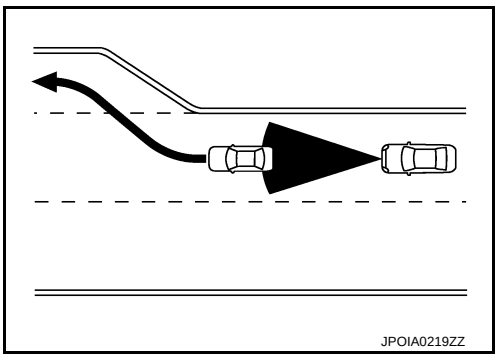
- The detection zone of the ICC sensor is limited. A vehicle ahead must be in the detection zone for the vehicle-to-vehicle distance detection mode to maintain the selected distance from the vehicle ahead. A vehicle ahead may move outside of the detection zone due to its position within the same lane of travel. Motorcycles may not be detected in the same lane ahead if they are traveling offset from the center line of the lane. A vehicle that is entering the lane ahead may not be detected until the vehicle has completely moved into the lane. If this occurs, the ICC system may warn the driver by blinking the system indicator and sounding the chime. The driver may have to manually control the proper distance away from vehicle traveling ahead.



- When driving on some roads, such as winding, hilly, curved, narrow roads, or roads which are under construction, the ICC sensor may detect vehicles in a different lane, or may temporarily not detect a vehicle traveling ahead. This may cause the ICC system to decelerate or accelerate the vehicle. The detection of vehicles may also be affected by vehicle operation (steering maneuver or traveling position in the lane, etc.) or vehicle condition. If this occurs, the ICC system may warn the driver by blinking the system indicator and sounding the chime unexpectedly. The driver will have to manually control the proper distance away from the vehicle traveling ahead.



- When driving on the freeway at a set speed and approaching a slower traveling vehicle ahead, the ICC will adjust the speed to maintain the distance, selected by the driver, from the vehicle ahead. If the vehicle ahead changes lanes or exits the freeway, the ICC system will accelerate and maintain the speed up to the set speed. Pay attention to the driving operation to maintain control of the vehicle as it accelerates to the set speed. The vehicle may not maintain the set speed on winding or hilly roads. If this occurs, the driver will have to manually control the vehicle speed.



- Normally when controlling the distance to a vehicle ahead, this system automatically accelerates or decelerates own vehicle according to the speed of the vehicle ahead. Depress the accelerator to properly accelerate own vehicle when acceleration is required for a lane change. Depress the brake pedal when deceleration is required to maintain a safe distance to the vehicle ahead due to its sudden braking or if a vehicle cuts in. Always stay alert when using the ICC system.

PRECAUTIONS FOR CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE

- In the conventional (fixed speed) cruise control mode, a warning chime does not sound to warn the driver if own vehicle is too close to the vehicle ahead, as neither the presence of the vehicle ahead nor the vehicle-to-vehicle distance is detected.
- Pay special attention to the distance between own vehicle and the vehicle ahead or a collision could occur.
- Always confirm the setting in the ICC system display.
- Do not use the conventional (fixed speed) cruise control mode when driving under the following conditions:
- When it is not possible to keep the vehicle at a set speed.
- In heavy traffic or in traffic that varies in speed.
- On winding or hilly roads.
- On slippery roads (rain, snow, ice, etc.).
- In very windy areas.
- Doing so could cause a loss of vehicle control and result in an accident.
- To avoid accidentally engaging cruise control, make sure to turn the MAIN switch off when not using the ICC system.

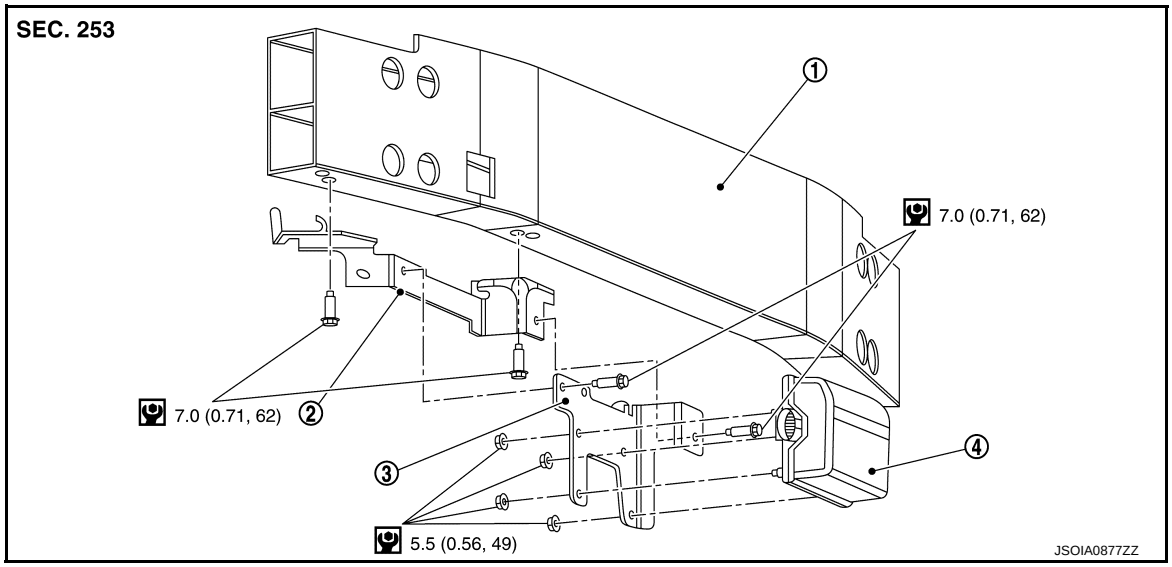
REMOVAL AND INSTALLATION

ICC SENSOR

Exploded View

INFOID:0000000012789949

CAUTION:
Always perform the laser beam aiming adjustment and check the operation after the replacement, removal and installation of ICC sensor.



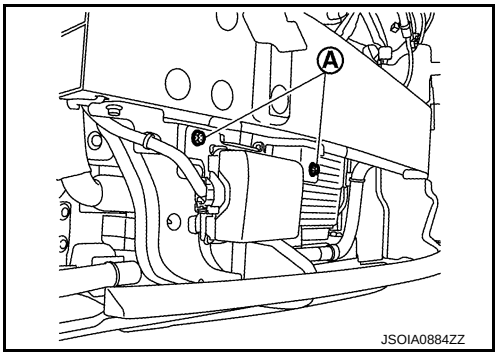
① Front bumper reinforcement ② Bracket B ③ Bracket A
④ ICC sensor
: N·m (kg-m, in-lb)

Removal and Installation

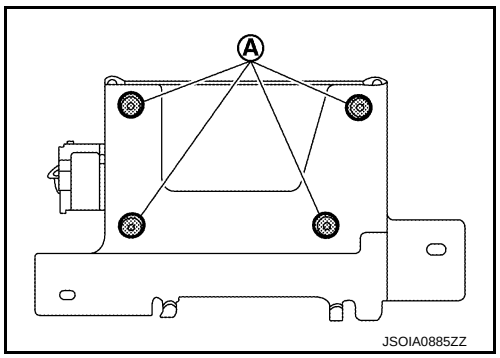
INFOID:0000000012789950

REMOVAL

1. Remove front bumper fascia. Refer to EXT-15, "Removal and Installation".
2. Disconnect ICC sensor connector.
3. Remove mounting bolts Ⓐ of bracket A to remove ICC sensor with bracket A.



4. Remove mounting nuts Ⓐ of ICC sensor.



5. Remove ICC sensor.
6. Remove mounting bolts of bracket B to remove bracket B from front bumper reinforcement.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Always perform the radar alignment and check the operation after the replacement, removal, and installation of ICC sensor. Refer to CCS-113, "Description".

ICC STEERING SWITCH

Exploded View

INFOID:0000000012789951

ICC steering switch is integrated in the steering switch.
Refer to ST-134, "Removal and Installation".
NOTE:
Always remove ICC steering switch together with steering wheel.

HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Information

INFOID:0000000013189411

For ICC system, refer to CCS-14, "System Description".

FOR 2.0L TURBO GASOLINE ENGINE MODELS

This section includes information of the system except for 2.0l turbo gasoline engine models.

FOR VR30DDTT ENGINE MODELS

Automatic Speed Control Device (ASCD) system for VR30DDTT engine models is controlled by ECM.
Regarding the information for ASCD system for VR30DDTT engine models, refer to EC6-83, "AUTOMATIC SPEED CONTROL DEVICE (ASCD) : System Description" (For USA and Canada) or EC6-1074, "AUTOMATIC SPEED CONTROL DEVICE (ASCD) : System Description" (For Mexico).

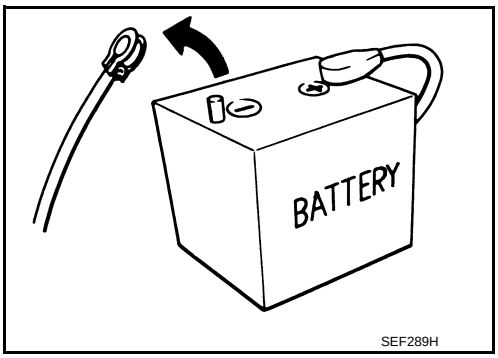
PRECAUTION

PRECAUTIONS

Precautions for Removing Battery Terminal

INFOID:0000000013189412

When disconnecting the battery terminal, pay attention to the following.
- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:



BR08DE	: 4 minutes	V9X engine	: 4 minutes
D4D engine	: 20 minutes	YD25DDTi	: 2 minutes
HR09DET	: 12 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		

NOTE:
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:
- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
  - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
  - Driving for 30 minutes or more on a steep slope.

- 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.

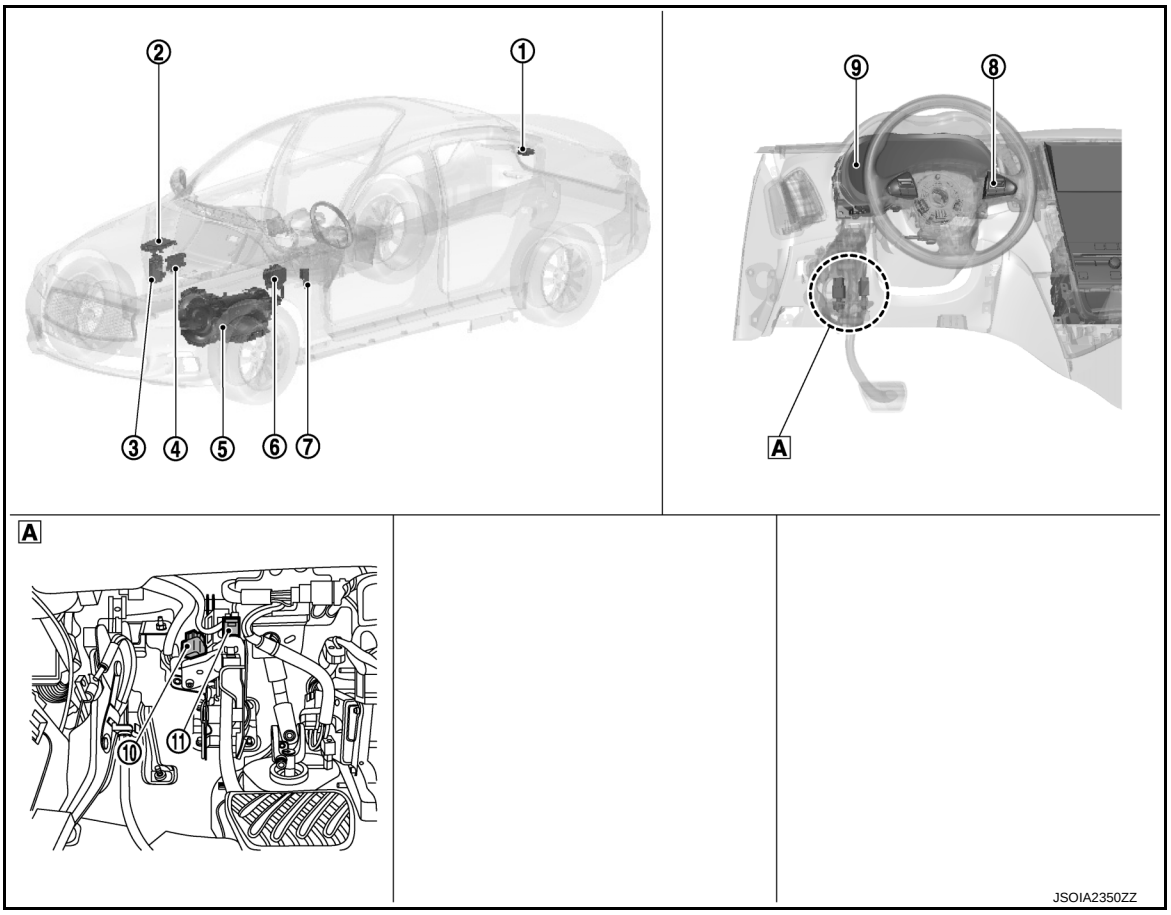
NOTE:
The removal of 12V battery may cause a DTC detection error.

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000013189413



A Upper side of brake pedal

×: Applicable

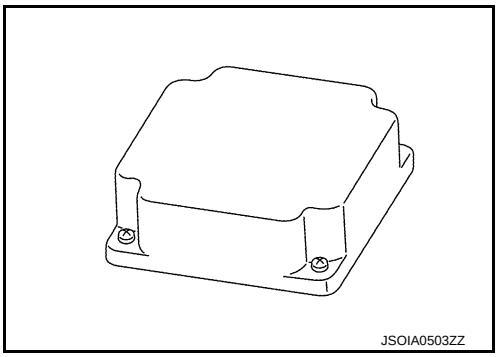
No.	Component	Description
①	ADAS control unit	• Refer to CCS-172, "ADAS Control Unit" • Refer to DAS-16, "Component Parts Location" for detailed installation location
②	ECM	• ECM transmits the accelerator pedal position signal, etc. to ADAS control unit via CAN communication • ECM controls the fuel injection quantity based on the engine torque demand received from the ADAS control unit via CAN communication • Refer to EC4-25, "ENGINE CONTROL SYSTEM : Component Parts Location" for detailed installation location
③	BCM	• BCM transmits the stop lamp switch signal to ADAS control unit via CAN communication • Refer to BCS-5, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location
④	EMCM	• EMCM transmits the brake pedal position switch signal to ADAS control unit via CAN communication • EMCM transmits the brake pedal position switch signal, stop lamp switch signal to ECM control unit via CAN communication • Refer to EC4-25, "ENGINE CONTROL SYSTEM : Component Parts Location" for detailed installation location

No.	Component	Description
⑤	TCM	• TCM transmits the signal related to A/T control to ADAS control unit via ECM • Refer to TM-13, "A/T CONTROL SYSTEM : Component Parts Location" for detailed installation location
⑥	ABS actuator and electric unit (control unit)	• ABS actuator and electric unit (control unit) transmits the vehicle speed signal (wheel speed), stop lamp switch signal and VDC/TCS/ABS system operation condition to ADAS control unit via CAN communication • Refer to BRC-10, "Component Parts Location" for detailed installation location
⑦	Chassis control module	• Chassis control module transmits the a drive mode signal to ADAS control unit via CAN communication • Refer to DAS-516, "Component Parts Location" for detailed installation location
⑧	Steering switch	• Description: Refer to CCS-172, "ASCD Steering Switch" • Switch name and function: CCS-177, "AUTOMATIC SPEED CONTROL DEVICE (ASCD) : Switch Name and Function"
⑨	Combination meter	Performs the following operations using the signals received from the ADAS control unit via the CAN communication • Description: Refer to CCS-173, "Combination Meter" • System display and warning: CCS-177, "AUTOMATIC SPEED CONTROL DEVICE (ASCD) : Menu Displayed by Pressing Each Switch"
⑩	Brake pedal position switch	Refer to CCS-172, "Brake Pedal Position Switch / Stop Lamp Switch"
⑪	Stop lamp switch	

ADAS Control Unit

INFOID:0000000013374531

- ADAS control unit is installed at trunk side of the parcel shelf.
- Communicates with each control unit via CAN communication/ITS communication/Chassis communication.
- ADAS control unit included gateway function, and necessary for system control signals are transmitted to each control unit between CAN communication and ITS communication by the ADAS control unit.
- ADAS control unit controls the each system, based on ITS communication signal, CAN communication signal, and chassis communication signal from each control unit.


JSOIA0503ZZ

ASCD Steering Switch

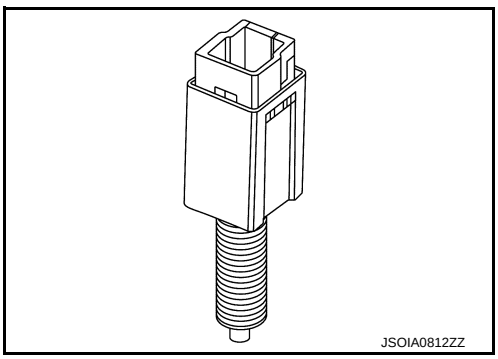
INFOID:0000000013189415

- ASCD steering switch is installed to the steering wheel and allows the driver to operate the ASCD/Speed limiter system by using this switch.
- ASCD steering switch allows the ON/OFF of the Automatic Speed Control Device (ASCD) and Speed limiter.
- ASCD steering switch signal is transmitted to ADAS control unit.

Brake Pedal Position Switch / Stop Lamp Switch

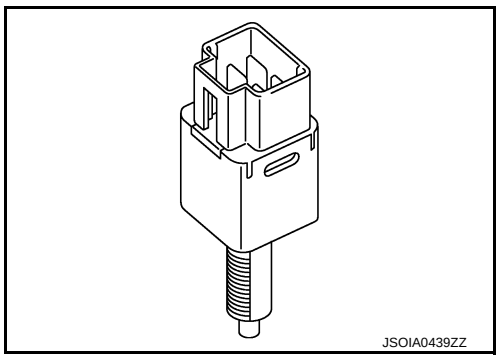
INFOID:0000000013189416

- Brake pedal position switch is installed at the upper part of the brake pedal and detects a brake operation performed by the driver.


JSOIA0812ZZ

- Brake pedal position switch is turned OFF when depressing the brake pedal.

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


JSOIA0439ZZ

Combination Meter

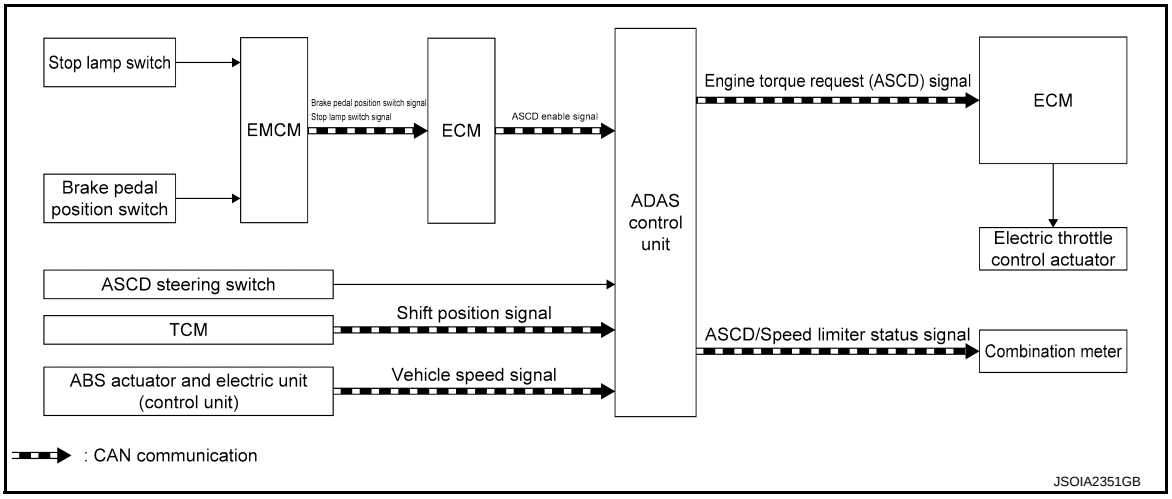
INFOID:0000000013189417

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

SYSTEM
AUTOMATIC SPEED CONTROL DEVICE (ASCD)
AUTOMATIC SPEED CONTROL DEVICE (ASCD) : System Description

INFOID:0000000013189418

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

Automatic Speed Control Device (ASCD) allows a driver to keep vehicle at predetermined constant speed without depressing accelerator pedal. The selectable speed ranges are as follows:

- Between approximately 40 km/h (25 MPH) and 144 km/h (90 MPH)

ECM controls fuel injectors to regulate engine speed.
Operation status of ASCD is indicated on the information display in the combination meter. If any malfunction occurs in ASCD system, it automatically deactivates control.
For the switch function, refer to CCS-177, "AUTOMATIC SPEED CONTROL DEVICE (ASCD) : Switch Name and Function".
For the ASCD indicator, refer to CCS-177, "AUTOMATIC SPEED CONTROL DEVICE (ASCD) : Menu Displayed by Pressing Each Switch".

CAUTION:
Always drive vehicle in a safe manner according to traffic conditions and obey all traffic laws.

SET OPERATION

Press MAIN switch. (The CRUISE indicator in combination meter illuminates.)
When vehicle speed reaches a desired speed, press SET/COAST switch. (Then SET lamp in combination meter illuminates.)

NOTE:
The selectable speed ranges are as follows:

- Between approximately 40 km/h (25 MPH) and 144 km/h (90 MPH)

ACCELERATE OPERATION

the switch is released or vehicle speed reaches maximum speed controlled by the system.
And then ASCD will maintain the new set speed.

COAST OPERATION

When the SET/COAST switch is pressed during cruise control driving, decrease vehicle set speed until the switch is released. And then ASCD will keep the new set speed.

CANCEL OPERATION

When any of following conditions exist, cruise operation will be canceled.

- CANCEL switch is pressed
- More than 2 switches on ASCD steering switch are pressed at the same time (Set speed will be cleared)
- Brake pedal is depressed
- Selector lever position is N, P, or R position
- Vehicle speed decreased to 13 km/h (8 MPH) lower than the set speed
- TCS system is operated

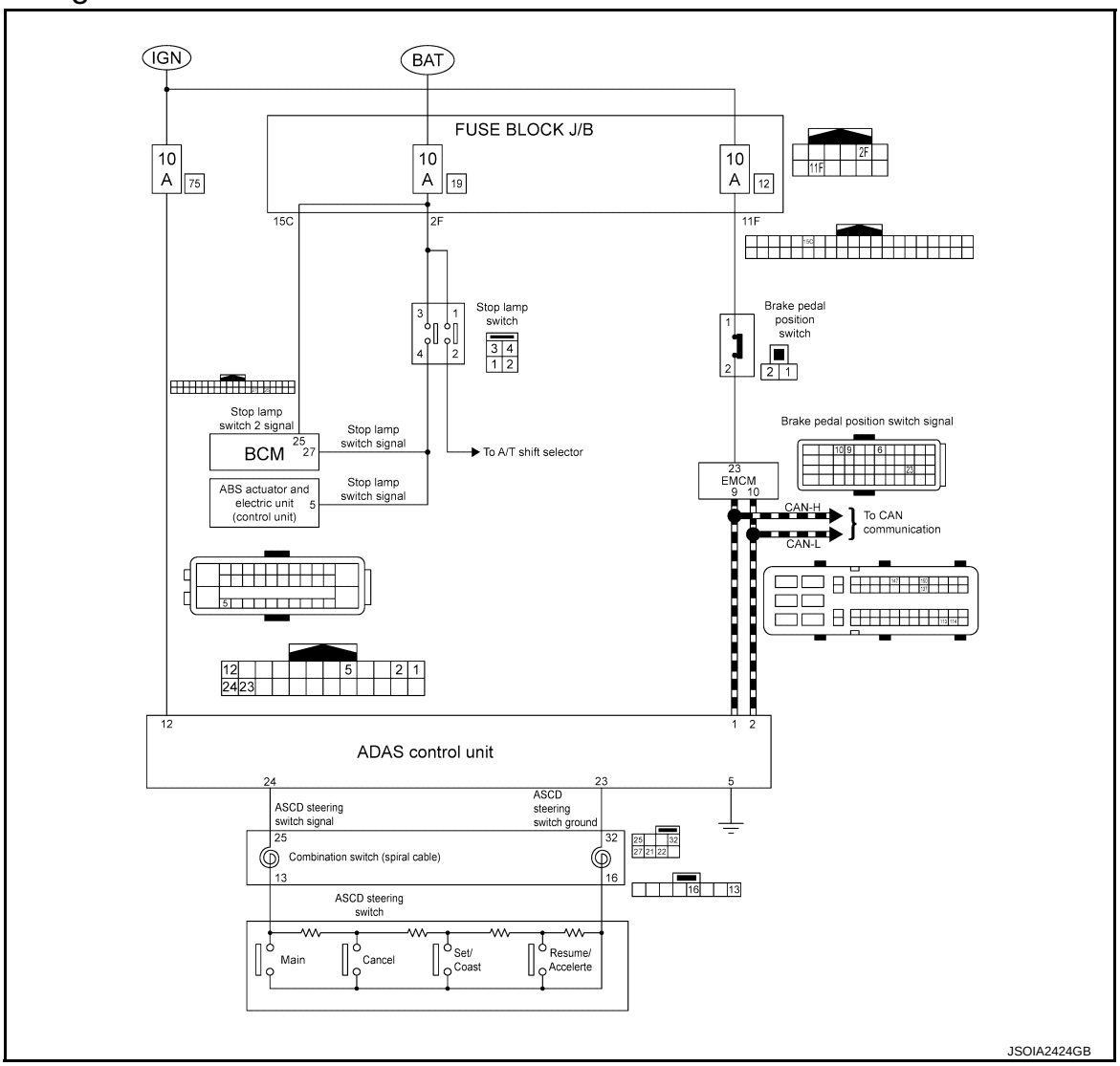
RESUME OPERATION

When the RESUME/ACCELERATE switch is pressed after cancel operation other than pressing ASCD MAIN switch is performed, vehicle speed will return to last set speed. To resume vehicle set speed, vehicle condition must meet following conditions.

- Brake pedal is released
- Selector lever position is not P, R, or N.
- Vehicle speed between 40 km/h (25 MPH) and 144 km/h (90 MPH)

Circuit Diagram

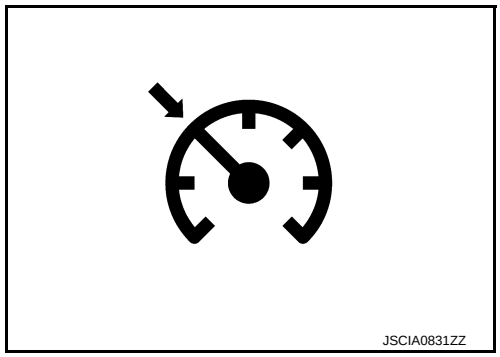
INFOID:0000000013189420



WARNING/INDICATOR/CHIME LIST

WARNING/INDICATOR/CHIME LIST : Indicator/Information

INFOID:0000000013189421

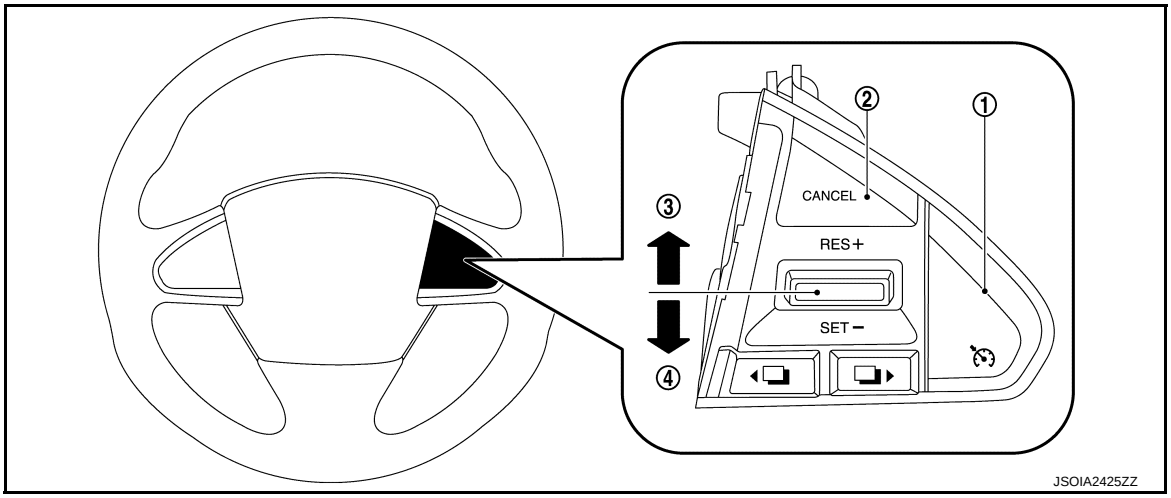
Item	Symbol	Function
ASCD indicator	 JSCIA0831ZZ	For detail of ASCD function, refer to CCS-177, "AUTOMATIC SPEED CONTROL DEVICE (ASCD) : Menu Displayed by Pressing Each Switch".

OPERATION

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

AUTOMATIC SPEED CONTROL DEVICE (ASCD) : Switch Name and Function

INFOID:0000000013189422

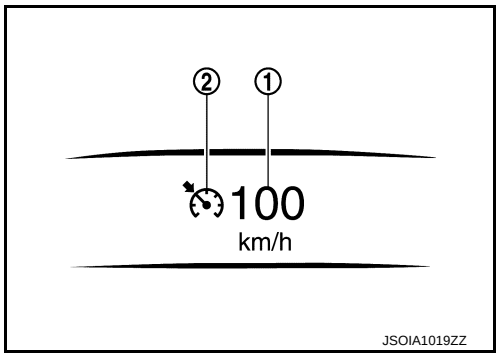


No.	Description	Function
①	ASCD MAIN switch	Master switch to activate the system
②	CANCEL switch	Deactivates system without erasing set speed
③	RESUME/ACCELERATE switch	Resumes set speed or increases speed incrementally
④	SET/COAST switch	Sets desired cruise speed or reduces speed incrementally

AUTOMATIC SPEED CONTROL DEVICE (ASCD) : Menu Displayed by Pressing Each Switch

INFOID:0000000013189423

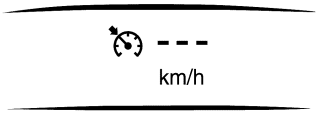
ASCD SYSTEM DISPLAY (ON THE INFORMATION DISPLAY)



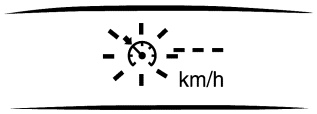
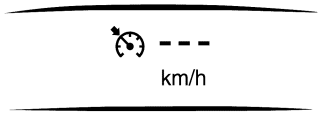
No.	Description	Function
①	Set vehicle speed indicator	Indicates the set vehicle speed
②	ASCD system warning (green: blink)	Indicates that a malfunction occurs in the ICC system
	MAIN switch indicator (white)	Indicates that the MAIN switch is ON (ASCD system ON)
	SET switch indicator (green)	Indicates that the set ASCD is controlled

SYSTEM CONTROL CONDITION DISPLAY

Push and hold the MAIN switch for longer than approximately 1.5 seconds. This mode will be in a standby state for setting.

Condition	Display on system display
Standby mode	 JSOIA1020ZZ
Control mode	 JSOIA1021ZZ

WARNING AND AUTOMATIC CANCELLATION DISPLAY

Condition		Description	Display on system display
Warning display	When the ASCD system is malfunctioning	A chime sounds and the control is automatically canceled **NOTE:** Turn the engine OFF and restart engine. If there is no malfunction, it is possible to set the system	 JSOIA1022ZZ
System cancel display	• When brake pedal is depressed • When pressing CANCEL switch • When the vehicle slows down more than 13 km/h (8 MPH) below the set speed • When the selector lever is not in the “D” position or manual mode • When the parking brakes are applied • When VDC (including the TCS) operates • When a wheel slips	A chime sounds and the control is automatically canceled **NOTE:** • The system will be in a standby, after the control is automatically canceled • A chime sounds when the control is automatically canceled, except when brake pedal is depressed or when CANCEL switch is pressed	 JSOIA1020ZZ

NOTE:
When the ASCD system is automatically canceled, the cancellation condition can be displayed on “WORK SUPPORT” of CONSULT (ICC/ADAS).

HANDLING PRECAUTION

Precautions for Automatic Speed Control Device (ASCD)

INFOID:0000000013189428

- Always observe the posted speed limits and do not set the speed over them.
- Do not use the cruise control when driving under the following conditions. Doing so could cause a loss of vehicle control and result in an accident.
- When it is not possible to keep the vehicle at a constant speed
- When driving in heavy traffic
- When driving in traffic that varies speed
- When driving in windy areas
- When driving on winding or hilly roads
- When driving on slippery (rain, snow, ice, etc.) roads

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

CONSULT Function (ICC/ADAS)

INFOID:0000000013374666

APPLICATION ITEMS

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

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

*: Models with FEB system only.

CONFIGURATION

Configuration includes functions as follows.

NOTE:

Models with FEB system only.

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

WORK SUPPORT

Work support items	Description
CAUSE OF AUTO-CANCEL 1	Displays causes of automatic system cancellation occurred during control of the following systems • Vehicle-to-vehicle control mode • Conventional (fixed speed) control mode • Distance Control Assist (DCA) • Forward Emergency Braking (FEB)
CAUSE OF AUTO-CANCEL 2	Displays causes of automatic system cancellation occurred during control of the following systems • Lane Departure Prevention (LDP) (Without DAST) • Blind Spot Intervention (Without DAST)
CAUSE OF AUTO-CANCEL 3	Displays causes of automatic system cancellation occurred during control of the Back-up Collision Intervention (BCI)

NOTE:

- Causes of the maximum five cancellations (system cancel) are displayed.
- The displayed cancellation causes display the number of the ignition switch ON/OFF up to 254. It is fixed to 254 if it is over 254. It returns to 0 when the same cancellation cause is detected again.

Display Items for The Cause of Automatic Cancellation 1

Cause of cancellation	Vehicle-to-vehicle distance control mode	•Conventional (fixed speed) cruise control mode •Automatic Speed Control Device (ASCD)	Distance Control Assist	Forward Emergency Braking	Description
OPERATING ABS	×		×	×	ABS function was operated
OPERATING TCS	×	×	×		TCS function was operated
OPERATING VDC	×	×	×	×	VDC function was operated
ECM CIRCUIT	×	×			ECM did not permit ICC operation
OPE SW VOLT CIRC	×	×	×		The ICC steering switch input voltage is not within standard range
SNOW MODE SW	×		×		Shifting of the drive mode selector to SNOW position
OP SW DOUBLE TOUCH	×	×			ICC steering switches were pressed at the same time
VHCL SPD DOWN	×	×	×		Vehicle speed lower than the speed as follows • Vehicle-to-vehicle distance control mode is 24 km/h (15 MPH) • Conventional (fixed speed) cruise control mode is 32 km/h (20 MPH)
WHL SPD ELEC NOISE	×	×	×		Wheel speed sensor signal caught electromagnetic noise
VDC/TCS OFF SW	×		×	×	VDC OFF switch was pressed
VHCL SPD UNMATCH	×	×	×		Wheel speed became different from A/T vehicle speed
TIRE SLIP	×	×			Wheel slipped
IGN LOW VOLT	×	×	×	×	Decrease in ADAS control unit ignition voltage
PARKING BRAKE ON	×	×			The parking brake is operating
WHEEL SPD UNMATCH	×	×	×		The wheel speeds of 4 wheels are out of the specified values
INCHING LOST	×				A vehicle ahead is not detected during the following driving when the vehicle speed is approximately 24 km/h (15 MPH) or less
CAN COMM ERROR	×	×	×	×	ADAS control unit received an abnormal signal with CAN communication
ABS/TCS/VDC CIRC	×	×	×	×	An abnormal condition occurs in VDC/TCS/ABS system
ECD CIRCUIT	×	×	×	×	An abnormal condition occurs in ECD system
ENG SPEED DOWN	×	×			Engine speed became extremely low while controlling ICC system
ASCD VHCL SPD DTAC		×			Vehicle speed is detached from set vehicle speed
ASCD DOUBLE COMD		×			Cancel switch and operation switch are detected simultaneously
APA HI TEMP			×		The accelerator pedal actuator integrated motor temperature is high
ICC SENSOR CAN COMM ERR	×		×	×	Communication error between ADAS control unit and the ICC sensor
ABS WARNING LAMP	×		×		ABS warning lamp ON
FR RADAR BLOCKED	×		×	×	Inclusion of dirt or stains on the ICC sensor area of the front bumper

FEB) CURVATURE				×	Road curve was more than the specified value
FEB) YAW RATE				×	Detected yawing speed was more than the specified value
FEB) LTRL ACCELERATION				×	Detected lateral speed is the specified value or more
RADAR INTERFERENCE	×		×	×	ICC sensor receives electromagnetic interference
NO RECORD	×	×	×		—

Display Items for The Cause of Automatic Cancellation 2

Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
OPE VDC/TCS/ABS 1	×		The activation of VDC, TCS, or ABS during LDP system control
Vehicle dynamics	×		Vehicle behavior exceeds specified value
Steering speed	×		Steering speed was more than the specified value in evasive direction
End by yaw angle	×		Yaw angle was the end of LDP control
Departure yaw large	×		Detected more than the specified value of yaw angle in departure direction
ICC WARNING	×		Target approach warning of ICC system, FEB system, or PFCW system was activated
CURVATURE	×		Road curve was more than the specified value
Steering angle large	×		Steering angle was more than the specified value
Brake is operated	×		Brake pedal was operated
IGN LOW VOLT	×		Decrease in ADAS control unit IGN voltage
Lateral offset	×		Distance of vehicle and lane was detached in lateral direction more than the specified value
Lane marker lost	×		Lane camera unit lost the trace of lane marker
Lane marker unclear	×		Detected lane marker was unclear
Yaw acceleration	×		Detected yawing speed was more than the specified value
Deceleration large	×		Deceleration in a longitudinal direction was more than the specified value
Accel is operated	×		Accelerator pedal was depressed
Departure steering	×		Steering wheel was steered more than the specified value in departure direction
Evasive steering	×		Steering wheel was steered more than the specified value in the evasive direction
R range	×		Selector lever was operated to R range
Parking brake drift	×		Rear wheels lock was detected
Not operating condition	×		Did not meet the operating condition (vehicle speed, turn signal operation, etc.)
SNOW MODE SW	×		Shifting of the drive mode selector to SNOW position
VDC OFF SW	×		VDC OFF switch was pressed
OPE VDC/ABS 2	×		The activation of VDC or ABS during a standby time of LDP system control
BSI WARNING	×		Blind Spot Intervention system was activated
BSI) OPE VDC/TCS/ABS 1		×	The activation of VDC, TCS, or ABS during Blind Spot Intervention system control
BSI) Vehicle dynamics		×	Vehicle behavior exceeds specified value
BSI) Steering speed		×	Steering speed was more than the specified value in evasive direction

Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
BSI) End by yaw angle		×	Yaw angle was the end of Blind Spot Intervention control
BSI) Departure yaw large		×	Detected more than the specified value of yaw angle in departure direction
BSI) ICC WARNING		×	Target approach warning of ICC system, FEB system or PFCW system was activated
BSI) CURVATURE		×	Road curve was more than the specified value
BSI) Steering angle large		×	Steering angle was more than the specified value
BSI) Brake is operated		×	Brake pedal was operated
BSI) IGN LOW VOLT		×	Decrease in ADAS control unit IGN voltage
BSI) Lateral offset		×	Distance of vehicle and lane was detached in lateral direction more than the specified
BSI) Lane marker lost		×	Lane camera unit lost the trace of lane marker
BSI) Lane marker unclear		×	Detected lane marker was unclear
BSI) Yaw acceleration		×	Detected yawing speed was more than the specified value
BSI) Deceleration large		×	Deceleration in a longitudinal direction was more than the specified value
BSI) Accel is operated		×	Accelerator pedal was depressed
BSI) Departure steering		×	Steering wheel was steered more than the specified value in departure direction
BSI) Evasive steering		×	Steering wheel was steered more than the specified value in the evasive direction
BSI) R range		×	Selector lever was operated to R range
BSI) Parking brake drift		×	Rear wheels lock was detected
BSI) SNOW MODE SW		×	Shifting of the drive mode selector to SNOW position
BSI) VDC OFF SW		×	VDC OFF switch was pressed
BSI) OPE VDC/ABS 2		×	The activation of VDC or ABS during a standby time of Blind Spot Intervention system control
BSI) Not operating condition		×	Did not meet the operating condition (vehicle speed, turn signal operation, etc.)
Side Radar Lost		×	Unrecognized side radar LH or RH by the ADAS control unit
NO RECORD	×	×	—

Display Items for The Cause of Automatic Cancellation 3

Cause of cancellation	Back-up Collision Intervention	Description
CAN COMM ERROR (CAN)	×	ADAS control unit received an abnormal signal with CAN communication
CAN COMM ERROR (ECD)	×	ADAS control unit received an abnormal signal with CAN communication

Cause of cancellation	Back-up Collision Intervention	Description
IGN LOW VOLT	×	Decrease in ADAS control unit ignition voltage
VEHICLE SPEED UP	×	Vehicle speed higher than 8 km/h (5 MPH)
ACCEL IS OPERATED	×	Accelerator pedal was depressed
BRAKE IS OPERATED	×	Brake pedal was operated
APA HI TEMP	×	The accelerator pedal actuator integrated motor temperature is high
APA POWER	×	Decrease in accelerator pedal actuator ignition or battery voltage
NO RECORD	×	—

SELF DIAGNOSTIC RESULT

Refer to CCS-205, "DTC Index".

NOTE:

- The details of time display are as per the following.
- CRNT: A malfunction is detected now
- PAST: A malfunction was detected in the past
- IGN counter is displayed on FFD (Freeze Frame Data).
- 0: The malfunctions that are detected now
  CAN communication system (U1000, U1010)
- 1 - 39: It increases like 0 → 1 → 2 ··· 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.
  Other than CAN communication system (Other than U1000, U1010)
- 1 - 49: It increases like 0 → 1 → 2 ··· 38 → 49 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.
- If it is over 49, it is fixed to 49 until the self-diagnosis results are erased.

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]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
MAIN SW [On/Off]	×	×	×	×		Indicates [On/Off] status as judged from ICC steering switch
SET/COAST SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch
CANCEL SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch
RESUME/ACC SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch
DISTANCE SW [On/Off]	×					Indicates [On/Off] status as judged from ICC steering switch
CRUISE OPE [On/Off]	×	×				Indicates whether controlling or not (ON means “controlling”)

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
BRAKE SW [On/Off]	×	×	×	×	×	Indicates [On/Off] status as judged from ICC brake switch signal (ECM transmits ICC brake switch signal through CAN communication)
STOP LAMP SW [On/Off]	×	×	×	×	×	Indicates [On/Off] status as judged from stop lamp switch signal (ECM transmits stop lamp switch signal through CAN communication)
IDLE SW [On/Off]	×				×	Indicates [On/Off] status of idle switch read from ADAS control unit through CAN communication (ECM transmits On/Off status through CAN communication)
SET DISTANCE [Short/Mid/Long]	×	×				Indicates set distance memorized in ADAS control unit
CRUISE LAMP [On/Off]	×	×				Indicates [On/Off] status of MAIN switch indicator output
OWN VHCL [On/Off]	×					**NOTE:** The item is displayed, but it is not monitored
VHCL AHEAD [On/Off]	×					Indicates [On/Off] status of vehicle ahead detection indicator output
ICC WARNING [On/Off]	×					Indicates [On/Off] status of ICC system warning lamp output
VHCL SPEED SE [km/h] or [mph]	×	×	×	×	×	Indicates vehicle speed calculated from ADAS control unit through CAN communication [ABS actuator and electric unit (control unit) transmits vehicle speed signal (wheel speed) through CAN communication]
SET VHCL SPD [km/h] or [mph]	×	×				Indicates set vehicle speed memorized in ADAS control unit
BUZZER O/P [On/Off]	×				×	Indicates [On/Off] status of ICC warning chime output
THRTL SENSOR [deg]	×	×				**NOTE:** The item is displayed, but it is not monitored
ENGINE RPM [rpm]	×					Indicates engine speed read from ADAS control unit through CAN communication (ECM transmits engine speed signal through CAN communication)
WIPER SW [OFF/LOW/HIGH]	×					Indicates wiper [OFF/LOW/HIGH] status (BCM transmits front wiper request signal through CAN communication)
YAW RATE [deg/s]	×					**NOTE:** The item is displayed, but it is not monitored
BA WARNING [On/Off]	×					Indicates [On/Off] status of FEB indicator lamp output
STP LMP DRIVE [On/Off]	×	×			×	Indicates [On/Off] status of ICC brake hold relay drive output
D RANGE SW [On/Off]	×					Indicates [On/Off] status of “D” or “M” positions read from ADAS control unit through CAN communication; ON when position “D” or “M” (TCM transmits shift position signal through CAN communication).
NP RANGE SW [On/Off]	×					Indicates shift position signal read from ADAS control unit through CAN communication (TCM transmits shift position signal through CAN communication)
PKB SW [On/Off]	×					Parking brake switch status [On/Off] judged from the parking brake switch signal that ADAS control unit readout via CAN communication is displayed (combination meter transmits the parking brake switch signal via CAN communication)
PWR SUP MONI [V]	×	×				Indicates IGN voltage input by ADAS control unit
VHCL SPD AT [km/h] or [mph]	×					Indicates vehicle speed calculated from A/T vehicle speed sensor read from ADAS control unit through CAN communication (TCM transmits A/T vehicle speed sensor signal through CAN communication)

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
THRTL OPENING [%]	×	×			×	Indicates throttle position read from ADAS control unit through CAN communication (ECM transmits accelerator pedal position signal through CAN communication).
GEAR [1, 2, 3, 4, 5, 6, 7]	×					Indicates A/T gear position read from ADAS control unit through CAN communication (TCM transmits current gear position signal through CAN communication)
CLUTCH SW SIG [On/Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
NP SW SIG [On/Off]	×					Indicates [On/Off] status as judged from park/neutral position switch signal (ECM transmits park/neutral position switch signal through CAN communication).
MODE SIG [OFF, ICC, ASCD]	×					Indicates the active mode from ICC or ASCD [conventional (fixed speed) cruise control mode]
SET DISP IND [On/Off]	×					Indicates [On/Off] status of SET switch indicator output
DISTANCE [m]	×					Indicates the distance from the vehicle ahead
RELATIVE SPD [m/s]	×					Indicates the relative speed of the vehicle ahead
ON ROOT GUIDANCE [On/Off]	×					**NOTE:** The item is displayed, but it is not monitored
DYNA ASIST SW [On/Off]	×	×		×		Indicates [On/Off] status as judged from ICC steering switch signal (ECM transmits ICC steering switch signal through CAN communication)
DCA ON IND [On/Off]	×					The status [ON/OFF] of DCA system switch indicator output is displayed
DCA VHL AHED [On/Off]	×					The status [ON/OFF] of vehicle ahead detection indicator output in DCA system is displayed
IBA SW [On/Off]	×	×				**NOTE:** The item is displayed, but it is not monitored
FCW SYSTEM ON [On/Off]	×	×				Indicates [On/Off] status of PFCW system
APA TEMP [°C]	×				×	Accelerator pedal actuator integrated motor temperature that the ADAS control unit readout via ITS communication is displayed (Accelerator pedal actuator transmits the integrated motor temperature via ITS communication)
APA PWR [V]	×				×	Accelerator pedal actuator power supply voltage that the ADAS control unit readout via ITS communication is displayed (Accelerator pedal actuator transmits the power supply voltage via ITS communication)
NAVI ICC DISP [On/Off]						**NOTE:** The item is displayed, but it is not monitored
LDW SYSTEM ON [On/Off]			×			Indicates [On/Off] status of LDW system
LDW ON LAMP [On/Off]			×			Indicates [On/Off] status of LDW system display output
LDP ON IND [On/Off]			×			Indicates [On/Off] status of LDP system display output
LANE DPRT W/L [On/Off]			×			Indicates [On/Off] status of LDW/LDP warning display (Yellow) output
LDW BUZZER OUTPUT [On/Off]			×			Indicates [On/Off] status of warning buzzer output

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
LDP SYSTEM ON [On/Off]			×			Indicates [On/Off] status of LDP system
WARN REQ [On/Off]			×			Indicates an ADAS control unit judged warning state (ON/OFF) of LDP system
READY signal [On/Off]			×			Indicates LDP system settings
Camera lost [Detect/Deviate/Both]			×	×		Indicates a lane marker detection state judged from a lane marker detection signal read by the ADAS control unit via ITS communication (Lane camera unit transmits a lane marker signal via ITS communication)
Lane unclear [On/Off]			×	×		Indicates an ON/OFF state of the lane marker. The ON/OFF state is judged from a detected lane condition signal read by the ADAS control unit via ITS communication (The lane camera unit transmits a detected lane condition signal via ITS communication)
STATUS signal [Stnby/Warn/Cancl/ Off]			×			Indicates a control state of LDP system
Shift position [Off, P, R, N, D, M/T1 - 7]			×	×	×	Indicates shift position read from ADAS control unit through CAN communication (TCM transmits shift position signal through CAN communication)
Turn signal [OFF/LH/RH/LH&RH]			×	×		Indicates turn signal operation status read from ADAS control unit through CAN communication (BCM transmits turn indicator signal through CAN communication)
SIDE G [G]			×	×		Indicates lateral G acting on the vehicle. This lateral G is judged from a side G sensor signal read by ADAS control unit via CAN communication (The ABS actuator and electric unit (control unit) transmits a side G sensor signal via CAN communication)
STATUS signal [Stnby/Warn/Cancl/ Off]			×			Indicates a control state of LDP system
Lane unclear [On/Off]			×	×		Indicates an ON/OFF state of the lane marker. The ON/OFF state is judged from a detected lane condition signal read by the ADAS control unit via ITS communication (The lane camera unit transmits a detected lane condition signal via ITS communication)
FUNC ITEM (FCW) [On/Off]	×	×	×	×		Indicates systems which can be set to ON/OFF by selecting “Driver Aids” ⇒ “Emergency Assist” of the integral switch Forward Emergency Braking
FUNC ITEM (LDW) [On/Off]	×	×	×	×		Indicates systems which can be set to ON/OFF by selecting “Driver Aids” ⇒ “Lane” of the integral switch Lane Departure Warning
FUNC ITEM (BSW) [On/Off]	×	×	×	×		Indicates systems which can be set to ON/OFF by selecting “Driver Aids” ⇒ “Blind spot” of the integral switch Blind Spot Warning
FUNC ITEM (NV-ICC) [Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
FUNC ITEM (NV-DCA) [Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
DCA SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the DCA system. The DCA system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Front assist” of the integral switch
LDP SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of LDP system. LDP system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Lane”of the integral switch

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
BSI SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of Blind Spot Intervention system. Blind Spot Intervention system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Blind Spot”of the integral switch
FCW SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the PFCW system. The PFCW system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Emergency Assist” of the integral switch
LDW SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the LDW system. The LDW system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Lane” of the integral switch
BSW SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the BSW system. The BSW system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Blind spot” of the integral switch
NAVI ICC SELECT [Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
NAVI DCA SELECT [Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
SYS SELECTABILITY [On/Off]	×	×	×	×		Indicates the availability of ON/OFF switching for “Driving Aids” items received from the integral switch via CAN communication
DRIVE MODE STATS [STD/SPORT/ECO/ SNOW/MID/ERROR]	×	×	×	×		Indicates a drive mode selector select position judged from a drive mode select switch position signal read by the ADAS control unit via CAN communication (The chassis control module transmits a switch position signal of the drive mode select switch signal via CAN communication)
WARN SYS SW [On/Off]	×	×	×	×		**NOTE:** The item is displayed, but it is not monitored
BSW/BSI WARN LMP [On/Off]				×		Indicates [On/Off] status of Blind Spot warning malfunction
BSI ON IND [On/Off]				×		Indicates [On/Off] status of Blind Spot Intervention system display
BSW SYSTEM ON [On/Off]				×		Indicates [On/Off] status of BSW system
BSI SYSTEM ON [On/Off]				×		Indicates [On/Off] status of Blind Spot Intervention system
FCW SYSTEM ON [On/Off]	×	×				Indicates [On/Off] status of PFCW system
BCI SYSTEM ON [On/Off]					×	Indicates [On/Off] status of BCI system
BCI SWITCH [On/Off]					×	**NOTE:** The item is displayed, but it is not monitored
BATTERY CIRCUIT OFF [On/Off]	×					**NOTE:** The item is displayed, but it is not used
LDP WARNING INDICATOR [On/Off]			×			Indicates [On/Off] status of LDP warning display (Yellow) output
LDW ON INDICATOR [On/Off]			×			Indicates [On/Off] status of LDW system ON display output
LDW WARNING INDICATOR [On/Off]			×			Indicates [On/Off] status of LDW system warning display output

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
SYSTEM CANCEL MESSAGE [NOREQ/SLIP/ SNOW/VDC OFF]	×	×	×	×		Indicates status of system cancel display output
CAMERA HI TEMP MSG [On/Off]			×	×		Indicates [On/Off] status of lane camera unit high temperature warning display output
ITS SETTING ITEM(DCA) [On/Off]	×	×	×	×		Indicates the presence or absence of DCA system.
ITS SETTING ITEM(LDP) [On/Off]	×	×	×	×		Indicates the presence or absence of LDP system.
ITS SETTING ITEM(BSI) [On/Off]	×	×	×	×		Indicates the presence or absence of Blind Spot Intervention system.
BSI WARNING INDICATOR [On/Off]				×		Indicates [On/Off] status of Blind Spot Intervention warning display output
BSW ON INDICATOR [On/Off]				×		Indicates [On/Off] status of BSW system ON display output
SIDE RADAR BLOCK COND [On/Off]				×		Indicates [On/Off] status of side radar with dirt or foreign materials
LDW WARNING ALERT TIMING [Nothing/Early/Late]			×			**NOTE:** The item is displayed, but it is not monitored
BSW IND BRIGHTNESS [Nothing/Bright/Normal/Dark]				×		Indicates status of brightness of Blind Spot Warning/Blind Spot Intervention indicator
SL MAIN SW [On/Off]		×				Indicates [On/Off] status as judged from steering switch
FUNC ITEM(FEB) [On/Off]	×					Indicates systems which can be set to ON/OFF by selecting “Driver Aids” ⇒ “Emergency Assist” of the integral switch Forward Emergency Braking
FEB SELECT [On/Off]	×					Indicates an ON/OFF state of the FEB system. The FEB system can be set to ON/OFF by selecting “Driving Aids” ⇒ “Emergency Assist” of the integral switch
FEB SW [On/Off]	×					Indicates [On/Off] status of FEB system
SL TARGET VEHICLE SPEED [km/h]	×					Indicates set vehicle speed memorized in ADAS control unit
SL SET LAMP [On/Off]	×					Indicates [On/Off] status of speed limiter SET display output
SL LIMIT LAMP [On/Off]	×					Indicates [On/Off] status of speed limiter MAIN switch display output
ASCD CANCEL (LOW SPEED) [NON/CUT]	×					Indicates the vehicle cruise condition. • NON: Vehicle speed is maintained at the ASCD set speed. • CUT: Vehicle speed decreased to excessively low, and ASCD operation is cut off.

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
ASCD CANCEL (SPEED DIFF) [NON/CUT]	×					Indicates the vehicle cruise condition. • NON: Vehicle speed is maintained at the ASCD set speed. • CUT: Vehicle speed decreased to excessively low compared with the ASCD set speed, and ASCD operation is cut off.
KICK DOWN [On/Off]	×					Display Kick Down decision state. • On: Accelerator pedal is depressed • Off: Accelerator pedal is fully released

ACTIVE TEST

CAUTION:

- **Never perform “Active Test” while driving the vehicle.**
- **The “Active Test” cannot be performed when the following systems malfunction is displayed.**
  - **ICC system**
  - **DCA**
  - **LDW**
  - **LDP**
  - **Blind Spot Warning**
  - **Blind Spot Intervention**
  - **BCI**
- **The “Active Test” cannot be performed when the FEB warning lamp is illuminated.**
- **Shift the selector lever to “P” position, and then perform the test.**

Test item	Description
METER LAMP	The MAIN switch indicator and FEB warning lamp can be illuminated by ON/OFF operations as necessary
STOP LAMP	The ICC brake hold relay can be operated by ON/OFF operations as necessary, and the stop lamp can be illuminated
ICC BUZZER	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Intelligent Cruise Control (ICC) • Distance Control Assist (DCA) • Predictive Forward Collision Warning (PFCW) • Forward Emergency Brake (FEB)
BRAKE ACTUATOR	Activates the brake by an arbitrary operation
ACTIVE PEDAL	The accelerator pedal actuator can be operated as necessary
DCA INDICATOR	The DCA system display can be illuminated by ON/OFF operations as necessary
LDP BUZZER	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Lane Departure Warning (LDW) • Lane Departure Prevention (LDP) • Blind Spot Warning (BSW) • Blind Spot Intervention
LDP ON IND	The LDP system display can be illuminated by ON/OFF operations as necessary
LANE DEPARTURE W/L	The LDW/LDP warning can be illuminated by ON/OFF operations as necessary
BSW ON INDICATOR	The Blind Spot Warning system display can be illuminated by ON/OFF operations as necessary
BSI ON INDICATOR	The Blind Spot Intervention system display can be illuminated by ON/OFF operations as necessary
LDW ON INDICATOR	The LDW system display can be illuminated by ON/OFF operations as necessary
LDP WARNING INDICATOR	The LDP malfunction can be illuminated by ON/OFF operations as necessary
LDW WARNING INDICATOR	The LDW malfunction can be illuminated by ON/OFF operations as necessary
BSW WARNING INDICATOR	The BSW malfunction can be illuminated by ON/OFF operations as necessary
BSI WARNING INDICATOR	The Blind Spot Intervention malfunction can be illuminated by ON/OFF operations as necessary

METER LAMP

NOTE:

The test can be performed only when the engine is running.

Test item	Operation	Description	• MAIN switch indicator • ICC system warning • FEB warning lamp
METER LAMP	Off	Stops sending the following signals to exit from the test • Meter display signal • FEB warning lamp signal	OFF
	On	Transmits the following signals to the combination meter via CAN communication • Meter display signal • FEB warning lamp signal	ON

STOP LAMP

Test item	Operation	Description	Stop lamp
STOP LAMP	Off	Stops transmitting the ICC brake hold relay drive signal below to end the test	OFF
	On	Transmits the ICC brake hold relay drive signal	ON

ICC BUZZER

Test item	Operation	Description	Operation sound
ICC BUZZER	MODE1	Transmits the buzzer output signals to the driver assistance buzzer control module via ITS communication	Intermittent beep sound
	Test start	Starts the tests of “MODE1”	—
	Reset	Stops transmitting the buzzer output signal below to end the test	—
	End	Returns to the “SELECT TEST ITEM” screen	—

BRAKE ACTUATOR

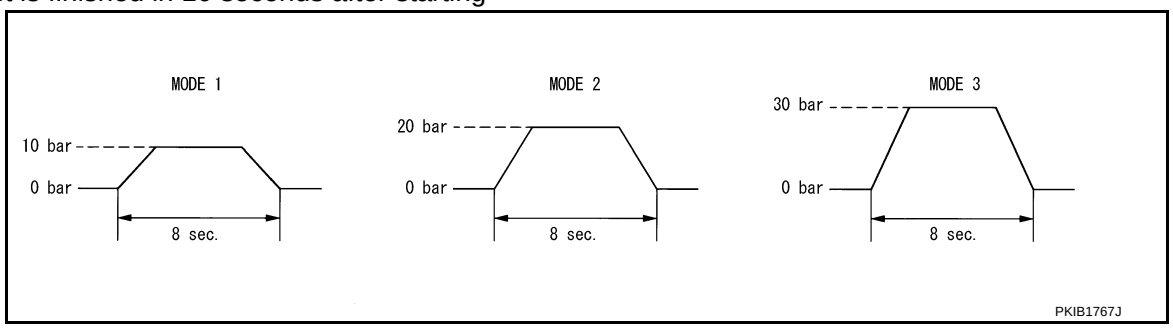
NOTE:

The test can be performed only when the engine is running.

Test item	Operation	Description	“PRESS SENS” value
BRAKE ACTUATOR	MODE1	Transmits the brake fluid pressure control signal to the ABS actuator and electric unit (control unit) via chassis control module	10 bar
	MODE2		20 bar
	MODE3		30 bar
	Test start	Starts the tests of “MODE1”, “MODE2” and “MODE3”	—
	Reset	Stops transmitting the brake fluid pressure control signal below to end the test	—
	End	Returns to the “SELECT TEST ITEM” screen	—

NOTE:

The test is finished in 10 seconds after starting



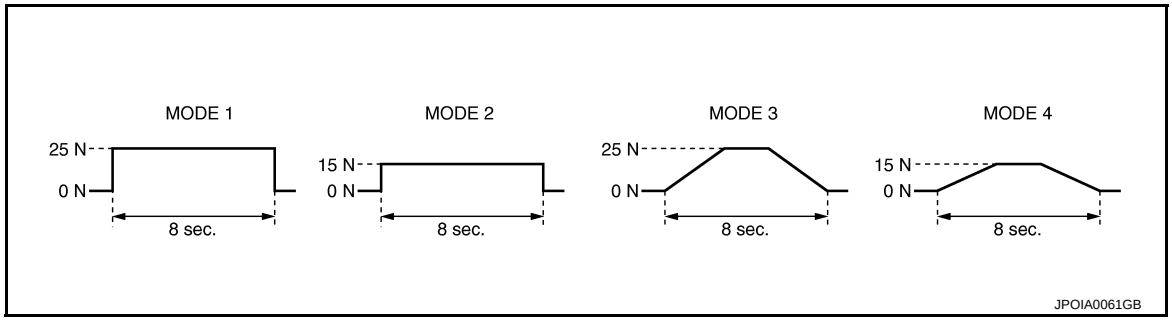
Active Pedal

CAUTION:
- **Shift the selector lever to "P" position, and then perform the test.**
- **Never depress the accelerator pedal excessively. (The engine speed may rise unexpectedly when finishing the test.)**

NOTE:
- Depress the accelerator pedal to check when performing the test.
- The test can be performed only when the engine is running.

Test item	Operation	Description	Accelerator pedal operation
ACTIVE PEDAL	MODE1	Transmit the accelerator pedal feedback force control signal to the accelerator pedal actuator via ITS communication.	Constant with a force of 25 N for 8 seconds
	MODE2		Constant with a force of 15 N for 8 seconds
	MODE3		Change up to a force of 25 N for 8 seconds
	MODE4		Change up to a force of 15 N for 8 seconds
	Test start	Starts the tests of "MODE1", "MODE2", "MODE3" and "MODE4"	—
	Reset	Stops transmitting the accelerator pedal feedback force control signal below to end the test.	—
	End	Returns to the "SELECT TEST ITEM" screen	—

NOTE:
The test is finished in 10 seconds after starting



DCA INDICATOR

NOTE:
The test can be performed only when the engine is running.

Test item	Operation	Description	DCA system display
DCA INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LDP BUZZER

Test item	Operation	Description	Warning buzzer
LDP BUZZER	Off	Stops transmitting the warning buzzer signal below to end the test	—
	On	Transmits the warning buzzer signal to the warning buzzer	ON

LDP ON IND

Test item	Operation	Description	LDP system display (Green)
LDP ON IND	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LANE DEPARTURE W/L

Test item	Operation	Description	Lane departure system display (Yellow)
LANE DEPARTURE W/L	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSW ON INDICATOR

Test item	Operation	Description	Blind Spot Warning system display (Yellow)
BSW ON INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSI ON INDICATOR

Test item	Operation	Description	Blind Spot Intervention system display (Green)
BSI ON INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LDW ON INDICATOR

Test item	Operation	Description	LDW system display (White)
LDW ON INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LDP WARNING INDICATOR

Test item	Operation	Description	LDP malfunction (Yellow)
LDP WARNING INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LDW WARNING INDICATOR

Test item	Operation	Description	LDW malfunction (Yellow)
LDW WARNING INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSW WARNING INDICATOR

Test item	Operation	Description	BSW malfunction (Yellow)
BSW WARNING INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSI WARNING INDICATOR

Test item	Operation	Description	Blind Spot Intervention malfunction (Yellow)
BSI WARNING INDICATOR	Off	Stops transmitting the meter display signal below to end the test	—
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

ECU IDENTIFICATION

Displays ADAS control unit parts number.

ECU DIAGNOSIS INFORMATION

ADAS CONTROL UNIT

Reference Value

INFOID:0000000013374667

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
MAIN SW	Ignition switch ON	When MAIN switch is pressed	On
		When MAIN switch is not pressed	Off
SET/COAST SW	Ignition switch ON	When SET/COAST switch is pressed	On
		When SET/COAST switch is not pressed	Off
CANCEL SW	Ignition switch ON	When CANCEL switch is pressed	On
		When CANCEL switch is not pressed	Off
RESUME/ACC SW	Ignition switch ON	When RESUME/ACCELERATE switch is pressed	On
		When RESUME/ACCELERATE switch is not pressed	Off
DISTANCE SW	Ignition switch ON	When DISTANCE switch is pressed	On
		When DISTANCE switch is not pressed	Off
CRUISE OPE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When ICC system is controlling	On
		When ICC system is not controlling	Off
BRAKE SW	Ignition switch ON	When brake or clutch pedal is depressed	Off
		When brake or clutch pedal is not depressed	On
STOP LAMP 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
SET DISTANCE	• Start the engine and turn the ICC system ON • Press the DISTANCE switch to change the vehicle-to-vehicle distance setting	When set to “long”	Long
		When set to “middle”	Mid
		When set to “short”	Short
CRUISE LAMP	Start the engine and press MAIN switch	ICC system ON (MAIN switch indicator ON)	On
		ICC system OFF (MAIN switch indicator OFF)	Off
OWN VHCL	**NOTE:** The item is indicated, but not monitored		Off
VHCL AHEAD	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	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
ICC WARNING	Start the engine and press MAIN switch	When ICC system is malfunctioning (ICC system malfunction ON)	On
		When ICC system is normal (ICC system malfunction OFF)	Off

Monitor item	Condition		Value/Status
VHCL SPEED SE	While driving		Displays the vehicle speed calculated by ADAS control unit
SET VHCL SPD	While driving	When vehicle speed is set	Displays the set vehicle speed
BUZZER O/P	Engine running	When the buzzer of the following system operates • Vehicle-to-vehicle distance control mode • DCA system • PFCW system • FEB system	On
		When the buzzer of the following system not operates • Vehicle-to-vehicle distance control mode • DCA system • PFCW system • FEB system	Off
THRTL SENSOR	**NOTE:** The item is indicated, but not monitored		0.0
ENGINE RPM	Engine running		Equivalent to tachometer reading
WIPER SW	Ignition switch ON	Wiper not operating	Off
		Wiper LO operation	Low
		Wiper HI operation	High
YAW RATE	**NOTE:** The item is indicated, but not monitored		0.0
BA WARNING	Engine running	FEB OFF indicator lamp ON • When FEB system is malfunctioning • When FEB system is turned to OFF	On
		FEB OFF indicator lamp OFF • When FEB system is normal • When FEB system is turned to ON	Off
STP LMP DRIVE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When ICC brake hold relay is activated	On
		When ICC brake hold relay is not activated	Off
D RANGE SW	Engine running	When the selector lever is in “D” position or manual mode	On
		When the selector lever is in any position other than “D” or manual mode	Off
NP RANGE SW	Engine running	When the selector lever is in “N”, “P” position	On
		When the selector lever is in any position other than “N”, “P”	Off
PKB SW	Ignition switch ON	When the parking brake is applied	On
		When the parking brake is released	Off
PWR SUP MONI	Engine running		Power supply voltage value of ADAS control unit
VHCL SPD AT	While driving		Value of A/T vehicle speed sensor signal
THRTL OPENING	Engine running	Depress accelerator pedal	Displays the throttle position

Monitor item	Condition		Value/Status
GEAR	While driving		Displays the gear position
CLUTCH SW SIG	Ignition switch ON	**NOTE:** The item is indicated, but not monitored.	Off
NP SW SIG	Ignition switch ON	When the shift lever is in neutral position	On
		When the shift lever is in any position other than neutral	Off
MODE SIG	Start the engine and press MAIN switch	When ICC system is deactivated	Off
		When vehicle-to-vehicle distance control mode is activated	ICC
		When conventional (fixed speed) cruise control mode is activated	ASCD
SET DISP IND	• Drive the vehicle and activate the conventional (fixed speed) cruise control mode • Press SET/COAST switch	SET switch indicator ON	On
		SET switch indicator OFF	Off
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
ON ROOT GUIDANCE	**NOTE:** The item is indicated, but not monitored		Off
DYNA ASIST SW	Ignition switch ON	When dynamic driver assistance switch is pressed	On
		When dynamic driver assistance switch is not pressed	Off
DCA ON IND	Start the engine and press dynamic driver assistance switch (When DCA setting is ON)	DCA system OFF	Off
		DCA system ON	On
DCA VHL AHED	Drive the vehicle and activate the DCA system	When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off
		When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
IBA SW	**NOTE:** The item is indicated, but not monitored		Off
FCW SYSTEM ON	Ignition switch ON	When the PFCW system is ON	On
		When the PFCW system is OFF	Off
APA TEMP	Engine running		Display the accelerator pedal actuator integrated motor temperature
APA PWR	Ignition switch ON		Power supply voltage value of accelerator pedal actuator
NAVI-ICC DISP	**NOTE:** The item is indicated, but not monitored		Off
LDW SYSTEM ON	Ignition switch ON	When the LDW system is ON	On
		When the LDW system is OFF	Off

Monitor item	Condition		Value/Status
LDW ON LAMP	Ignition switch ON	When the LDW system is ON	On
		When the LDW system is OFF	Off
LDP ON IND	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDW system is ON	On
		When the LDW system is OFF	Off
LANE DPRT W/L	Drive the vehicle and activate the LDW system or LDP system	Lane departure warning lamp ON	On
		Lane departure warning lamp OFF	Off
LDW BUZZER OUTPUT	Drive the vehicle and activate the LDW/LDP system or Blind Spot Warning/Blind Spot Intervention system	When the buzzer of the following system operates • LDW/LDP system • Blind Spot Warning/Blind Spot Intervention system	On
		When the buzzer of the following system does not operate • LDW/LDP system • Blind Spot Warning/Blind Spot Intervention system	Off
LDP SYSTEM ON	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDP system is ON	On
		When the LDP system is OFF	Off
WARN REQ	Drive the vehicle and activate the LDP system	Lane departure warning is operating	On
		Lane departure warning is not operating	Off
READY signal	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDP system is ON	On
		When the LDP system is OFF	Off
Camera lost	Drive the vehicle and activate the LDW system, LDP system or Blind Spot Intervention system	Both side lane markers are detected	Detect
		Deviate side lane marker is lost	Deviate
		Both side lane markers are lost	Both
Lane unclear	While driving	Lane marker is unclear	On
		Lane marker is clear	Off
STATUS signal	Drive the vehicle and activate the LDP system	When the LDP system is ON	Stnby
		When the LDP system is operating	Warn
		When the LDP system is canceled	Cancl
		When the LDP system is OFF	Off
Shift position	• Engine running • While driving		Displays the shift position
Turn signal	Turn signal lamps OFF		Off
	Turn signal lamp LH blinking		LH
	Turn signal lamp RH blinking		RH
	Turn signal lamp LH and RH blinking		LH&RH
SIDE G	While driving	Vehicle turning right	Negative value
		Vehicle turning left	Positive value
STATUS signal	Drive the vehicle and activate the LDP system	When the LDP system is ON	Stnby
		When the LDP system is operating	Warn
		When the LDP system is canceled	Cancl
		When the LDP system is OFF	Off
Lane unclear	While driving	Lane marker is unclear	On
		Lane marker is clear	Off
FUNC ITEM	Ignition switch ON		FUNC3

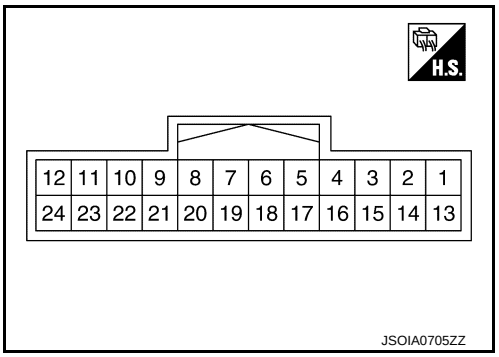
Monitor item	Condition		Value/Status
FUNC ITEM (FCW)	Engine running	“Forward Emergency Braking” set with the integral switch is ON	On
		“Forward Emergency Braking” set with the integral switch is OFF	Off
FUNC ITEM (LDW)	Engine running	“Lane Departure Warning” set with the integral switch is ON	On
		“Lane Departure Warning” set with the integral switch is OFF	Off
FUNC ITEM (BSW)	Engine running	“Blind Spot Warning” set with the integral switch is ON	On
		“Blind Spot Warning” set with the integral switch is OFF	Off
FUNC ITEM (NV-ICC)	**NOTE:** The item is indicated, but not monitored		Off
FUNC ITEM (NV-DCA)	**NOTE:** The item is indicated, but not monitored		Off
DCA SELECT	Ignition switch ON	“Distance Control Assist” set with the integral switch is ON	On
		“Distance Control Assist” set with the integral switch is OFF	Off
LDP SELECT	Ignition switch ON	“Lane Departure Intervention” set with the integral switch is ON	On
		“Lane Departure Intervention” set with the integral switch is OFF	Off
BSI SELECT	Ignition switch ON	“Blind Spot Intervention” set with the integral switch is ON	On
		“Blind Spot Intervention” set with the integral switch is OFF	Off
FCW SELECT	Ignition switch ON	“Forward Emergency Braking” set with the integral switch is ON	On
		“Forward Emergency Braking” set with the integral switch is OFF	Off
LDW SELECT	Ignition switch ON	“Lane Departure Warning” set with the integral switch is ON	On
		“Lane Departure Warning” set with the integral switch is OFF	Off
BSW SELECT	Ignition switch ON	“Blind Spot Warning” set with the integral switch is ON	On
		“Blind Spot Warning” set with the integral switch is OFF	Off
NAVI ICC SELECT	**NOTE:** The item is indicated, but not monitored		Off
NAVI DCA SELECT	**NOTE:** The item is indicated, but not monitored		Off
SYS SELECTABILITY	Ignition switch ON	Items set with the integral switch can be switched normally	On
		Items set with the integral switch cannot be switched normally	Off
DRIVE MODE STATS	Ignition switch ON	When drive mode select switch position is STANDARD	STD
		When drive mode select switch position is in SPORT	SPORT
		When drive mode select switch position is in ECO	ECO
		When drive mode select switch position is in SNOW	SNOW
		When drive mode select switch position is in PERSONAL	STD
		A signal other than those above is input	ERROR

Monitor item	Condition		Value/Status
WARN SYS SW	**NOTE:** The item is indicated, but not monitored		Off
BSW/BSI WARN LMP	Ignition switch ON	When the BSW system is malfunctioning	On
		When the BSW system is normal	Off
BSI ON IND	Ignition switch ON	Blind Spot Intervention warning ON	On
		Blind Spot Intervention warning OFF	Off
BSW SYSTEM ON	Ignition switch ON	When the BSW system is ON	On
		When the BSW system is OFF	Off
BSI SYSTEM ON	Start the engine and press dynamic driver assistance switch (When Blind Spot Intervention system setting is ON)	When the Blind Spot Intervention system is ON	On
		When the Blind Spot Intervention system is OFF	Off
FCW SYSTEM ON	Engine running	When the FEB/PFCW system is ON	On
		When the FEB/PFCW system is OFF	Off
BCI SYSTEM ON	Engine running	When the BCI system is ON	On
		When the BCI system is OFF	Off
BCI SWITCH	**NOTE:** The item is indicated, but not monitored		Off
BATTERY CIRCUIT OFF	**NOTE:** The item is indicated, but not used		Off
LDP WARNING INDICATOR	Engine running	When the LDP system is malfunctioning	On
		When the LDP system is normal	Off
LDW ON INDICATOR	Ignition switch ON	LDW system display ON	On
		LDW system display OFF	Off
LDW WARNING INDICATOR	Ignition switch ON	When the LDW system is malfunctioning	On
		When the LDW system is normal	Off
SYSTEM CANCEL MESSAGE	Ignition switch ON	When the vehicle is normal	NOREQ
		When the wheel is slipping	SLIP
		When the drive mode selector is SNOW mode	SNOW
		When the VDC is OFF	VDC OFF
CAMERA HI TEMP MSG	Ignition switch ON	Lane camera unit high temperature warning display ON	On
		Lane camera unit high temperature warning display OFF	Off
ITS SETTING ITEM(DCA)	Ignition switch ON		On
ITS SETTING ITEM(LDP)	Ignition switch ON		On
ITS SETTING ITEM(BSI)	Ignition switch ON		On
BSI WARNING INDICATOR	Engine running	When the Blind Spot Intervention is malfunctioning	On
		When the Blind Spot Intervention is normal	Off
BSW ON INDICATOR	Ignition switch ON	BSW system display ON	On
		BSW system display OFF	Off
SIDE RADAR BLOCK COND	Ignition switch ON	Front bumper or side radar is dirty	On
		Front bumper and side radar is clean	Off
LDW WARNING ALERT TIMING	Ignition switch ON	LDW system OFF	Nothing
		Lane departure warning timing is early setting	Early
		Lane departure warning timing is late setting	Late

Monitor item	Condition		Value/Status
BSW IND BRIGHTNESS	Ignition switch ON	BSW system OFF	Nothing
		Blind Spot Warning/Blind Spot Intervention indicator brightness bright	Bright
		Blind Spot Warning/Blind Spot Intervention indicator brightness normal	Normal
		Blind Spot Warning/Blind Spot Intervention indicator brightness dark	Dark
SL MAIN SW	Engine running	When speed limiter MAIN switch is pressed	On
		When speed limiter MAIN switch is not pressed	Off
FUNC ITEM (FEB)	Engine running	"Forward Emergency Braking" set with the integral switch is ON	On
		"Forward Emergency Braking" set with the integral switch is OFF	Off
FEB SELECT	Ignition switch ON	“Forward Emergency Braking” set with the integral switch is ON	On
		“Forward Emergency Braking” set with the integral switch is OFF	Off
FEB SW	Engine running	FEB system ON	On
		FEB system OFF	Off
SL TARGET VEHICLE SPEED	While driving	When vehicle speed is set	Displays the set vehicle speed
SL SET LAMP	• Drive the vehicle and activate the speed limiter • Press speed limiter MAIN switch	Speed limiter SET indicator ON	On
		Speed limiter SET indicator OFF	Off
SL LIMIT LAMP	• Drive the vehicle and activate the speed limiter • Press speed limiter MAIN switch	Speed limiter system ON	On
		Speed limiter system OFF	Off
ASCD CANCEL (LOW SPEED)	Drive the vehicle and activate the ASCD	ASCD cancelled by low vehicle speed	On
		Other than above	Off
ASCD CANCEL (SPEED DIFF)	Drive the vehicle and activate the ASCD	ASCD cancelled by difference between set speed and vehicle speed	On
		Other than above	Off
KICK DOWN	Drive the vehicle and activate the speed limiter	When accelerator pedal is full depressed	On
		Other than above	Off

TERMINAL LAYOUT

PHYSICAL VALUES



Terminal No. (Wire color)		Description		Condition		Standard value	Reference value
+	–	Signal name	Input/ Output				
1 (L)	—	CAN -H	—	—		—	—
2 (R)		CAN -L	—	—		—	—
5 (B)	Ground	Ground	—	Ignition switch ON		0 - 0.1 V	Approx. 0 V
6 (L)	—	ITS communication-H	—	—		—	—
7 (Y)		ITS communication-L	—	—		—	—
8 (L)		Chassis communication-H	—	—		—	—
9 (R)		Chassis communication-L	—	—		—	—
12 (GR)[*1] (G)[*2]	5 (B)	Ignition power supply	Input	Ignition switch ON	—	10 - 16 V	Battery voltage
17 (V)		ICC brake hold relay drive signal	Output	Ignition switch ON	—	10 - 16 V	Approx. 12 V
					At “STOP LAMP” test of “Active test”	0 - 0.1 V	Approx. 0 V
23 (Y)		ICC/ASCD steering switch signal ground	—	Ignition switch ON		0 - 0.1 V	Approx. 0 V
24[*3] (SB)	23[*3] (Y)	ICC steering switch signal	Input	Ignition switch ON	ICC steering switch: OFF	4.1 - 4.3 V	Approx. 4.3 V
					CANCEL switch: Pressed	1.1 - 1.6	Approx. 1.3 V
					RESUME/ACCELERATE switch: Pressed	3.5 - 3.7 V	Approx. 3.7 V
					SET/COAST switch: Pressed	2.8 - 3.1 V	Approx. 3.0 V
					DISTANCE switch: Pressed	2.0 - 2.4 V	Approx. 2.2 V
24[*4] (SB)	23[*4] (Y)	ASCD steering switch signal	Input	Ignition switch ON	ASCD steering switch: OFF	3.8 - 4.3 V	Approx. 4.0 V
					CANCEL switch: Pressed	0.8 - 1.3 V	Approx. 1.0 V
					SET/COAST switch: Pressed	1.8 - 2.2 V	Approx. 2.0 V
					RESUME/ACCELERATE switch: Pressed	2.8 - 3.1 V	Approx. 3.0 V

NOTE:
*1: VR30DDTT
*2: 2.0 TURBO GASOLINE ENGINE
*3: Used only in with ICC.
*4: Used only in without ICC.

Fail-safe (ADAS Control Unit)

INFOID:0000000013374668

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

System	Buzzer	Warning lamp/Warning display	Description
Vehicle-to-vehicle distance control mode	High-pitched tone	ICC system warning	Cancel
Conventional (fixed speed) cruise control mode	High-pitched tone	ICC system warning	Cancel
Forward Emergency Braking (FEB)	High-pitched tone	• FEB warning lamp • Warning systems indicator (Forward position: Yellow)	Cancel
Predictive Forward Collision Warning (PFCW)	High-pitched tone	Warning systems indicator (Forward position: Yellow)	Cancel
Distance Control Assist (DCA)	High-pitched tone	Warning systems indicator (Forward position: Yellow)	Cancel
Lane Departure Warning (LDW)	—	Warning systems indicator (Lane position: Yellow)	Cancel
Lane Departure Prevention (LDP)	Low-pitched tone	Warning systems indicator (Lane position: Yellow)	Cancel
Blind Spot Warning (BSW)	—	Warning systems indicator (Blind spot position: Yellow)	Cancel
Blind Spot Intervention	Low-pitched tone	Warning systems indicator (Blind spot position: Yellow)	Cancel
Back-up Collision Intervention (BCI)	High-pitched tone	BCI system warning	Cancel

DTC Inspection Priority Chart

INFOID:0000000013374669

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

Priority	Detected items (DTC)
1	• U1507: LOST COMM (SIDE RDR R) • U1508: LOST COMM (SIDE RDR L)
2	• 1CA0A: CONFIG UNFINISHED • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	• C1B00: CAMERA UNIT MALF • C1F02: APA C/U MALF • C1B53: SIDE RDR R MALF • C1B54: SIDE RDR L MALF • C1B84: DIST SEN MALFUNCTION

Priority	Detected items (DTC)	
4	• C1A01: POWER SUPPLY CIR • C1A02: POWER SUPPLY CIR 2 • C1A04: ABS/TCS/VDC CIRC • C1A05: BRAKE SW/STOP L SW • C1A06: OPERATION SW CIRC • C1A13: STOP LAMP RLY FIX • C1A14: ECM CIRCUIT • C1A24: NP RANGE • C1A26: ECD MODE MALF • C1A27: ECD PWR SUPLY CIR • C1A33: CAN TRANSMISSION ERR • C1A34: COMMAND ERROR • C1A35: APA CIR • C1A36: APA CAN COMM CIR • C1A37: APA CAN CIR 2 • C1A38: APA CAN CIR 1 • C1A39: STRG SEN CIR • C1B01: CAM AIMING INCMP • C1B03: CAM ABNRML TMP DETCT • C1B5D: FEB OPE COUNT LIMIT • C1B56: SONAR CIRCUIT • C1B57: AVM CIRCUIT • C1B59: CCM CIRCUIT • C1B82: DIST SEN OFF-CENTER • C1B85: DIST SEN ABNORMAL TEMP • C1B86: DIST SEN PWR SUP CIR • C1F01: APA MOTOR MALF • C1F05: APA PWR SUPLY CIR	• U0121: VDC CAN CIR 2 • U0126: STRG SEN CAN CIR 1 • U0235: ICC SENSOR CAN CIRC 1 • U0401: ECM CAN CIR 1 • U0402: TCM CAN CIR 1 • U0415: VDC CAN CIR 1 • U0424: HVAC CAN CIR 1 • U0428: STRG SEN CAN CIR 2 • U1500: CAM CAN CIR 2 • U1501: CAM CAN CIR 1 • U1502: ICC SEN CAN COMM CIR • U1503: SIDE RDR L CAN CIR 2 • U1504: SIDE RDR L CAN CIR 1 • U1505: SIDE RDR R CAN CIR 2 • U1506: SIDE RDR R CAN CIR 1 • U150B: ECM CAN CIRC 3 • U150C: VDC CAN CIRC 3 • U150D: TCM CAN CIRC 3 • U150E: BCM CAN CIRC 3 • U150F: AV CAN CIRC 3 • U1512: HVAC CAN CIRC3 • U1513: METER CAN CIRC 3 • U1514: STRG SEN CAN CIRC 3 • U1515: ICC SENSOR CAN CIRC 3 • U1516: CAM CAN CIRC 3 • U1517: APA CAN CIRC 3 • U1518: SIDE RDR L CAN CIRC 3 • U1519: SIDE RDR R CAN CIRC 3 • U1521: SONAR CAN COMMUNICATION 2 • U1522: SONAR CAN COMMUNICATION 1 • U1523: SONAR CAN COMMUNICATION 3 • U1524: AVM CAN COMMUNICATION 1 • U1525: AVM CAN COMMUNICATION 3 • U1527: CCM CAN CIR 1 • U153F: CCM CAN CIR 2 • U1530: DR ASSIST BUZZER CAN CIR 1 • U1538: EMCM CAN CIRCUIT 3 • U1540: DAST 3 CAN CIR 1 • U1541: DAST 3 CAN CIR 2
5	• C1A03: VHCL SPEED SE CIRC	
6	• C1A15: GEAR POSITION	
7	• C1A00: CONTROL UNIT	

DTC Index

INFOID:0000000013374670

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
- B: Conventional (fixed speed) cruise control mode
- C: Distance Control Assist (DCA)
- D: Forward Emergency Braking (FEB)
- E: Predictive Forward Collision Warning (PFCW)
- F: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- G: Back-up Collision Intervention (BCI)
- H: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- I: Automatic Speed COntrol Device (ASCD) (Without ICC)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	55	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	—	—
C1A0A	41	CONFIG UNFINISHED	A, B, C, D, E, F, G, H, I	DAS-103
C1A00	0	CONTROL UNIT	A, B, C, D, E, F, G, H, I	DAS-104
C1A01	1	POWER SUPPLY CIR	A, B, C, D, E, F, G, H, I	DAS-105
C1A02	2	POWER SUPPLY CIR 2	A, B, C, D, E, F, G, H, I	DAS-105
C1A03	3	VHCL SPEED SE CIRC	A, B, C, D, E, F, G, H, I	DAS-106
C1A04	4	ABS/TCS/VDC CIRC	A, B, C, D, E, F, G, H, I	DAS-108
C1A05	5	BRAKE SW/STOP L SW	A, B, C, D, G, H	DAS-109
C1A06	6	OPERATION SW CIRC	A, B, C, D, E, H, I	DAS-117
C1A13	13	STOP LAMP RLY FIX	A, B, C, D, E, G	DAS-121
C1A14	14	ECM CIRCUIT	A, B, C, D, E, I	DAS-132
C1A15	15	GEAR POSITION	A, B, C, D, E, I	DAS-134
C1A24	24	NP RANGE	A, B, C, D, E, F, G	DAS-136
C1A26	26	ECD MODE MALF	A, B, C, D, G	DAS-138
C1A27	27	ECD PWR SUPLY CIR	A, B, C, D, G	DAS-140
C1A33	33	CAN TRANSMISSION ERR	A, B, C, D, E, I	DAS-142
C1A34	34	COMMAND ERROR	A, B, C, D, E, I	DAS-143
C1A35	35	APA CIR	A, C, D, E	DAS-144
C1A36	36	APA CAN COMM CIR	A, C, D, E	DAS-145
C1A37	133	APA CAN CIR 2	A, C, D, E	DAS-146
C1A38	132	APA CAN CIR 1	A, C, D, E	DAS-147
C1A39	39	STRG SEN CIR	A, B, C, D, E, F, G	DAS-148
C1B00	81	CAMERA UNIT MALF	F, H	DAS-149
C1B01	82	CAM AIMING INCMP	F, H	DAS-150
C1B03	83	CAN ABNRML TMP DETCT	F, H	DAS-151
C1B5D	198	FEB OPE COUNT LIMIT	C, D, E	DAS-152
C1B53	84	SIDE RDR R MALF	F, G	DAS-153
C1B54	85	SIDE RDR L MALF	F, G	DAS-154
C1B56	86	SONAR CIRCUIT	G	DAS-155
C1B57	87	AVM CIRCUIT	G	DAS-156
C1B59	184	CCM CIRCUIT	A, B, C, F, G	DAS-157

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
- B: Conventional (fixed speed) cruise control mode
- C: Distance Control Assist (DCA)
- D: Forward Emergency Braking (FEB)
- E: Predictive Forward Collision Warning (PFCW)
- F: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- G: Back-up Collision Intervention (BCI)
- H: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- I: Automatic Speed COntrol Device (ASCD) (Without ICC)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
C1B82	12	DIST SEN OFF-CENTER	A, C, D, E	DAS-158
C1B84	17	DIST SEN MALFUNCTION	A, C, D, E	DAS-159
C1B85	21	DIST SEN ABNORMAL TEMP	A, C, D, E	DAS-160
C1B86	80	DIST SEN PWR SUP CIR	A, C, D, E	DAS-161
C1F01	91	APA MOTOR MALF	A, C, D, E	DAS-163
C1F02	92	APA C/U MALF	A, C, D, E	DAS-164
C1F05	95	APA PWR SUPLY CIR	A, C, D, E	DAS-165
U0121	127	VDC CAN CIR 2	A, B, C, D, E, F, G, H, I	DAS-166
U0126	130	STRG SEN CAN CIR 1	A, B, C, D, E, F, G	DAS-167
U0235	144	ICC SENSOR CAN CIRC 1	A, C, D, E	DAS-168
U0401	120	ECM CAN CIR 1	A, B, C, D, E, F, G, I	DAS-169
U0402	122	TCM CAN CIR 1	A, B, C, D, E, F, G, H	DAS-171
U0415	126	VDC CAN CIR 1	A, B, C, D, E, F, G, H, I	DAS-172
U0424	156	HVAC CAN CIR 1		DAS-173
U0428	131	STRG SEN CAN CIR 2	A, B, C, D, E, F, G	DAS-174
U1000[NOTE]	100	CAN COMM CIRCUIT	A, B, C, D, E, F, G, H, I	DAS-175
U1010	110	CONTROL UNIT (CAN)	A, B, C, D, E, F, G, H, I	DAS-177
U150B	157	ECM CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-178
U150C	158	VDC CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-180
U150D	159	TCM CAN CIRC 3	A, B, C, D, E, F, G, H	DAS-181
U150E	160	BCM CAN CIRC 3	A, B, C, D, F, G, H	DAS-182
U150F	161	AV CAN CIRC 3		DAS-183
U1500	145	CAM CAN CIR2	F, H	DAS-184
U1501	146	CAM CAN CIR 1	F, H	DAS-185
U1502	147	ICC SEN CAN COMM CIR	A, C, D, E	DAS-186
U1503	150	SIDE RDR L CAN CIR 2	F, G	DAS-187
U1504	151	SIDE RDR L CAN CIR 1	F, G	DAS-188
U1505	152	SIDE RDR R CAN CIR 2	F, G	DAS-189
U1506	153	SIDE RDR R CAN CIR 1	F, G	DAS-190
U1507	154	LOST COMM (SIDE RDR R)	F, G	DAS-191
U1508	155	LOST COMM (SIDE RDR L)	F, G	DAS-192
U1512	162	HVAC CAN CIRC3		DAS-193
U1513	163	METER CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-194
U1514	164	STRG SEN CAN CIRC 3	A, B, C, D, E, F, G	DAS-195
U1515	165	ICC SENSOR CAN CIRC 3	A, C, D, E	DAS-196

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
- B: Conventional (fixed speed) cruise control mode
- C: Distance Control Assist (DCA)
- D: Forward Emergency Braking (FEB)
- E: Predictive Forward Collision Warning (PFCW)
- F: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- G: Back-up Collision Intervention (BCI)
- H: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- I: Automatic Speed COntrol Device (ASCD) (Without ICC)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
U1516	166	CAM CAN CIRC 3	F, G, H	DAS-197
U1517	167	APA CAN CIRC 3	A, C, D, E	DAS-198
U1518	168	SIDE RDR L CAN CIRC 3	F, G	DAS-199
U1519	169	SIDE RDR R CAN CIRC 3	F, G	DAS-200
U1521	177	SONAR CAN COMMUNICATION 2	G	DAS-201
U1522	178	SONAR CAN COMMUNICATION 1	G	DAS-202
U1523	179	SONAR CAN COMMUNICATION 3	G	DAS-203
U1524	180	AVM CAN COMMUNICATION 1	G	DAS-204
U1525	181	AVM CAN COMMUNICATION 3	G	DAS-205
U1527	185	CCM CAN CIR1	A, B, C, F, G	DAS-206
U153F	186	CCM CAN CIR2	A, B, C, F, G	DAS-207
U1530	183	DR ASSIST BUZZER CAN CIR1		DAS-208
U1538	197	EMCM CAN CIRCUIT 3	A, B, C, D, E, F, G, H, I	DAS-209
U1540	200	DAST CAN CIR 1	C, D, E	DAS-211
U1541	201	DAST CAN CIR 2	C, D, E	DAS-212

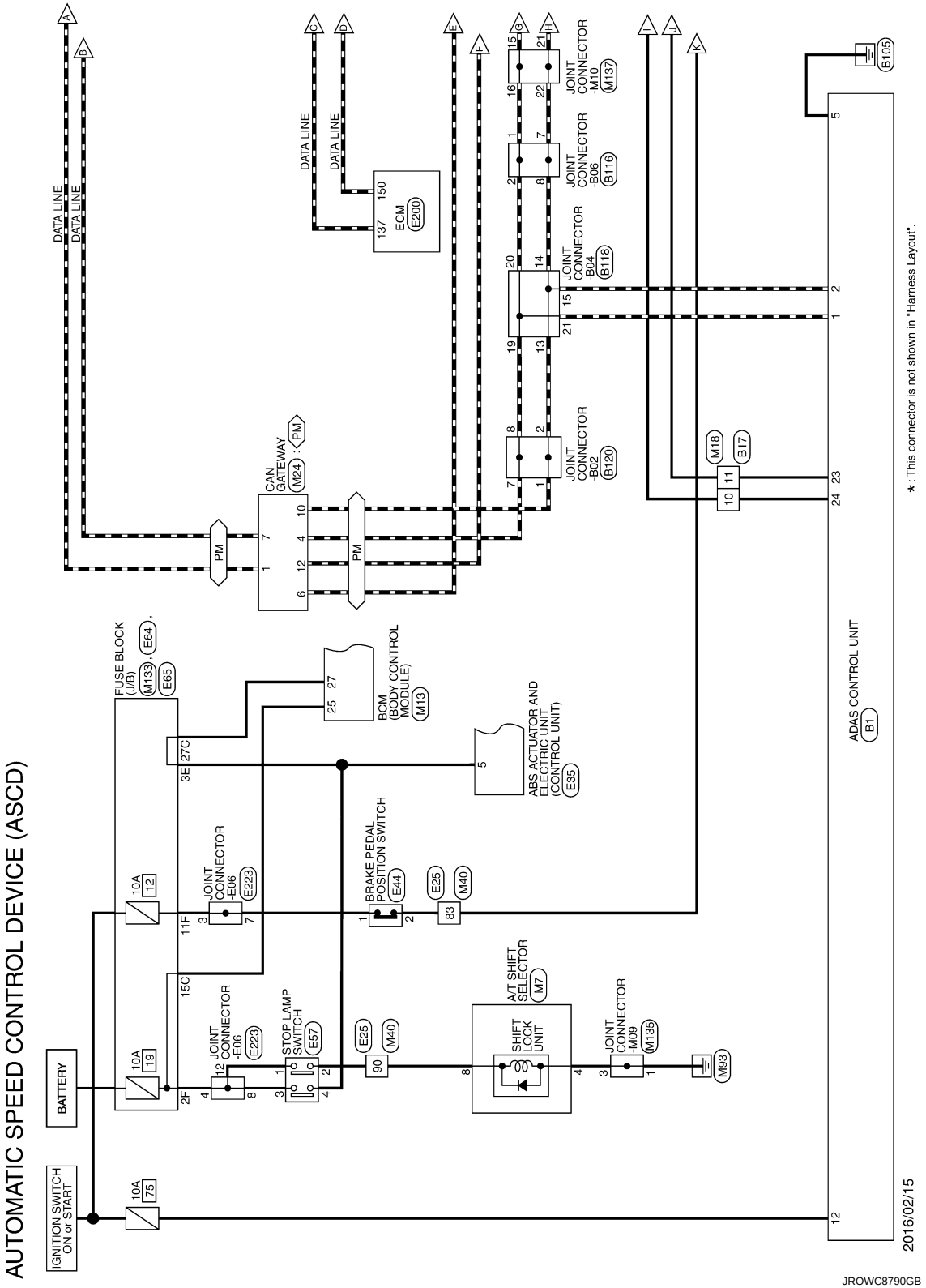
NOTE:
With the detection of “U1000” some systems do not perform the fail-safe operation.
A system controlling based on a signal received from the control unit performs fail-safe operation when the communication with the ADAS control unit becomes inoperable.

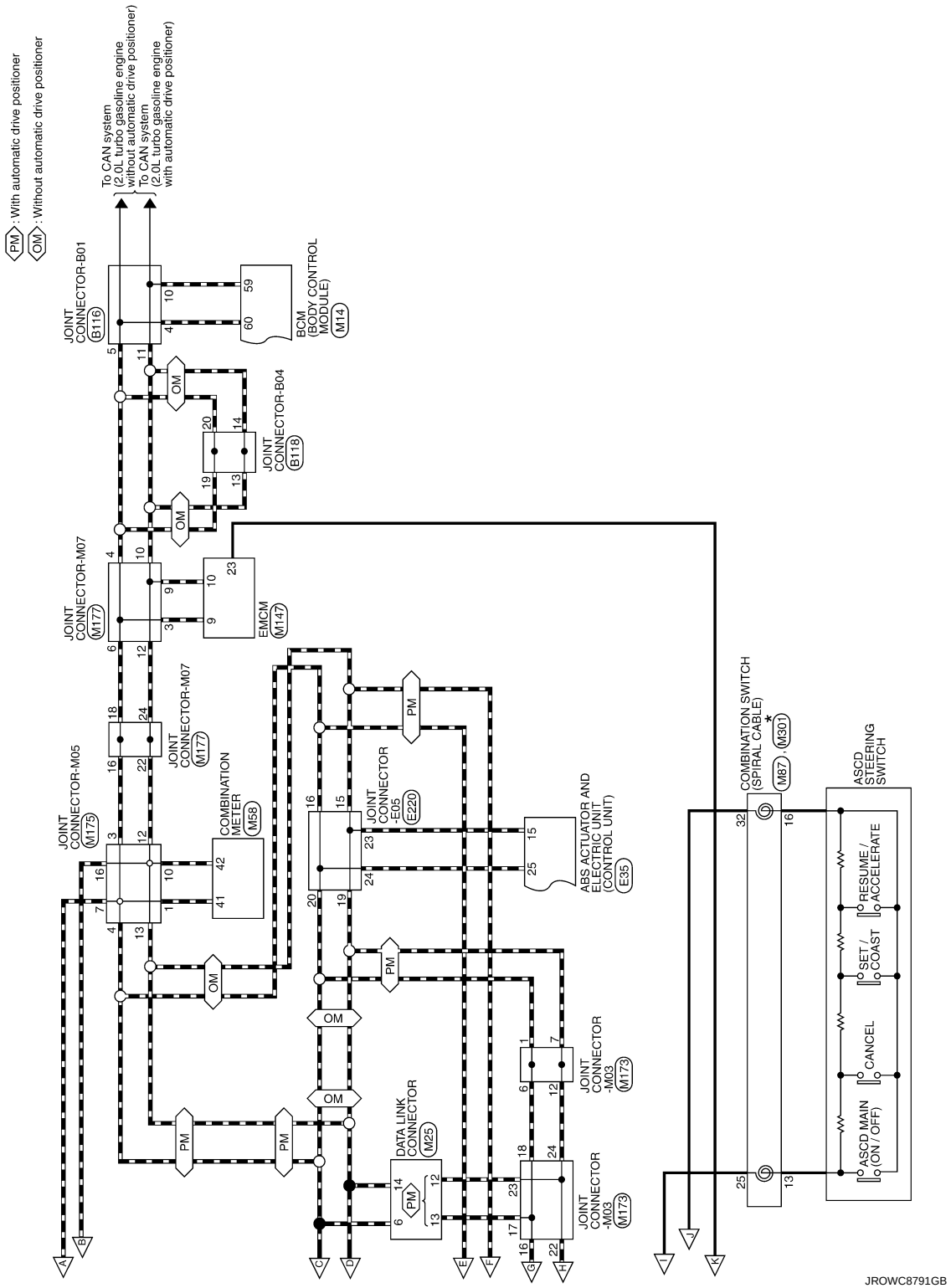
WIRING DIAGRAM

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Wiring Diagram

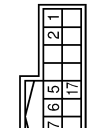
INFOID:0000000013189435




PM : With automatic drive positioner
OM : Without automatic drive positioner
To CAN system (2.0L turbo gasoline engine without automatic drive positioner)
To CAN system (2.0L turbo gasoline engine with automatic drive positioner)
JOINT CONNECTOR-B01 (B116)
BCM (BODY CONTROL MODULE) (M14)
JOINT CONNECTOR-B04 (B118)
JOINT CONNECTOR-M07 (M77)
EMCM (M147)
JOINT CONNECTOR-M05 (M175)
COMBINATION METER (M58)
JOINT CONNECTOR -E05 (E220)
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (E35)
DATA LINK CONNECTOR (M25)
JOINT CONNECTOR -M03 (M173)
COMBINATION SWITCH (SPIRAL CABLE) (M87) (M301)
ASCD STEERING SWITCH
RESUME / ACCELERATE
SET / COAST
CANCEL
ASCD MAIN (ON / OFF)
JROWC8791GB

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Connector No.	B1
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-NH

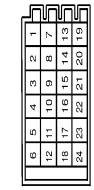


Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	R	CAN-L
5	B	GROUND
6	L	ITS COMM-H
7	Y	ITS COMM-L
8	L	CHASSIS COMM-H
9	R	CHASSIS COMM-L
12	G	IGNITION [Except with VR30 engine and without ISS]
12	GR	IGNITION [VR30 engine and without ISS]
17	V	BRAKE HOLD RLY DRIVE SIGNAL
23	Y	STEERING SW SIGNAL GROUND
24	SB	STEERING SW SIGNAL

Connector No.	B17
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
10	SB	-
11	Y	-
12	GR	-

Connector No.	B116
Connector Name	JOINT CONNECTOR-B06
Connector Type	24342_4GA2A



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	- [With Gateway]
8	V	- [Without Gateway]
9	R	- [With Gateway]
9	V	- [Without Gateway]
10	R	- [With VR30 engine]
10	V	- [With 2.0L turbo gasoline engine]
11	V	-
12	P	- [With Gateway]
12	R	- [Without Gateway]
13	SHIELD	-
14	SHIELD	-
15	B	- [With 2.0L turbo gasoline engine]
15	SHIELD	- [With VR30 engine]
16	L	- [With VR30 engine]
16	SHIELD	- [With 2.0L turbo gasoline engine]
17	L	- [With VR30 engine]
17	SHIELD	- [With 2.0L turbo gasoline engine]
18	L	- [With VR30 engine]
18	SHIELD	- [With 2.0L turbo gasoline engine]
19	L	- [With 2.0L turbo gasoline engine]
19	SHIELD	- [With VR30 engine]
20	SHIELD	- [With 2.0L turbo gasoline engine]
20	L	- [With VR30 engine]
21	L	- [With 2.0L turbo gasoline engine]
21	SHIELD	- [With VR30 engine]
22	R	-
23	R	-
24	R	-

Connector No.	B118
Connector Name	JOINT CONNECTOR-B04
Connector Type	24342_4GA2A

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	- [With VR30 engine]
1	SHIELD	- [With 2.0L turbo gasoline engine]
2	LG	- [With VR30 engine]
2	SHIELD	- [With 2.0L turbo gasoline engine]
3	SHIELD	-
4	LG	- [With VR30 engine]
4	SHIELD	- [With 2.0L turbo gasoline engine]
5	LG	- [With VR30 engine]
5	SHIELD	- [With 2.0L turbo gasoline engine]
6	LG	- [With VR30 engine]
6	SHIELD	- [With 2.0L turbo gasoline engine]
7	R	- [Color of wire differs depending on production]
7	V	- [Color of wire differs depending on production]
8	LG	- [With 2.0L turbo gasoline engine]
8	R	- [With VR30 engine and without paddle shift]
8	V	- [With VR30 engine and with paddle shift]
9	LG	- [With 2.0L turbo gasoline engine]
9	R	- [With VR30 engine and without paddle shift]
9	V	- [With VR30 engine and with paddle shift]
10	LG	- [With 2.0L turbo gasoline engine]
10	SHIELD	- [With VR30 engine]
11	LG	- [With 2.0L turbo gasoline engine]
11	SHIELD	- [With VR30 engine]
12	LG	- [With 2.0L turbo gasoline engine]
12	SHIELD	- [With VR30 engine]
13	L	- [With VR30 engine]
13	P	- [With 2.0L turbo gasoline engine and without gateway]
13	R	- [With 2.0L turbo gasoline engine and with gateway]
14	L	- [With VR30 engine]
14	P	- [With 2.0L turbo gasoline engine and without gateway]
14	R	- [With 2.0L turbo gasoline engine and with gateway]
15	L	- [With VR30 engine]
15	R	- [With 2.0L turbo gasoline engine]
16	L	-
17	L	-
18	L	-
19	L	- [With 2.0L turbo gasoline engine]
19	SHIELD	- [With VR30 engine]
20	L	- [With 2.0L turbo gasoline engine]
20	SHIELD	- [With VR30 engine]
21	L	- [With 2.0L turbo gasoline engine]
21	SHIELD	- [With VR30 engine]
22	R	-
23	R	-
24	R	-

Connector No.	B120
Connector Name	JOINT CONNECTOR-B02
Connector Type	24342_4GA2A

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-
3	L	- [With VR30 engine]
3	R	- [With 2.0L turbo gasoline engine]
4	L	- [With VR30 engine]
4	R	- [With 2.0L turbo gasoline engine]
5	L	-
6	L	-
7	L	-
8	L	- [With 2.0L turbo gasoline engine]
9	L	- [With VR30 engine]
9	R	- [With 2.0L turbo gasoline engine]
10	L	- [With 2.0L turbo gasoline engine]
10	R	- [With VR30 engine]
11	R	-
12	R	-
13	W	-
14	W	-
15	W	-
17	SHIELD	-
18	B	-
19	B	- [With 2.0L turbo gasoline engine]
19	GR	- [With VR30 engine]

JROWC8792GB

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

20	GR	- [With VR30 engine]
20	SHIELD	- [With 2.0L turbo gasoline engine]
21	B	- [With 2.0L turbo gasoline engine]
21	GR	- [With VR30 engine]
22	W	-
23	W	-
24	W	-

Connector No.	E25
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	V	-
7	L	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	B	- [With 2.0L turbo gasoline engine]
9	GR	- [With VR30 engine] [Color of wire differs depending on production]
9	LG	[With VR30 engine] [Color of wire differs depending on production]
10	BR	-
11	L	-
12	GR	- [With VR30 engine]
12	P	- [With 2.0L turbo gasoline engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
13	W	- [With VR30 engine]
14	B	-
15	GR	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	BR	- [With VR30 engine]
17	GR	- [With 2.0L turbo gasoline engine]
18	G	- [With 2.0L turbo gasoline engine]
18	P	- [With VR30 engine]
19	Y	-
31	W	- [With 2.0L turbo gasoline engine]
31	Y	- [With VR30 engine]
32	G	- [With 2.0L turbo gasoline engine]

32	GR	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	GR	-
36	R	-
37	L	- [With 2.0L turbo gasoline engine]
37	V	- [With VR30 engine]
38	L	- [With VR30 engine]
38	P	- [With 2.0L turbo gasoline engine and without gateway]
38	R	- [With 2.0L turbo gasoline engine and with gateway]
39	BR	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	SB	-
41	LG	-
44	Y	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	B	- [With VR30 engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	G	-
48	SHIELD	-
49	R	-
50	BR	- [With VR30 engine]
50	GR	- [With 2.0L turbo gasoline engine]
51	L	-
52	W	-
53	V	-
54	P	- [With VR30 engine]
54	W	- [With 2.0L turbo gasoline engine]
55	B	- [With 2.0L turbo gasoline engine]
55	W	- [With VR30 engine]
56	BG	- [With 2.0L turbo gasoline engine]
56	SB	- [With VR30 engine]
57	BG	- [With VR30 engine]
57	W	- [With 2.0L turbo gasoline engine]
58	B	- [Color of wire differs depending on production]
58	B/W	- [Color of wire differs depending on production]
59	W	-
61	R	-
64	Y	-
65	BR	- [Color of wire differs depending on production]
65	GR	- [Color of wire differs depending on production]
66	GR	-
67	LG	-
68	BG	-
69	L	-
70	R	-
71	G	- [With 2.0L turbo gasoline engine]
71	LG	- [With VR30 engine]

72	L	- [With 2.0L turbo gasoline engine]
72	V	- [With VR30 engine]
73	G	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
75	V	- [With VR30 engine]
76	G	-
77	Y	-
78	LG	- [With 2.0L turbo gasoline engine and with ADAS]
78	P	- [With VR30 engine]
78	V	- [With 2.0L turbo gasoline engine and without ADAS]
79	SB	-
80	G	-
81	R	-
82	V	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	LG	-
86	BG	-
87	G	-
89	LG	-
90	G	- [With VR30 engine]
90	GR	- [With 2.0L turbo gasoline engine]
91	G	-
93	BG	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BG	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]
95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	L	-
99	LG	- [With 2.0L turbo gasoline engine]
99	P	- [With VR30 engine]
100	SHIELD	-

Connector No.	E35
Connector Name	[ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)]
Connector Type	SAZ30FB-SJZ4-LJ

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	B	GND
3	G	VALVE BATTERY [With VR30 engine]
3	P	VALVE BATTERY [With 2.0L turbo gasoline engine]
4	Y	MOTOR BATTERY
5	LG	STOP LAMP SW SIGNAL [With ADAS]
5	V	STOP LAMP SW SIGNAL [With ASCD]
7	GR	RR LH WHEEL SENSOR SIGNAL
8	G	RR LH WHEEL SENSOR POWER SUPPLY
9	BR	FR RH WHEEL SENSOR SIGNAL
10	GR	FR RH WHEEL SENSOR POWER SUPPLY
13	R	VACUUM SENSOR SIGNAL
15	P	CAN-L [Without Gateway]
15	R	CAN-L [With gateway]
17	Y	RR RH WHEEL SENSOR SIGNAL
18	LG	RR RH WHEEL SENSOR POWER SUPPLY [With 2.0L turbo gasoline engine]
18	V	RR RH WHEEL SENSOR POWER SUPPLY [With VR30 engine]
19	SB	FR LH WHEEL SENSOR SIGNAL
20	BG	FR LH WHEEL SENSOR POWER SUPPLY
25	L	CAN-H
28	G	VACUUM SENSOR POWER SUPPLY
30	R	VDC OFF SW SIGNAL
32	SHIELD	VACUUM SENSOR GROUND
34	G	IGN

JROWC8793GB

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

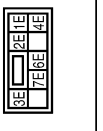
Connector No.	E44
Connector Name	BRAKE PEDAL POSITION SWITCH
Connector Type	S02FL

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [Color of wire differs depending on production]
1	V	- [Color of wire differs depending on production]
2	BG	- [With VR30 engine]
2	BR	- [With 2.0L turbo gasoline engine]

Connector No.	E64
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS08FW-CS

Terminal No.	Color Of Wire	Signal Name [Specification]
1E	G	-
2E	P	-
3E	V	-
4E	GR	-
6E	L	-
7E	BG	-

Connector No.	E65
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH12FW-NH

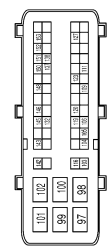


Terminal No.	Color Of Wire	Signal Name [Specification]
10F	W	-
11F	G	- [Color of wire differs depending on production]
11F	R	- [Color of wire differs depending on production]
12F	W	- [With VR30 engine]
12F	Y	- [With 2.0L turbo gasoline engine]
1F	R	-
2F	BR	-
3F	P	-
5F	P	-
6F	L	-
7F	R	-
8F	L	-
9F	L	-

Connector No.	E57
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC

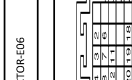
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	- [With ASCD]
1	L	- [With ADAS]
2	GR	- [With ASCD]
2	LG	- [With ADAS]
3	BR	-
4	V	-

Connector No.	E200
Connector Name	ECM
Connector Type	ADAS2FB-AHZ6



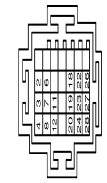
Terminal No.	Color Of Wire	Signal Name [Specification]
97	G	POWER SUPPLY (MAIN)
98	B	ECM GROUND
99	G	POWER SUPPLY (MAIN)
100	B	ECM GROUND
101	G	POWER SUPPLY (MAIN)
102	B	ECM GROUND
103	V	COOLING FAN CONTROL SIGNAL (PWM)
104	Y	SENSOR POWER SUPPLY
105	R	SENSOR POWER SUPPLY
106	W	SENSOR GROUND
109	P	ENGINE SPEED SIGNAL
111	G	POWER SUPPLY
116	LG	STARTER RELAY-L
119	BR	SENSOR GROUND
120	BG	SENSOR GROUND
123	BR	MAIN RELAY CONTROL SIGNAL
127	V	FUEL PUMP ON SIGNAL
132	G	ACCELERATOR PEDAL POSITION SENSOR 1
137	L	CAN-H
138	L	DRIVETRAIN CAN-H
142	GR	BACK-UP LAMP SWITCH
143	LG	REFRIGERANT PRESSURE SENSOR
145	L	ACCELERATOR PEDAL POSITION SENSOR 2
146	L	FUEL TANK PRESSURE SENSOR
148	L	STARTER RELAY-H
150	P	CAN-L
151	P	DRIVETRAIN CAN-L
152	B	EVAP CANISTER VENT CONTROL VALVE
153	G	EVAP PURGE CONTROL VALVE

Connector No.	E220
Connector Name	JOINT CONNECTOR-E05
Connector Type	NH24FB-J



Terminal No.	Color Of Wire	Signal Name [Specification]
3	W	-
4	L	-
7	W	-
8	L	-
11	W	-
12	L	-
15	P	- [Without Gateway]
15	R	- [With Gateway]
16	L	-
19	P	- [Without Gateway]
19	R	- [With Gateway]
20	L	-
23	P	- [Without Gateway]
23	R	- [With Gateway]
24	L	-

Connector No.	E223
Connector Name	JOINT CONNECTOR-E06
Connector Type	5GA28FB-J



Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	-
3	G	-
4	BR	-
6	BG	-
7	G	-

JROWC8794GB

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

8	BR	-
11	G	-
12	L	-
18	V	-
19	W	-
20	BG	-
22	GR	-
23	P	-
24	BR	-
26	V	-
27	W	-
28	BG	-

Connector No.	M7
Connector Name	A/T SHIFT SELECTOR
Connector Type	TH12FW-NH

H.S.

1	2	3	4	5
7	8	9	10	11

Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	-
2	GR	-
3	BG	-
4	B	-
5	G	-
7	R	-
8	P	- [With VR30 engine]
8	V	- [With 2.0L turbo gasoline engine]
9	B	-
10	GR	-
11	R	-

Connector No.	M13
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FG-NH

H.S.

20	19	18	17	16	15	14	13	12	11	10
39		38		37		36		35	34	33

9	8	7	6	5	4	3	2	1
32		31		30	29	28	27	26

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	PUSH SW
3	Y	SENS PWR SPLY
4	BG	OPTICAL SENSOR
5	LG	-
10	W	COMBI SW OUTPUT 5
11	SB	COMBI SW OUTPUT 4
12	L	COMBI SW OUTPUT 3
13	G	COMBI SW OUTPUT 2
14	P	COMBI SW OUTPUT 1
15	G	ONE TOUCH UNLK SENS (DR)
16	G	ONE TOUCH UNLK SENS (PASS)
17	P	RECEIVER/SENSOR GND
18	L	SECURITY IND LAMP CONT
20	R	DETENT SW
21	SB	STEP LAMP CONT
25	R	STOP LAMP SW2
26	R	EXTENDED STORAGE FUSE SW
27	P	STOP LAMP SW
30	W	DR DOOR UNLK SENS
33	V	TR LID OP CANCEL SW
36	G	HAZARD SW
39	BR	P/N POSITION

Connector No.	M14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

H.S.

60	59	58	57	56	55	54	53	52	51	50	49	48
80	79	78	77	76	75	74	73	72	71	70	69	68

Terminal No.	Color Of Wire	Signal Name [Specification]
48	R	PUSH-BTN IGN SW ILL PWR
52	G	DONGLE LINK
54	V	COMM LINE
55	R	RAIN SENSOR
59	P	CAN-L
60	L	CAN-H
61	G	REAR WINDOW DEF RLY CONT
62	R	STARTER RLY CONT
64	V	I-KEY WARN BUZZER
65	B	OUTS HD LAMP CONT
66	B	BLOWER FAN RLY CONT [With VR30 engine]
66	Y	BLOWER FAN RLY CONT [With 2.0L turbo gasoline engine]
67	W/B	IGN RLYAY (F/B) CONT
68	R	DIMMER
69	GR	A/T SHIFT SELECT PWR SPLY
70	B	IGN RLYAY (IPDM E/R) CONT
71	G	DR DOOR REQ SW
72	SB	PASS DOOR REQ SW
75	BR	COMBI SW INPUT 5
76	BG	COMBI SW INPUT 4
77	V	COMBI SW INPUT 3
78	Y	COMBI SW INPUT 2
79	LG	COMBI SW INPUT 1
80	L	TR LID OPNR SW

Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
10	SB	-
11	Y	-
12	GR	-

Connector No.	M24
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH

H.S.

1		3	4	5	6
7		9	10	11	12

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H (CAN COMMUNICATION CIRCUIT 1)
3	W	BATTERY POWER SUPPLY
4	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
5	B	GROUND
6	L	CAN-H (CAN COMMUNICATION CIRCUIT 2)
7	P	CAN-L (CAN COMMUNICATION CIRCUIT 1)
9	R	IGNITION POWER SUPPLY [With VR30 engine and without ISS]
9	W	IGNITION POWER SUPPLY [Except with VR30 engine and without ISS]
10	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)
11	B	GROUND
12	R	CAN-L (CAN COMMUNICATION CIRCUIT 2)

JROWC8795GB

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Connector No.	M25
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	M_CAN_L
4	B	EARTH
5	B	EARTH
6	L	CAN-H
7	V	KLINE [With 2.0L turbo gasoline engine]
7	W	KLINE [With VR30 engine]
8	W	IGN_SW
11	SB	M_CAN_H
12	R	CAN-L
13	L	CAN-H
14	P	CAN-L
16	W	POWER

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
6	W/B	-
7	V	-
8	BG	- [With VR30 engine]
8	BR	- [With 2.0L turbo gasoline engine]
9	LG	- [With VR30 engine]
9	P	- [With 2.0L turbo gasoline engine]
10	W	-
11	W	- [With VR30 engine]
11	Y	- [With 2.0L turbo gasoline engine]
12	B	- [With VR30 engine]
12	BR	- [With 2.0L turbo gasoline engine]
13	GR	- [With VR30 engine]
13	SHIELD	- [With 2.0L turbo gasoline engine]
14	B	-
15	BG	- [With 2.0L turbo gasoline engine]
15	SB	- [With VR30 engine]
16	B	- [With VR30 engine]
16	BR	- [With 2.0L turbo gasoline engine]
17	LG	-
18	B	- [With VR30 engine]
18	W/B	- [With 2.0L turbo gasoline engine]
19	Y	-
31	W	-
32	G	- [With 2.0L turbo gasoline engine]
32	V	- [With VR30 engine]
33	L	- [With VR30 engine]
33	Y	- [With 2.0L turbo gasoline engine]
34	P	-
35	BG	-
36	G	-
37	B	- [With VR30 engine]
37	L	- [With 2.0L turbo gasoline engine]
38	L	- [With VR30 engine]
38	P	- [With 2.0L turbo gasoline engine and without gateway]
38	R	- [With 2.0L turbo gasoline engine and with gateway]
39	R	- [With 2.0L turbo gasoline engine]
39	Y	- [With VR30 engine]
40	GR	-
41	L	-
44	BR	-
45	L	- [With 2.0L turbo gasoline engine]
45	W	- [With VR30 engine]
46	G	- [With 2.0L turbo gasoline engine]
46	Y	- [With 2.0L turbo gasoline engine]
47	BG	- [With 2.0L turbo gasoline engine]
47	R	- [With VR30 engine]
48	SHIELD	-
49	B	- [With VR30 engine]
49	G	- [With 2.0L turbo gasoline engine]
50	B	- [With 2.0L turbo gasoline engine]
50	BR	- [With VR30 engine]
51	L	-
52	W	-
53	G	-
54	SB	- [With 2.0L turbo gasoline engine]
54	Y	- [With VR30 engine]
55	B	- [With 2.0L turbo gasoline engine]
55	P	- [With VR30 engine]
56	BG	- [With VR30 engine]
56	GR	- [With 2.0L turbo gasoline engine]
57	GR	- [With VR30 engine]
57	P	- [With 2.0L turbo gasoline engine]
58	B	-
59	SB	-
61	W/B	-
64	Y	-
65	R	-
66	P	- [Color of wire differs depending on production]
66	V	- [Color of wire differs depending on production]
67	LG	-
68	BG	-
69	L	-
70	R	-
71	V	- [With VR30 engine]
71	W	- [With 2.0L turbo gasoline engine]
72	L	- [With 2.0L turbo gasoline engine]
72	LG	- [With VR30 engine]
73	R	- [With VR30 engine]
73	W	- [With 2.0L turbo gasoline engine]
74	BR	- [With VR30 engine]
74	L	- [With 2.0L turbo gasoline engine]
75	B	- [With VR30 engine]
75	P	- [With 2.0L turbo gasoline engine and without gateway]
75	R	- [With 2.0L turbo gasoline engine and with gateway]
76	W/B	-
77	SB	-
78	G	- [With VR30 engine]
78	LG	- [With 2.0L turbo gasoline engine]
79	R	-
80	G	-
81	R	-
82	LG	-
83	BR	- [With 2.0L turbo gasoline engine]
83	R	- [With VR30 engine]
84	V	-
86	V	-
87	G	-
89	V	-
90	G	- [With VR30 engine]
90	V	- [With 2.0L turbo gasoline engine]
91	W	-
92	G	-
93	BR	-
94	GR	- [With VR30 engine]
94	L	- [With 2.0L turbo gasoline engine]
95	BR	- [With VR30 engine]
95	P	- [With 2.0L turbo gasoline engine and without gateway]
95	R	- [With 2.0L turbo gasoline engine and with gateway]
96	W	-
97	LG	-
98	Y	-
99	BR	- [With VR30 engine]
99	LG	- [With 2.0L turbo gasoline engine]
100	SHIELD	-

Connector No.	M58
Connector Name	COMBINATION METER
Connector Type	TH12FW-NH

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CAN-H
42	P	CAN-L
43	B	ILLUMINATION CONTROL SIGNAL
44	Y	FUEL LEVEL SENSOR GROUND
45	W	BATTERY POWER SUPPLY
46	BG	IGNITION SIGNAL [Except with VR30 engine and without ISS]
46	R	IGNITION SIGNAL [With VR30 engine and without ISS]
47	SB	AV COMMUNICATION SIGNAL (H)
48	LG	AV COMMUNICATION SIGNAL (L)
51	BR	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

JROWC8796GB

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

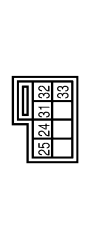
Connector No.	M87
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY-1V

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
24	P	-
25	SB	-
31	W/B	-
32	Y	-
33	B	-

Connector No.	M133
Connector Name	FUSE BLOCK (J/B)
Connector Type	TH40FW-NH

H.S.

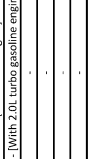


Terminal No.	Color Of Wire	Signal Name [Specification]
10C	V	-
12C	L	-
13C	L	-
14C	Y	-
15C	R	-
16C	R	-
17C	L	-
18C	BG	- [Without DRPO]
18C	P	- [With DRPO]
19C	B	-
1C	R	-
20C	W	-
21C	L	-
22C	L	-
23C	L	-

25C	LG	-
26C	SB	-
27C	P	-
28C	W	-
29C	W	-
2C	R	-
30C	R	-
31C	W	-
32C	R	-
33C	B	- [With VR30 engine]
33C	R	- [With 2.0L turbo gasoline engine]
34C	W/B	-
35C	SB	-
36C	R	-
37C	W	-
38C	SB	-
39C	V	-
3C	P	-
40C	G	-
4C	P	-
5C	P	-
6C	G	-
7C	G	-
8C	G	-
9C	V	-

Connector No.	M135
Connector Name	JOINT CONNECTOR-M09
Connector Type	24342_4GA2A

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
6	B	-
9	LG	-
10	LG	-
11	LG	-

13	B	- [With VR30 engine]
13	SB	- [With 2.0L turbo gasoline engine]
14	B	- [With VR30 engine]
14	SB	- [With 2.0L turbo gasoline engine]
15	B	- [With VR30 engine]
15	SB	- [With 2.0L turbo gasoline engine]
16	SB	- [With 2.0L turbo gasoline engine]
16	Y	- [With VR30 engine]
17	SB	- [With 2.0L turbo gasoline engine]
17	Y	- [With VR30 engine]
18	SB	- [With 2.0L turbo gasoline engine]
18	Y	- [With VR30 engine]
19	SHIELD	-
20	R	-
21	R	-
22	SHIELD	-
23	L	-
24	L	-

Connector No.	M137
Connector Name	JOINT CONNECTOR-M10
Connector Type	24342_4GA2A

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	B	-
4	B	-
5	B	-
7	B	-
8	B	-
9	B	-
10	B	-
11	B	-
13	L	-
14	L	-
15	L	-
16	L	-
19	R	-
20	R	-

21	R	-
22	R	-

Connector No.	M147
Connector Name	EMCM
Connector Type	RH40FB-RZ8-R-LH-Z

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	EMCM RELAY CONTROL (SSOFF)
5	L	IGNITION SWITCH
6	LG	STOP LAMP SWITCH
9	L	CAN-H
10	P	CAN-L
13	W	STOP/START OFF SWITCH
15	Y	SENSOR POWER SUPPLY (MAIN BATTERY CURRENT/TEMPERATURE SENSOR)
16	W	SENSOR POWER SUPPLY (SUB BATTERY CURRENT/TEMPERATURE SENSOR)
21	V	SUB BATTERY RELAY CONTROL
22	G	ENGINE RESTART BYPASS CONTROL RELAY
23	BR	BRAKE PEDAL POSITION SWITCH
24	GR	MAIN BATTERY CURRENT SENSOR
25	BG	MAIN BATTERY TEMPERATURE SENSOR
26	R	SUB BATTERY CURRENT SENSOR
27	BR	SUB BATTERY TEMPERATURE SENSOR
35	SB	SENSOR GROUND (MAIN BATTERY CURRENT/TEMPERATURE SENSOR)
36	G	SENSOR GROUND (SUB BATTERY CURRENT/TEMPERATURE SENSOR)
42	G	EMCM POWER SUPPLY
45	R	SUB BATTERY VOLTAGE MONITOR
47	B	EMCM GROUND
48	B	EMCM GROUND

JROWC8797GB

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Connector No.	M173
Connector Name	JOINT CONNECTOR-M03
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	R	-
8	R	-
9	R	-
10	R	-
11	R	-
12	R	-
13	SB	-
14	SB	-
15	SB	-
16	L	- [With 2.0L turbo gasoline engine]
16	SB	- [With VR30 engine]
17	L	- [With 2.0L turbo gasoline engine]
17	SB	- [With VR30 engine]
18	L	- [With 2.0L turbo gasoline engine]
18	SB	- [With VR30 engine]
19	BR	- [With VR30 engine]
19	LG	- [With 2.0L turbo gasoline engine]
20	BR	- [With VR30 engine]
20	LG	- [With 2.0L turbo gasoline engine]
21	BR	- [With VR30 engine]
21	LG	- [With 2.0L turbo gasoline engine]
22	R	- [With 2.0L turbo gasoline engine]
22	SB	- [With VR30 engine and without ISS]
22	V	- [With VR30 engine and with ISS]
23	R	- [With 2.0L turbo gasoline engine]
23	SB	- [With VR30 engine and without ISS]
23	V	- [With VR30 engine and with ISS]
24	R	- [With 2.0L turbo gasoline engine]
24	SB	- [With VR30 engine and without ISS]
24	V	- [With VR30 engine and with ISS]

Connector No.	M175
Connector Name	JOINT CONNECTOR-M05
Connector Type	NH20FL-DC

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	L	-
8	L	-
10	P	-
11	P	-
12	P	-
13	P	-
14	P	-
15	P	-
16	P	- [With VR30 engine]
16	R	- [With 2.0L turbo gasoline engine]
17	P	- [With VR30 engine]
17	R	- [With 2.0L turbo gasoline engine]
19	R	- [With VR30 engine and with ISS]
19	W	- [Except with VR30 engine and with ISS]
20	R	- [With VR30 engine and with ISS]
20	W	- [Except with VR30 engine and with ISS]

Connector No.	M177
Connector Name	JOINT CONNECTOR-M07
Connector Type	24342_4GA2A

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
6	L	-
7	P	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-
13	L	-
14	L	-
15	L	-
16	L	-
17	L	-
18	L	-
19	W	-
20	W	-
21	W	-
22	P	-
23	P	-
24	P	-

Connector No.	M301
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FGY

H.S.

20	19	18	17	16	15	14	13					

Terminal No.	Color Of Wire	Signal Name [Specification]
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-

JROWC8798GB

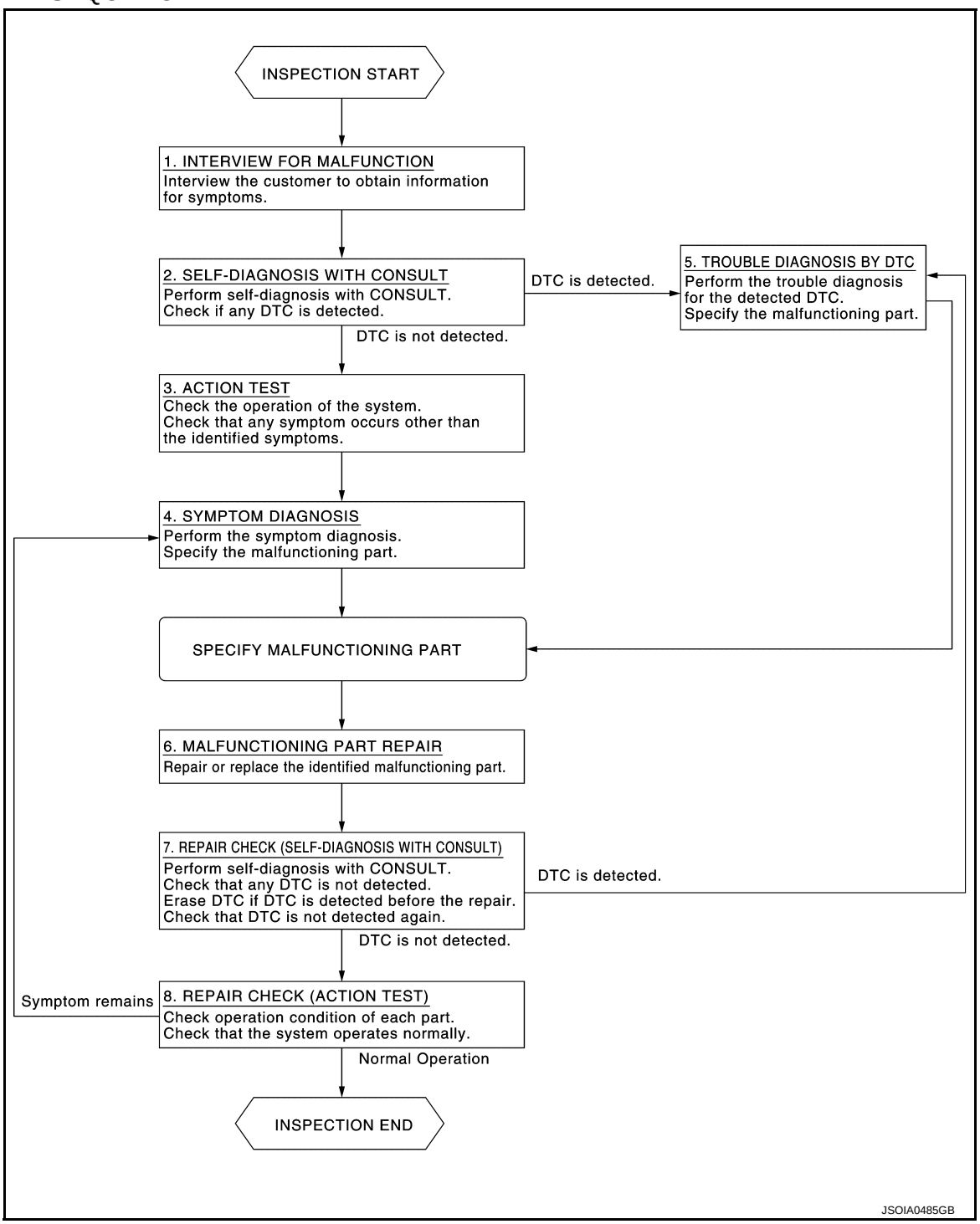
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000013189436

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 any DTC is detected in self-diagnosis results of “ICC/ADAS”.

Is any DTC detected?

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

3.ACTION TEST

Perform the ASCD system action test to check the operation status. Refer to CCS-219, "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 CCS-221, "Symptom Table".

>> GO TO 6.

5.TROUBLE DIAGNOSIS BY DTC

1. Check the DTC in the self-diagnosis results.
2. Perform trouble diagnosis for the detected DTC. Refer to CCS-205, "DTC Index" (ICC/ADAS).

NOTE:
If “DTC: U1000” is detected, first diagnose the CAN communication system.

>> GO TO 6.

6.MALFUNCTIONING PART REPAIR

Repair or replace the identified malfunctioning parts.

>> GO TO 7.

7.REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)

1. Erases self-diagnosis results.
2. Perform “All DTC Reading” again after repairing or replacing the malfunctioning parts.
3. Check if any DTC is detected in self-diagnosis results of “ICC/ADAS”.

Is any DTC detected?

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

8.REPAIR CHECK (ACTION TEST)

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

Is there any malfunction symptom?

YES >> GO TO 4.
NO >> INSPECTION END

ACTION TEST

Description

INFOID:0000000013189437

Always perform the ASCD system action test to check that the ASCD system operates normally after repairing any ASCD system malfunction. Refer to CCS-219, "Work Procedure [Automatic Speed Control Device (ASCD)]".

CAUTION:
Always drive safely when performing the action test.

Work Procedure [Automatic Speed Control Device (ASCD)]

INFOID:0000000013189438

NOTE:
The running speed can be set between 40 km/h (25 MPH) and 144 km/h (90 MPH)

CAUTION:
Never set the cruise speed exceeding the posted speed limit.

1.CHECK FOR ASCD MAIN SWITCH

1. Start the engine.
2. Press the ASCD MAIN switch
3. Check that the ASCD system display on the information display turns ON and the display is ready for activation.
4. Press the ASCD MAIN switch, and check that the ASCD system display on the information display turns OFF when the ASCD system is deactivated.
5. Check that the ASCD system display on the information display turns OFF after starting the engine again.

>> GO TO 2.

2.CHECK FOR RESUME/ACCELERATE, SET/COAST, AND CANCEL SWITCHES

1. Check that RESUME/ACCELERATE, SET/COAST, CANCEL switches are operated smoothly.
2. Check that switches come up as hand is released from the switches.

>> GO TO 3.

3.SET CHECKING

1. Start the engine.
2. Press the ASCD MAIN switch and turn the ASCD to ON.
3. Drive the vehicle at 40 km/h (25 MPH) or more.
4. Push down the SET/COAST switch.
5. Check that the desired speed is set and ASCD control starts when releasing SET/COAST switch.

NOTE:
Display the set status in the ASCD system display on the information display.

>> GO TO 4.

4.CHECK FOR INCREASE OF CRUISING SPEED

1. Set the vehicle speed to any desired speed, and drive the vehicle.
2. Check that the set speed increases by 1.6 km/h (1 MPH) as RESUME/ACCELERATE switch is pushed up.

NOTE:
- The maximum set speed is 144 km/h (90 MPH).
- The set vehicle speed increases while pushing up the RESUME/ACCELERATE switch.

CAUTION:
Never set the cruise speed exceeding the posted speed limit.

>> GO TO 5.

5.CHECK FOR DECREASE OF CRUISING SPEED

1. Set the vehicle speed to any desired speed, and drive the vehicle.

2. Check that the set speed decreases by 1.6 km/h (1 MPH) as SET/COAST switch is pushed down.

NOTE:

- The minimum set speed is 40 km/h (25 MPH).
- The set vehicle speed decreases while pressing down the SET/COAST switch.

>> GO TO 6.

6. CHECK FOR CANCELLATION OF ASCD

Check that the ASCD is canceled when performing the following operations.

- When the brake pedal is depressed after the ASCD is set and the vehicle is driven.
- When the selector lever is in the “N” position after the ASCD is set and the vehicle is driven.
- When the ASCD MAIN switch is turned OFF after the ASCD is set and the vehicle is driven.
- When the CANCEL switch is pressed after the ASCD is set and the vehicle is driven.

>> GO TO 7.

7. CHECK FOR RESTORING SPEED THAT IS SET BY ASCD BEFORE CANCELLATION

Check that the vehicle restores the previous speed kept before the system deactivation when performing the following operations.

- Drive the vehicle when the ASCD is set and depress the brake pedal to cancel the control. Check that the vehicle restores the previous vehicle speed kept before the system deactivation when pushing up the RESUME/ACCELERATE switch at the vehicle speed approximately 40 km/h (25 MPH) or more.
- Drive the vehicle when the ASCD is set and shift the selector lever is in the “N” position to cancel the control. Check that the vehicle restores the previous vehicle speed kept before the system deactivation when shifting the selector lever is in the “D” position and pushing up the RESUME/ACCELERATE switch at the vehicle speed of approximately 40 km/h (25 MPH) or more.
- Drive the vehicle when the ASCD is set and press the CANCEL switch to cancel the control. Check that the vehicle restores the previous vehicle speed kept before the system deactivation when pushing up the RESUME/ACCELERATE switch at the vehicle speed of approximately 40 km/h (25 MPH) or more.

>> INSPECTION END

SYMPTOM DIAGNOSIS

AUTOMATIC SPEED CONTROL DEVICE (ASCD) SYMPTOMS

Symptom Table

INFOID:0000000013189439

Symptoms		Reference page
Operation	MAIN switch does not turn ON	Refer to CCS-222, "Description"
	MAIN switch does not turn OFF	
	System cannot be set (MAIN switch turns ON/ OFF)	Refer to CCS-223, "Description"
	CANCEL switch does not function	Refer to CCS-225, "Description"
	Resume does not function	
	Set speed does not increase	
	ASCD is not canceled when the A/T selector lever is “N” position	Refer to CCS-226, "Description"
Display	System display not appear	Refer to MWI-68, "On Board Diagnosis Function"
Control	Driving force is hunting	Refer to CCS-227, "Description"

MAIN SWITCH DOES NOT TURN ON, MAIN SWITCH DOES NOT TURN OFF

Description

INFOID:0000000013189440

MAIN switch does not turn ON
- ASCD system display does not appear even when MAIN switch is pressed.

MAIN switch does not turn OFF
- When system display is ON, display does not turn OFF even if ASCD MAIN switch is pressed.

NOTE:
When system malfunction illuminates, perform the self-diagnosis of system, and then repair or replace the malfunctioning parts.

Diagnosis Procedure

INFOID:0000000013189441

1.MAIN SWITCH INSPECTION

1. Start the engine.
2. Check that “MAIN SW” and “CRUISE LAMP” operate normally in “DATA MONITOR” of “ICC/ADAS” with CONSULT.

Is the inspection result normal?

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

2.CHECK COMBINATION METER

Check that “CRUISE IND” operates normally in “DATA MONITOR” of “METER/M&A”.

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 4.

3.PERFORM SELF-DIAGNOSIS OF COMBINATION METER

1. Perform “Self Diagnostic Result” of “METER/M&A”.
2. Check if DTC is detected. Refer to MWI-87, "DTC Index".

Is any DTC detected?

YES >> Repair or replace malfunctioning parts.
NO >> GO TO 4.

4.PERFORM SELF-DIAGNOSIS RESULTS OF SYSTEM

1. Perform “All DTC Reading”.
2. Check if the “U1000” is detected in self-diagnosis results of “ICC/ADAS”.

Is “U1000” detected?

YES >> GO TO 5.
NO >> GO TO 6.

5.CAN COMMUNICATIONS INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to DAS-175, "DTC Logic".

>> INSPECTION END

6.CHECK ASCD STEERING SWITCH

Check the ASCD steering switch. Refer to DAS-120, "Component Inspection (Without ICC)".

>> INSPECTION END

SYSTEM CANNOT BE SET (MAIN SWITCH TURNS ON/OFF)

Description

INFOID:0000000013189442

The MAIN switch can be turned ON/OFF, but the ASCD system cannot be set even if the SET/COAST switch is pressed.

NOTE:

The system cannot be set in the following case.

- When the vehicle ahead is not detected below the speed of 32 km/h (20 MPH).
- When the selector lever is not in the “D” position or manual mode.
- When the shift lever is in the neutral position.
- When the brake pedal is depressed.
- When the clutch pedal is depressed.
- When the VDC is turned OFF.
- When ABS or VDC (including the TCS) operates.
- When a wheel slips.
- When ABS warning lamp is ON.
- When drive mode select switch is in SNOW position.

Diagnosis Procedure

INFOID:0000000013189443

1.CHECK CAUSE OF AUTOMATIC CANCELLATION

Check if there is the cancellation cause in the “CAUSE OF AUTO-CANCEL” on “WORK SUPPORT” of “ICC/ADAS” with CONSULT.

Is it displayed?

Not displayed>>GO TO 2.
“OPE SW VOLT CIRC”>>Refer to DAS-117, "DTC Logic".
“VHCL SPD UNMATCH”>>Refer to DAS-106, "DTC Logic".
“IGN LOW VOLT”>>Refer to DAS-105, "DTC Logic".
“ECM CIRCUIT”>>Refer to DAS-132, "DTC Logic".
“CAN COMM ERROR”>>Refer to DAS-175, "DTC Logic".
“ABS/TCS/VDC CIRC”>>Refer to DAS-108, "DTC Logic".
“ECD CIRCUIT”>>Refer to DAS-138, "DTC Logic".

2.PERFORM THE SELF-DIAGNOSIS

1. Perform “All DTC Reading”.
2. Check if any DTC is detected in “Self Diagnostic Result” of “ICC/ADAS”. Refer to CCS-205, "DTC Index" (ICC/ADAS).

Is any DTC detected?

YES >> GO TO 3.
NO >> GO TO 4.

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts identified by the self-diagnosis result.

>> GO TO 6.

4.CHECK EACH SWITCH AND VEHICLE SPEED SIGNAL

1. Start the engine.
2. Check that the following items operate normally in “DATA MONITOR” of “ICC/ADAS”.

- “VHCL SPEED SE”
- “D RANGE SW”
- “SET/COAST SW”
- “BRAKE SW”
- “PKB SW”

Is there a malfunctioning item?

All items are normal>>GO TO 5.
“VHCL SPEED SE”>>Refer to DAS-106, "DTC Logic".
“D RANGE SW”>>Refer to CCS-226, "Diagnosis Procedure".

“SET/COAST SW”>>Refer to DAS-117, "DTC Logic".
“BRAKE SW”>>Refer to DAS-109, "DTC Logic".
“PKB SW”>>Refer to WCS-65, "Diagnosis Procedure".

5. REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to DAS-214, "Removal and Installation".

>> GO TO 6.

6. CHECK AUTOMATIC SPEED CONTROL DEVICE (ASCD) SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action test. (Refer to CCS-219, "Description" for action test.)
2. Check that the ASCD system is normal.

>> INSPECTION END

STEERING SWITCH (OTHER THAN MAIN SWITCH) DOES NOT FUNCTION

Description

INFOID:0000000013189444

MAIN switch can be turned ON/OFF, but the operation of RESUME/ACCELERATE switch and CANCEL switch cannot be performed during ASCD system operation.

NOTE:

Resume is not accepted when the following condition is met.

- When the MAIN switch is turned OFF once.

Diagnosis Procedure

INFOID:0000000013189445

1.CHECK EACH SWITCH

1. Start the engine.
2. Check that each switch operates normally on “DATA MONITOR” of “ICC/ADAS” with CONSULT.

- “RESUME/ACC SW”
- “CANCEL SW”

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 2.

2.PERFORM ALL OF THE SELF-DIAGNOSIS ITEMS

1. Perform “All DTC Reading”.
2. Check if the “U1000” is detected in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U1000” detected?

YES >> GO TO 3.
NO >> GO TO 4.

3.CAN COMMUNICATIONS INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to DAS-175, "DTC Logic".

>> INSPECTION END

4.CHECK ASCD STEERING SWITCH

Check the ASCD steering switch. Refer to DAS-120, "Component Inspection (Without ICC)".

>> GO TO 6.

5.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to DAS-214, "Removal and Installation".

>> GO TO 6.

6.CHECK ASCD SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action test. (Refer to CCS-219, "Description" for action test.)
2. Check that the ASCD system is normal.

>> INSPECTION END

SYSTEM DOES NOT CANCEL WHEN A/T SELECTOR LEVER SETS ON "N"

Description

INFOID:0000000013189446

The ASCD system is not canceled even when the A/T selector lever is shifted to the N position while the ASCD system is active.

Diagnosis Procedure

INFOID:0000000013189447

1.CHECK D RANGE SWITCH

Check if “D RANGE SW” operates normally in “DATA MONITOR” of “ICC/ADAS” with CONSULT.

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 2.

2.PERFORM ALL SELF-DIAGNOSIS ITEMS

1. Perform “All DTC Reading”.
2. Check if the “U1000” is detected in “self-diagnosis results” of “ICC/ADAS”.

Is “U1000” detected?

YES >> GO TO 3.
NO >> GO TO 4.

3.CAN COMMUNICATIONS INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to DAS-175, "DTC Logic".

>> INSPECTION END

4.CHECK POSITION SWITCH

Check if “POSI OF SELECT RANGE VALV” operates normally in “DATA MONITOR” of “TRANSMISSION”.

Is the inspection result normal?

YES >> GO TO 6.
NO >> GO TO 5.

5.PERFORM TCM SELF-DIAGNOSIS

1. Perform the “Self Diagnostic Result” of “TRANSMISSION”.
2. Repair or replace malfunctioning parts. Refer to TM-102, "2.0L TURBO GASOLINE ENGINE : DTC Index".

>> GO TO 7.

6.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to DAS-214, "Removal and Installation".

>> GO TO 7.

7.CHECK ASCD SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action test. (Refer to CCS-226, "Description" for action test.)
2. Check that the ASCD system is normal.

>> INSPECTION END

DRIVING FORCE IS HUNTING

Description

INFOID:0000000013189448

The vehicle causes hunting when the ASCD system is active.

Diagnosis Procedure

INFOID:0000000013189449

1.PERFORM SELF-DIAGNOSIS OF ECM/EMCM

1. Perform “All DTC Reading” with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of “ENGINE”. Refer to EC4-146, "DTC Index".

Is any DTC detected?

YES >> GO TO 2.
NO >> INSPECTION END

2.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts identified by the self-diagnosis result.

>> GO TO 3.

3.CHECK ASCD SYSTEM

1. Erase the self-diagnosis results, and then perform “All DTC Reading” again after performing the action test. (Refer to CCS-226, "Description" for action test.)
2. Check that the ASCD system is normal.

>> INSPECTION END

NORMAL OPERATING CONDITION

Description

INFOID:0000000013189450

PRECAUTIONS FOR AUTOMATIC SPEED CONTROL DEVICE (ASCD)

- Always observe the posted speed limits and do not set the speed over them.
- Do not use the cruise control when driving under the following conditions. Doing so could cause a loss of vehicle control and result in an accident.

- When it is not possible to keep the vehicle at a constant speed
- When driving in heavy traffic
- When driving in traffic that varies speed
- When driving in windy areas
- When driving on winding or hilly roads
- When driving on slippery (rain, snow, ice, etc.) roads

REMOVAL AND INSTALLATION

STEERING SWITCH

Exploded View

INFOID:0000000013189451

ASCD steering switch is integrated in the steering switch.
Refer to ST-32, "Exploded View".

NOTE:
Always remove ASCD steering switch together with steering wheel.