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PRECAUTION

PRECAUTIONS

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

INFOID:0000000014899787

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

WARNING:

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

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

WARNING:

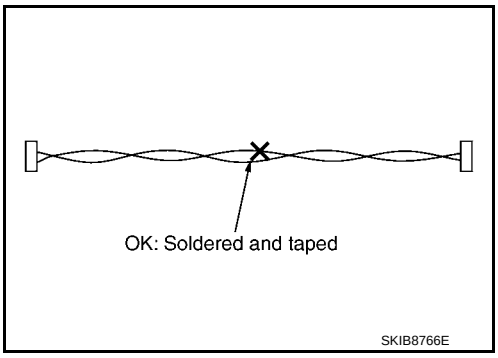
- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious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

Precautions For Harness Repair

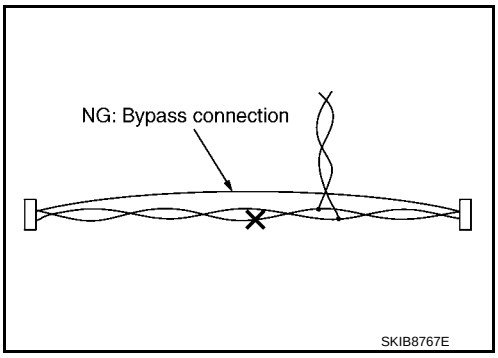
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ITS communication uses a twisted pair line. Be careful when repairing it.

- 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:0000000014899789

CAUTION:

- **Turn the MAIN switch OFF in conditions similar to driving, such as free rollers or a chassis dynamometer.**
- **Never use the ICC sensor removed from vehicle. Never disassemble or remodel.**
- **Erase DTC when replacing parts of ICC system, then check the operation of ICC system after adjusting radar alignment if necessary.**

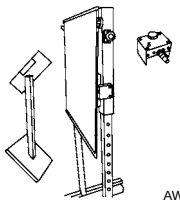
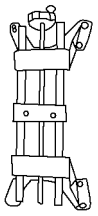
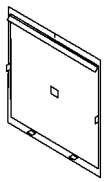
PREPARATION

PREPARATION

Special Service Tools

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

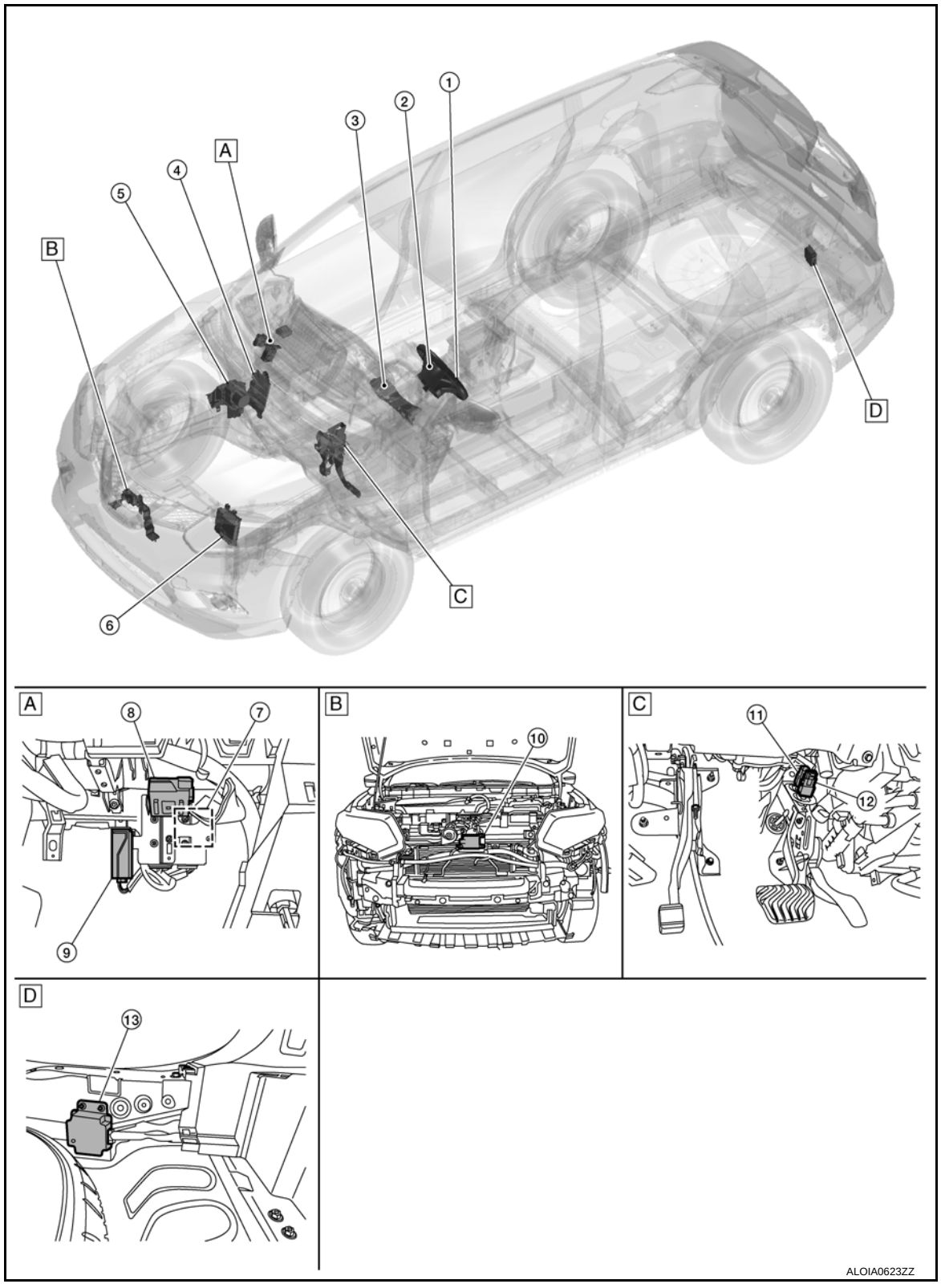
Tool number (TechMate No.) Tool name		Description
— (1-20-2721-1-IF) ICC Alignment Kit	 AWOIA0016ZZ	Adjusting ICC sensor
— (1-20-2722-1-IF) Wheel Adaptor	 AWOIA0017ZZ	Adjusting ICC sensor
— (J-50808) ICC alignment kit attachment board	 JSOIA1065ZZ	Adjusting ICC sensor

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

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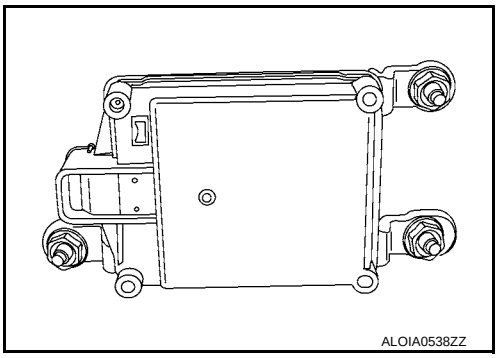
A. Right side on instrument panel (view with glove box removed)
B. Radiator core support assembly
C. Upper side of brake pedal (view with instrument panel LH removed)
D. Left rear of vehicle (view with trim removed)

		Function			
No.	Component	Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Forward Emergency Braking (FEB)	Function
1.	ICC steering switch	×	×		• Description: Refer to CCS-12, "ICC Steering Switch" • System display and warning (Vehicle-to-vehicle distance control mode): CCS-25, "VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION : Switch Name and Function" • System display and warning (Conventional cruise control mode): CCS-30, "CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : Switch Name and Function"
2.	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
3.	Combination meter (Information display, FEB OFF indicator lamp, buzzer)	×	×	×	• Description: Refer to CCS-12, "Combination Meter" • System display and warning (Vehicle-to-vehicle distance control mode): CCS-25, "VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION : Menu Displayed by Pressing Each Switch" • System display and warning (Conventional cruise control mode): CCS-31, "CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : Menu Displayed by Pressing Each Switch"
4.	HPCM	×	×	×	• HPCM transmits the accelerator pedal position signal, brake pedal position switch signal, stop lamp switch signal, ICC steering switch signal, etc. to ADAS control unit via CAN communication • HPCM controls the electric throttle control actuator based on the engine torque demand received from the ADAS control unit via CAN communication Refer to HBC-18, "HPCM" for detailed installation location
5.	ABS actuator and electric unit (control unit)	×	×	×	• ABS actuator and electric unit (control unit) transmits the vehicle speed signal (wheel speed), stop lamp 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 CAN communication Refer to BRC-12, "ABS Actuator and Electric Unit (Control Unit)" for detailed installation location
6.	TCM	×	×		TCM transmits the signal related to CVT control to ADAS control unit via CAN communication Refer to TM-17, "CVT CONTROL SYSTEM : TCM" for detailed installation location
7.	ADAS control unit 2	×	×	×	Refer to CCS-13, "ADAS Control Unit 2"
8.	Chassis control module	×	×	×	Refer to CCS-12, "Chassis Control Module"
9.	Warning buzzer	×	×	×	Refer to CCS-13, "Warning Buzzer"

		Function			
10.	ICC sensor	×	×	×	Refer to CCS-11, "ICC Sensor"
11.	Brake pedal position switch	×	×	×	Refer to CCS-11, "Brake Pedal Position Switch/Stop Lamp Switch"
12.	Stop lamp switch	×	×	×	
13.	ADAS control unit	×	×	×	Refer to CCS-11, "ADAS Control Unit" Refer to DAS-13, "Component Parts Location" for detailed installation location

ICC Sensor

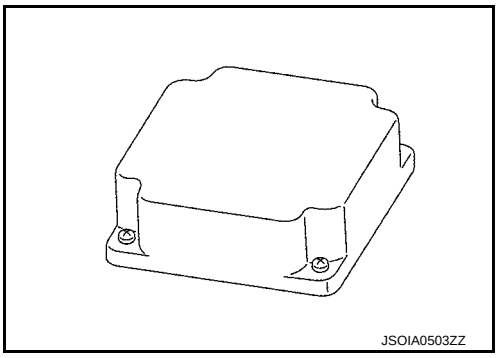
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- ICC sensor is installed on the back of the front grille and detects a vehicle ahead by using millimeter waves.
- ICC sensor detects radar reflected from a vehicle ahead by irradiating radar forward and calculates a distance from the vehicle ahead 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.

ADAS Control Unit

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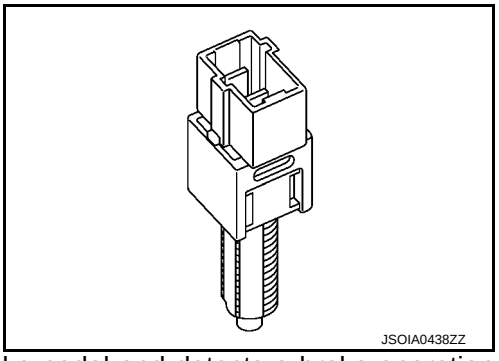


- ADAS control unit calculates a target distance between vehicles and a target speed, based on signals received from each sensor and switch to transmit an engine torque command value to ECM and a brake fluid pressure control signal to ABS actuator and electric unit (control unit) via CAN communication.
- ADAS control unit transmits buzzer output signal and meter display signal to combination meter via CAN communication.

Brake Pedal Position Switch/Stop Lamp Switch

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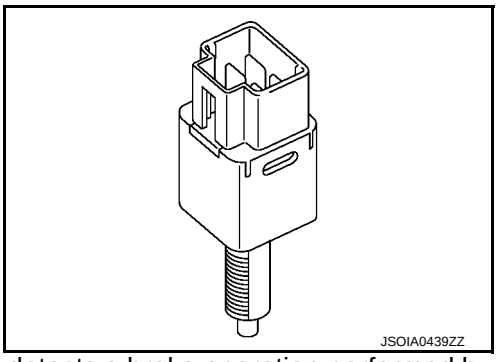
BRAKE PEDAL POSITION SWITCH



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

- Brake pedal position switch signal is input to ECM. Brake pedal position switch signal is transmitted from ECM to ADAS control unit via CAN communication.

STOP LAMP SWITCH


JSOIA0439ZZ

- 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.

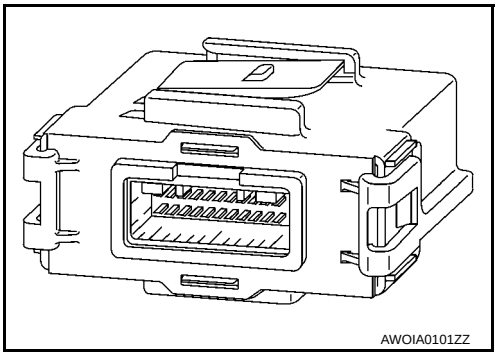
ICC Steering Switch

INFOID:0000000014899795

- 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.

Chassis Control Module

INFOID:0000000014899796


AWOIA0101ZZ

- Chassis control module is installed in the right side of instrument panel behind glove box.
- When the brake is activated by the ICC system, the chassis control module turns ON the stop lamp by bypassing the circuit of the stop lamp, according to a signal transmitted from the ADAS control unit.

Combination Meter

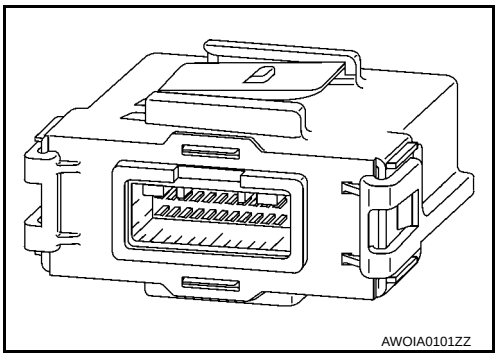
INFOID:0000000014899797

- Performs the following operations using the signals received from the ADAS control unit via the CAN communication.
  - Displays the ICC system operation status using the meter display signal.
  - Illuminates the ICC system warning lamp using the ICC warning lamp signal.
  - Illuminates the FEB indicator lamp using the FEB OFF indicator lamp signal.
  - Operates the buzzer (ICC warning chime) using the buzzer output signal.
- Combination meter turns ON/OFF the FEB system and transmits a system selection signal to the ADAS control unit.

ADAS Control Unit 2

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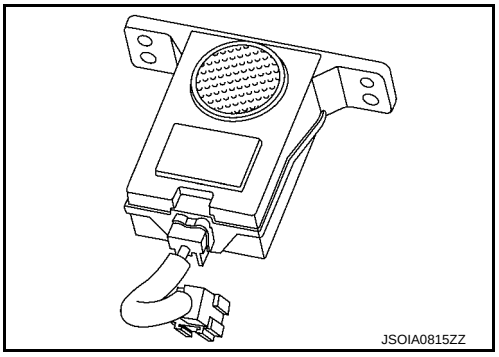
- ADAS control unit 2 is installed on the right side of instrument panel behind glove box.
- When the warning buzzer signal is received from the ADAS control unit, the driver assistance buzzer control module transmits the warning buzzer signal to warning buzzer.



Warning Buzzer

INFOID:0000000014899799

- Warning buzzer is installed behind the instrument panel assembly.
- When a warning buzzer signal is received from the driver assistance buzzer control module, the warning buzzer sounds.

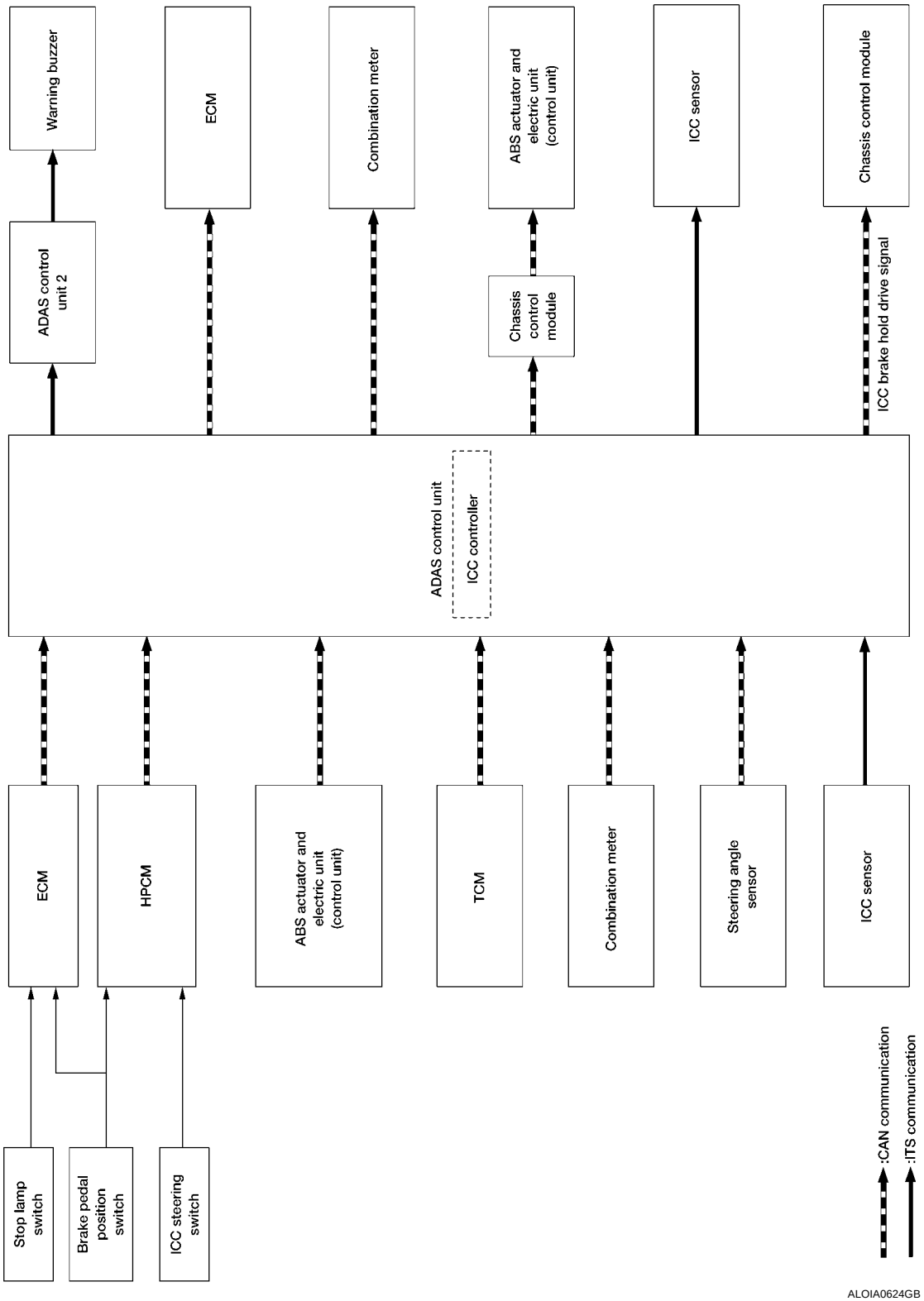


SYSTEM

System Description

INFOID:0000000014899800

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name			Description
HPCM	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
		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	
		Engine speed signal		Receives engine speed
		Stop lamp switch signal		Receives an operational state of the brake pedal
		Brake pedal position switch signal		Receives an operational state of the brake pedal
		Snow mode switch signal		Receives an operational state of the snow mode
TCM	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
		System selection signal		Receives a selection state of FEB system
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
ICC sensor	CAN communication	ICC sensor signal		Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle

Output Signal Item

Reception unit	Signal name			Description
ADAS control unit	ITS communication	ICC sensor signal		Transmits information for ICC
HPCM	CAN communication	ICC operation signal		Transmits an ICC operation signal necessary for Intelligent Cruise Control
TCM	CAN communication	ICC operation signal		Transmits an ICC operation signal necessary for Intelligent Cruise Control via ECM
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
Combination meter	CAN communication	Meter display signal	ICC warning lamp signal	Transmits a signal to display a state of the system on the information display
			Vehicle ahead detection indicator signal	
			Set vehicle speed indicator signal	
			Set distance indicator signal	
			SET switch indicator signal	
			MAIN switch indicator signal	
		FEB OFF indicator lamp signal		• Transmits a signal to turn ON the FEB OFF indicator lamp • Transmits an ON/OFF state of the FEB system
		Buzzer output signal		Transmits a buzzer output signal to turn ON the buzzer of the following systems: • Intelligent Cruise Control (ICC) • Forward Emergency Braking (FEB)
ICC sensor	CAN communication	Vehicle speed signal		Transmits a vehicle speed calculated by the ADAS control unit
Chassis control module	CAN communication	ICC brake hold drive signal		Activates brake hold and turns ON the stop lamp
ADAS control unit 2	CAN communication	Warning buzzer signal		Transmits a warning buzzer signal to turn ON the buzzer

DESCRIPTION

Intelligent Cruise Control

The Intelligent Cruise Control (ICC) system maintains a selected distance from the vehicle in front of own vehicle within the speed range of 0 to 180 km/h (0 to 112 MPH) up to the set speed.
The set speed can be selected by the driver between 32 to 180 km/h (20 to 112 MPH).
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-19, "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.

Forward Collision Warning (FCW) System

FCW share the systems and components with ICC system. Refer to CCS-14, "System Description".

Forward Emergency Braking (FEB) System

FEB system share the systems and components with ICC system. Refer to CCS-14, "System Description".

Fail-safe (ADAS Control Unit)

INFOID:0000000015261407

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	Cancel

Fail-safe (ADAS Control Unit 2)

INFOID:0000000015261408

If a malfunction occurs in each system, ADAS control unit 2 cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

System	Buzzer	Warning lamp/Warning display	Description
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)	—	Blind Spot Warning warning lamp	Cancel
Rear Cross Traffic Alert (RCTA)	—	Rear Cross Traffic Alert warning	Cancel

Fail-safe (ICC Sensor)

INFOID:0000000014899802

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

Fail-Safe (Chassis Control Module)

INFOID:0000000015261409

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

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

DTC	Vehicle condition
C1BC6-00	The following functions are suspended: • Active Trace Control • Active Ride Control (brake)
U1000-00 U1A34-00 U1A35-00 U1A36-00	The following functions are suspended: • Active Trace Control • Active Ride Control • Active Engine Brake
U1A39-00	Normal control
U1A3B-00	The following functions are suspended: • Active Trace Control • Active Ride Control (brake) • Active Engine Brake
U1A42-00 U1A43-00	The following functions are suspended: • Active Trace Control • Active Ride Control (engine)
U1A48-00 U1A4A-00 U1A4B-00	The following functions are suspended: • Active Trace Control • Active Ride Control • Active Engine Brake
U1A4E-00	The following functions are suspended: • Active Ride Control

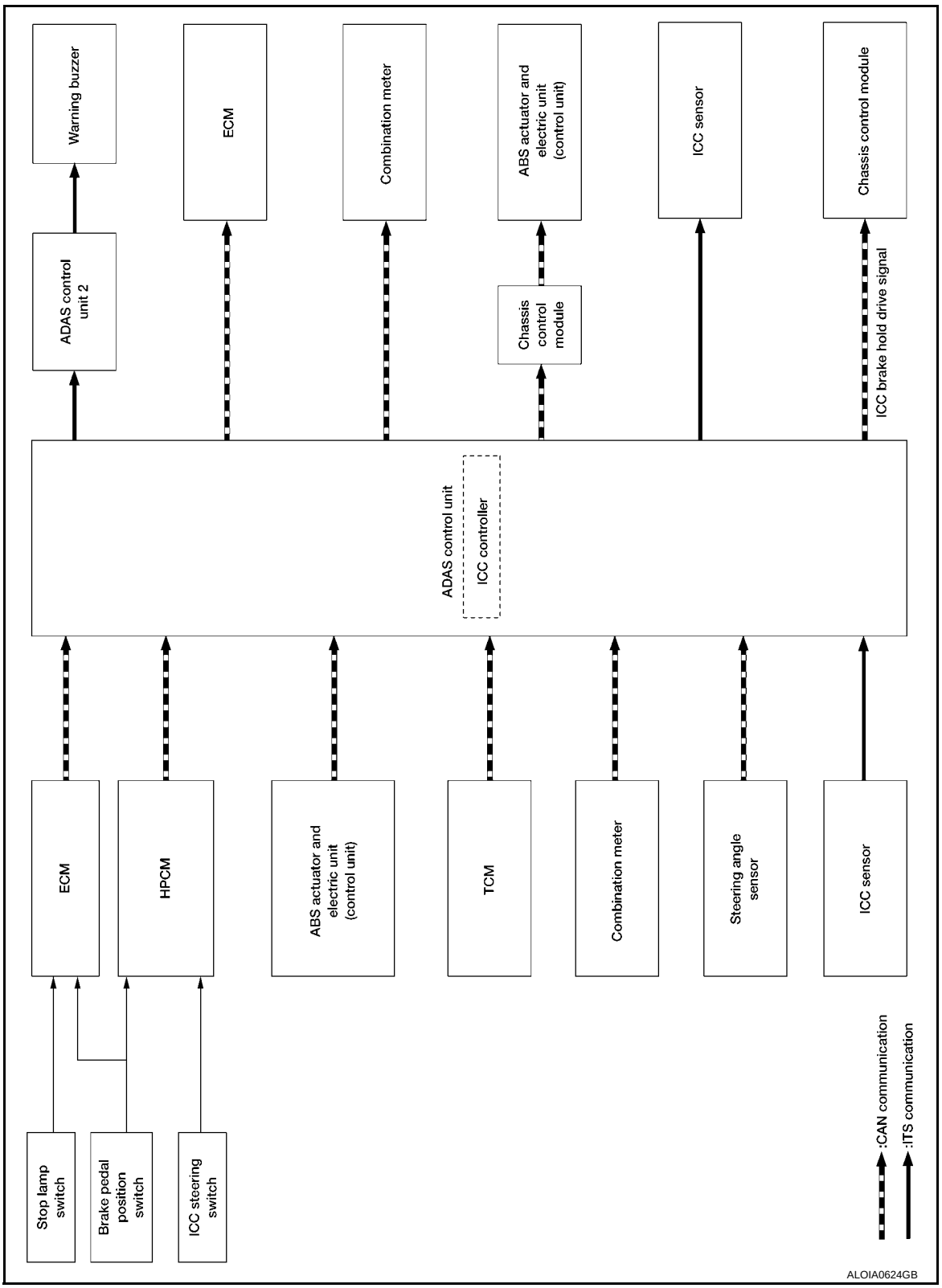
VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION

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

tion

INFOID:0000000014899804

SYSTEM DIAGRAM



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 set speed range is 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 CAN communication and operates the brake
Following	The system controls the 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 - 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 1-6 below, the system will resume control at the last set cruising speed by pushing up the RESUME + switch.
NOTE:

- When the SET - 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 - switch is pushed under the following conditions, the system cannot be set and a warning chime will sound and displays that causes in combination meter (information display).
- 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 ABS or VDC (including the TCS) operates.
8. When the MAIN switch is turned OFF.
9. When a wheel slips.
10. When the VDC is turned OFF.
11. When the system malfunction occurs.

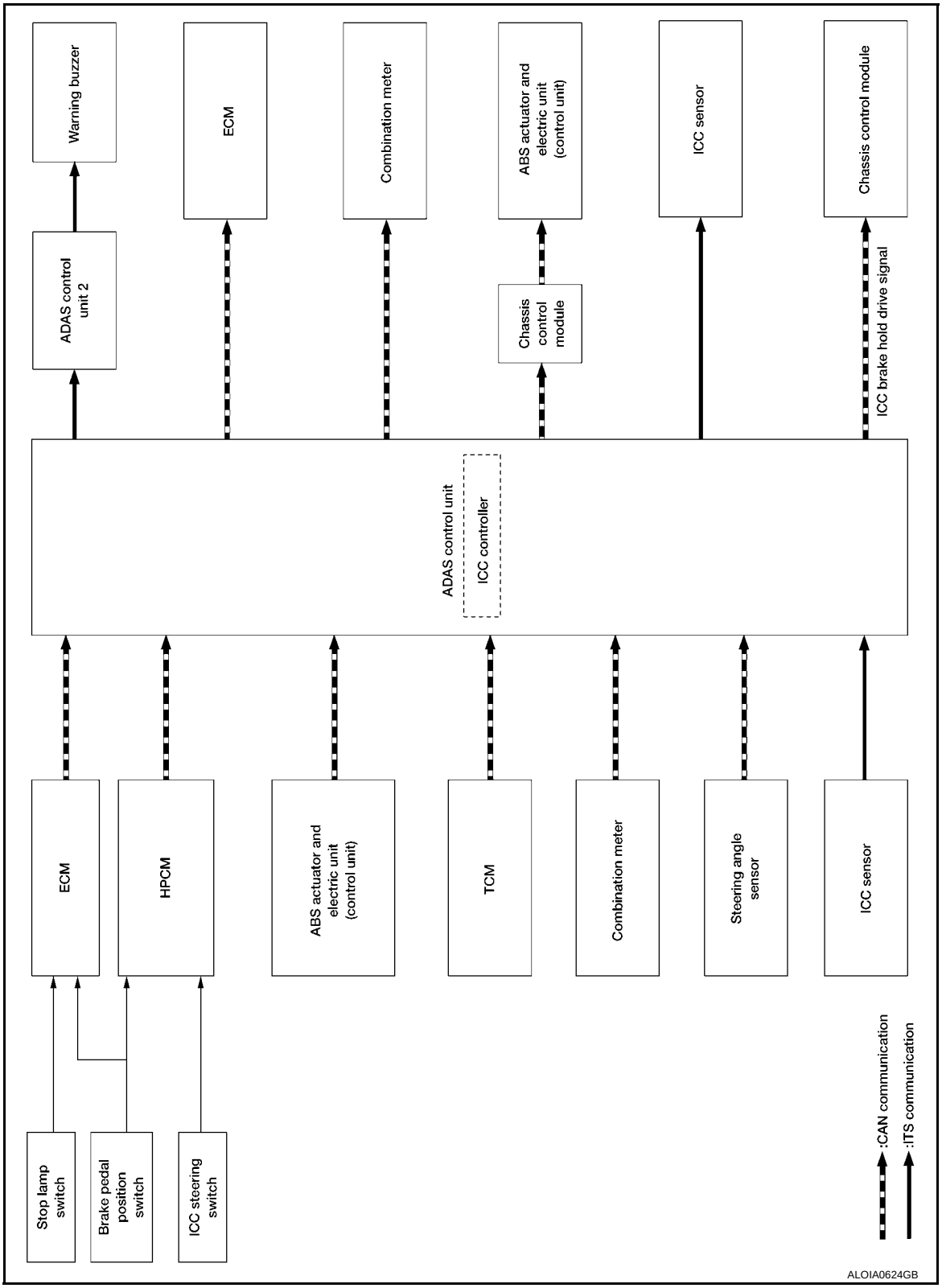
CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : System

Description

INFOID:0000000014899805

SYSTEM DIAGRAM



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.

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 the 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 - switch will start system control.
If the system is canceled by conditions 1-5 below, the system will resume control at the last set cruising speed by pushing the RESUME + switch.

Cancel conditions

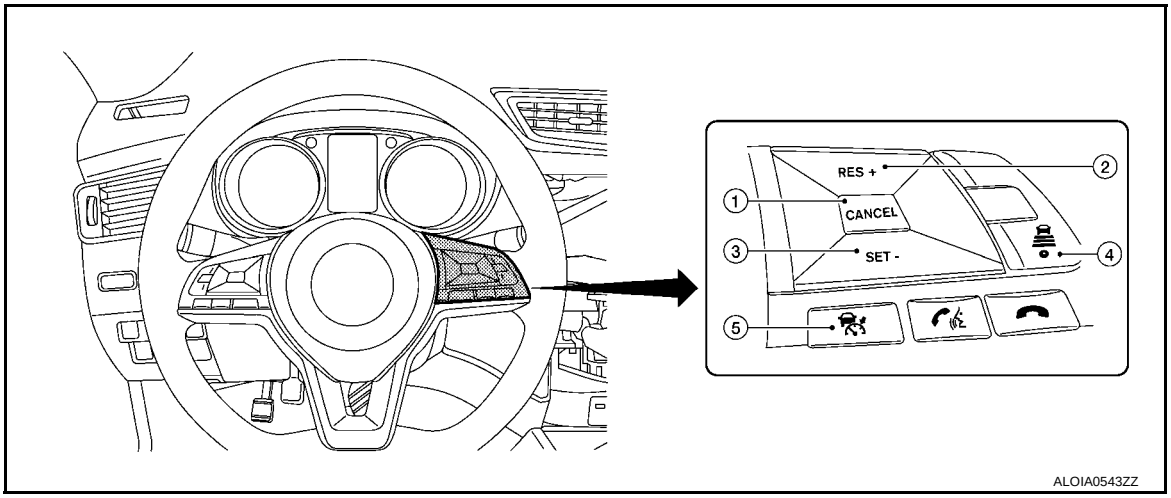
1. When CANCEL switch is pressed.
2. When brake pedal depressed.
3. When the vehicle slows down more than 13 km/h (8 MPH) below the set speed.
4. When the selector lever is not in the “D” position or manual mode.
5. When the parking brakes are applied.
6. When the MAIN switch is turned OFF.
7. When VDC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

OPERATION

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION

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

INFOID:0000000014899806

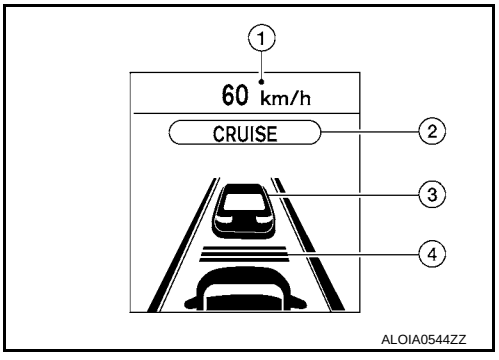


No.	Switch name	Description
1	CANCEL switch	Deactivates the system without erasing the set speed
2	RESUME + switch	Resumes set speed or increases speed incrementally • Push and hold the switch to increase the set speed by 8 km/h (5 MPH) • Push then quickly release the switch to increase the set speed by 1.6 km/h (1 MPH)
3	SET - switch	Sets desired cruise speed or reduces speed incrementally • Push and hold the switch to decrease the set speed by 8 km/h (5 MPH) • Push then quickly release the switch to decrease the set speed by 1.6 km/h (1 MPH) **NOTE:** The minimum set speed is 32 km/h (20 MPH)
4	DISTANCE switch	Changes the following distance from: Long, Middle, Short
5	MAIN switch	Master switch to activate the system (Press for less than 1.5 seconds)

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

INFOID:0000000014899807

ICC SYSTEM DISPLAY (ON THE INFORMATION DISPLAY)

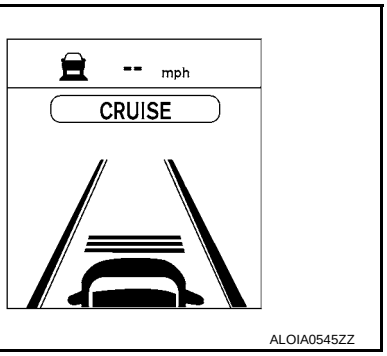


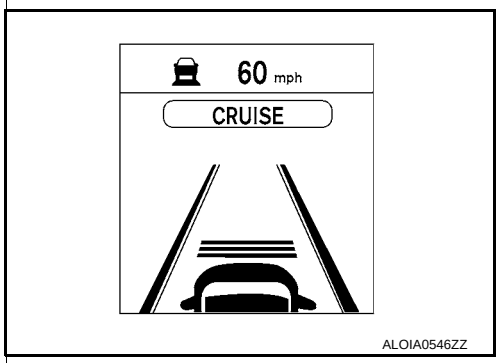
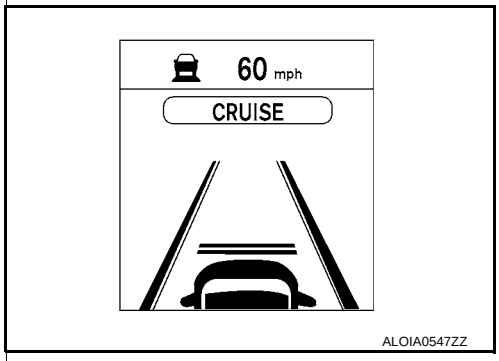
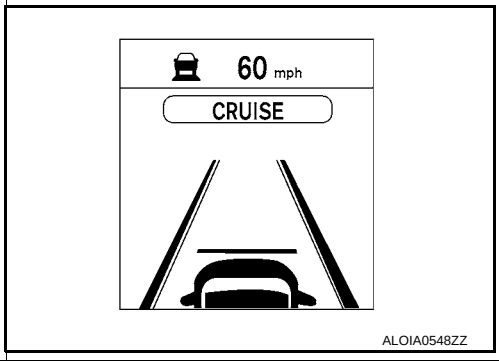
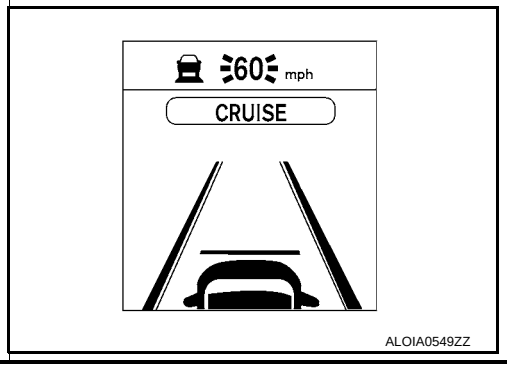
No.	Display item	Description
1	Set vehicle speed indicator	• Indicates the set vehicle speed • Indicates 32 km/h (20 MPH) when setting less than 32 km/h (20 MPH)
2	Main switch indicator (gray)	Gray Indicates the main switch is ON (ICC system ON)
	ICC system warning lamp (yellow)	Orange: Indicates that a malfunction occurred in the ICC system

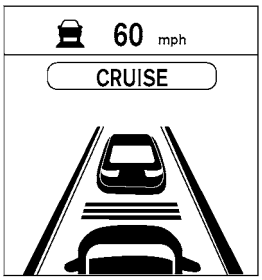
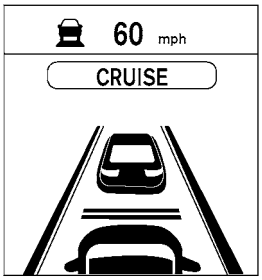
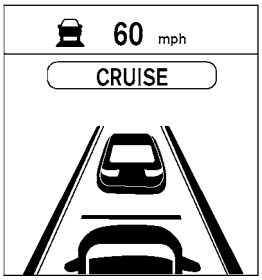
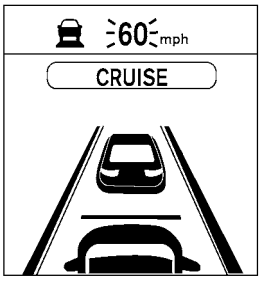
No.	Display item	Description
3	Vehicle ahead detection indicator	Indicates whether it detects a vehicle ahead
4	Set distance indicator	Indicates the selected distance between vehicles set with the DISTANCE switch

SYSTEM CONTROL CONDITION DISPLAY

Push and hold the ICC 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	 ALOIA0545ZZ

Condition			Display on ICC system display
Control mode	Without a vehicle ahead	Set vehicle distance (Long)	 ALOIA0546ZZ
		Set vehicle distance (Middle)	 ALOIA0547ZZ
		Set vehicle distance (Short)	 ALOIA0548ZZ
		When the vehicle speed exceeds the set speed	 ALOIA0549ZZ

Condition			Display on ICC system display
Control mode	With a vehicle ahead	Set vehicle distance (Long)	 ALOIA0550ZZ
		Set vehicle distance (Middle)	 ALOIA0551ZZ
		Set vehicle distance (Short)	 ALOIA0552ZZ
		When the vehicle speed exceeds the set speed	 ALOIA0553ZZ

APPROACH WARNING DISPLAY

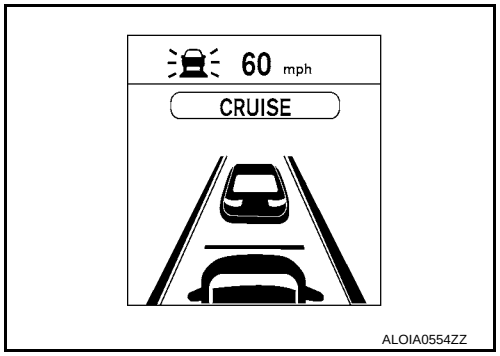
If own vehicle comes closer to a vehicle ahead due to rapid deceleration of that vehicle or if another vehicle cuts in, the system warns the driver with the chime and ICC system display. Decelerate by depressing the brake pedal to maintain a safe vehicle distance if:

- The chime sounds.
- The vehicle ahead detection indicator blinks in orange.

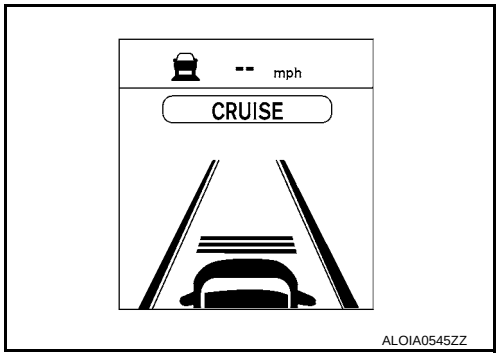
The warning chime may not sound in some cases when there is a short distance between vehicles. Some examples are:

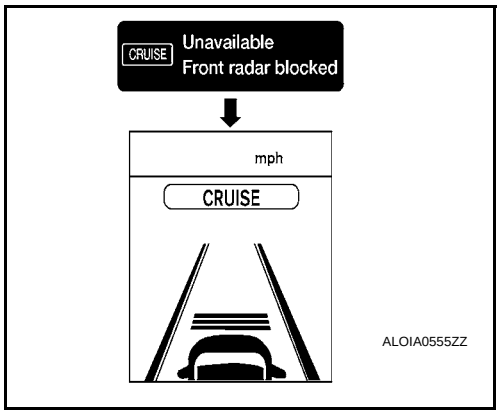
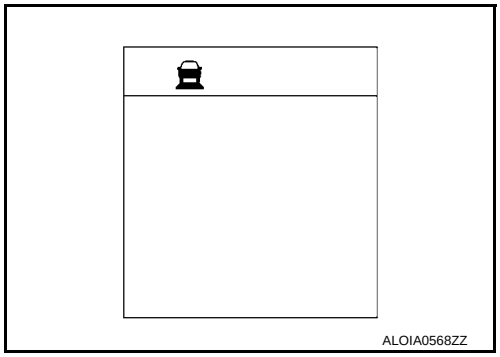
- When the vehicles are traveling at the same speed and the distance between vehicles is not changing.
- When the vehicle ahead is traveling faster and the distance between vehicles is increasing.
- When a vehicle cuts in at near own vehicle.

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 some reflectors which are fitted on vehicles in other lanes or on the side of the road.
This may cause the ICC system to decelerate or accelerate the vehicle.
The ICC sensor may detect these objects when the vehicle is driven on winding roads, hilly roads or when entering or exiting a curve.
The ICC sensor may also detect reflectors 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	

WARNING LAMP AND AUTOMATIC CANCELLATION DISPLAY

Condition		Description	Display on ICC system display
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.	

<table>
<tr><th colspan="2">Condition</th><th>Description</th><th>Display on ICC system display</th></tr>
<tr><td rowspan="3">Warning display</td><td>• When the VDC is turned OFF
• When the VDC or ABS (including the TCS) operates
• When a wheel slips
• When the driver mode selector (DMS) switch is in SNOW mode</td><td>A chime sounds and the control is automatically canceled.
NOTE:
When the conditions listed are no longer present, turn the system OFF using the MAIN switch.
Turn the ICC system back on to use the system.</td><td rowspan="2">Example: When the front bumper near the ICC sensor is blocked or dirty, making it impossible to detect a vehicle ahead.

</td></tr>
<tr><td>When the front bumper near the ICC sensor is blocked or dirty, making it impossible to detect a vehicle ahead.</td><td>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 near the ICC sensor and then perform the settings again.</td></tr>
<tr><td>When the ICC system is malfunctioning</td><td>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.</td><td>
</td></tr>
</table>

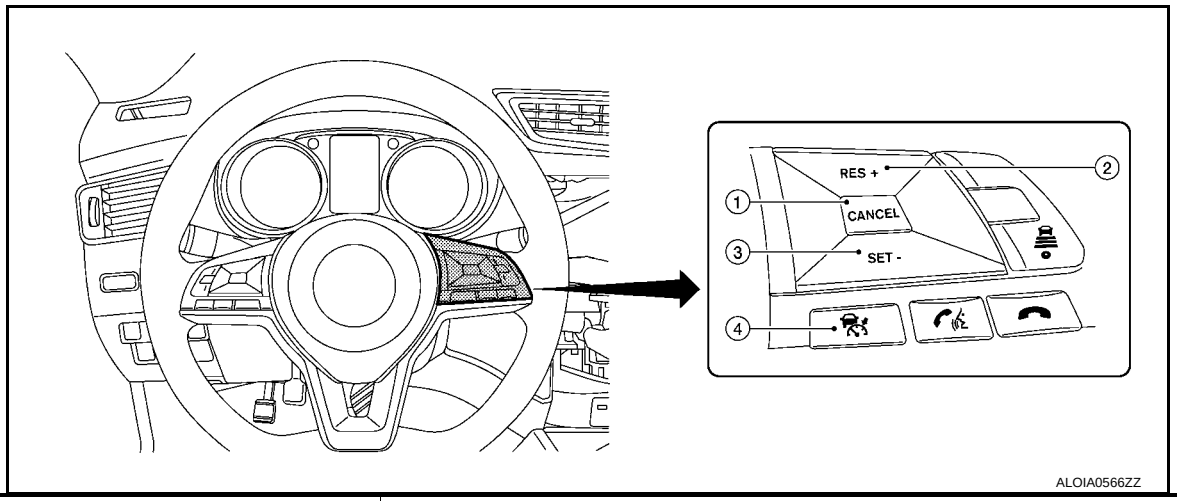
NOTE:
When the ICC system is automatically canceled, the cancellation condition can be displayed on “Work support” of CONSULT (ICC/ADAS).

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : Switch

Name and Function

INFOID:0000000014899808

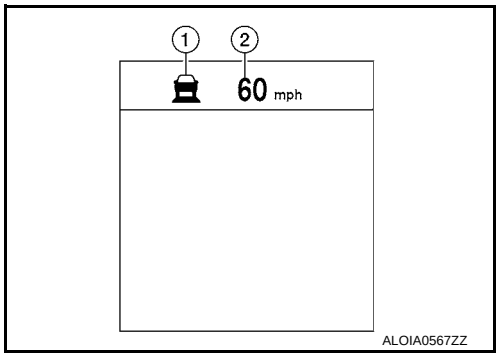


No.	Description	Function
1	CANCEL switch	Deactivates system without erasing set speed
2	RESUME/ACCELERATE switch	Resumes set speed or increases speed incrementally
3	SET/COAST switch	Sets desired cruise speed or reduces speed incrementally
4	MAIN switch	Master switch to activate the system (Press for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

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION : Menu Displayed by Pressing Each Switch

INFOID:0000000014899809

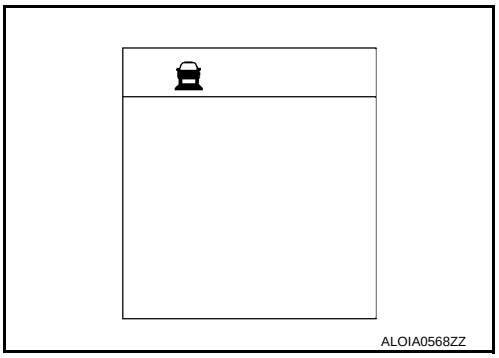
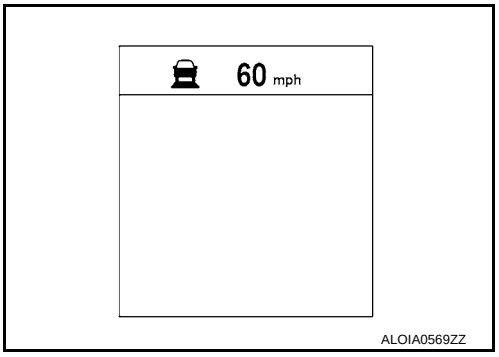
ICC SYSTEM DISPLAY (ON THE INFORMATION DISPLAY)



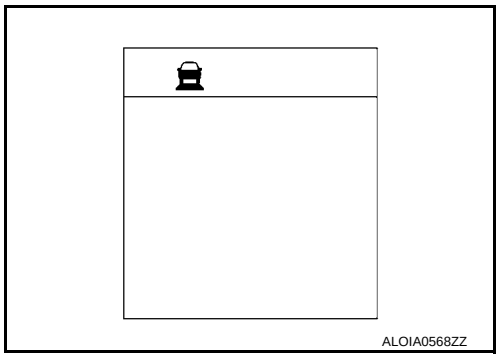
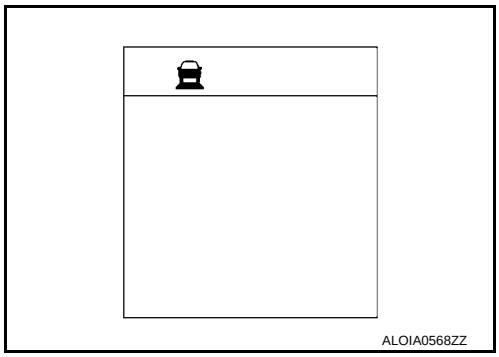
No.	Display item	Description
1	MAIN switch indicator (gray)	White: Indicates that the main switch is ON (ICC system ON)
	ICC system warning lamp (yellow)	Orange: Indicates that a malfunction occurred in the ICC system
2	SET switch indicator	Indicates that the set conventional (fixed speed) cruise control mode is controlled

SYSTEM CONTROL CONDITION DISPLAY

Push and hold the ICC 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	 ALOIA0568ZZ
Control mode	 ALOIA0569ZZ

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	 ALOIA0568ZZ
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	 ALOIA0568ZZ

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

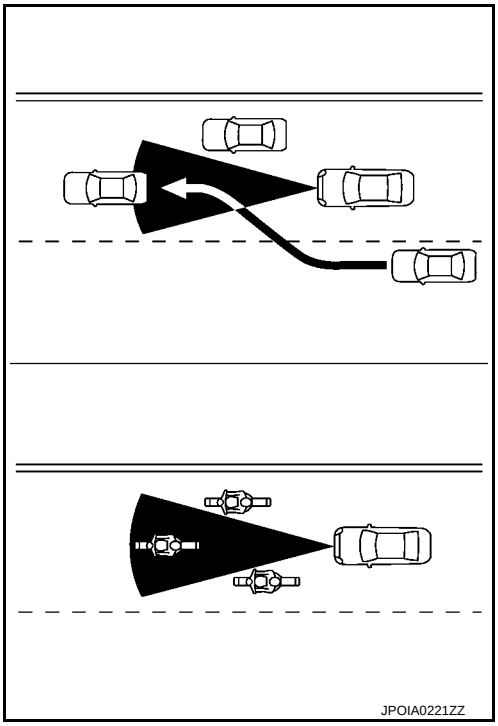
HANDLING PRECAUTION

Precautions for Vehicle-to-Vehicle Distance Control Mode

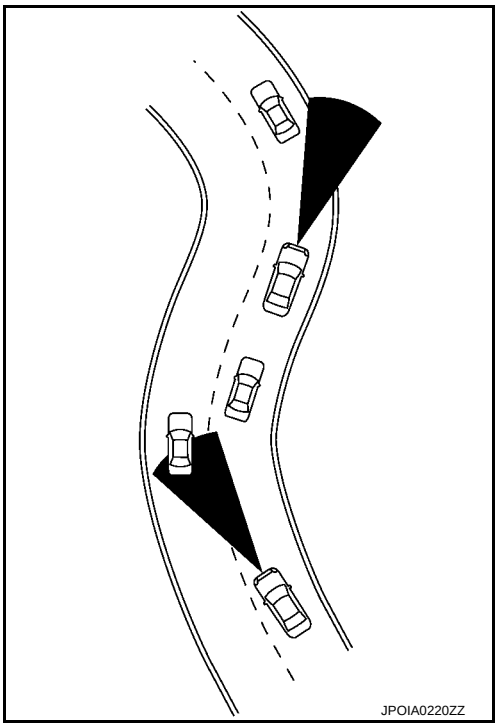
INFOID:0000000014899810

- ICC system is only an aid to assist the driver and is not a collision warning or avoidance system. 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. Never use the system on roads with sharp curves, or on icy roads, in heavy rain or in fog.
- The ICC sensor will not detect the following objects:
- 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 ICC 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.
- Never use the ICC system if own vehicle is towing a trailer. The system may not detect a vehicle ahead.
- 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 front bumper of the vehicle 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 luggage room of own vehicle.
- The ICC system is designed to automatically check the sensor's operation within the limitation of the system. When the front bumper area of the ICC sensor is covered with dirt or is obstructed, the system will automatically cancel. If the front bumper area of the ICC 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 front bumper area of the ICC 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.

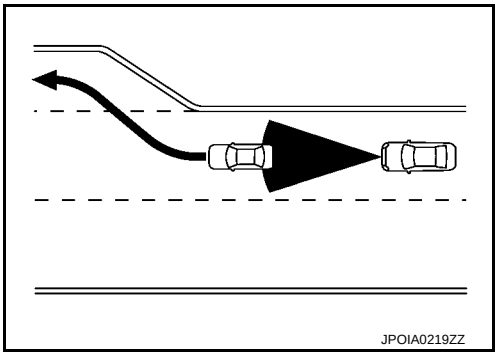
- The detection zone of the ICC sensor is limited. A vehicle ahead must be in the detection zone for the vehicle-to-vehicle distance detection mode to maintain the selected distance from the vehicle ahead. A vehicle ahead may move outside of the detection zone due to its position within the same lane 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.


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- 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.


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- 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.


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- 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.
- 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).

Precautions for Conventional (Fixed Speed) Cruise Control Mode

INFOID:0000000014899811

- 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.
- Never 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 the MAIN switch OFF when not using ICC system.

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

CONSULT Function (ICC/ADAS)

INFOID:0000000015253555

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

CONFIGURATION

Configuration includes functions as follows.

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

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 • Forward Emergency Braking (FEB)

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	Forward Emergency Braking	Description
OPERATING ABS	×		×	ABS function was operated
OPERATING TCS	×	×		TCS function was operated
OPERATING VDC	×	×	×	VDC function was operated
HPCM CIRCUIT	×	×		HPCM did not permit ICC operation
OPE SW VOLT CIRC	×	×		The ICC steering switch input voltage is not within standard range
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 CVT 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
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	×	×		—

SELF DIAGNOSTIC RESULT

Refer to DAS-39, "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)	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”)
BRAKE SW [On/Off]	×	×	×	×	Indicates [On/Off] status as judged from brake pedal position switch signal (HPCM transmits brake switch signal through CAN communication)
STOP LAMP SW [On/Off]	×	×	×	×	Indicates [On/Off] status as judged from stop lamp switch signal (HPCM 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 (HPCM transmits On/Off status through CAN communication)
VHCL SPEED SE [km/h] or [mph]	×	×	×	×	Indicates vehicle speed calculated from ADAS control unit through CAN communication [ABS actuator and electric unit (control unit) transmits vehicle speed signal (wheel speed) through CAN communication]
ENGINE RPM [rpm]	×				Indicates engine speed read from ADAS control unit through CAN communication (HPCM transmits engine speed signal through CAN communication)
BA WARNING [On/Off]	×				Indicates [On/Off] status of FEB indicator lamp output

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	Description
STP LMP DRIVE [On/Off]	×	×			Indicates [On/Off] status of brake hold drive signal
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 CVT vehicle speed sensor read from ADAS control unit through CAN communication (TCM transmits CVT vehicle speed sensor signal through CAN communication)
THRTL OPENING [%]	×	×			Indicates throttle position read from ADAS control unit through CAN communication (HPCM transmits accelerator pedal position signal through CAN communication).
GEAR [1, 2, 3, 4, 5, 6, 7]	×				Indicates CVT gear position read from ADAS control unit through CAN communication (TCM transmits current gear position 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
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
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 Chassis communication (Lane camera unit transmits a lane marker signal via Chassis communication)

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	Description
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 Chassis communication (The lane camera unit transmits a detected lane condition signal via Chassis 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)
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
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
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
BSW/BSI WARN LMP [On/Off]				×	Indicates [On/Off] status of Blind Spot warning malfunction
BSW SYSTEM ON [On/Off]				×	Indicates [On/Off] status of BSW system
FCW SYSTEM ON [On/Off]	×	×			Indicates [On/Off] status of FEB system
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
SYSTEM CANCEL MESSAGE [NOREQ/SLIP/VDC OFF]	×	×	×	×	Indicates status of system cancel display output

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	Description
CAMERA HI TEMP MSG [On/Off]			×	×	Indicates [On/Off] status of lane camera unit high temperature warning display output
ITS SETTING ITEM(LDP) [On/Off]	×	×	×	×	Indicates the presence or absence of LDP system.
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 BRIGHT-NESS [Nothing/Bright/Normal/Dark]				×	Indicates status of brightness of Blind Spot Warning indicator

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**
  - **LDW**
  - **LDP**
  - **Blind Spot Warning**
- **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 brake hold drive signal 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) • Forward Emergency Brake (FEB)
BRAKE ACTUATOR	Activates the brake by an arbitrary operation
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)
WARNING SYSTEM IND	Warning systems ON indicator (on warning systems switch) can be illuminated by ON/OFF operations as necessary
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
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

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 brake hold drive signal below to end the test	OFF
	On	Transmits the brake hold 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

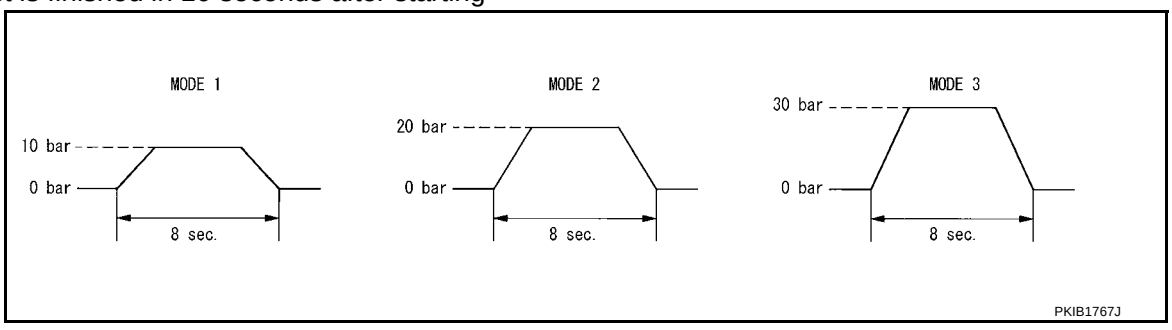
NOTE:

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 CAN communication	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



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

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

ECU IDENTIFICATION

Displays ADAS control unit parts number.

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT 2)

CONSULT Function (ICC/ADAS 2)

INFOID:0000000015253556

APPLICATION ITEMS

CONSULT performs the following functions via CAN communication using ADAS control unit 2.

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
Self Diagnostic Result	Displays the name of a malfunctioning system stored in the ADAS control unit
Data Monitor	Displays ADAS control unit input/output data in real time
Active Test	Enables an operational check of a load by transmitting a driving signal from the ADAS control unit to the load
ECU Identification	Displays ADAS control unit part number
CAN Diag Support Monitor	Displays a reception/transmission state of CAN communication and ITS communication

CONFIGURATION

Configuration includes functions as follows.

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.

SELF DIAGNOSTIC RESULT

Refer to DAS-45, "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 (U1000-01, U1010-49)
- 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 U1000-01, U1010-49)
- 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]	A-TEST I/O SIG	RADAR ICC (MAIN)	RADAR ICC (SUB)	FCW/FEB SIG	CAMERA ICC (ALL)	CAMERA ICC (MAIN)	LDW (MAIN)	BSW (MAIN)	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”)
BRAKE SW [On/Off]					×	×	×	×	Indicates [On/Off] status as judged from brake pedal position switch signal (HPCM transmits brake pedal position switch signal through CAN communication)
STOP LAMP SW [On/Off]	×		×		×	×	×	×	Indicates [On/Off] status as judged from stop lamp switch signal (HPCM 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 (HPCM 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
BA WARNING [On/Off]			×		×				Indicates [On/Off] status of FEB indicator 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

Monitored item [Unit]	A-TEST I/O SIG	RADAR ICC (MAIN)	RADAR ICC (SUB)	FCW/FEB SIG	CAMERA ICC (ALL)	CAMERA ICC (MAIN)	LDW (MAIN)	BSW (MAIN)	Description
ENGINE RPM [rpm]		×			×				Indicates engine speed read from ADAS control unit through CAN communication (HPCM 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
RELEASE SW NO [On/Off]					×		×	×	**NOTE:** The item is displayed, but it is not monitored
RELEASE SW NC [On/Off]					×		×	×	**NOTE:** The item is displayed, but it is not monitored
STP LMP DRIVE [On/Off]	×		×		×	×			Indicates [On/Off] status of brake hold drive signal
D POSITION 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 CVT vehicle speed sensor read from ADAS control unit through CAN communication (TCM transmits CVT vehicle speed sensor signal through CAN communication)
THRTL OPENING [%]					×	×			Indicates throttle position read from ADAS control unit through CAN communication (HPCM transmits accelerator pedal position signal through CAN communication).
GEAR [1, 2, 3, 4, 5, 6, 7]			×		×				Indicates CVT gear position read from ADAS control unit through CAN communication (TCM 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 (HPCM transmits park/neutral position switch signal through CAN communication).

Monitored item [Unit]	A-TEST I/O SIG	RADAR ICC (MAIN)	RADAR ICC (SUB)	FCW/FEB SIG	CAMERA ICC (ALL)	CAMERA ICC (MAIN)	LDW (MAIN)	BSW (MAIN)	Description
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
FCW SYSTEM ON [On/Off]					×	×			Indicates [On/Off] status of FCW system
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
LANE DPRT W/L [On/Off]							×		Indicates [On/Off] status of LDW/LDP warning display (Yellow) output
BUZEROUTPUT [On/Off]							×		Indicates [On/Off] status of warning buzzer output
LDP) 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)
LDP) 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)
LDP) 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)
LDP) 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)
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

Monitored item [Unit]	A-TEST I/O SIG	RADAR ICC (MAIN)	RADAR ICC (SUB)	FCW/FEB SIG	CAMERA ICC (ALL)	CAMERA ICC (MAIN)	LDW (MAIN)	BSW (MAIN)	Description
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
FCW SELECT [On/Off]				×	×	×	×	×	Indicates an ON/OFF state of the FCW system. The FCW system can be set to ON/OFF by selecting “Driving Aids”⇒“Emergency brake” 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
WARN SYS SW [On/Off]				×	×	×	×	×	**NOTE:** The item is displayed, but it is not monitored
BSW WARN LMP [On/Off]								×	Indicates [On/Off] status of Blind Spot warning malfunction
BSW SYSTEM ON [On/Off]								×	Indicates [On/Off] status of BSW system
BSW [On/Off]								×	Indicates [On/Off] status of BSW system
BSW/CTA SW [On/Off]	×							×	**NOTE:** The item is displayed, but it is not monitored
BSW/CTA SW IND [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
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
SYSTEM CANCEL MESSAGE [NOREQ/SLIP/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(LDP) [On/Off]					×	×			Indicates the presence or absence of LDP system.
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

Monitored item [Unit]	A-TEST I/O SIG	RADAR ICC (MAIN)	RADAR ICC (SUB)	FCW/FEB SIG	CAMERA ICC (ALL)	CAMERA ICC (MAIN)	LDW (MAIN)	BSW (MAIN)	Description
BSW IND BRIGHTNESS [Nothing/Bright/Normal/Dark]								×	Indicates status of brightness of Blind Spot Warning indicator
G SENSOR SIGNAL [On/Off]									**NOTE:** The item is displayed, but it is not monitored
RADAR COMMAND SIGNAL [Normal/Abnormal]		×							**NOTE:** The item is displayed, but it is not monitored
ICC SYSTEM ON [On/Off]		×							**NOTE:** The item is displayed, but it is not monitored
ICC AVAILABLE COND [On/Off]		×							**NOTE:** The item is displayed, but it is not monitored
FEB AVAILABLE COND [On/Off]				×					**NOTE:** The item is displayed, but it is not monitored
FCW AVAILABLE COND [On/Off]				×					**NOTE:** The item is displayed, but it is not monitored
EBA AVAILABLE COND [On/Off]				×					**NOTE:** The item is displayed, but it is not monitored

ACTIVE TEST

Test item	Description
ADAS buzzer 2	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Intelligent Cruise Control (ICC) • Forward Emergency Brake (FEB) with pedestrian • Forward Emergency Brake (FEB) • Blind Spot Warning (BSW) • Lane Departure Warning (LDW) • Lane Departure Prevention (LDP)

ADAS buzzer 2

Test item	Operation	Description	Warning buzzer
ADAS buzzer 2	On	Stops transmitting the buzzer output signal below to end the test	ON
	Off	Transmits the warning buzzer signal to the driver assistance warning buzzer	—
	End	Returns to the “SELECT TEST ITEM” screen	—

ECU IDENTIFICATION

Displays ADAS control unit 2 parts number.

DIAGNOSIS SYSTEM (CHASSIS CONTROL MODULE)

CONSULT Function

INFOID:0000000015253557

APPLICATION ITEM

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

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

*1: The following diagnosis information is erased by erasing.
- DTC
- Freeze frame data (FFD)

ECU IDENTIFICATION

Chassis control module part number can be read.

SELF DIAGNOSTIC RESULT

Refer to DAS-448, "DTC Index".

When “CRNT” is displayed on “self-diagnosis result”
- The system is presently malfunctioning.

When “PAST” is displayed on “self-diagnosis result”
- System malfunction in the past is detected, but the system is presently normal.

Freeze frame data (FFD)
When DTC is detected, a vehicle state shown below is recorded and displayed on CONSULT.

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

DATA MONITOR

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

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

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

ACTIVE TEST

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

CAUTION:

- **Never perform ACTIVE TEST while driving the vehicle.**
- **Always bleed air from brake system before active test.**
- **Never perform active test when system is malfunctioning.**

NOTE:

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

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

Test item	Operation	Description
MASTER WARNING ACTIVE	On	If touching “On” with the master warning lamp not illuminated, the master warning lamp illuminates. Stops in approximately 1 minute.
	Off	The master warning lamp turns OFF. (vehicle in normal state)
FL TIRE DISP	On	Displays the front LH tire on the information display in the combination meter.
	Off	Does not display the front LH tire on the information display in the combination meter.
FR TIRE DISP	On	Displays the front RH tire on the information display in the combination meter.
	Off	Does not display the front RH tire on the information display in the combination meter.
RL TIRE DISP	On	Displays the rear LH tire on the information display in the combination meter.
	Off	Does not display the rear LH tire on the information display in the combination meter.
RR TIRE DISP	On	Displays the rear RH tire on the information display in the combination meter.
	Off	Does not display the rear RH tire on the information display in the combination meter.
TURN DISP	NO DISP	Does not display the turning status on the information display in the combination meter.
	LH	Displays the LH turning status on the information display in the combination meter.
	RH	Displays the RH turning status on the information display in the combination meter.
	ROUND	Displayed but not used.
ATC 1 DISP	On	Displays active trace control function active status on the information display in the combination meter.
	Off	Displays active trace control function inactive status on the information display in the combination meter.
ATC 2 DISP	On	Displays active trace control function active status on the information display in the combination meter.
	Off	Displays active trace control function inactive status on the information display in the combination meter.
HDC DISP	On	Displays Hill Descent Control active status on the information display on the combination meter.
	Off	Displays Hill Descent Control inactive status on the information display on the combination meter.
BRAKE HOLD DISP	INACT	Displays inactive status of controls on the information display on the combination meter.
	READY	Displays ready status of Hill Start Assist on the information display on the combination meter.
	ACTIVE	Displays active status of Hill Start Assist on the information display on the combination meter.
	ERROR	Displays inactive status of controls on the information display on the combination meter.
AEB DISP	On	Displays Active Engine Brake (corner) active status on the information display in the combination meter.
	Off	Displays Active Engine Brake (corner) inactive status on the information display in the combination meter.

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

RE/PROGRAMMING, CONFIGURATION

Configuration includes the following functions.

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

CAUTION:

Use “Manual Configuration” only when “TYPE ID” of Chassis Control Module cannot be read.

DIAGNOSIS SYSTEM (ICC SENSOR)

CONSULT Function (LASER/RADAR)

INFOID:0000000014899816

CAUTION:
After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF → ON (for at least 5 seconds) → OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and a no-start condition.

APPLICATION ITEMS

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

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

SELF DIAGNOSTIC RESULT

Refer to CCS-80, "DTC Index".

DATA MONITOR

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
DISTANCE [m]	Indicates the distance from the vehicle ahead
RELATIVE SPD [m/s]	Indicates the relative speed of the vehicle ahead
Failsafe unit temperature	**NOTE:** The item is indicated, but not used
Failsafe alignment condition	**NOTE:** The item is indicated, but not used
Failsafe alignment complete	**NOTE:** The item is indicated, but not used
Connector direction	**NOTE:** The item is indicated, but not used
RADAR OFFSET [m]	**NOTE:** The item is indicated, but not used
RADAR HEIGHT [m]	**NOTE:** The item is indicated, but not used

Monitored item [Unit]	Description
L/R ADJUST [deg]	Indicates a horizontal correction value of the radar
U/D ADJUST [deg]	Indicates a vertical correction value of the radar
STEERING ANGLE [deg]	The steering angle is displayed
STRG ANGLE SPEED [deg/s]	The steering angle speed is displayed
Horizontal Alignment value	**NOTE:** The item is indicated, but not used
Vertical Alignment value	**NOTE:** The item is indicated, but not used
Vehicle status for alignment	**NOTE:** The item is indicated, but not used
Alignment status	**NOTE:** The item is indicated, but not used

WORK SUPPORT

Work support items	Description
MILLIWAVE RADAR ADJUST	Outputs millimeter waves, calculates the displacement in radar direction, and indicates an adjustment direction

ICC sensor Adjust

ECU IDENTIFICATION

ICC sensor part number is displayed.

ECU DIAGNOSIS INFORMATION

ADAS CONTROL UNIT

Reference Value

INFOID:0000000015261410

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 pedal is depressed	Off
		When brake 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
VHCL SPEED SE	While driving		Displays the vehicle speed calculated by ADAS control unit
ENGINE RPM	Engine running		Equivalent to tachometer reading
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 drive is activated	On
		When ICC brake hold drive is not activated	Off
D RANGE SW	Engine running	When the shift selector is in “D” position or manual mode	On
		When the shift selector is in any position other than “D” or manual mode	Off

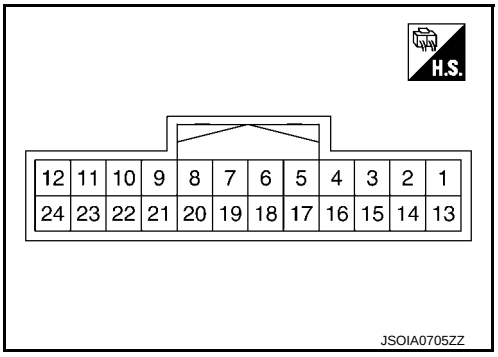
Monitor item	Condition		Value/Status
NP RANGE SW	Engine running	When the shift selector is in “N”, “P” position	On
		When the shift selector is in any position other than “N”, “P”	Off
PKB SW	Ignition switch ON	When the parking brake is applied	On
		When the parking brake is released	Off
PWR SUP MONI	Engine running		Power supply voltage value of ADAS control unit
VHCL SPD AT	While driving		Value of CVT vehicle speed sensor signal
THRTL OPENING	Engine running	Depress accelerator pedal	Displays the throttle position
GEAR	While driving		Displays the gear position
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 vehicle speed indicator ON	On
		SET vehicle speed 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
LDW SYSTEM ON	Ignition switch ON	When the LDW system is ON	On
		When the LDW system is OFF	Off
LDW ON LAMP	Ignition switch 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 system	When the buzzer of the following system operates • LDW/LDP system • Blind Spot Warning system	On
		When the buzzer of the following system does not operate • LDW/LDP system • Blind Spot Warning	Off
WARN REQ	Drive the vehicle and activate the LDP system	Lane departure warning is operating	On
		Lane departure warning is not operating	Off
Camera lost	Drive the vehicle and activate the LDW system or LDP system	Both side lane markers are detected	Detect
		Deviate side lane marker is lost	Deviate
		Both side lane markers are lost	Both

Monitor item	Condition		Value/Status
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
FUNC ITEM (FCW)	Engine running		On
FUNC ITEM (LDW)	Engine running		On
FUNC ITEM (BSW)	Engine running		On
LDP SELECT	Ignition switch ON	"Lane Departure Prevention" set with the integral switch is ON	On
		"Lane Departure Prevention" 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
BSW/BSI WARN LMP	Engine running	When the BSW system is malfunctioning	On
		When the BSW system is normal	Off
BSW SYSTEM ON	Ignition switch ON	When the BSW system is ON	On
		When the BSW system is OFF	Off
FCW SYSTEM ON	Engine running	When the FEB system is ON	On
		When the FEB system is OFF	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	Engine running	LDW system display ON	On
		LDW system display OFF	Off
LDW WARNING INDICATOR	Engine running	When the LDW system is malfunctioning	On
		When the LDW system is normal	Off

Monitor item	Condition		Value/Status
SYSTEM CANCEL MESSAGE	Engine running	When the vehicle is normal	NOREQ
		When the wheel is slipping	SLIP
		When the VDC is OFF	VDC OFF
CAMERA HI TEMP MSG	Engine running	Lane camera unit high temperature warning display ON	On
		Lane camera unit high temperature warning display OFF	Off
ITS SETTING ITEM(LDP)	Ignition switch ON		On
BSW ON INDICATOR	Engine running	BSW system display ON	On
		BSW system display OFF	Off
SIDE RADAR BLOCK COND	Engine running	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
BSW IND BRIGHT-NESS	Ignition switch ON	BSW system OFF	Nothing
		Blind Spot Warning indicator brightness bright	Bright
		Blind Spot Warning indicator brightness normal	Normal
		Blind Spot Warning indicator brightness dark	Dark

TERMINAL LAYOUT

PHYSICAL VALUES



Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
1 (L)	Ground	CAN high	—	—	—	—
2 (R)		CAN low	—	—	—	—
5 (B)		Ground	—	Ignition switch ON	—	0 V
6 (L)		ITS communication high	—	—	—	—
7 (Y)		ITS communication low	—	—	—	—
8 (L)		Chassis communication high	—	—	—	—
9 (W)		Chassis communication low	—	—	—	—
12 (P)		Ignition power supply	Input	Ignition switch ON		Battery voltage
18 (W)		Warning system switch (with FEB)	Input	Ignition switch ON	When warning system switch is not pressed	Battery voltage
					When warning system switch is pressed	0 V
19 (BR)		Warning system ON indicator (with FEB)	Output	Ignition switch ON	Warning system ON indicator ON	0 V
					Warning system ON indicator OFF	Battery voltage

Fail-safe (ADAS Control Unit)

INFOID:0000000015261411

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	Cancel

DTC Inspection Priority Chart

INFOID:0000000015261412

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

Priority	Detected items (DTC)	
1	• C1A0A: CONFIG UNFINISHED • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)	
2	• C1A01: POWER SUPPLY CIR • C1A02: POWER SUPPLY CIR 2 • C1A04: ABS/TCS/VDC CIRC • C1A05: BRAKE SW/STOP L SW • C1A06: OPERATION SW CIRC • C1A07: CVT • C1A1A: HPCM CIRCUIT • C1A13: STOP LAMP RLY FIX • C1A14: ECM CIRCUIT • C1A24: NP RANGE • C1A25: SHIFT RANGE IND • C1A26: ECD MODE MALF • C1A33: CAN TRANSMISSION ERR • C1A34: COMMAND ERROR • C1A39: STRG SEN CIR • C1A40: SYSTEM SW CIR • C1B00: CAMERA UNIT MALF • C1B01: CAM AIMING INCMP • C1B03: CAM ABNRMAL TMP DETCT • C1B53: SIDE RDR R MALF • C1B54: SIDE RDR L MALF • C1B59: CCM • C1B82: DIST SEN OFF-CENTER • C1B83: DIST SEN BLOCKED • C1B84: DIST SEN MALFUNCTION • C1B85: DIST SEN ABNORMAL TEMP • C1B86: DIST SEN PWR SUP CIR • C1B5D: FEB OPE COUNT LIMIT • C1B5A: G SENSOR MALF	• U0121: VDC CAN CIR 2 • U0126: STRG SEN CAN CIR 1 • U0235: ICC SENSOR CAN CIRC 1 • U0155: MET CAN CIRC 1 • U0401: ECM CAN CIR 1 • U0402: TCM CAN CIR 1 • U0415: VDC 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 • U1507: LOST COMM (SIDE RDR R) • U1508: LOST COMM (SIDE RDR L) • U150B: ECM CAN CIRC 3 • U150C: VDC CAN CIRC 3 • U150D: TCM CAN CIRC 3 • U150E: BCM CAN CIRC 3 • U151D: HPCM CAN CIRCUIT 2 • U151E: HPCM CAN CIRCUIT 1 • U1513: METER CAN CIRC 3 • U1514: STRG SEN CAN CIRC 3 • U1515: ICC SENSOR CAN CIRC 3 • U1516: CAM CAN CIR 3 • U1518: SIDE RDR L CAN CIRC 3 • U1519: SIDE RDR R CAN CIRC 3
3	• C1A03: VHCL SPEED SE CIRC	
4	• C1A00: CONTROL UNIT	

DTC Index

INFOID:0000000015261413

Systems for fail-safe
- A: Forward Emergency Braking (FEB)
- B: Blind Spot Warning (BSW)/Rear Cross Traffic Alert (RCTA)
- C: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- D: Forward Emergency Braking (FEB) with pedestrian
- E: Vehicle-to-vehicle distance control mode
- F: Conventional (fixed speed) cruise control mode

DTC	CONSULT display	Fail-safe	Reference
CONSULT		System	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	—	—
C1A0A	CONFIG UNFINISHED	A, B, C, D, E, F	DAS-67
C1A00	CONTROL UNIT	A, B, C, D, E, F	DAS-68
C1A01	POWER SUPPLY CIR	A, B, C, D, E, F	DAS-70
C1A02	POWER SUPPLY CIR 2	A, B, C, D	DAS-70
C1A03	VHCL SPEED SE CIRC	A, B, C, D	DAS-72
C1A04	ABS/TCS/VDC CIRC	A, B, C, D	DAS-76
C1A05	BRAKE SW/STOP L SW	A, B, C	DAS-79

Systems for fail-safe

- A: Forward Emergency Braking (FEB)
- B: Blind Spot Warning (BSW)/Rear Cross Traffic Alert (RCTA)
- C: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- D: Forward Emergency Braking (FEB) with pedestrian
- E: Vehicle-to-vehicle distance control mode
- F: Conventional (fixed speed) cruise control mode

DTC	CONSULT display	Fail-safe	Reference
CONSULT		System	
C1A06	OPERATION SW CIRC	A, B	DAS-82
C1A07	CVT CIRCUIT	A, B, C, D	DAS-85
C1A1A	HPCM CIRCUIT	A, B, C, D, E, F	DAS-87
C1A13	STOP_LAMP_RLY_FIX	A, B, C	DAS-90
C1A14	ECM CIRCUIT	A, B, C	DAS-93
C1A24	NP RANGE	A, B, C	DAS-95
C1A25	SHIFT RANGE IND	A, B, C	DAS-97
C1A26	ECD MODE MALF	A, B, C	DAS-99
C1A33	CAN TRANSMISSION ERR	A, B, C, D	DAS-101
C1A34	COMMAND ERROR	A, B, C, D	DAS-103
C1A39	STRG SEN CIR	A, B, C	DAS-104
C1A40	SYSTEM SW CIR	A, B, C	DAS-107
C1B00	CAMERA UNIT MALF	A, B	DAS-109
C1B01	CAM AIMING INCMP	A, B	DAS-111
C1B03	ABNRML TMP DETCT	A, B	DAS-113
C1B53	SIDE RDR R MALF	B	DAS-115
C1B54	SIDE RDR L MALF	B	DAS-117
C1B59	CCM	A, B, C, D	DAS-119
C1B82	DIST SEN OFF CENTER	A, C	DAS-121
C1B83	DIST SEN BLOCKED	A, C	DAS-122
C1B84	DIST SEN MALFUNCTION	A, C	DAS-123
C1B85	DIST SEN ABNORMAL TEMP	A, C	DAS-124
C1B86	DIST SEN PWR SUP CIR	A, C	DAS-125
C1B5A	G SENSOR MALF	A, B, C	DAS-127
C1B5D	FEB OPE COUNT LIMIT	A, B, C	DAS-129
U0121	VDC CAN CIR 2	A, B, C	DAS-130
U0126	STRG SEN CAN CIR 1	A, B, C	DAS-133
U0155	MET CAN CIR 1	A, B, C	DAS-136
U0235	ICC SENSOR CAN CIRC 1	A, C	DAS-138
U0401	ECM CAN CIR 1	A, B, C	DAS-140
U0402	TCM CAN CIR 1	A, B, C	DAS-142
U0415	VDC CAN CIR 1	A, B	DAS-144
U0428	STRG SEN CAN CIR 2	A, C	DAS-147
U1000[NOTE]	CAN COMM CIRCUIT	A, B	DAS-150
U1010	CONTROL UNIT (CAN)	A, B	DAS-153
U150B	ECM CAN CIRC 3	A, B	DAS-155
U150C	VDC CAN CIRC 3	A, B	DAS-157
U150D	TCM CAN CIRC 3	A, B	DAS-159

Systems for fail-safe

- A: Forward Emergency Braking (FEB)
- B: Blind Spot Warning (BSW)/Rear Cross Traffic Alert (RCTA)
- C: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- D: Forward Emergency Braking (FEB) with pedestrian
- E: Vehicle-to-vehicle distance control mode
- F: Conventional (fixed speed) cruise control mode

DTC	CONSULT display	Fail-safe	Reference
CONSULT		System	
U150E	BCM CAN CIRC 3	A, B	DAS-161
U1500	CAM CAN CIR2	B, C	DAS-172
U1501	CAM CAN CIR 1	B, C	DAS-175
U1502	ICC SEN CAN COMM CIR	A	DAS-178
U1503	SIDE RDR L CAN CIR 2	B	DAS-179
U1504	SIDE RDR L CAN CIR 1	B	DAS-182
U1505	SIDE RDR R CAN CIR 2	B	DAS-185
U1506	SIDE RDR R CAN CIR 1	B	DAS-188
U1507	LOST COMM (SIDE RDR R)	B	DAS-191
U1508	LOST COMM (SIDE RDR L)	B	DAS-194
U151D	HPCM CAN CIRCUIT 2	A, B, C, D, E, F	DAS-163
U151E	HPCM CAN CIRCUIT 1	A, B, C, D, E, F	DAS-166
U1513	METER CAN CIRC 3	A, B, C	DAS-197
U1514	STRG SEN CAN CIRC 3	A, B, C	DAS-199
U1515	ICC SENSOR CAN CIRC 3	A	DAS-201
U1516	CAM CAN CIRC 3	B, C	DAS-202
U1518	SIDE RDR L CAN CIRC 3	B	DAS-204
U1519	SIDE RDR R CAN CIRC 3	B	DAS-206

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.

ADAS CONTROL UNIT 2

Reference Value

INFOID:0000000015261414

VALUES ON THE DIAGNOSIS TOOL

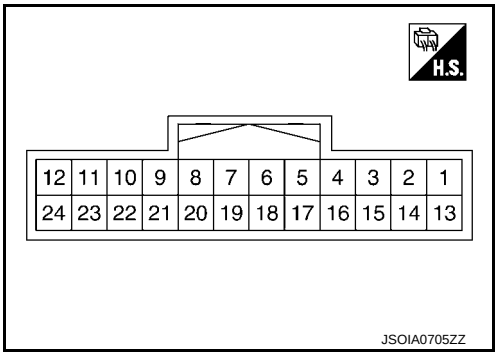
NOTE:
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item	Condition		Value/Status
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
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: • FCW system • FEB system	On
		When the buzzer of the following system not operates: • FCW system • FEB system	Off
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
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
D POSITION 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

Monitor item	Condition		Value/Status
VHCL SPD AT	While driving		Value of CVT vehicle speed sensor signal
THRTL OPENING	Engine running	Depress accelerator pedal.	Displays the throttle position
GEAR	While driving		Displays the gear position
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
SET DISP IND	Press SET/COAST switch	SET switch indicator ON.	On
		SET switch indicator OFF.	Off
DISTANCE	Drive the vehicle and activate the FCW/FEB system	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 FCW/FEB system	When a vehicle ahead is detected.	Displays the relative speed.
		When a vehicle ahead is not detected.	0.0
SIDE G	While driving	Vehicle turning right.	Negative value
		Vehicle turning left.	Positive value
FUNC ITEM (FCW)	Engine running		On
FUNC ITEM (BSW)	Engine running		On
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
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
BSWBSI WARN LMP	Engine running	When the BSW system is malfunctioning.	On
		When the BSW system is normal.	Off
BSW SYSTEM ON	Ignition switch ON	When the BSW system is ON.	On
		When the BSW system is OFF.	Off
FCW SYSTEM ON	Engine running	When the FEB system is ON.	On
		When the FEB system is OFF.	Off
BSW ON INDICATOR	Engine running	BSW system display ON.	On
		BSW system display OFF.	Off
SIDE RADAR BLOCK COND	Engine running	Rear bumper or side radar is dirty.	On
		Rear bumper or side radar is clean.	Off
BSW IND BRIGHTNESS	Ignition switch ON	BSW system OFF.	Nothing
		Blind Spot Warning indicator brightness bright.	Bright
		Blind Spot Warning indicator brightness normal.	Normal
		Blind Spot Warning indicator brightness dark.	Dark
FEB AVAILABLE COND	Engine running	When the FEB system is available condition.	On
		When the FEB system is not available condition.	Off
EBA AVAILABLE COND	Engine running	When the Brake Assist system is available condition.	On
		When the Brake Assist system is not available condition.	Off

TERMINAL LAYOUT

PHYSICAL VALUES



Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
1 (BR)	Ground	Ground	Input	—		0 V
2 (L)		ITS communication high	—	—		—
3 (P)		Ignition power supply	Input	Ignition switch ON		Battery voltage
5 (Y)		ITS communication low	—	—		—
6 (Y)		CAN low	—	—		—
9 (L)		CAN high	—	—		—
10 (R)		CAN low	—	—		—
11 (W)		Warning system switch (without FEB)	Input	Ignition switch ON	Warning system switch is not pressed	Battery voltage
					Warning system switch is pressed	0 V
12 (GR)		Warning buzzer signal	Output	Ignition switch ON	Warning buzzer operation	Battery voltage
					Warning buzzer not operating	0 V
17 (BR)		Warning system switch ON indicator (without FEB)	Output	Ignition switch ON	Warning system ON indicator is OFF	Battery voltage
					Warning system ON indicator is ON	0 V
18 (L)		CAN high	—	—		—
24 (B)		Warning buzzer ground	—	—	—	—

Fail-safe (ADAS Control Unit 2)

INFOID:0000000015261415

If a malfunction occurs in each system, ADAS control unit 2 cancels each control, sounds a beep, and turns ON the warning or indicator lamp.

System	Buzzer	Warning lamp/Warning display	Description
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)	—	Blind Spot Warning warning lamp	Cancel
Rear Cross Traffic Alert (RCTA)	—	Rear Cross Traffic Alert warning	Cancel

DTC Inspection Priority Chart

INFOID:0000000015261416

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) • U1321: CONFIG UNFINISHED	
2	• C1A01: POWER SUPPLY CIR • C1A02: POWER SUPPLY CIR 2 • C1A04: ABS/TCS/VDC CIRC • C1A05: BRAKE SW/STOP L SW • C1A07: CVT • C1A1A: HPCM CIRCUIT • C1A39: STRG SEN CIR • C1B00: CAMERA UNIT MALF • C1B01: CAM AIMING INCMP • C1B03: CAM ABNRMAL TMP DETCT • C1B53: SIDE RDR R MALF • C1B54: SIDE RDR L MALF	• U0121: VDC CAN CIR 2 • U0126: STRG SEN CAN CIR 1 • U0415: VDC CAN CIR 1 • U0428: STRG SEN CAN CIR 2 • U1402: CVT CAN CIR2 • U1500: CAM CAN CIR 2 • U1501: CAM CAN CIR 1 • 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 • U1507: LOST COMM (SIDE RDR R) • U1508: LOST COMM (SIDE RDR L) • U151D: HPCM CAN CIRCUIT 2 • U151E: HPCM CAN CIRCUIT 1
3	• C1A03: VHCL SPEED SE CIRC	
4	• C1A00: CONTROL UNIT	

DTC Index

INFOID:0000000015261417

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.

DTC CONSULT	CONSULT display	Reference
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	—
C1A00	CONTROL UNIT	DAS-68
C1A01	POWER SUPPLY CIR	DAS-71
C1A02	POWER SUPPLY CIR 2	DAS-71
C1A03	VHCL SPEED SE CIRC	DAS-73

DTC CONSULT	CONSULT display	Reference
C1A04	ABS/TCS/VDC CIRC	DAS-77
C1A05	BRAKE SW/STOP L SW	DAS-80
C1A07	CVT CIRCUIT	DAS-86
C1A1A	HPCM CIRCUIT	DAS-71
C1A39	STRG SEN CIR	DAS-105
C1B00	CAMERA UNIT MALF	DAS-109
C1B01	CAM AIMING INCMP	DAS-112
C1B03	ABNRML TMP DETCT	DAS-114
C1B53	SIDE RDR R MALF	DAS-115
C1B54	SIDE RDR L MALF	DAS-117
U0121	VDC CAN CIR 2	DAS-131
U0126	STRG SEN CAN CIR 1	DAS-134
U0415	VDC CAN CIR 1	DAS-145
U0428	STRG SEN CAN CIR 2	DAS-148
U1000[NOTE]	CAN COMM CIRCUIT	DAS-151
U1010	CONTROL UNIT (CAN)	DAS-154
U1321	CONFIG UNFINISHED	DAS-169
U1402	CVT CAN CIRC 1	DAS-170
U1500	CAM CAN CIR2	DAS-173
U1501	CAM CAN CIR 1	DAS-176
U1503	SIDE RDR L CAN CIR 2	DAS-180
U1504	SIDE RDR L CAN CIR 1	DAS-183
U1505	SIDE RDR R CAN CIR 2	DAS-186
U1506	SIDE RDR R CAN CIR 1	DAS-189
U1507	LOST COMM (SIDE RDR R)	DAS-191
U1508	LOST COMM (SIDE RDR L)	DAS-194
U151D	HPCM CAN CIRCUIT 2	DAS-194
U151E	HPCM CAN CIRCUIT 1	DAS-194

CHASSIS CONTROL MODULE

Reference Value

INFOID:0000000015261418

CONSULT DATA MONITOR STANDARD VALUE

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

Monitor item	Condition	Reference values in normal operation
IGN VOLT	Ignition switch ON.	10 – 16 V
CONTROL MODULE MALF	When chassis control module is normal.	Off
	When chassis control module malfunction is detected.	On
CAN DIAG STATUS	When diagnosis of CAN communication malfunction is detected.	Off
	When diagnosis of CAN communication is normal.	On
VEHICLE SPEED	Vehicle Stopped.	0 km/h (0 MPH)
	Driving*	Almost same reading as speedometer (within ±10%).
FR WHEEL SPEED	Vehicle stopped.	0 rpm
	Driving*	Increases according to vehicle speed.
FL WHEEL SPEED	Vehicle stopped.	0 rpm
	Driving*	Increases according to vehicle speed.
RR WHEEL SPEED	Vehicle stopped.	0 rpm
	Driving*	Increases according to vehicle speed.
RL WHEEL SPEED	Vehicle stopped.	0 rpm
	Driving*	Increases according to vehicle speed.
STEERING ANG SENSOR	When driving straight.	0±3.5 deg.
	When steering wheel is steered to RH by 90°.	Approx. +90 deg.
	When steering wheel is steered to LH by 90°.	Approx. –90 deg.
DECEL G SENSOR	Vehicle stopped.	Approx. 0 G.
	When during acceleration.	Positive value.
	When during deceleration.	Negative value.
SIDE G SENSOR	Vehicle stopped.	Approx. 0 G.
	When right turn.	Negative value.
	When left turn.	Positive value.
YAW RATE SENSOR	Vehicle stopped.	Approx. 0 deg/s.
	When right turn.	Negative value.
	When left turn.	Positive value.
ACCELE PEDAL POSITION	When accelerator pedal is released.	0%
	When accelerator pedal is depressed.	0 – 100%
THROTTLE CONTROL	When electric throttle control actuator is normal.	NORMAL
	When the electric throttle control actuator does not achieve the requirement (measured value is inaccurate).	INCORR
	When the electric throttle control actuator does not achieve the requirement (temporary prevention).	PREV
	When the electric throttle control actuator does not achieve the requirement (impossible).	IMPOSSI

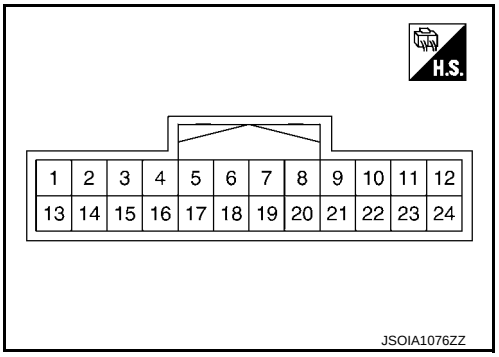
Monitor item	Condition	Reference values in normal operation
BRAKE SWITCH 2	When brake pedal is not depressed.	Off
	When brake pedal is depressed.	On
BRAKE SWITCH 1	When brake pedal is depressed.	Off
	When brake pedal is not depressed.	On
STOP LAMP SW	When brake pedal is not depressed.	INACT
	When brake pedal is depressed.	ACT
PRESS SENSOR	When brake pedal is not depressed.	Approx. 0 bar
	when brake pedal is depressed.	0 – 255 bar
ABS	When ABS function is normal.	NORMAL
	When ABS function malfunction is detected.	ABNOR
ABS MALF	When ABS function is normal.	NORMAL
	When ABS function malfunction is detected.	ABNOR
EBD	When EBD function is normal.	NORMAL
	When EBD function malfunction is detected.	ABNOR
TCS	When TCS function is normal.	NORMAL
	When TCS function malfunction is detected.	ABNOR
TCS MALF	When TCS function is normal.	NORMAL
	When TCS function malfunction is detected.	ABNOR
VDC	When VDC function is normal.	NORMAL
	When VDC function malfunction is detected.	ABNOR
VDC MALF	When VDC function is normal.	NORMAL
	When VDC function malfunction is detected.	ABNOR
VDC OFF SWITCH	When VDC OFF switch is OFF.	Off
	When VDC OFF switch is ON.	On
DRV TRQ CTRL MODE	When correction coefficients are initialized.	INITIAL
	When correction is executed.	NORMAL
	When correction is stopped (computing is impossible).	STOP 1
	When correction is stopped (computing is possible).	STOP 2
	When correction is limited.	LIMIT 1
	When correction is prohibited.	PROHIBI
DRV TRQ CTRL PERMIS 1	When correction is permitted (basic requirement).	PERMIS
	When correction is not permitted (basic requirement).	NO PER
DRV TRQ CTRL PERMIS 2	When correction is permitted (system requirement).	PERMIS
	When correction is not permitted (system requirement).	NO PER
DRV TRQ CTRL STOP	When correction is requested to stop.	REQ
	When correction is not requested to stop.	NO REQ
DRV TRQ CTRL PROHIBIT	When prohibition of correction is requested.	REQ
	When prohibition of correction is not requested.	NO REQ
AEB	When Active Engine Brake (corner) function is active.	On
	When Active Engine Brake (corner) function is inactive.	Off
ATC 1	When active trace control function is inactive.	Off
	When active trace control function is active.	On
ATC 2	When active trace control function is inactive.	Off
	When active trace control function is active.	On

Monitor item	Condition	Reference values in normal operation
ATC 3	When active trace control function is inactive.	Off
	When active trace control function is active.	On
ATC 4	When active trace control function is inactive.	Off
	When active trace control function is active.	On
ATC 5	When active trace control function is inactive.	Off
	When active trace control function is active.	On
ARC BRAKE	When active ride control (brake control) function is inactive	Off
	When active ride control (brake control) function is active	On
BRAKE HOLD	When Hill Start Assist function is inactive.	INACT
	When Hill Start Assist function is ready.	ACT
	When Hill Start Assist function is active.	RELEA
FL TIRE DISP	When the front LH tire is not displayed on the information display in the combination meter.	DEF
	When the front LH tire is displayed on the information display in the combination meter.	1
FR TIRE DISP	When the front RH tire is not displayed on the information display in the combination meter.	DEF
	When the front RH tire is displayed on the information display in the combination meter.	1
RL TIRE DISP	When the rear LH tire is not displayed on the information display in the combination meter.	DEF
	When the rear LH tire is displayed on the information display in the combination meter.	1
RR TIRE DISP	When the rear RH tire is not displayed on the information display in the combination meter.	DEF
	When the rear RH tire is displayed on the information display in the combination meter.	1
VEHICLE DISP	When active ride control (brake) effect is not displayed on the information display in the combination meter.	Off
	When active ride control (brake) effect is displayed on the information display in the combination meter.	On
INTERRUPT DISP	When interrupt display is not displayed on the information display in the combination meter.	NOREQ
	When Hill Start Assist function (ready) is displayed on the information display in the combination meter.	HOLD1
	When Hill Start Assist function (active) is displayed on the information display in the combination meter.	HOLD2
	When Hill Descent Control function is displayed on the information display in the combination meter.	HDC
TURN DISP	When the straight-ahead status is displayed on the information display in the combination meter.	N STEER
	When the left turning status is displayed on the information display in the combination meter.	LEFT
	When the right turning status is displayed on the information display in the combination meter.	RIGHT
BRAKE HOLD DISP	When Hill Start Assist function is not displayed on the information display in the combination meter.	INACT
	When Hill Start Assist function (ready) is displayed on the information display in the combination meter.	ACT
	When Hill Start Assist function (active) is displayed on the information display in the combination meter.	RELEA

Monitor item	Condition	Reference values in normal operation
ATC DISP	When the activation of Active Trace Control is not displayed on the information display on the combination meter.	Off
	When the activation of Active Trace Control is displayed on the information display on the combination meter.	On
ARC BRAKE DISP	When Active Ride Control (Brake) function is not displayed on the information display in the combination meter.	Off
	When Active Ride Control (Brake) function is displayed on the information display in the combination meter.	On
HDC DISP	When Hill Descent Control function is not displayed on the information display in the combination meter.	Off
	When Hill Descent Control function is displayed on the information display in the combination meter.	On
AEB CVT PERMIT	When transaxle control is authorized.	On
	When transaxle control is not authorized.	Off
AEB STATUS	When active engine brake function is ON.	On
	When active engine brake function is OFF.	Off
AEB COMMAND 1	When active engine brake function is inactive.	0 – 0.1023 G
	When active engine brake function is active.	0 G
AEB SLIP RATE	When slip ratio of active engine brake function is inactive.	0%
	When slip ratio of active engine brake function is active	0 – 100%
ATC SETTING	When active trace control function is ON by steering switch.	On
	When active trace control function is OFF by steering switch	Off
AEB SETTING	When active engine brake function is ON by steering switch.	On
	When active engine brake function is OFF by steering switch.	Off

*: Check tire pressure under normal conditions.

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/Output			
3 (P)	Ground	CAN low	—	—	—	—
4 (L)		CAN high	—	—	—	—
7 (W)	Ground	Chassis comm low	—	—	—	—
8 (W)		Chassis comm high	—	—	—	—

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/Output			
10 (SB)		IGN	Input	Ignition switch ON		6.4 – 16 V
11 (L)	Ground	Chassis comm high	—	—	—	—
12 (B)		Ground	—	Ignition switch ON		0 V
19 (L)	Ground	Chassis comm high	—	—	—	—

Fail-Safe (Chassis Control Module)

INFOID:0000000015261419

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

DTC	Vehicle condition
C1B92-00	The following functions are suspended: • Active Trace Control • Active Ride Control • Active Engine Brake
C1B93-00	The following functions are suspended: • Active Trace Control • Active Ride Control (engine) • Active Engine Brake
C1B94-00	The following functions are suspended: • Active Trace Control • Active Ride Control (engine)
C1B95-00	The following functions are suspended: • Active Trace Control • Active Ride Control (brake)
C1B99-00	The following functions are suspended: • Active Trace Control • Active Ride Control • Active Engine Brake
C1BA0-00	The following functions are suspended: • Active Trace Control • Active Ride Control (brake)
C1BA2-00	The following functions are suspended: • Active Trace Control • Active Ride Control (engine)
C1BA5-00	Normal control
C1BAB-00	The following functions are suspended: • Active Trace Control • Active Ride Control (engine)
C1BB2-00	The following functions are suspended: • Active Trace Control • Active Ride Control • Active Engine Brake
C1BB3-00	
C1BB4-00	
C1BB5-00	
C1BB6-00	Normal control

DTC	Vehicle condition
C1BB7-00	The following functions are suspended: • Active Trace Control • Active Ride Control • Active Engine Brake
C1BB8-00	
C1BB9-00	
C1BBA-00	
C1BBB-00	
C1BBC-00	Normal control
C1BBD-00	The following functions are suspended: • Active Trace Control • Active Ride Control • Active Engine Brake
C1BC0-00	The following functions are suspended: • Active Trace Control • Active Ride Control
C1BC1-00	
C1BC2-00	
C1BC3-00	
C1BC4-00	The following functions are suspended: • Active Ride Control (brake)
C1BC5-00	The following functions are suspended: • Active Trace Control
C1BC6-00	The following functions are suspended: • Active Trace Control • Active Ride Control (brake)
U1000-00	The following functions are suspended: • Active Trace Control • Active Ride Control • Active Engine Brake
U1A34-00	
U1A35-00	
U1A36-00	
U1A39-00	Normal control
U1A3B-00	The following functions are suspended: • Active Trace Control • Active Ride Control (brake) • Active Engine Brake
U1A42-00	The following functions are suspended: • Active Trace Control • Active Ride Control (engine)
U1A43-00	
U1A48-00	The following functions are suspended: • Active Trace Control • Active Ride Control • Active Engine Brake
U1A4A-00	
U1A4B-00	
U1A4E-00	The following functions are suspended: • Active Ride Control

DTC Inspection Priority Chart

INFOID:0000000015261420

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

Priority	Detected item (DTC)
1	• U1000-00 CAN COMM CIRCUIT
2	• U1A34-00 BRAKE CONTROL COMM • U1A35-00 BRAKE CONTROL COMM • U1A36-00 BCM/IPDM COMM • U1A39-00 COMBINATION METER COMM • U1A3B-00 TCM COMM • U1A42-00 STEERING ANGLE SENSOR COMM • U1A43-00 STEERING ANGLE SENSOR COMM • U1A48-00 ECM/HPCM COMM • U1A4A-00 CONTROL MODULE (CAN) • U1A4B-00 CONTROL MODULE (CAN) • U1A4E-00 ECM/HPCM COMM
3	• C1BBD-00 VARIANT CODING
4	• C1B92-00 BRAKE CONTROL SYSTEM • C1B93-00 ENGINE/HEV SYSTEM • C1B94-00 TM SYSTEM • C1BA0-00 ADAS/CHASSIS CTRL BRAKE SYS • C1BA2-00 STEERING ANGLE SENSOR • C1BA5-00 ADAS/CHASSIS CTRL ENGINE SYS • C1BAB-00 STOP LAMP SW • C1BC0-00 FR WHEEL SENSOR • C1BC1-00 FL WHEEL SENSOR • C1BC2-00 RR WHEEL SENSOR • C1BC3-00 RL WHEEL SENSOR • C1BC4-00 DECEL G SENSOR • C1BC5-00 SIDE G SENSOR • C1BC6-00 PRESSURE SENSOR
5	• C1BB5-00 IGN POWER SUPPLY • C1BB6-00 IGN POWER SUPPLY
6	• C1B95-00 CONTROL MODULE • C1B99-00 CONTROL MODULE • C1BB2-00 CONTROL MODULE • C1BB3-00 CONTROL MODULE • C1BB4-00 CONTROL MODULE • C1BB7-00 CONTROL MODULE • C1BB8-00 CONTROL MODULE • C1BB9-00 CONTROL MODULE • C1BBA-00 CONTROL MODULE • C1BBB-00 CONTROL MODULE • C1BBC-00 CONTROL MODULE

DTC Index

INFOID:0000000015261421

DTC	Display item	Refer to
C1B92-00	BRAKE CONTROL SYSTEM	DAS-458, "DTC Description"
C1B93-00	ENGINE/HEV SYSTEM	DAS-460, "DTC Description"
C1B94-00	TM SYSTEM	DAS-462, "DTC Description"
C1B95-00	CONTROL MODULE	DAS-464, "DTC Description"
C1B99-00	CONTROL NODULE	DAS-465, "DTC Description"
C1BA0-00	ADAS/CHASSIS CTRL BRAKE SYS	DAS-466, "DTC Description"
C1BA2-00	STEERING ANGLE SENSOR	DAS-468, "DTC Description"
C1BA5-00	ADAS/CHASSIS CTRL ENGINE SYS	DAS-470, "DTC Description"
C1BAB-00	STOP LAMP SW	DAS-472, "DTC Description"
C1BB2-00	CONTROL MODULE	DAS-474, "DTC Description"
C1BB3-00	CONTROL MODULE	DAS-475, "DTC Description"

DTC	Display item	Refer to
C1BB4-00	CONTROL MODULE	DAS-476, "DTC Description"
C1BB5-00	IGN POWER SUPPLY	DAS-477, "DTC Description"
C1BB6-00	IGN POWER SUPPLY	DAS-479, "DTC Description"
C1BB7-00	CONTROL MODULE	DAS-481, "DTC Description"
C1BB8-00	CONTROL MODULE	DAS-482, "DTC Description"
C1BB9-00	CONTROL MODULE	DAS-483, "DTC Description"
C1BBA-00	CONTROL MODULE	DAS-484, "DTC Description"
C1BBB-00	CONTROL MODULE	DAS-485, "DTC Description"
C1BBC-00	CONTROL MODULE	DAS-486, "DTC Description"
C1BBD-00	VARIANT CODING	DAS-487, "DTC Description"
C1BC0-00	FR WHEEL SENSOR	DAS-488, "DTC Description"
C1BC1-00	FL WHEEL SENSOR	DAS-490, "DTC Description"
C1BC2-00	RR WHEEL SENSOR	DAS-492, "DTC Description"
C1BC3-00	RL WHEEL SENSOR	DAS-494, "DTC Description"
C1BC4-00	DECEL G SENSOR	DAS-496, "DTC Description"
C1BC5-00	SIDE G SENSOR	DAS-498, "DTC Description"
C1BC6-00	PRESSURE SENSOR	DAS-500, "DTC Description"
U1000-00	CAN COMMUNICATION	DAS-502, "DTC Description"
U1A34-00	BRAKE CONTROL COMM	DAS-503, "DTC Description"
U1A35-00	BRAKE CONTROL COMM	DAS-505, "DTC Description"
U1A36-00	BCM/IPDM COMM	DAS-507, "DTC Description"
U1A39-00	COMBINATION METER COMM	DAS-509, "DTC Description"
U1A3B-00	TCM COMM	DAS-511, "DTC Description"
U1A42-00	STEERING ANGLE SENSOR COMM	DAS-513, "DTC Description"
U1A43-00	STEERING ANGLE SENSOR COMM	DAS-515, "DTC Description"
U1A48-00	ECM/HPCM COMM	DAS-517, "DTC Description"
U1A4A-00	CONTROL MODULE (CAN)	DAS-519, "DTC Description"
U1A4B-00	CONTROL MODULE (CAN)	DAS-520, "DTC Description"
U1A4E-00	ECM/HPCM COMM	DAS-521, "DTC Description"

ICC SENSOR

Reference Value

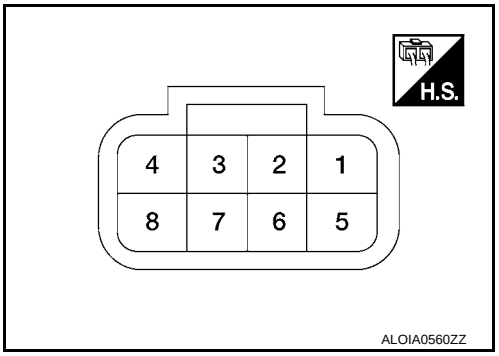
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VALUES ON THE DIAGNOSIS TOOL

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
Failsafe unit temperature	**NOTE:** The item is indicated, but not used		—
Failsafe condition	**NOTE:** The item is indicated, but not used		—
Failsafe alignment complete	**NOTE:** The item is indicated, but not used		—
Connector direction	**NOTE:** The item is indicated, but not used		—
RADAR OFFSET	**NOTE:** The item is indicated, but not used		—
RADAR HEIGHT	**NOTE:** The item is indicated, but not used		—
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
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
Horizontal Alignment value			Displays the radar horizontal angle

Monitor item	Condition	Value/Status
Vertical Alignment value	**NOTE:** The item is indicated, but not used	—
Vehicle status for Alignment	**NOTE:** The item is indicated, but not used	—

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Standard value	Reference value (Approx.)
+	–	Signal name	Input/ Output			
1 (B)	Ground	Ground	—	Ignition switch ON	0 - 0.1 V	0 V
2 (R)	—	ITS communication-L	—	—	—	—
3 (L)		ITS communication-H	—	—	—	—
8 (SB)	1 (B)	Ignition power supply	Input	Ignition switch ON	9.5 - 16 V	Battery voltage

Fail-safe (ICC Sensor)

INFOID:0000000014899830

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

DTC Inspection Priority Chart

INFOID:0000000014899831

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

Priority	Detected items (DTC)
3	• C1A01: POWER SUPPLY CIR • C1A02: POWER SUPPLY CIR 2 • C1A03: VHCL SPEED CIRC • C1A04: ABS/TCS/VDC CIRC • C1A05: BRAKE SW/STOP L SW • C1A06: OPERATION SW • C1A14: ECM CIRCUIT • C1A15: GEAR POSITION • C1A23: UNIT LOW TEMP • C1A24: NP RANGE • C1A26: ECD MODE MALF • C1A27: ECD PWR SUPLY CIR • C1A33: CAN TRANSMISSION ERR • C1A34: COMMAND ERROR • C1A35: APA CIR • C1A39: STRG SEN CIR • C1B58: DR ASSIST BUZZER CIRCUIT • C1B83: DIST SEN BLOCKED • C1F01: APA MOTOR MALF • C1F02: APA C/U MALF • C1F05: APA PWR SUPLY CIR • U0104: ADAS CAN CIR1 • U0121: VDC CAN CIR2 • U0126: STRG SEN CAN CIR1 • U0235: ICC SENSOR CAN CIR1 • U0401: ECM CAN CIR2 • U0402: TCM CAN CIR2 • U0415: VDC CAN CIR1 • U150B: ECM CAN CIR3 • U150C: VDC CAN CIRC3 • U150D: TCM CAN CIRC3 • U150E:BCM CAN CIRC3 • U1513: METER CAN CIRC3 • U1514: STRG SEN CAN CIRC3 • U1515: ICC SENSOR CAN CIRC3
4	• C1A00: CONTROL UNIT

DTC Index

INFOID:0000000014899832

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.

×: Applicable

DTC	CONSULT display	ICC system warning lamp	Fail-safe function				Reference
CONSULT			Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Forward Collision Warning (FCW)	Forward Emergency Braking (FEB)	
C1A00	CONTROL UNIT	ON	×	×	×	×	CCS-110, "ICC SENSOR : DTC Logic"
C1A01	POWER SUPPLY CIR	ON	×	×	×	×	CCS-113, "ICC SENSOR : DTC Logic"
C1A02	POWER SUPPLY CIR2	ON	×	×	×	×	CCS-113, "ICC SENSOR : DTC Logic"
C1A03	VHCL_SPEED SE CIRC	ON	×	×	×	×	CCS-115, "ADAS CONTROL UNIT : DTC Description"
C1A04	ABS/TCS/VDC_CIRC	ON	×	×	×	×	CCS-119, "ADAS CONTROL UNIT : DTC Description"
C1A05	BRAKE_SW/STOP_L_SW	ON	×	×	×	×	CCS-122, "ADAS CONTROL UNIT : DTC Description"
C1A06	OPERATION_SW_CIRC	ON	×	×	×	×	CCS-125, "DTC Logic"
C1A07	CVT MSG CIRCUIT	ON	×	×	×	×	CCS-128, "DTC Logic"
C1A14	ECM_CIRCUIT	ON	×	×	×	×	CCS-129, "DTC Description"
C1A15	GEAR_POSITION	ON	×	×	×	×	CCS-131, "Description"
C1A23	UNIT HIGH TEMP	ON	×	×	×	×	CCS-133, "DTC Logic"
C1A24	NP_RANGE	ON	×	×	×	×	CCS-134, "DTC Description"
C1A26	ECD_MODE_MALF	ON	×	×	×	×	CCS-136, "DTC Description"
C1A27	ECD_PWR_SUPLY_CIR	ON	×	×	×	×	CCS-138, "DTC Logic"

DTC	CONSULT display	ICC system warning lamp	Fail-safe function				Reference
CONSULT			Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Forward Collision Warning (FCW)	Forward Emergency Braking (FEB)	
C1A33	CAN TRANSMISSION ERROR	ON	×	×	×	×	CCS-140, "DTC Description"
C1A34	COMMAND ERROR	ON	×	×	×	×	CCS-142, "DTC Description"
C1A39	STRG SEN CIR	ON	×	×	×	×	CCS-145, "ICC SENSOR : DTC Logic"
C1B82	DISTANCE SENSOR OFF-CENTER	ON	×	×	×	×	CCS-186, "DTC Logic"
C1B83	DISTANCE SENSOR BLOCKED	ON	×	×	×	×	CCS-186, "DTC Logic"
C1B58	DR ASSIST BUZZER CIRCUIT	ON	×	×	×	×	CCS-186, "DTC Logic"
C1B83	DIST SEN BLOCKED	ON	×	×	×	×	CCS-147, "DTC Logic"
U0121	VDC CAN CIR2	ON	×	×	×	×	CCS-150, "ICC SENSOR : DTC Logic"
U0126	STRG SEN CAN CIR1	ON	×	×	×	×	CCS-154, "ICC SENSOR : DTC Logic"
U0235	ICC SENSOR CAN CIR1	ON	×	×	×	×	CCS-155, "DTC Logic"
U0401	ECM CAN CIR1	ON	×	×	×	×	CCS-156, "DTC Description"
U0402	TCM CAN CIRC1	ON	×	×	×	×	CCS-158, "DTC Description"
U0415	VDC CAN CIR1	ON	×	×	×	×	CCS-162, "ICC SENSOR : DTC Logic"
U0428	STRG SEN CAN CIR2	ON	×	×	×	×	CCS-165, "ICC SENSOR : DTC Logic"
U1000	CAN COMM CIRCUIT	ON	×	×	×	×	CCS-169, "ICC SENSOR : DTC Logic"
U1010	CONTROL UNIT (CAN)	ON	×	×	×	×	CCS-172, "ICC SENSOR : DTC Logic"

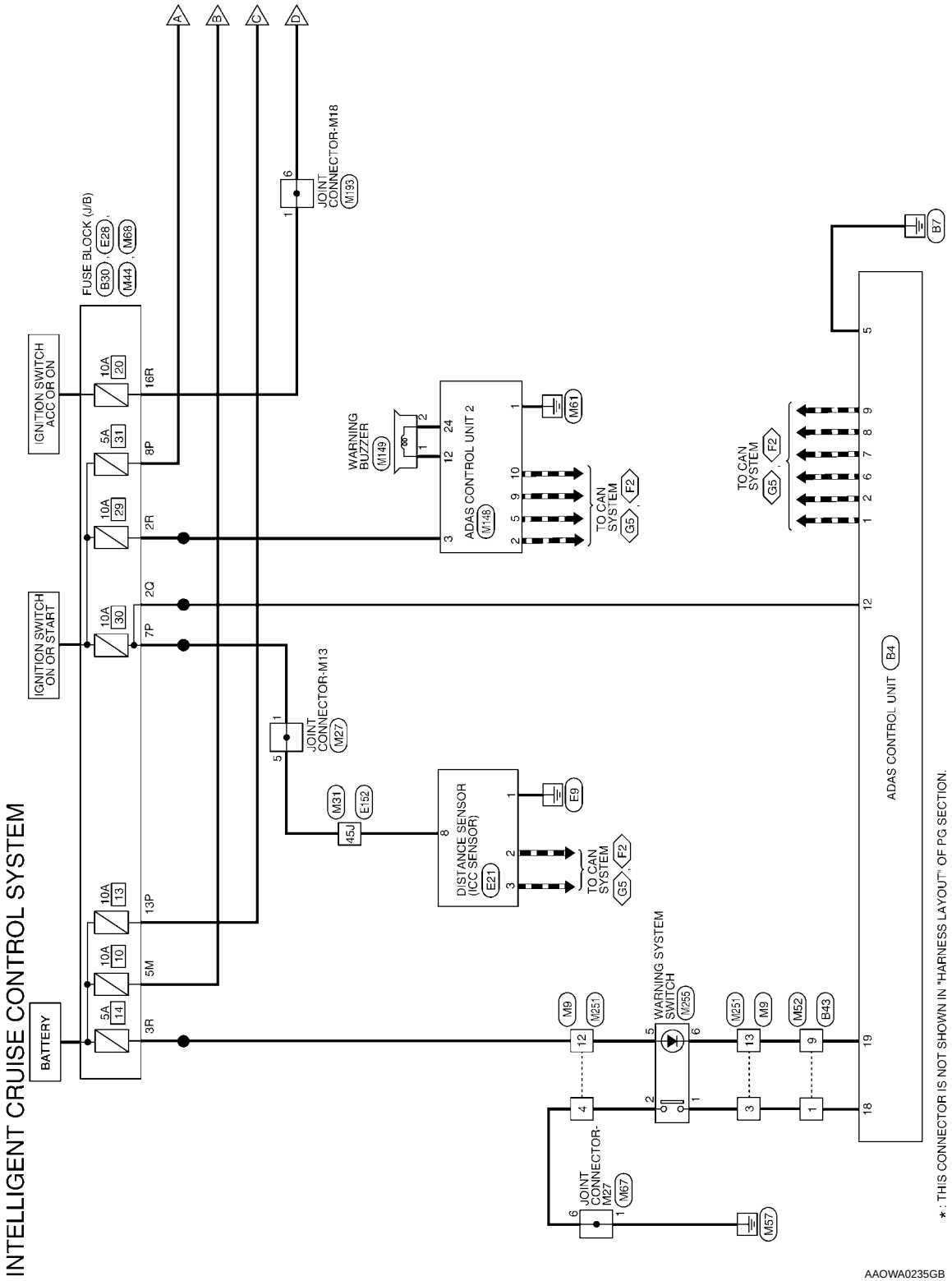
DTC	CONSULT display	ICC system warning lamp	Fail-safe function				Reference
CONSULT			Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Forward Collision Warning (FCW)	Forward Emergency Braking (FEB)	
U150B	ECM CAN CIRC3	ON	×	×	×	×	CCS-173, "DTC Logic"
U150C	VDC CAN CIRC3	ON	×	×	×	×	CCS-175, "DTC Logic"
U150D	TCM CAN CIRC3	ON	×	×	×	×	CCS-177, "DTC Logic"
U150E	BCM CAN CIRC3	ON	×	×	×	×	CCS-179, "DTC Logic"
U1513	METER CAN CIRC#	ON	×	×	×	×	CCS-181, "DTC Description"
U1514	STRG SEN CAN CIRC3	ON	×	×	×	×	CCS-183, "DTC Description"
U1515	ICC SENSOR CAN CIRC3	ON	×	×	×	×	CCS-185, "DTC Description"

WIRING DIAGRAM

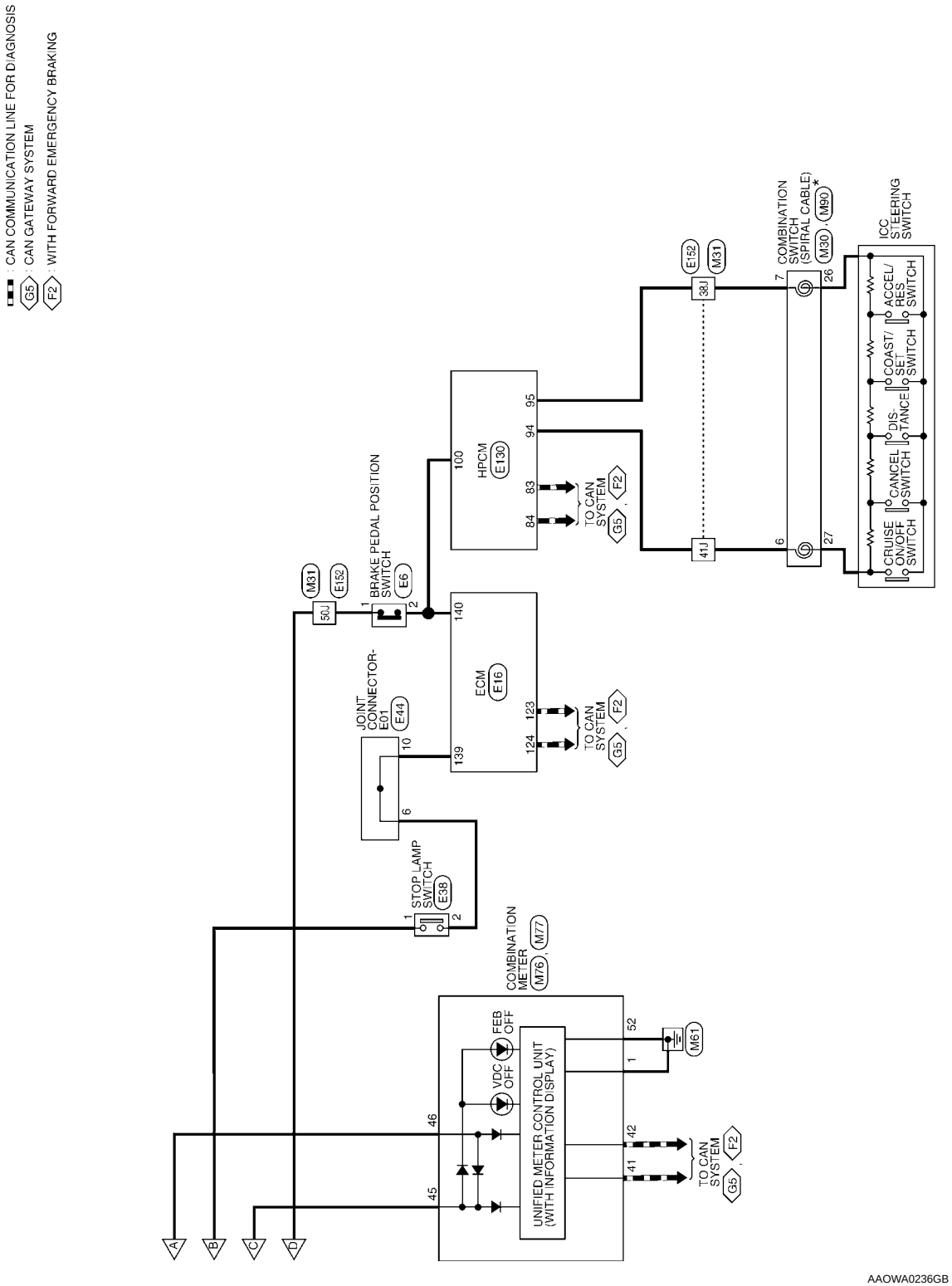
INTELLIGENT CRUISE CONTROL

Wiring Diagram

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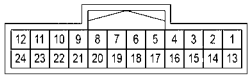


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INTELLIGENT CRUISE CONTROL SYSTEM CONNECTORS

Connector No.	B4
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-NH
Connector Color	WHITE

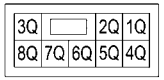
H.S.



Terminal No.	Color of Wire	Signal Name
1	L	V-CAN H
2	R	V-CAN L
3	–	–
4	–	–
5	B	GND
6	L	ITS-CAN H
7	Y	ITS-CAN L
8	L	IC-CAN H
9	W	IC-CAN L
10	–	–
11	–	–
12	P	IGN
13	–	–
14	–	–
15	–	–
16	–	–
17	–	–
18	W	BSW SW
19	BR	BSW LED
20	–	–
21	–	–
22	–	–
23	–	–
24	–	–

Connector No.	B30
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS08FW-CS
Connector Color	WHITE

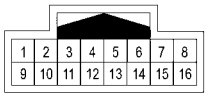
H.S.



Terminal No.	Color of Wire	Signal Name
1Q	BG	ACCESSORY
2Q	BR	IGNITION
3Q	R	BATTERY
4Q	–	–
5Q	–	–
6Q	LA/L	BATTERY
7Q	–	–
8Q	–	–

Connector No.	B43
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	W	TO MAIN HARNESS
2	W	TO MAIN HARNESS
3	R	TO MAIN HARNESS
4	L	TO MAIN HARNESS
5	L	TO MAIN HARNESS
6	L	TO MAIN HARNESS
7	L	TO MAIN HARNESS
8	L	TO MAIN HARNESS
9	BR	TO MAIN HARNESS
10	BR	TO MAIN HARNESS
11	–	TO MAIN HARNESS
12	Y	TO MAIN HARNESS
13	R	TO MAIN HARNESS
14	Y	TO MAIN HARNESS
15	Y	TO MAIN HARNESS
16	Y	TO MAIN HARNESS

Connector No.	E6
Connector Name	BRAKE PEDAL POSITION SWITCH
Connector Type	M02FBR-LC
Connector Color	BROWN

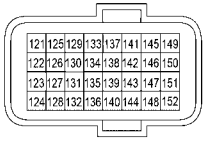
H.S.



Terminal No.	Color of Wire	Signal Name
1	P	IGNITION
2	GR	SWITCH OUTPUT

Connector No.	E16
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH
Connector Color	BLACK

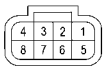
H.S.



Terminal No.	Color of Wire	Signal Name
121	L	EVAP CONTROL SYSTEM PRESSURE SENSOR
122	–	–
123	P	CAN-L
124	L	CAN-H
125	R	SENSOR POWER SUPPLY
126	–	–
127	–	–
128	BG	FUEL TANK TEMPERATURE SENSOR
129	–	–
130	–	–
131	–	–
132	–	–
133	LG	IGNITION SWITCH
134	–	–
135	–	–
136	–	–
137	G	HEV CAN-L
138	L	HEV CAN-H
139	Y	STOP LAMP SWITCH
140	GR	BRAKE PEDAL POSITION SWITCH
141	Y	EVAP CANISTER VENT CONTROL VALVE
142	–	–
143	–	–
144	–	–
145	G	ECM POWER SUPPLY
146	–	–
147	GR	ECM GROUND
148	B	SENSOR GROUND
149	GR	ECM GROUND
150	–	–
151	–	–
152	GR	ECM GROUND

Connector No.	E21
Connector Name	DISTANCE SENSOR
Connector Type	SAZ08FGY
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	GND
2	R	ITS CAN-L
3	L	ITS CAN-H
4	–	–
5	–	–
6	–	–
7	–	–
8	SB	IGN

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INTELLIGENT CRUISE CONTROL SYSTEM CONNECTORS

Connector No.	E28
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1M	–	–
2M	–	–
3M	–	–
4M	–	–
5M	V	BATTERY
6M	Y	O LIGHT POSITION REAR LH
7M	–	–
8M	–	–
9M	–	–
10M	–	–

Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Type	NH24FG-J
Connector Color	GREEN

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	V	SENSOR GROUND
2	LG	I BRAKE SW2
3	P	CAN-L
4	L	CAN-H
5	B	SENSOR GROUND
6	LG	I BRAKE SW2
7	P	CAN-L
8	L	CAN-H
9	W	SENSOR GROUND
10	Y	STOP LAMP SWITCH
11	P	CAN-L
12	L	CAN-H
13	–	–
14	R	STOP LAMP SWITCH
15	P	CAN-L
16	L	CAN-H
17	BR	EVAP CONTROL SYSTEM PRESSURE SENSOR
18	–	–
19	P	CAN-L
20	L	CAN-H
21	L	EVAP CONTROL SYSTEM PRESSURE SENSOR
22	–	–
23	–	–
24	–	–

Connector No.	E130
Connector Name	HPCM
Connector Type	RH24FB-RZ8-L-RH
Connector Color	BLACK

H.S.

81	85	89	93	97	101	105	109
82	86	90	94	98	102	106	110
83	87	91	95	99	103	107	111
84	88	92	96	100	104	108	112

Terminal No.	Color of Wire	Signal Name
81	R	12V BATTERY VOLTAGE
82	–	–
83	P	CAN-L
84	L	CAN-H
85	–	–
86	–	–
87	–	–
88	B	DC/DC CONVERTER VOLTAGE STABILIZER SIGNAL
89	–	–
90	–	–
91	–	–
92	–	–
93	Y	IGNITION SIGNAL
94	G	ASCD STEERING SWITCH
95	BR	ASCD STEERING SWITCH GROUND
96	–	–
97	L	HEV SYSTEM CAN-H
98	G	HEV SYSTEM CAN-L
99	R	STOP LAMP SWITCH
100	W	BRAKE PEDAL POSITION SWITCH
101	–	–
102	SB	SENSOR POWER SUPPLY
103	BR	ACCELERATOR PEDAL POSITION SENSOR 2
104	LG	SENSOR GROUND
105	BR	POWER SUPPLY FOR HPCM
106	V	SENSOR POWER SUPPLY
107	–	–
108	B	HPCM GND
109	–	–
110	GR	ACCELERATOR PEDAL POSITION SENSOR 1
111	R	SENSOR GROUND
112	GR	HPCM GND

Connector No.	E38
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC
Connector Color	WHITE

H.S.

3	4
1	2

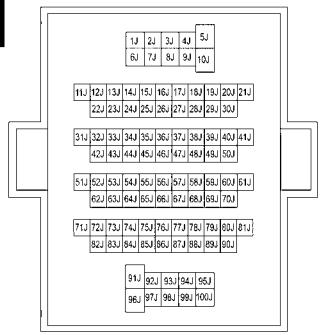
Terminal No.	Color of Wire	Signal Name
1	V	BATTERY
2	LG	I BRAKE SW2
3	L	IGNITION
4	W	STOP LAMP SWITCH OUTPUT

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INTELLIGENT CRUISE CONTROL SYSTEM CONNECTORS

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4
Connector Color	WHITE

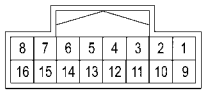
H.S.



Terminal No.	Color of Wire	Signal Name
1J	–	TO MAIN HARNESS
2J	Y	TO MAIN HARNESS
3J	–	TO MAIN HARNESS
4J	–	TO MAIN HARNESS
5J	–	TO MAIN HARNESS
6J	–	TO MAIN HARNESS
7J	–	TO MAIN HARNESS
8J	–	TO MAIN HARNESS
9J	BR	TO MAIN HARNESS
10J	–	TO MAIN HARNESS
11J	–	TO MAIN HARNESS
12J	–	TO MAIN HARNESS
13J	–	TO MAIN HARNESS
14J	–	TO MAIN HARNESS
15J	–	TO MAIN HARNESS
16J	–	TO MAIN HARNESS
17J	–	TO MAIN HARNESS
18J	–	TO MAIN HARNESS
19J	–	TO MAIN HARNESS
20J	–	TO MAIN HARNESS
21J	GR	TO MAIN HARNESS
22J	SHIELD	TO MAIN HARNESS
23J	LG	TO MAIN HARNESS
24J	V	TO MAIN HARNESS
25J	L	TO MAIN HARNESS
26J	BR	TO MAIN HARNESS
27J	G	TO MAIN HARNESS
28J	R	TO MAIN HARNESS
29J	L	TO MAIN HARNESS
30J	V	TO MAIN HARNESS
31J	–	TO MAIN HARNESS
32J	–	TO MAIN HARNESS
33J	R	TO MAIN HARNESS
34J	L	TO MAIN HARNESS
35J	BG	TO MAIN HARNESS
36J	LG	TO MAIN HARNESS
37J	GR	TO MAIN HARNESS
38J	BR	TO MAIN HARNESS
39J	–	TO MAIN HARNESS
40J	–	TO MAIN HARNESS
41J	G	TO MAIN HARNESS
42J	W	TO MAIN HARNESS
43J	L	TO MAIN HARNESS
44J	B	TO MAIN HARNESS
45J	SB	TO MAIN HARNESS
46J	BR	TO MAIN HARNESS
47J	W	TO MAIN HARNESS
48J	W	TO MAIN HARNESS
49J	L	TO MAIN HARNESS
50J	P	TO MAIN HARNESS
51J	W	TO MAIN HARNESS
52J	R	TO MAIN HARNESS
53J	SB	TO MAIN HARNESS
54J	LG	TO MAIN HARNESS
55J	W	TO MAIN HARNESS
56J	BG	TO MAIN HARNESS
57J	R	TO MAIN HARNESS
58J	V	TO MAIN HARNESS
59J	BR	TO MAIN HARNESS
60J	P	TO MAIN HARNESS
61J	L	TO MAIN HARNESS
62J	P	TO MAIN HARNESS
63J	L	TO MAIN HARNESS
64J	R	TO MAIN HARNESS
65J	L	TO MAIN HARNESS
66J	BG	TO MAIN HARNESS
67J	–	TO MAIN HARNESS
68J	–	TO MAIN HARNESS
69J	G	TO MAIN HARNESS
70J	L	TO MAIN HARNESS
71J	–	TO MAIN HARNESS
72J	–	TO MAIN HARNESS
73J	–	TO MAIN HARNESS
74J	–	TO MAIN HARNESS
75J	–	TO MAIN HARNESS
76J	–	TO MAIN HARNESS
77J	–	TO MAIN HARNESS
78J	–	TO MAIN HARNESS
79J	SHIELD	TO MAIN HARNESS
80J	B	TO MAIN HARNESS
81J	W	TO MAIN HARNESS
82J	–	TO MAIN HARNESS
83J	–	TO MAIN HARNESS
84J	–	TO MAIN HARNESS
85J	–	TO MAIN HARNESS
86J	–	TO MAIN HARNESS
87J	–	TO MAIN HARNESS
88J	–	TO MAIN HARNESS
89J	–	TO MAIN HARNESS
90J	–	TO MAIN HARNESS
91J	–	TO MAIN HARNESS
92J	LG	TO MAIN HARNESS
93J	L	TO MAIN HARNESS
94J	L	TO MAIN HARNESS
95J	BR	TO MAIN HARNESS
96J	–	TO MAIN HARNESS
97J	GR	TO MAIN HARNESS
98J	P	TO MAIN HARNESS
99J	W	TO MAIN HARNESS
100J	Y	TO MAIN HARNESS

Connector No.	M9
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-NH
Connector Color	WHITE

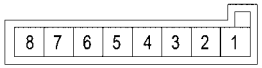
H.S.



Terminal No.	Color of Wire	Signal Name
1	LG	TO MAIN SUB HARNESS
2	B	TO MAIN SUB HARNESS
3	W	TO MAIN SUB HARNESS
4	B	TO MAIN SUB HARNESS
5	GR	TO MAIN SUB HARNESS
6	BG	TO MAIN SUB HARNESS
7	B	TO MAIN SUB HARNESS
8	B	TO MAIN SUB HARNESS
9	R	TO MAIN SUB HARNESS
10	B	TO MAIN SUB HARNESS
11	R	TO MAIN SUB HARNESS
12	SB	TO MAIN SUB HARNESS
13	BR	TO MAIN SUB HARNESS
14	B	TO MAIN SUB HARNESS
15	R	TO MAIN SUB HARNESS
16	B	TO MAIN SUB HARNESS

Connector No.	M27
Connector Name	JOINT CONNECTOR-M13
Connector Type	SAC08JW
Connector Color	WHITE

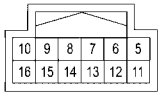
H.S.



Terminal No.	Color of Wire	Signal Name
1	SB	IGNITION
2	SB	IGNITION
3	SB	IGNITION
4	Y	IGNITION
5	SB	IGNITION
6	SB	IGNITION
7	SB	IGNITION
8	SB	IGNITION

Connector No.	M30
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TH12FW-NH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
5	BG	HORN SW
6	LA/R	ACC SW
7	LA/BR	ACC GND
8	Y	AUDIO STRG SW A
9	B	GROUND
10	R	ILL CONT OUT
11	–	–
12	–	–
13	–	–
14	L	AUDIO STRG SHLD
15	GR	AUDIO STRG SW B
16	–	–

AAOIA0824GB

INTELLIGENT CRUISE CONTROL SYSTEM CONNECTORS

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1J	–	TO ENGINE ROOM HARNESS
2J	R	TO ENGINE ROOM HARNESS
3J	–	TO ENGINE ROOM HARNESS
4J	–	TO ENGINE ROOM HARNESS
5J	–	TO ENGINE ROOM HARNESS
6J	–	TO ENGINE ROOM HARNESS
7J	–	TO ENGINE ROOM HARNESS
8J	–	TO ENGINE ROOM HARNESS
9J	W	TO ENGINE ROOM HARNESS
10J	–	TO ENGINE ROOM HARNESS
11J	–	TO ENGINE ROOM HARNESS
12J	–	TO ENGINE ROOM HARNESS
13J	–	TO ENGINE ROOM HARNESS
14J	–	TO ENGINE ROOM HARNESS
15J	–	TO ENGINE ROOM HARNESS
16J	–	TO ENGINE ROOM HARNESS
17J	–	TO ENGINE ROOM HARNESS
18J	–	TO ENGINE ROOM HARNESS
19J	–	TO ENGINE ROOM HARNESS
20J	–	TO ENGINE ROOM HARNESS
21J	LA/L	TO ENGINE ROOM HARNESS
22J	SHIELD	TO ENGINE ROOM HARNESS
23J	LG	TO ENGINE ROOM HARNESS
24J	V	TO ENGINE ROOM HARNESS
25J	L	TO ENGINE ROOM HARNESS
26J	BR	TO ENGINE ROOM HARNESS
27J	G	TO ENGINE ROOM HARNESS
28J	Y	TO ENGINE ROOM HARNESS
29J	L	TO ENGINE ROOM HARNESS
30J	V	TO ENGINE ROOM HARNESS
31J	–	TO ENGINE ROOM HARNESS
32J	–	TO ENGINE ROOM HARNESS
33J	R	TO ENGINE ROOM HARNESS
33J	Y	TO ENGINE ROOM HARNESS - (WITH DRIVER ASSISTNACE SYSTEM)
34J	L	TO ENGINE ROOM HARNESS
35J	BG	TO ENGINE ROOM HARNESS
36J	GR	TO ENGINE ROOM HARNESS
37J	Y	TO ENGINE ROOM HARNESS
38J	LA/BR	TO ENGINE ROOM HARNESS
39J	–	TO ENGINE ROOM HARNESS
40J	–	TO ENGINE ROOM HARNESS
41J	LA/R	TO ENGINE ROOM HARNESS
42J	W	TO ENGINE ROOM HARNESS
43J	L	TO ENGINE ROOM HARNESS
44J	B	TO ENGINE ROOM HARNESS
45J	SB	TO ENGINE ROOM HARNESS
46J	BR	TO ENGINE ROOM HARNESS
47J	W	TO ENGINE ROOM HARNESS
48J	R	TO ENGINE ROOM HARNESS
49J	SB	TO ENGINE ROOM HARNESS
50J	GR	TO ENGINE ROOM HARNESS
51J	W	TO ENGINE ROOM HARNESS
52J	R	TO ENGINE ROOM HARNESS
53J	BR	TO ENGINE ROOM HARNESS
54J	LG	TO ENGINE ROOM HARNESS
55J	LA/Y	TO ENGINE ROOM HARNESS
56J	LA/V	TO ENGINE ROOM HARNESS
57J	LA/R	TO ENGINE ROOM HARNESS
58J	W	TO ENGINE ROOM HARNESS
59J	BR	TO ENGINE ROOM HARNESS
60J	P	TO ENGINE ROOM HARNESS
61J	L	TO ENGINE ROOM HARNESS
62J	R	TO ENGINE ROOM HARNESS
63J	L	TO ENGINE ROOM HARNESS
64J	R	TO ENGINE ROOM HARNESS
65J	L	TO ENGINE ROOM HARNESS
66J	BG	TO ENGINE ROOM HARNESS
67J	–	TO ENGINE ROOM HARNESS
68J	–	TO ENGINE ROOM HARNESS
69J	G	TO ENGINE ROOM HARNESS
70J	L	TO ENGINE ROOM HARNESS
71J	–	TO ENGINE ROOM HARNESS
72J	–	TO ENGINE ROOM HARNESS
73J	–	TO ENGINE ROOM HARNESS
74J	–	TO ENGINE ROOM HARNESS
75J	–	TO ENGINE ROOM HARNESS
76J	–	TO ENGINE ROOM HARNESS
77J	–	TO ENGINE ROOM HARNESS
78J	–	TO ENGINE ROOM HARNESS
79J	SHIELD	TO ENGINE ROOM HARNESS
80J	B	TO ENGINE ROOM HARNESS
81J	W	TO ENGINE ROOM HARNESS
82J	–	TO ENGINE ROOM HARNESS
83J	–	TO ENGINE ROOM HARNESS
84J	–	TO ENGINE ROOM HARNESS
85J	–	TO ENGINE ROOM HARNESS
86J	–	TO ENGINE ROOM HARNESS
87J	–	TO ENGINE ROOM HARNESS
88J	–	TO ENGINE ROOM HARNESS
89J	–	TO ENGINE ROOM HARNESS
90J	–	TO ENGINE ROOM HARNESS
91J	–	TO ENGINE ROOM HARNESS
92J	Y	TO ENGINE ROOM HARNESS
93J	G	TO ENGINE ROOM HARNESS
94J	L	TO ENGINE ROOM HARNESS
95J	P	TO ENGINE ROOM HARNESS
96J	–	TO ENGINE ROOM HARNESS
97J	SB	TO ENGINE ROOM HARNESS
98J	P	TO ENGINE ROOM HARNESS
99J	LA/R	TO ENGINE ROOM HARNESS
100J	R	TO ENGINE ROOM HARNESS

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1P	R	IGNITION
2P	G	IGNITION
3P	Y	IGNITION RELAY-2 CONTROL
4P	LG	REAR WINDOW DEFOGGER RELAY OUTPUT
5P	GR	REAR WINDOW DEFOGGER RELAY OUTPUT
6P	LA/R	REAR WINDOW DEFOGGER RELAY CONTROL
7P	Y	IGNITION
8P	V	IGNITION
9P	L	BATTERY
10P	LG	IGNITION
11P	–	–
12P	–	–
13P	G	BATTERY
14P	–	–
15P	L	BATTERY
16P	LA/W	FRONT BLOWER MOTOR RELAY CONTROL

Connector No.	M52
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-NH
Connector Color	WHITE

H.S.

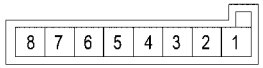
Terminal No.	Color of Wire	Signal Name
1	W	TO BODY HARNESS
2	W	TO BODY HARNESS
3	R	TO BODY HARNESS
4	L	TO BODY HARNESS
5	L	TO BODY HARNESS
6	L	TO BODY HARNESS
7	L	TO BODY HARNESS
8	L	TO BODY HARNESS
9	BR	TO BODY HARNESS
10	BR	TO BODY HARNESS
11	–	TO BODY HARNESS
12	Y	TO BODY HARNESS
13	R	TO BODY HARNESS
14	R	TO BODY HARNESS
15	Y	TO BODY HARNESS
16	Y	TO BODY HARNESS

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INTELLIGENT CRUISE CONTROL SYSTEM CONNECTORS

Connector No.	M67
Connector Name	JOINT CONNECTOR-M27
Connector Type	SAC08JW
Connector Color	WHITE

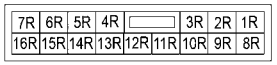
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	GROUND
2	B	GROUND
3	B	GROUND
4	B	GROUND
5	B	GROUND
6	B	GROUND
7	B	GROUND
8	B	GROUND

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FBR-CS
Connector Color	BROWN

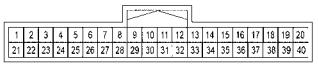
H.S.



Terminal No.	Color of Wire	Signal Name
1R	V	ILLUMINATION +
2R	G	IGNITION
3R	V	BATTERY
4R	–	–
5R	–	–
6R	LA/L	ACCESSORY
7R	LA/V	BATTERY
8R	–	–
9R	–	–
10R	GR	BATTERY
11R	–	–
12R	–	–
13R	–	–
14R	W	BATTERY
15R	W	BATTERY
16R	GR	ACCESSORY

Connector No.	M76
Connector Name	COMBINATION METER
Connector Type	TH40FW-NH
Connector Color	WHITE

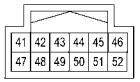
H.S.



Terminal No.	Color of Wire	Signal Name
1	B	GND
2	–	–
3	–	–
4	–	–
5	–	–
6	–	–
7	BG	SECURITY
8	–	–
9	GR	ECO MODE SW
10	–	–
11	–	–
12	–	–
13	–	–
14	–	–
15	L	OUTSIDE TEMP SENSOR
16	–	–
17	BG	SATELLITE SW GND
18	SB	TRIP RESET SW
19	–	–
20	Y	OUTSIDE TEMP GND
21	L	GND (STRG SW GND)
22	Y	STRG SW A
23	GR	STRG SW B
24	BR	WASHER SW
25	V	BRAKE OIL SW
26	G	PKB SW
27	–	–
28	Y	DR BELT SW
29	R	SPORT MODE SW
30	LG	M RANGE
31	SB	NOT M RANGE
32	BG	AT SHIFT UP
33	BR	AT SHIFT DOWN
34	–	–
35	–	–
36	GR	ILL UP SW
37	V	ILL DOWN SW
38	G	8P/R OUTPUT
39	W	2P/R OUTPUT
40	–	–

Connector No.	M77
Connector Name	COMBINATION METER
Connector Type	TH12FW-NH
Connector Color	WHITE

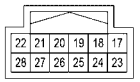
H.S.



Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L
43	R	ILL CONT OUT
44	LA/B	FUEL SENSOR GND
45	G	BAT
46	V	IGN
47	SB	M-CAN H
48	LG	M-CAN L
49	–	–
50	–	–
51	LA/L	FUEL SENSOR
52	B	G1

Connector No.	M90
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TH12FW-NH
Connector Color	WHITE

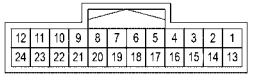
H.S.



Terminal No.	Color of Wire	Signal Name
17	–	–
18	L	AUDIO STRG SW B
19	G	AUDIO STRG SHLD
20	–	–
21	–	–
22	–	–
23	R	ILL (+)
24	Y	ILL (-)
25	P	AUDIO STRG SW A
26	GR	ACC GND
27	V	ACC SW
28	BR	HORN SW

Connector No.	M148
Connector Name	ADAS CONTROL UNIT 2
Connector Type	TH24FW-NH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	BR	GND
2	L	ITS CAN-H
3	P	IGN
4	–	–
5	Y	ITS CAN-L
6	Y	3RD CAN-L
7	–	–
8	–	–
9	L	V-CAN-H
10	R	V-CAN-L
11	W	BSW SW
12	GR	SPOUT (+)
13	–	–
14	–	–
15	–	–
16	–	–
17	BR	BSW LED
18	L	3RD CAN-H
19	–	–
20	–	–
21	–	–
22	–	–
23	–	–
24	B	SPOUT (-)

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INTELLIGENT CRUISE CONTROL SYSTEM CONNECTORS

Connector No.	M149
Connector Name	WARNING BUZZER
Connector Type	NS02FW-CS
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	SPOUT (+)
2	B	SPOUT (-)

Connector No.	M193
Connector Name	JOINT CONNECTOR-M18
Connector Type	SAC08JW
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	ACCESSORY
2	GR	ACCESSORY
3	GR	ACCESSORY
4	GR	ACCESSORY
5	SB	AUTO ACC
6	GR	ACCESSORY
7	GR	ACCESSORY
8	W	ACCESSORY

Connector No.	M251
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	LG	TO MAIN HARNESS
2	B	TO MAIN HARNESS
3	W	TO MAIN HARNESS
4	B	TO MAIN HARNESS
5	B	TO MAIN HARNESS
6	BG	TO MAIN HARNESS
7	B	TO MAIN HARNESS
8	B	TO MAIN HARNESS
9	R	TO MAIN HARNESS
10	B	TO MAIN HARNESS
11	G	TO MAIN HARNESS
12	BG	TO MAIN HARNESS
13	BR	TO MAIN HARNESS
14	B	TO MAIN HARNESS
15	R	TO MAIN HARNESS
16	B	TO MAIN HARNESS

7	-	-
8	-	-

Connector No.	M255
Connector Name	WARNING SYSTEM SWITCH
Connector Type	TH08FW-NH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	W	BSW SW
2	B	GROUND
3	G	ILL CONT OUT
4	B	GROUND
5	BG	BATTERY
6	BR	BSW LED

AAOIA0827GB

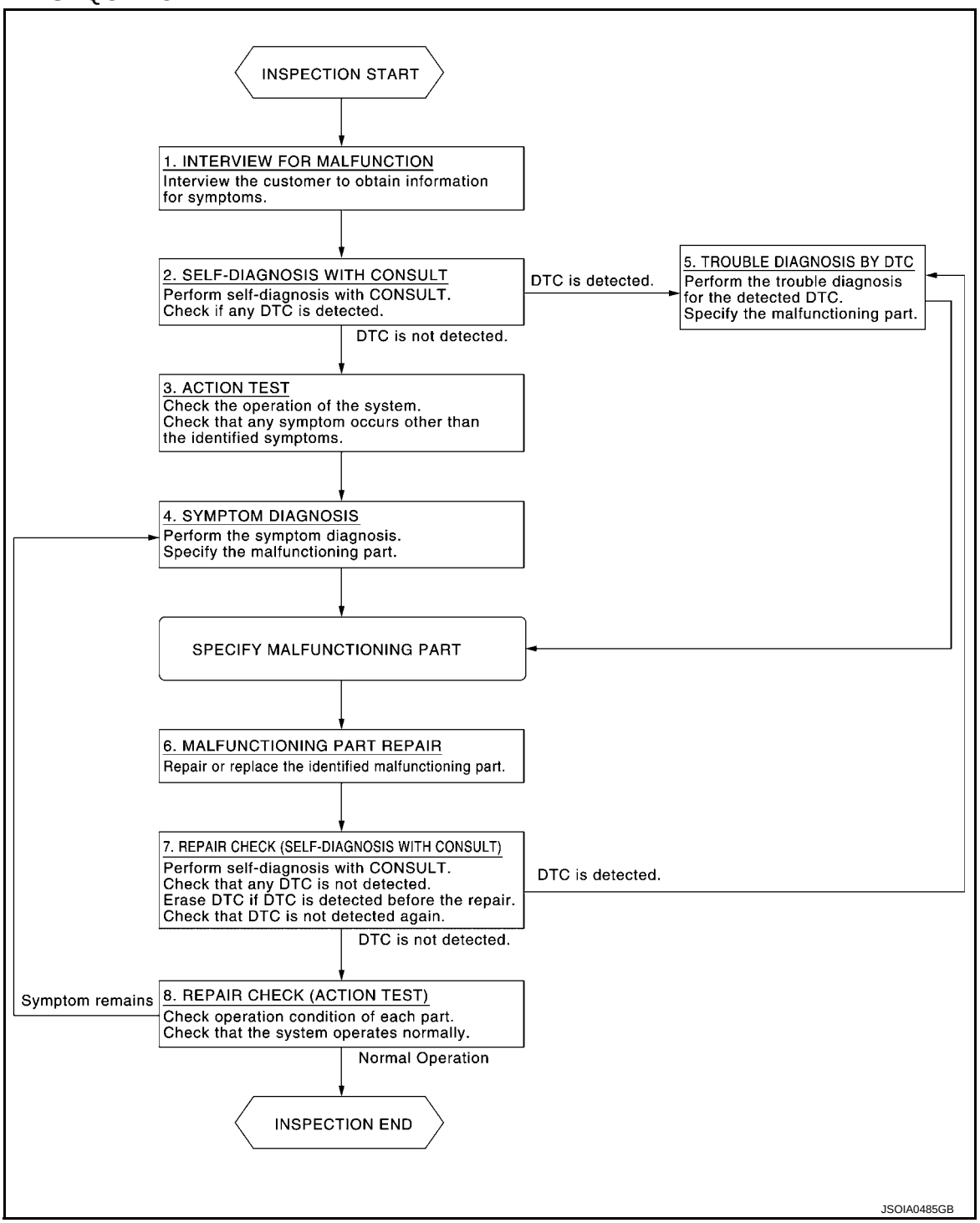
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000014899834

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. Select “All DTC Reading”.
2. Check if any DTC is detected in “Self Diagnostic Result” mode of “ICC/ADAS” and “LASER/RADAR”.

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-102, "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-190, "Symptom Table".

>> GO TO 6.

5.TROUBLE DIAGNOSIS BY DTC

1. Check the DTC in the “Self Diagnostic Result” mode of “ICC/ADAS” and “LASER/RADAR”.
2. Perform trouble diagnosis for the detected DTC. Refer to CCS-78, "Reference Value" (LASER/RADAR).

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 Diagnostic Result”.
2. Select “All DTC Reading” again after repairing or replacing the malfunctioning parts.
3. Check if any DTC is detected in “Self Diagnostic Result” mode of “ICC/ADAS” and “LASER/RADAR”.

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:0000000014899835

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

Work Procedure

INFOID:0000000014899836

1.RADAR ALIGNMENT ADJUSTMENT

Adjust the radar alignment.

>> GO TO 2.

2.ICC SYSTEM ACTION TEST

1. Perform the ICC system action test. Refer to CCS-102, "Description".
2. Check that the ICC system operates normally.

>> Inspection End.

ICC SENSOR ALIGNMENT

Description

INFOID:0000000014899837

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 ICC sensor is aligned properly.

1. Required tools, refer to CCS-95, "Required Tools".
2. Preparation, refer to CCS-96, "Preparation".
3. Vehicle set up, refer to CCS-97, "Vehicle Set Up".
4. Setting the ICC target board, refer to CCS-99, "Setting The ICC Target Board".
5. ICC sensor adjustment, refer to CCS-100, "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.**

Required Tools

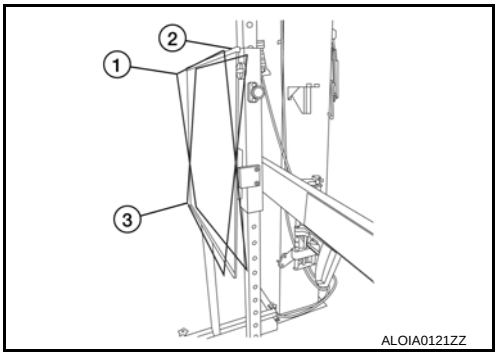
INFOID:0000000014899838

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

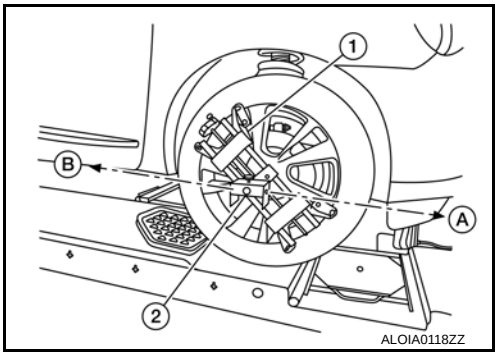
The following ICC alignment kit are necessary to perform the ICC sensor alignment:

- ICC target board.

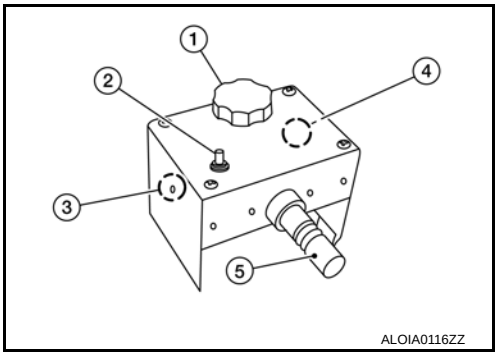
- ①: Position 1, with top tilted 2° toward vehicle (Not used).
- ②: Position 2, vertical.
- ③: Position 3, with top tilted 2° away from vehicle (Not used).



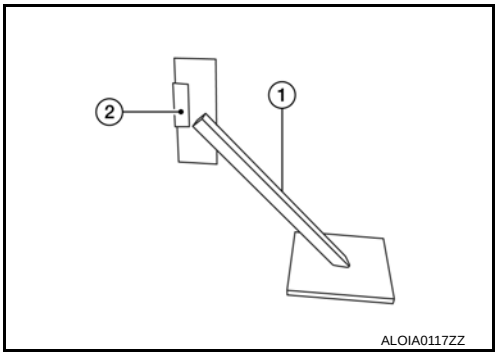
- Hunter self-centering wheel adapter ① [shown with laser assembly ② installed] (Hunter alignment rack head may be substituted).
  NOTE:
  - Retailers that are not equipped with a Hunter self-centering wheel adapter will require the following kit:
    Part No. 1-20-2722-1-IF (kit SCA W/Tire Clamp-ICC Aiming)
  - Directional arrows Ⓐ and Ⓑ are shown to illustrate the direction of the laser assembly beams.



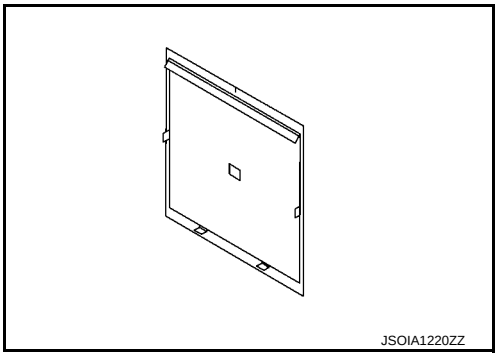
- Laser assembly (with bi-directional laser beam) as shown in the illustration.
- Tightening knob ①
- Power ON/OFF button ②
- Front laser beam opening ③
- Rear laser beam opening ④
- Attaching shaft ⑤



- 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.



Preparation

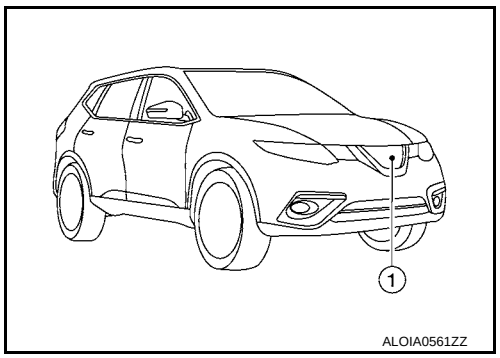
INFOID:0000000014899839

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 grille.

>> Refer to CCS-97, "Vehicle Set Up".



Vehicle Set Up

INFOID:0000000014899840

DESCRIPTION

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

CAUTION:

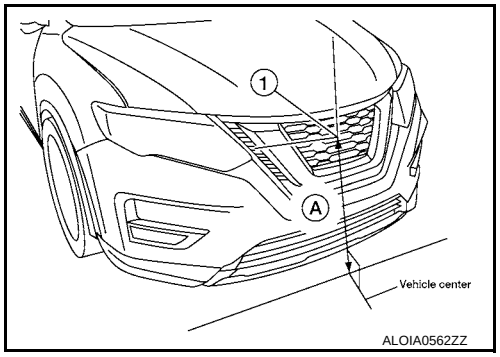
If the radar alignment is adjusted with the ICC target board, wheel adapter, laser assembly, or stationary target in the incorrect position, the ICC system will not function properly or the alignment procedure may not be completed successfully.

1.PREPOSITION TARGET BOARD

NOTE:

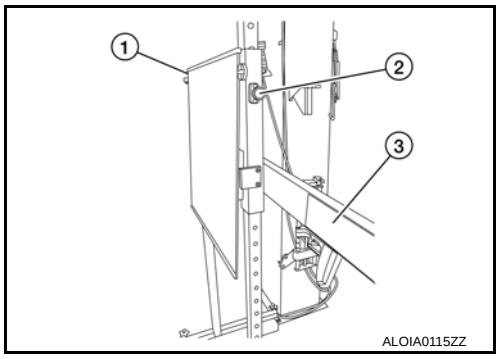
- To identify the sensor wave axis center, measure the point ① as shown in the illustration.

A : 799 mm (31.50 in)

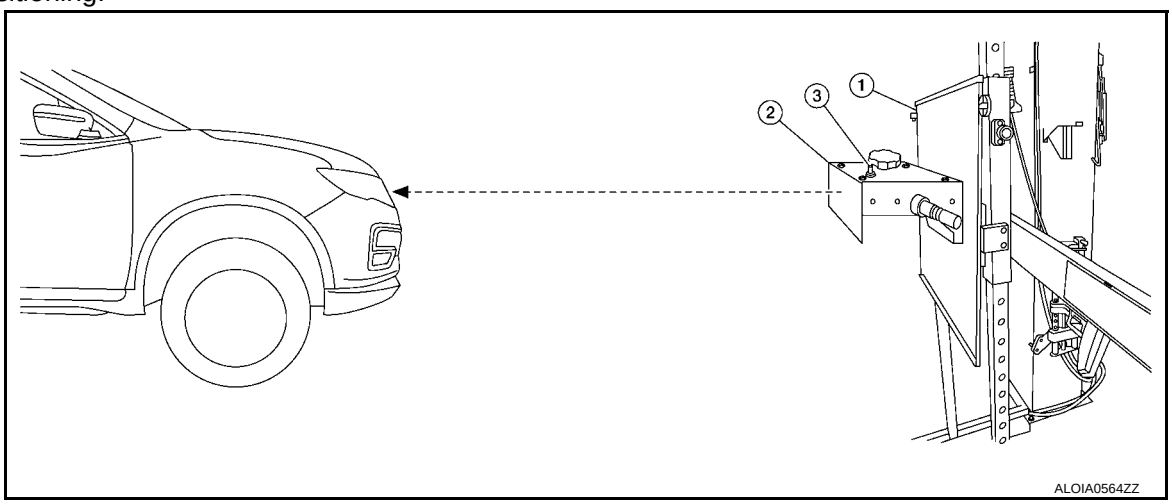


- ICC target board setting must be in the center position. (Position 2)
- Attaching the ICC alignment kit attachment board to the ICC target board.

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?

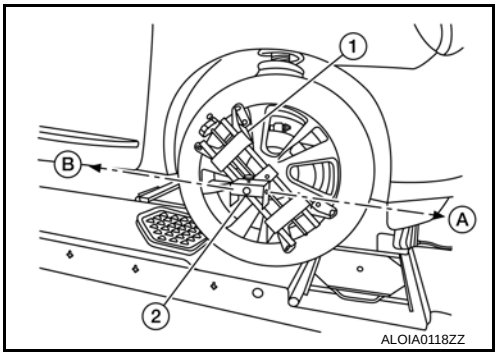
YES >> Refer to Hunter's equipment instructions for complete vehicle set up and ICC target board setting. Then, refer to CCS-100, "ICC Sensor Adjustment".

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.

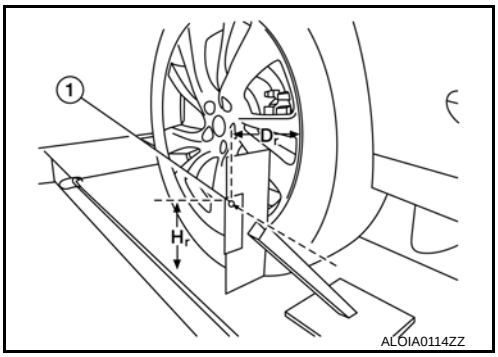
1. Install the wheel adapter ① on the right front wheel.
2. Mount the laser assembly ② to the wheel adapter ① as shown in the figure.
   NOTE:
   When the power switch is turned ON, the front laser signal Ⓐ will be emitted toward the front ICC target board, and the rear laser signal Ⓑ will be emitted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



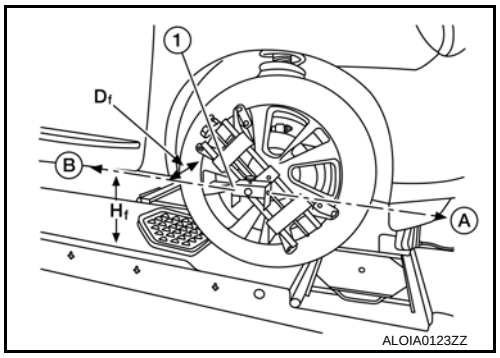
>> GO TO 3.

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-99, "Setting The ICC Target Board".

Setting The ICC Target Board

INFOID:0000000014899841

DESCRIPTION

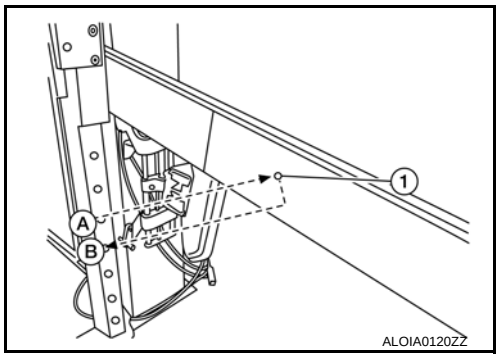
Accurate adjustment of the radar alignment requires that the ICC target board be accurately positioned.

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.

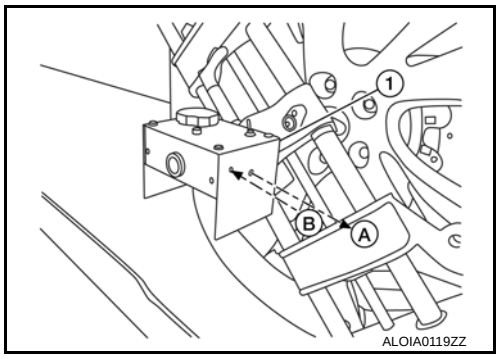
1. ICC TARGET BOARD FINAL SETTING

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.

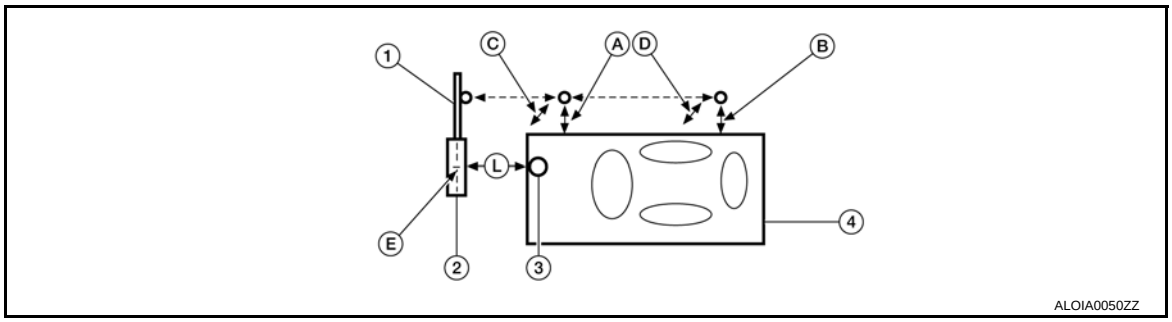
2. Rotate the ICC target board to achieve the necessary horizontal adjustment.
3. Adjust the ICC target board leveling screws to achieve the necessary vertical adjustment.
4. The figure shown illustrates the laser beam Ⓐ emitted by the laser assembly ① and its reflection Ⓑ off of the ICC target board 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-100, "ICC Sensor Adjustment".

ICC Sensor Adjustment

INFOID:0000000014899842

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. • 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:0000000014899843

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.**

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

INFOID:0000000014899844

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).

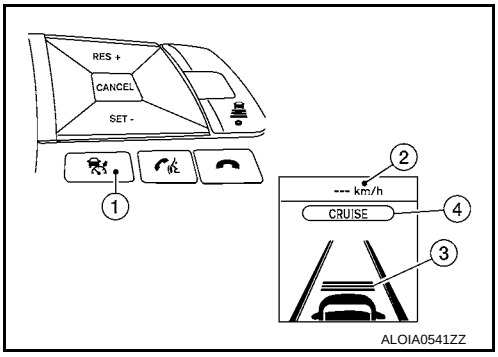
CAUTION:

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		
Set vehicle speed indicator (2)	:	"— —" "km/h" ("MPH")
Set distance indicator (3)	:	Long mode
MAIN switch indicator (4)	:	ON



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	55 (180)
Middle	100 km/h	40 (130)
Short	100 km/h	25 (80)

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

>> GO TO 3.

3.CHECK FOR RES +, SET - AND CANCEL SWITCHES

1. Check that RES +, SET -, 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 - switch.
5. Check that the desired speed is set and vehicle-to-vehicle distance control mode control starts when releasing SET - 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 RES +, 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 - 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 - 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 - 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 RES + 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 - 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 RES + 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 + 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 RES + switch.

>> Inspection End.

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

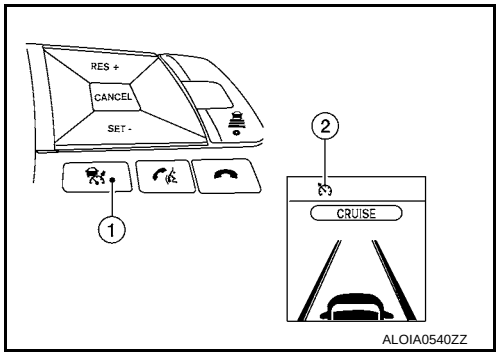
INFOID:0000000014899845

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



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 RES +, SET -, AND CANCEL SWITCHES

1. Check that RES +, SET -, 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 - switch.

5. Check that the desired speed is set and conventional (fixed speed) cruise control mode control starts when releasing SET - 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 RES + switch is pushed up.

NOTE:
- The maximum set speed is 144 km/h (90 MPH).
- The set vehicle speed increases while pushing up the RES + 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 - 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 - 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 RES + 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 RES + 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 RES + switch at the vehicle speed of approximately 40 km/h (25 MPH) or more.

>> Inspection End.

DTC/CIRCUIT DIAGNOSIS

C1A0A CONFIG UNFINISHED

DTC Logic

INFOID:0000000014899846

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1A0A	CONFIG UNFINISH (Configuration unfinished)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	The vehicle specifications of ADAS control unit is incomplete
		Diagnosis delay time	—

POSSIBLE CAUSE

Vehicle specifications for ADAS control unit is incomplete.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Select “All DTC Reading”.
4. Check if the “C1A0A” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A01” detected as the current malfunction?

YES >> Refer to CCS-108, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014899847

1.PERFORM CONFIGURATION OF ADAS CONTROL UNIT

Perform configuration of ADAS control unit when DTC “C1A0A” is detected.

>> Perform configuration of ADAS control unit. Refer to DAS-63, "Description".

C1A00 CONTROL UNIT
ADAS CONTROL UNIT

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253570

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A00	CONTROL UNIT (Control unit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ADAS control unit internal malfunction
		Diagnosis delay time	-

POSSIBLE CAUSE
ADAS control unit

FAIL-SAFE
The following systems are canceled:
- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Forward Emergency Braking (FEB)
- Forward Emergency Braking (FEB) with pedestrian
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE
1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Select “All DTC Reading” mode.
3. Check if “C1A00” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A00” detected as the current malfunction?

YES >> Refer to CCS-109, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253571

1. CHECK SELF DIAGNOSTIC RESULT

CONSULT
Check if any DTC other than “C1A00” is detected in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to DAS-39, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : DTC Description

INFOID:0000000015253572

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A00	CONTROL UNIT (Control unit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ADAS control unit 2 internal malfunction
		Diagnosis delay time	-

POSSIBLE CAUSE
ADAS control unit 2

FAIL-SAFE
The following systems are canceled:
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Select “All DTC Reading” mode.
3. Check if “C1A00” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is “C1A00” detected as the current malfunction?

YES >> Refer to CCS-110, "ADAS CONTROL UNIT 2 : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253573

1.CHECK SELF DIAGNOSTIC RESULT

CONSULT
Check if any DTC other than “C1A00” is detected in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to DAS-45, "DTC Index".
NO >> Replace the ADAS control unit 2. Refer to DAS-212, "Removal and Installation".

ICC SENSOR

ICC SENSOR : DTC Logic

INFOID:0000000014899850

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1A00	CONTROL UNIT (Control unit malfunction)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	ICC sensor CAN failure
		Diagnosis delay time	—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.

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

Is “C1A00” detected as the current malfunction?

YES >> Refer to CCS-111, "ICC SENSOR : Diagnosis Procedure".
NO >> Inspection End.

ICC SENSOR : Diagnosis Procedure

INFOID:0000000014899851

1. CHECK SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-80, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-206, "Removal and Installation".

C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2 ADAS CONTROL UNIT

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253574

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A01	POWER SUPPLY CIR (Power supply circuit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	Less than 7.9 V
		Diagnosis delay time	5 seconds or more
C1A02	POWER SUPPLY CIR 2 (Power supply circuit 2)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	More than 19.3 V
		Diagnosis delay time	5 seconds or more

POSSIBLE CAUSE

- Connector, harness, fuse
- ADAS control unit

FAIL-SAFE

The following systems are canceled:

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Forward Emergency Braking (FEB)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “C1A01” or “C1A02” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

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

YES >> Refer to CCS-112, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253575

1. CHECK ADAS CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of ADAS control unit. Refer to CCS-187, "ADAS CONTROL UNIT : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : DTC Description

INFOID:0000000015253576

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A01	POWER SUPPLY CIR (Power supply circuit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	Less than 7.9 V
		Diagnosis delay time	5 seconds or more
C1A02	POWER SUPPLY CIR 2 (Power supply circuit 2)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	More than 19.3 V
		Diagnosis delay time	5 seconds or more

POSSIBLE CAUSE

- Connector, harness, fuse
- ADAS control unit 2

FAIL-SAFE

The following systems are canceled:

- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the BSW or LDP system ON.
3. Select “All DTC Reading” mode.
4. Check if “C1A01” or “C1A02” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

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

YES >> Refer to DAS-212, "Removal and Installation".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253577

1.CHECK ADAS CONTROL UNIT 2 POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of ADAS control unit 2. Refer to CCS-187, "ADAS CONTROL UNIT 2 : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the ADAS control unit 2. Refer to DAS-212, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

ICC SENSOR

ICC SENSOR : DTC Logic

INFOID:0000000014899854

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1A01	POWER SUPPLY CIR	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	The battery voltage sent to ICC sensor remains less than 7.9 V for 5 seconds
		Diagnosis delay time	—
C1A02	POWER SUPPLY CIR 2	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	The battery voltage sent to ICC sensor remains more than 19.3 V for 5 seconds
		Diagnosis delay time	—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

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

YES >> Refer to CCS-114, "ICC SENSOR : Diagnosis Procedure".
NO >> Refer to GI-54, "Intermittent Incident".

ICC SENSOR : Diagnosis Procedure

INFOID:0000000014899855

1.CHECK ICC SENSOR POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of ICC sensor. Refer to CCS-188, "ICC SENSOR : Diagnosis Procedure".

Is the inspection result normal?

YES >> Replace the ICC sensor. Refer to CCS-206, "Removal and Installation".
NO >> Repair or replace the malfunctioning parts.

C1A03 VEHICLE SPEED SENSOR
ADAS CONTROL UNIT

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253578

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A03	VHCL SPEED SE CIRC (Vehicle speed sensor circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If the vehicle speed signal (wheel speed) from ABS actuator and electric unit (control unit) and the CVT vehicle speed sensor signal (output shaft revolution signal) from TCM, received by the ADAS control unit via CAN communication, are inconsistent
		Diagnosis delay time	–

POSSIBLE CAUSE
- Wheel speed sensor
- ABS actuator and electric unit (control unit)
- Vehicle speed sensor CVT (output speed sensor)
- TCM
- ADAS control unit

FAIL-SAFE
The following systems are canceled:
- Forward Emergency Braking (FEB)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE
1. CHECK DTC PRIORITY

If DTC “C1A03” is displayed with DTC “U1000” or “C1A04”, first diagnose the DTC “U1000” or “C1A04”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description"
- C1A04: Refer to CCS-119, "ADAS CONTROL UNIT : DTC Description"

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Drive the vehicle at 30 km/h (19 MPH) or more.
   CAUTION:
   Always drive safely.
4. Stop the vehicle.
5. Select “All DTC Reading” mode.
6. Check if “C1A03” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A03” detected as the current malfunction?

YES >> Refer to CCS-116, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253579

1.CHECK DTC PRIORITY

If DTC “C1A03” is displayed with DTC “U1000” or “C1A04”, first diagnose the DTC “U1000” or “C1A04”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description"
- C1A04: Refer to CCS-119, "ADAS CONTROL UNIT : DTC Description"

NO >> GO TO 2.

2.CHECK DATA MONITOR

CONSULT
1. Start the engine.
2. Drive the vehicle.
3. Check that the value of “VHCL SPD AT” in “Data Monitor” mode of “ICC/ADAS” is almost the same as the actual vehicle speed.

CAUTION:
Be careful of the vehicle speed.

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".
NO >> GO TO 3.

3.CHECK TCM SELF-DIAGNOSIS RESULTS

1. Select “All DTC Reading” mode.
2. Check if any DTC is detected in “Self Diagnostic Result” mode of “TRANSMISSION”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to TM-70, "DTC Index".
NO >> GO TO 4.

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

Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : DTC Description

INFOID:0000000015253580

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A03	VHCL SPEED SE CIRC (Vehicle speed sensor circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If the vehicle speed signal (wheel speed) from ABS actuator and electric unit (control unit) and the CVT vehicle speed sensor signal (output shaft revolution signal) from TCM, received by the ADAS control unit 2 via CAN communication, are inconsistent
		Diagnosis delay time	–

POSSIBLE CAUSE

- Wheel speed sensor
- ABS actuator and electric unit (control unit)
- Vehicle speed sensor CVT (output speed sensor)

- TCM
- ADAS control unit 2

FAIL-SAFE

The following systems are canceled:
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A03” is displayed with DTC “U1000” or “C1A04”, first diagnose the DTC “U1000” or “C1A04”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to CCS-167, "ADAS CONTROL UNIT 2 : DTC Description"
- C1A04: Refer to CCS-120, "ADAS CONTROL UNIT 2 : DTC Description"

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the LDP system ON.
3. Drive the vehicle at 30 km/h (19 MPH) or more.
   CAUTION:
   Always drive safely.
4. Stop the vehicle.
5. Select “All DTC Reading” mode.
6. Check if “C1A03” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is “C1A03” detected as the current malfunction?

YES >> Refer to CCS-116, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253581

1.CHECK DTC PRIORITY

If DTC “C1A03” is displayed with DTC “U1000” or “C1A04”, first diagnose the DTC “U1000” or “C1A04”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to CCS-167, "ADAS CONTROL UNIT 2 : DTC Description"
- C1A04: Refer to CCS-120, "ADAS CONTROL UNIT 2 : DTC Description"

NO >> GO TO 2.

2.CHECK DATA MONITOR

CONSULT
1. Start the engine.
2. Drive the vehicle.
3. Check that the value of “VHCL SPD AT” is almost the same as the value of “VHCL SPEED SE” in “Data Monitor” of “ICC/ADAS 2”.

CAUTION:
Be careful of the vehicle speed.

Is the inspection result normal?

YES >> Replace the ADAS control unit 2. Refer to DAS-212, "Removal and Installation".
NO >> GO TO 3.

3.CHECK TCM SELF-DIAGNOSIS RESULTS

1. Perform “All DTC Reading” mode.
2. Check if any DTC is detected in “Self Diagnostic Result” mode of “TRANSMISSION”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to TM-70, "DTC Index".
NO >> GO TO 4.

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

Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".
NO >> Replace the ADAS control unit 2. Refer to DAS-212, "Removal and Installation".

C1A04 ABS/TCS/VDC SYSTEM
ADAS CONTROL UNIT

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253582

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A04	ABS/TCS/VDC CIRC (ABS/TCS/VDC circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If a malfunction occurs in the VDC/TCS/ABS system
		Diagnosis delay time	–

POSSIBLE CAUSE
ABS actuator and electric unit (control unit)

FAIL-SAFE
The following systems are canceled:
- Forward Emergency Braking (FEB)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE
1. CHECK DTC PRIORITY

If DTC “C1A04” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “C1A04” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A04” detected as the current malfunction?

YES >> Refer to CCS-119, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253583

1. CHECK DTC PRIORITY

If DTC “C1A04” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

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

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : DTC Description

INFOID:0000000015253584

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A04	ABS/TCS/VDC CIRC (ABS/TCS/VDC circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If a malfunction occurs in the VDC/TCS/ABS system
		Diagnosis delay time	–

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled:
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A04” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the LDP system ON.
3. Select “All DTC Reading” mode.
4. Check if “C1A04” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is “C1A04” detected as the current malfunction?

YES >> Refer to CCS-119, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253585

1.CHECK DTC PRIORITY

If DTC “C1A04” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

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

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

C1A05 BRAKE SW/STOP LAMP SW
ADAS CONTROL UNIT

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253586

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A05	BRAKE SW/STOP L SW (Brake switch/Stop lamp switch)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	ADAS control unit detects an error signal that is received from BCAM via CAN communication
		Diagnosis delay time	–

POSSIBLE CAUSE
BCM

FAIL-SAFE
The following systems are canceled:
- Vehicle–to–vehicle distance control mode
- Forward Emergency Braking (FEB)
- Forward Emergency Braking (FEB) with pedestrian

DTC CONFIRMATION PROCEDURE
1. CHECK DTC PRIORITY

If DTC “C1A05” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “C1A05” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A05” detected as the current malfunction?

YES >> Refer to CCS-122, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253587

1. CHECK DTC PRIORITY

If DTC “C1A05” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2. CHECK BCM SELF-DIAGNOSTIC RESULT

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “BCM”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BCS-48, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : DTC Description

INFOID:0000000015253588

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A05	BRAKE SW/STOP L SW (Brake switch/Stop lamp switch)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	ADAS control unit 2 detects an error signal that is received from BCM via CAN communication
		Diagnosis delay time	–

POSSIBLE CAUSE

BCM

FAIL-SAFE

The following systems are canceled:

- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A05” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-167, "ADAS CONTROL UNIT 2 : DTC Description".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the LDP system ON.
3. Select “All DTC Reading” mode.
4. Check if “C1A05” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is “C1A05” detected as the current malfunction?

YES >> Refer to CCS-123, "ADAS CONTROL UNIT 2 : Diagnosis Procedure".

NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".

NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253589

1.CHECK DTC PRIORITY

If DTC “C1A05” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-167, "ADAS CONTROL UNIT 2 : DTC Description".

NO >> GO TO 2.

2.CHECK BCM SELF-DIAGNOSTIC RESULT

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “BCM”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BCS-48, "DTC Index".

NO >> Replace the ADAS control unit 2. Refer to DAS-212, "Removal and Installation".

C1A06 OPERATION SW

DTC Logic

INFOID:0000000014899864

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1A06	OPERATION SW CIRC	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	• Any switch of the ICC steering switch is detected as “ON” continuously for 60 seconds • An ON/OFF state judgment of the ICC differs between HPCM and ADAS control unit, and the state continues for 2 seconds or more
		Diagnosis delay time	—

POSSIBLE CAUSE

- ICC steering switch signal
- ICC steering switch
- HPCM

DTC CONFIRMATION PROCEDURE

NOTE:

If DTC “C1A06” is detected along with DTC “U1000”, first diagnose the DTC “U1000”. Refer to CCS-169, "ICC SENSOR : DTC Logic".

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Wait for approximately 5 minutes after turning the MAIN switch of ICC system ON.
3. Select “All DTC Reading” with CONSULT.
4. Check if the “C1A06” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A06” detected as the current malfunction?

YES >> Refer to CCS-125, "Diagnosis Procedure".
NO >> Refer to GI-54, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000014899865

Regarding Wiring Diagram information, refer to CCS-84, "Wiring Diagram".

1.CHECK SELF-DIAGNOSIS RESULTS

Check if “U1000” is detected other than “C1A06” in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to CCS-169, "ICC SENSOR : DTC Logic".
NO >> GO TO 2.

2.CHECK ICC STEERING SWITCH

1. Turn the ignition switch OFF.
2. Disconnect the ICC steering switch connector.
3. Check the ICC steering switch. Refer to CCS-126, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace the ICC steering switch.

3.CHECK HARNESS BETWEEN SPIRAL CABLE AND HPCM

1. Disconnect the HPCM connector.
2. Check for continuity between the spiral cable harness connector and HPCM harness connector.

Spiral cable		HPCM		Continuity
Connector	Terminal	Connector	Terminal	
M30	7	E130	95	Yes
	6		94	

3. Check for continuity between spiral cable harness connector and ground.

Spiral cable		Ground	Continuity
Connector	Terminal		
M30	7		No
	6		

Is the inspection result normal?

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

4.CHECK SPIRAL CABLE

Check for continuity between spiral cable terminals.

Spiral cable		Continuity
Terminal		
7	26	Yes
6	27	

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace the spiral cable.

5.PERFORM SELF-DIAGNOSIS OF HPCM

1. Connect the connectors of ICC steering switch and ECM connector.
2. Turn the ignition switch ON.
3. Select “Self Diagnostic Result” mode of “EV/HEV”.
4. Check if any DTC is detected in “Self Diagnostic Result” mode of “EV/HEV”.

Is any DTC detected?

YES >> Perform “Self Diagnostic Result” on the detected DTC and repair or replace the malfunctioning parts. Refer to HBC-71, "DTC Index".
NO >> Replace the ICC sensor. Refer to DAS-210, "Removal and Installation".

Component Inspection

INFOID:0000000014899866

1.CHECK ICC STEERING SWITCH

Check resistance between ICC steering switch terminals.

Terminal		Switch operation	Resistance [Ω]
26	27	When pressing MAIN switch	Approx. 1
		When pressing CANCEL switch	Approx. 615
		When pressing DISTANCE switch	Approx. 1090
		When pressing SET/COAST switch	Approx. 1805
		When pressing RESUME/ACCELERATE switch	Approx. 2985
		When all switches are not pressed	Approx. 5415

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace the ICC steering switch. Refer to CCS-208, "Removal and Installation".

C1A07 CVT

DTC Logic

INFOID:0000000014899867

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1A07	CVT MSG CIRCUIT (CVT msg circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	If ICC sensor detects an error signal that is received from TCM via CAN communication
		Diagnosis delay time	—

POSSIBLE CAUSE

TCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Select “Self Diagnostic Result” mode of “LASER/RADAR”.
4. Check if the “C1A07” is detected as the current malfunction in “Self Diagnostic Result” mode of “LASER/RADAR”.

Is “C1A07” detected as the current malfunction?

YES >> Refer to CCS-128, "Diagnosis Procedure".
NO >> Refer to GI-54, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000014899868

1.CHECK ICC SENSOR SELF-DIAGNOSIS RESULT

Check if “U1000” is also detected with “C1A07” in “Self Diagnostic Result” mode of “LASER/RADAR”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to CCS-171, "ICC SENSOR : Description".
NO >> GO TO 2.

2.CHECK TCM SELF DIAGNOSTIC RESULTS

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “TRANSMISSION”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to TM-70, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-206, "Removal and Installation".

C1A14 ECM

DTC Description

INFOID:0000000015253590

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A14	ECM CIRCUIT (ECM circuit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	If ECM is malfunctioning
		Diagnosis delay time	–

POSSIBLE CAUSE

- Accelerator pedal position sensor
- ECM
- ADAS control unit

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A14” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-167, "ADAS CONTROL UNIT 2 : DTC Description".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Operate the ICC system and drive.
   CAUTION:
   Always drive safely.
3. Stop the vehicle.
4. Select “All DTC Reading” mode.
5. Check if “C1A14” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A14” detected as the current malfunction?

YES >> Refer to CCS-129, "Diagnosis Procedure".

NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".

NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253591

1.CHECK DTC PRIORITY

If DTC “C1A14” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : Description".

NO >> GO TO 2.

2.CHECK SELF-DIAGNOSIS RESULTS

CONSULT
Check if “U1000” is detected other than “C1A14” in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to CCS-166, "ADAS CONTROL UNIT : Description".
NO >> GO TO 3.

3. PERFORM SELF-DIAGNOSIS OF ECM

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ENGINE”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to EC-109, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

C1A15 GEAR POSITION

Description

INFOID:0000000014899871

ADAS control unit judges the gear position based on the following signals.
- Current gear position signal transmitted from TCM via CAN communication.
- Value of gear ratio calculated from input speed signal transmitted from TCM via CAN communication.
- Value of gear ratio calculated from the vehicle speed signal transmitted from ABS actuator and electric unit (control unit) via CAN communication.

DTC Logic

INFOID:0000000014899872

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1A15	GEAR POSITION (Gear position)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	A mismatch between an current gear position signal transmitted from TCM via CAN communication and a gear position calculated by the ADAS control unit continues for approximately 11 minutes or more
		Diagnosis delay time	—

POSSIBLE CAUSE

- Input speed sensor
- Vehicle speed sensor CVT (output speed sensor)
- TCM

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A15” is displayed with DTC “U1000” or “C1A03”, or “C1A04” first diagnose the DTC “U1000”,“C1A03”, or “C1A04”

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to DAS-150, "ADAS CONTROL UNIT : DTC Description"
- C1A03: Refer to CCS-115, "ADAS CONTROL UNIT : DTC Description"
- C1A04: Refer to CCS-119, "ADAS CONTROL UNIT : DTC Description"

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Drive the vehicle at 10 km/h (6 MPH) or faster for approximately 15 minutes or more.
   CAUTION:
   Always drive safely.
4. Stop the vehicle.
5. Select “Select Diagnostic Result” mode of “ICC/ADAS”.
6. Check if “C1A15” is detected as the current malfunction in the “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A15” detected as the current malfunction?

YES >> Refer to CCS-132, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014899873

1.CHECK DTC PRIORITY

If DTC “C1A15” is displayed with DTC “U1000” or “C1A03”, or “C1A04” first diagnose the DTC “U1000”,“C1A03”, or “C1A04”

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to DAS-150, "ADAS CONTROL UNIT : DTC Description"
- C1A03: Refer to CCS-115, "ADAS CONTROL UNIT : DTC Description"
- C1A04: Refer to CCS-119, "ADAS CONTROL UNIT : DTC Description"

NO >> GO TO 2.

2.CHECK VEHICLE SPEED SIGNAL

Check that “VHCL SPEED SE” operates normally in “Data Monitor” mode of “ICC/ADAS”.

CAUTION:

Be careful of the vehicle speed.

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 7.

3.CHECK GEAR POSITION

Check that “GEAR” operates normally in “Data Monitor” mode of “ICC/ADAS”.

CAUTION:

Be careful of the vehicle speed.

Is the inspection result normal?

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

4.CHECK GEAR POSITION SIGNAL

Check that “GEAR” operates normally in “Data Monitor” mode of “TRANSMISSION”.

Is the inspection result normal?

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

5.CHECK INPUT SPEED SENSOR SIGNAL

Check that “INPUT SPEED” operates normally in “Data Monitor” mode of “TRANSMISSION”.

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".
NO >> GO TO 6.

6.CHECK TCM SELF-DIAGNOSIS RESULTS

1. Perform “All DTC Reading”.
2. Check if any DTC is detected in “Self Diagnostic Result” mode of “TRANSMISSION”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to TM-55, "CONSULT Function".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

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

1. Perform “All DTC Reading”.
2. Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-49, "CONSULT Function".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

C1A23 UNIT LOW TEMP

DTC Logic

INFOID:0000000014899874

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1A23	UNIT LOW TEMP (Unit low temperature)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	Temperature detected by the temperature sensor integrated in ICC sensor remains less than -45 °C (-49 °F) for 5 seconds or more
		Diagnosis delay time	—

POSSIBLE CAUSE

Temperature around the ICC sensor becomes extremely low or high

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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

Is “C1A23” detected as the current malfunction?

YES >> Refer to CCS-133, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014899875

1.CHECK ENVIRONMENT CONDITION

Check ambient temperature.

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

YES >> Replace the ICC sensor. Refer to CCS-206, "Removal and Installation".
NO >> Perform check again at 0°C (32°F) or more.

C1A24 NP RANGE

DTC Description

INFOID:0000000015253592

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A24	NP RANGE (NP range)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	A mismatch between a shift position signal transmitted from TCM via CAN communication and an current gear position signal continues for 60 seconds or more
		Diagnosis delay time	–

POSSIBLE CAUSE

- TCM
- Transmission range switch

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A24” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : Description".
NO >> GO TO 2.

2.CHECK DTC REPRODUCE (1)

(E)CONSULT

1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Wait for approximately 5 minutes or more after shifting the shift selector to “P” position.
4. Select “All DTC Reading” mode.
5. Check if “C1A24” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A24” detected as the current malfunction?

YES >> Refer to CCS-135, "Diagnosis Procedure".
NO >> GO TO 3.

3.CHECK DTC REPRODUCE (2)

1. Wait for approximately 5 minutes or more after shifting the shift selector to “N” position.
2. Select “All DTC Reading” mode.
3. Check if “C1A24” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A24” detected as the current malfunction?

YES >> Refer to CCS-135, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253593

1.CHECK DTC PRIORITY

If DTC “C1A24” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : Description".
NO >> GO TO 2.

2.CHECK TCM DATA MONITOR

CONSULT
Check that “RANGE” operates normally in “Data Monitor” mode of “TRANSMISSION”.

Is the inspection result normal?

YES >> GO TO 3.
NO >> Perform diagnosis for transmission range switch circuit and repair or replace the malfunctioning parts. Refer to TM-118, "Diagnosis Procedure".

3.PERFORM TCM SELF-DIAGNOSIS

CONSULT
1. Perform “All DTC Reading” mode.
2. Check if any DTC is detected in “Self Diagnostic Result” mode of “TRANSMISSION”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to TM-70, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

C1A26 ECD MODE MALFUNCTION

DTC Description

INFOID:0000000015253594

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A26	ECD MODE MALF (ECD mode malfunction)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	–
		Threshold	If an abnormal condition occurs with ECD system
		Diagnosis delay time	–

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A26” is displayed with DTC “U1000”, “U0415” or “U0121”, first diagnose the DTC “U1000”, “U0415” or “U0121”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description"
- U0415: Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description"
- U0121: Refer to CCS-148, "ADAS CONTROL UNIT : DTC Description"

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Wait for approximately 1 minute after turning the ICC or LDP system ON.
3. Select “All DTC Reading” mode.
4. Check if “C1A26” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A26” detected as the current malfunction?

YES >> Refer to CCS-136, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253595

1.CHECK DTC PRIORITY

If DTC “C1A26” is displayed with DTC “U1000”, “U0415” or “U0121”, first diagnose the DTC “U1000”, “U0415” or “U0121”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description"
- U0415: Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description"
- U0121: Refer to CCS-148, "ADAS CONTROL UNIT : DTC Description"

NO >> GO TO 2.

2. PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".

NO >> Replace ADAS control unit. Refer to DAS-210, "Removal and Installation".

C1A27 ECD POWER SUPPLY CIRCUIT

DTC Logic

INFOID:0000000014899880

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1A27	ECD PWR SUPLY CIR (ECD power supply circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	ECD system power supply voltage is excessively low
		Diagnosis delay time	—

POSSIBLE CAUSE

- ABS actuator and electric unit (control unit) power supply circuit
- ABS actuator and electric unit (control unit)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A27” is displayed with DTC “U1000”, “U0415” or “U0121”, first diagnose the DTC “U1000”“U0415” or “U0121”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to DAS-150, "ADAS CONTROL UNIT : DTC Description"
- U0415: Refer to DAS-144, "ADAS CONTROL UNIT : DTC Description"
- U0121: Refer to DAS-130, "ADAS CONTROL UNIT : DTC Description"

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Wait for approximately 1 minute after turning the MAIN switch of ICC system ON.
3. Select “All DTC Reading” with CONSULT.
4. Check if the “C1A27” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A27” detected as the current malfunction?

YES >> Refer to CCS-138, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014899881

1.CHECK DTC PRIORITY

If DTC “C1A27” is displayed with DTC “U1000”, “U0415” or “U0121”, first diagnose the DTC “U1000”, “U0415” or “U0121”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable.
- U1000: Refer to DAS-150, "ADAS CONTROL UNIT : DTC Description"
- U0415: Refer to DAS-144, "ADAS CONTROL UNIT : DTC Description"
- U0121: Refer to DAS-130, "ADAS CONTROL UNIT : DTC Description"

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT OF ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

Check power supply circuit of ABS actuator and electric unit (control unit). Refer to BRC-100, "Diagnosis Procedure".

Is the inspection result normal?

YES >> Perform self-diagnosis of ABS actuator and electric unit (control unit). Refer to BRC-49, "CONSULT Function".

NO >> Repair the harnesses or connectors.

C1A33 CAN TRANSMISSION ERROR

DTC Description

INFOID:0000000015253596

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A33	CAN TRANSMISSION ERR (CAN transmission error)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If an error occurs in the CAN communication signal that ADAS control unit transmits to ECM
		Diagnosis delay time	–

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A33” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the ICC or LDP system ON.
3. Select “All DTC Reading” mode.
4. Check if “C1A33” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A33” detected as the current malfunction?

YES >> Refer to CCS-140, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253597

1.CHECK DTC PRIORITY

If DTC “C1A33” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to DAS-150, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.CHECK SELF-DIAGNOSIS RESULTS

CONSULT

Check if “U1000” is detected other than “C1A33” in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to DAS-150, "ADAS CONTROL UNIT : DTC Description".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

C1A34 COMMAND ERROR

DTC Description

INFOID:0000000015253598

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A34	COMMAND ERROR (Command error)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If an error occurs in the command signal that ADAS control unit transmits to ECM via CAN communication
		Diagnosis delay time	–

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Forward Emergency Braking (FEB) with pedestrian
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “C1A34” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Operate the ICC system and drive.
   CAUTION:
   Always drive safely.
3. Stop the vehicle.
4. Select “All DTC Reading” mode.
5. Check if “C1A34” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A34” detected as the current malfunction?

YES >> Refer to CCS-142, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253599

1.CHECK SELF-DIAGNOSIS RESULTS

CONSULT

Check if “U1000” is detected other than “C1A34” in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

C1A39 STEERING ANGLE SENSOR
ADAS CONTROL UNIT

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253600

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A39	STRG SEN CIR (Steering angle sensor circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If the steering angle sensor is malfunction
		Diagnosis delay time	–

POSSIBLE CAUSE
Steering angle sensor

FAIL-SAFE
The following systems are canceled:
- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)

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 CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “C1A39” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A39” detected as the current malfunction?

YES >> Refer to CCS-143, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253601

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 CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

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

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : DTC Description

INFOID:0000000015253602

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
C1A39	STRG SEN CIR (Steering angle sensor circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	–
		Threshold	If the steering angle sensor is malfunction
		Diagnosis delay time	–

POSSIBLE CAUSE
Steering angle sensor

FAIL-SAFE
The following systems are canceled:
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

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 CCS-167, "ADAS CONTROL UNIT 2 : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE
CONSULT
1. Start the engine.
2. Turn the LDP system ON.
3. Select “All DTC Reading” mode.
4. Check if “C1A39” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is “C1A39” detected as the current malfunction?

YES >> Refer to CCS-144, "ADAS CONTROL UNIT 2 : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253603

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 CCS-167, "ADAS CONTROL UNIT 2 : DTC Description".
NO >> GO TO 2.

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

Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ICC SENSOR

ICC SENSOR : DTC Logic

INFOID:0000000014899888

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1A39	STRG SEN CIR	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	If the steering angle sensor is malfunction
		Diagnosis delay time	—

POSSIBLE CAUSE

- ICC sensor

DTC CONFIRMATION PROCEDURE

NOTE:

If DTC “C1A39” is detected along with DTC “U1000”, first diagnose the DTC “U1000”. Refer to CCS-169, "ICC SENSOR : DTC Logic".

1.PERFORM DTC CONFIRMATION PROCEDURE

Ⓔ CONSULT

1. Start the engine.
2. Select “All DTC Reading” with CONSULT.
3. Check if the “C1A39” is detected as the current malfunction in “Self Diagnostic Result” mode “ICC/ADAS”.

Is “C1A39” detected as the current malfunction?

YES >> Refer to CCS-145, "ICC SENSOR : Diagnosis Procedure".

NO >> Refer to GI-54, "Intermittent Incident".

ICC SENSOR : Diagnosis Procedure

INFOID:0000000014899889

1.CHECK SELF-DIAGNOSIS RESULTS

Check if “U1000” is detected other than “C1A39” in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to CCS-169, "ICC SENSOR : DTC Logic".

NO >> GO TO 2.

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

Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".

NO >> 1. Perform neutral position adjustment of steering angle sensor. Refer to BRC-77, "Work Procedure".
2. GO TO 3.

3.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if “C1A39” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1A39” detected?

YES >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

NO >> Inspection End.

C1B82 DISTANCE SENSOR OFF-CENTER

DTC Logic

INFOID:0000000014899890

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1B82	DIST SEN OFF-CENTER (Distance sensor off-center)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	ICC sensor is off the alignment point
		Diagnosis delay time	—

POSSIBLE CAUSE

Radar alignment is off the aiming point

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Select “All DTC Reading” with CONSULT.
3. Check if the “C1B82” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1B82” detected as the current malfunction?

YES >> Refer to CCS-146, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014899891

1.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

CONSULT

1. Select “All DTC Reading”.
2. Check if the “C1B82” is detected as the current malfunction in “Self Diagnostic Result” mode of “LASER/RADAR”.

Is “C1B82” detected?

YES >> Refer to CCS-146, "DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if the “C1B82” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1B82” detected?

YES >> Replace ADAS control unit. Refer to DAS-210, "Removal and Installation".
NO >> Inspection End.

C1B83 DISTANCE SENSOR BLOCKED

DTC Logic

INFOID:0000000014899892

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1B83	DIST SEN BLOCKED (Distance sensor blocked)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	If ICC sensor is malfunctioning
		Diagnosis delay time	—

POSSIBLE CAUSE

ICC sensor

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Select “All DTC Reading” mode of “ICC/ADAS”.
3. Check if the “C1B84” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1B84” detected as the current malfunction?

YES >> Refer to CCS-147, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014899893

1.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

CONSULT
1. Select “All DTC Reading” mode of “LASER/RADAR“.
2. Check if “U1000” is detected other than “C1B83” in “Self Diagnostic Result” mode of “LASER/RADAR“.

Is “C1B83” detected?

YES >> Perform the CAN communication system inspection. Refer to CCS-169, "ICC SENSOR : DTC Logic".
NO >> GO TO 2.

2.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

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

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-80, "DTC Index".
NO >> Replace ADAS control unit. Refer to DAS-210, "Removal and Installation".

U0121 VDC CAN 2
ADAS CONTROL UNIT

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253604

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0121	VDC CAN CIR2 (VDC CAN circuit2)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication
		Diagnosis delay time	-

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
- Forward Emergency Braking (FEB)
- Forward Emergency Braking (FEB) with pedestrian
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

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-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE
CONSULT
1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U0121” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U0121” detected as the current malfunction?

YES >> Refer to CCS-148, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253605

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-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

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

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : DTC Description

INFOID:0000000015253606

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0121	VDC CAN CIR2 (VDC CAN circuit2)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit 2 detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE
ABS actuator and electric unit (control unit)

FAIL-SAFE
The following systems are canceled:
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

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-167, "ADAS CONTROL UNIT 2 : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the LDP system ON.
3. Select “All DTC Reading” mode.
4. Check if “U0121” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is “U0121” detected as the current malfunction?

YES >> Refer to CCS-149, "ADAS CONTROL UNIT 2 : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253607

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-167, "ADAS CONTROL UNIT 2 : DTC Description".

NO >> GO TO 2.

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

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ICC SENSOR

ICC SENSOR : DTC Logic

INFOID:0000000014899896

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
U0121	VDC CAN CIR2	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	ICC sensor CAN failure
		Diagnosis delay time	—

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

DTC CONFIRMATION PROCEDURE

NOTE:

If DTC “U0121” is detected along with DTC “U1000”, first diagnose the DTC “U1000”. Refer to CCS-169, "ICC SENSOR : DTC Logic".

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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

Is “U0121” detected as the current malfunction?

YES >> Refer to CCS-150, "ICC SENSOR : Diagnosis Procedure".

NO >> Refer to GI-54, "Intermittent Incident".

ICC SENSOR : Diagnosis Procedure

INFOID:0000000014899897

1.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if “U1000” is detected other than “U0121” in “Self Diagnostic Result” mode of “LASER/RADAR”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to CCS-169, "ICC SENSOR : DTC Logic".

NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-80, "DTC Index".

NO >> Replace the ICC sensor. Refer to CCS-206, "Removal and Installation".

U0126 STRG SEN CAN 1
ADAS CONTROL UNIT
ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253608

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0126	STRG SEN CAN CIR1 (Steering sensor CAN circuit1)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE
Steering angle sensor

FAIL-SAFE
The following systems are canceled:
- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)

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-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if the “U0126” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U0126” detected as the current malfunction?

YES >> Refer to CCS-152, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253609

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-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

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

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : DTC Description

INFOID:0000000015253610

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0126	STRG SEN CAN CIR1 (Steering sensor CAN circuit1)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit 2 detects an error signal that is received from steering angle sensor via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE

Steering angle sensor

FAIL-SAFE

The following systems are canceled:

- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

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-167, "ADAS CONTROL UNIT 2 : DTC Description".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the LDP system ON.
3. Select “All DTC Reading” mode.
4. Check if “U0126” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is “U0126” detected as the current malfunction?

YES >> Refer to CCS-153, "ADAS CONTROL UNIT 2 : Diagnosis Procedure".

NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".

NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253611

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-167, "ADAS CONTROL UNIT 2 : DTC Description".

NO >> GO TO 2.

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

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ICC SENSOR

ICC SENSOR : DTC Logic

INFOID:0000000014899902

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
U0126	STRG SEN CAN CIR1	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	If ICC sensor detects an error signal that is received from steering angle sensor via ADAS control unit
		Diagnosis delay time	—

POSSIBLE CAUSE
Steering angle sensor

DTC CONFIRMATION PROCEDURE
NOTE:
If DTC “U0126” is detected along with DTC “U1000”, first diagnose the DTC “U1000”. Refer to CCS-169, "ICC SENSOR : DTC Logic".

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “U0126” detected as the current malfunction?

YES >> Refer to CCS-154, "ICC SENSOR : Diagnosis Procedure".
NO >> Refer to GI-54, "Intermittent Incident".

ICC SENSOR : Diagnosis Procedure

INFOID:0000000014899903

1.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if “U1000” is detected other than “U0126” in “Self Diagnostic Result” mode of “LASER/RADAR”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to CCS-169, "ICC SENSOR : DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-80, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-206, "Removal and Installation".

U0235 ICC SENSOR CAN 1

DTC Logic

INFOID:0000000014899904

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
U0235	ICC SENSOR CAN CIR1	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	If ADAS control unit detects an error signal that is received from ICC sensor via ITS communication
		Diagnosis delay time	—

DTC CONFIRMATION PROCEDURE

NOTE:

If DTC “U0235” is detected along with DTC “U1000”, first diagnose the DTC “U1000”. Refer to CCS-169, "ICC SENSOR : DTC Logic".

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Select “All DTC Reading” mode of “ICC/ADAS”.
4. Check if the “U0235” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U0235” detected as the current malfunction?

YES >> Refer to CCS-155, "Diagnosis Procedure".
NO >> Refer to GI-54, "Intermittent Incident".

Diagnosis Procedure

INFOID:0000000014899905

1.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to CCS-169, "ICC SENSOR : DTC Logic".
NO >> GO TO 2.

2.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-80, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

U0401 ECM CAN 1

DTC Description

INFOID:0000000015253612

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0401	ECM CAN CIR1 (ECM CAN circuit1)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit detects an error signal that is received from ECM via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE

ECM

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0401” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U0401” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U0401” detected as the current malfunction?

YES >> Refer to CCS-156, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253613

1.CHECK DTC PRIORITY

If DTC “U0401” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.CHECK ECM SELF-DIAGNOSIS RESULTS

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “ENGINE”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to EC-109, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

U0402 TCM CAN 1

DTC Description

INFOID:0000000015253614

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0402	TCM CAN CIRC1 (TCM CAN circuit1)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit detects an error signal that is received from TCM via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE

TCM

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0402” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U0402” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U0402” detected as the current malfunction?

YES >> Refer to CCS-158, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253615

1.CHECK DTC PRIORITY

If DTC “U0402” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.CHECK TCM SELF-DIAGNOSIS RESULTS

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “TRANSMISSION”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to TM-70, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

U0415 VDC CAN 1
ADAS CONTROL UNIT

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253616

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0415	VDC CAN CIR1 (VDC CAN circuit1)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE
ABS actuator and electric unit (control unit)

FAIL-SAFE
The following systems are canceled:
- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

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-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U0415” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U0415” detected as the current malfunction?

YES >> Refer to CCS-160, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253617

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-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

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

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : DTC Description

INFOID:0000000015253618

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0415	VDC CAN CIR1 (VDC CAN circuit1)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit 2 detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled:
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

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-167, "ADAS CONTROL UNIT 2 : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the LDP system ON.
3. Select “All DTC Reading” mode.
4. Check if “U0415” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is “U0415” detected as the current malfunction?

YES >> Refer to CCS-161, "ADAS CONTROL UNIT 2 : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253619

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-168, "ADAS CONTROL UNIT 2 : Diagnosis Procedure".
NO >> GO TO 2.

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

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ICC SENSOR

ICC SENSOR : DTC Logic

INFOID:0000000014899912

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
U0415	VDC CAN CIR1	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	If ICC sensor detects an error signal that is received from ABS actuator and electric unit (control unit) via ADAS control unit
		Diagnosis delay time	—

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

DTC CONFIRMATION PROCEDURE

NOTE:
If DTC “U0415” is detected along with DTC “U1000”, first diagnose the DTC “U1000”. Refer to CCS-169, "ICC SENSOR : DTC Logic".

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “U0415” detected as the current malfunction?

YES >> Refer to CCS-162, "ICC SENSOR : Diagnosis Procedure".
NO >> Refer to GI-54, "Intermittent Incident".

ICC SENSOR : Diagnosis Procedure

INFOID:0000000014899913

1.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if “U1000” is detected other than “U0415” in “Self Diagnostic Result” mode of “LASER/RADAR”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to CCS-169, "ICC SENSOR : DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-80, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-206, "Removal and Installation".

U0428 STRG SEN CAN 2
ADAS CONTROL UNIT

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253620

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0428	CONTROL UNIT (Control unit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE
Steering angle sensor

FAIL-SAFE
The following systems are canceled:
- Forward Emergency Braking (FEB)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)

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-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U0428” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U0428” detected as the current malfunction?

YES >> Refer to CCS-163, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253621

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-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

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

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : DTC Logic

INFOID:0000000015253622

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U0428	STRG SEN CAN CIR2 (Steering sensor CAN circuit2)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit 2 detects an error signal that is received from steering angle sensor via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE

Steering angle sensor

FAIL-SAFE

The following systems are canceled:
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

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-167, "ADAS CONTROL UNIT 2 : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the LDP system ON.
3. Select “All DTC Reading” mode.
4. Check if “U0428” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is “U0428” detected as the current malfunction?

YES >> Refer to CCS-164, "ADAS CONTROL UNIT 2 : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253623

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-167, "ADAS CONTROL UNIT 2 : DTC Description".
NO >> GO TO 2.

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

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

ICC SENSOR

ICC SENSOR : DTC Logic

INFOID:0000000014899916

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
U0428	STRG SEN CAN CIR2	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	If ICC sensor detects an error signal that is received from steering angle sensor via ADAS control unit
		Diagnosis delay time	—

POSSIBLE CAUSE
Steering angle sensor

DTC CONFIRMATION PROCEDURE
NOTE:
If DTC “U0428” is detected along with DTC “U1000”, first diagnose the DTC “U1000”. Refer to CCS-169, "ICC SENSOR : DTC Logic".

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “U0428” detected as the current malfunction?

YES >> Refer to CCS-165, "ICC SENSOR : Diagnosis Procedure".
NO >> Refer to GI-54, "Intermittent Incident".

ICC SENSOR : Diagnosis Procedure

INFOID:0000000014899917

1.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if “U1000” is detected other than “U0428” in “Self Diagnostic Result” mode of “LASER/RADAR”.

Is “U1000” detected?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts. Refer to CCS-169, "ICC SENSOR : DTC Logic".
NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-80, "DTC Index".
NO >> Replace the ICC sensor. Refer to CCS-206, "Removal and Installation".

U1000 CAN COMM CIRCUIT
ADAS CONTROL UNIT

ADAS CONTROL UNIT : Description

INFOID:0000000015253624

CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control units, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only.
CAN communication signal chart. Refer to LAN-44, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

ITS COMMUNICATION

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

CHASSIS COMMUNICATION

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

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253625

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1000	CAN COMM CIRCUIT (CAN communication circuit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit is not transmitting or receiving CAN communication signal or ITS communication signal or chassis communication signal for 2 seconds or more
		Diagnosis delay time	-

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

POSSIBLE CAUSE

- CAN communication system
- ITS communication system
- Chassis communication system

FAIL-SAFE

The following systems are canceled:
- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Forward Emergency Braking (FEB)
- Forward Emergency Braking (FEB) with pedestrian
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

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.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “U1000” detected as the current malfunction?

YES >> Refer to CCS-156, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253626

1.PERFORM THE SELF-DIAGNOSIS

CONSULT
1. Turn the ignition switch ON.
2. Turn the ICC or FEB system ON, then wait 30 seconds or more.
3. Select “All DTC Reading” mode.
4. Check if “U1000” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1000” detected as the current malfunction?

YES >> Refer to LAN-26, "Trouble Diagnosis Flow Chart".
NO >> Inspection End.

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : Description

INFOID:0000000015253627

CAN COMMUNICATION

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control units, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H, CAN-L) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads the required data only.
CAN communication signal chart. Refer to LAN-44, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart".

ITS COMMUNICATION

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

CHASSIS COMMUNICATION

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

ADAS CONTROL UNIT 2 : DTC Description

INFOID:0000000015253628

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1000	CAN COMM CIRCUIT (CAN communication circuit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit 2 is not transmitting or receiving CAN communication signal or ITS communication signal or chassis communication signal for 2 seconds or more
		Diagnosis delay time	-

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

POSSIBLE CAUSE
- CAN communication system
- ITS communication system
- Chassis communication system

FAIL-SAFE
The following systems are canceled:
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

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 2 becomes inoperable.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “U1000” detected as the current malfunction?

YES >> Refer to CCS-156, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253629

1.PERFORM THE SELF-DIAGNOSIS

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

Is “U1000” detected as the current malfunction?

YES >> Refer to LAN-26, "Trouble Diagnosis Flow Chart".
NO >> Inspection End.

ICC SENSOR

ICC SENSOR : Description

INFOID:0000000014899921

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.

ICC SENSOR : DTC Logic

INFOID:0000000014899922

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
U1000	CAN COMM CIRCUIT	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	If ICC sensor is not transmitting or receiving ITS communication signal for 2 seconds or more
		Diagnosis delay time	—

POSSIBLE CAUSE

ITS communication system

ICC SENSOR : Diagnosis Procedure

INFOID:0000000014899923

1.PERFORM THE SELF-DIAGNOSIS

CONSULT

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

Is “U1000” detected as the current malfunction?

YES >> Refer to LAN-26, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-54, "Intermittent Incident".

U1010 CONTROL UNIT (CAN)

ADAS CONTROL UNIT

ADAS CONTROL UNIT : Description

INFOID:0000000015253630

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

ADAS CONTROL UNIT : DTC Description

INFOID:0000000015253631

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit detects malfunction by CAN controller initial diagnosis
		Diagnosis delay time	-

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U1010” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1000” detected as the current malfunction?

YES >> Refer to CCS-170, "ADAS CONTROL UNIT : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253632

1. PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn the ICC or FEB system ON.
2. Select “All DTC Reading” mode.
3. Check if “U1010” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1010” detected as the current malfunction?

YES >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : Description

INFOID:0000000015253633

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

ADAS CONTROL UNIT 2 : DTC Logic

INFOID:0000000015253634

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	If ADAS control unit 2 detects malfunction by CAN controller initial diagnosis
		Diagnosis delay time	-

POSSIBLE CAUSE

ADAS control unit 2

FAIL-SAFE

The following systems are canceled:

- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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

Is “U1000” detected as the current malfunction?

YES >> Refer to CCS-171, "ADAS CONTROL UNIT 2 : Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253635

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Turn the LDP system ON.
2. Select “All DTC Reading” mode.
3. Check if “U1010” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS 2”.

Is “U1010” detected as the current malfunction?

YES >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

ICC SENSOR

ICC SENSOR : Description

INFOID:0000000014899927

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

ICC SENSOR : DTC Logic

INFOID:0000000014899928

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1A06	CONTROL UNIT (CAN)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	If ICC sensor detects malfunction by CAN controller initial diagnosis
		Diagnosis delay time	—

POSSIBLE CAUSE

ICC sensor

ICC SENSOR : Diagnosis Procedure

INFOID:0000000014899929

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

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

Is “U1010” detected as the current malfunction?

YES >> Replace the ICC sensor. Refer to CCS-206, "Removal and Installation".
NO >> Inspection End.

U150B ECM CAN 3

DTC Logic

INFOID:0000000015253636

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U150B	ECM CAN CIRC 3 (ECM CAN circuit 3)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ADAS control unit detects an error signal that is received from ECM via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE

ECM

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0150B” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U150B” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U150B” detected as the current malfunction?

YES >> Refer to CCS-173, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253637

1.CHECK DTC PRIORITY

If DTC “U0150B” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.CHECK ECM SELF-DIAGNOSIS RESULTS

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “ENGINE”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to EC-109, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

U150C VDC CAN 3

DTC Logic

INFOID:0000000015253638

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U150C	VDC CAN CIRC 3 (Control unit)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled:
- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0150C” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT
1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U150C” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U150C” detected as the current malfunction?

YES >> Refer to CCS-175, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253639

1.CHECK DTC PRIORITY

If DTC “U0150C” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

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

CONSULT
Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

U150D TCM CAN 3

DTC Logic

INFOID:0000000015253640

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U150D	TCM CAN CIRC 3 (TCM CAN circuit 3)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ADAS control unit detects an error signal that is received from TCM via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE

TCM

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0150D” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U150D” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U150D” detected as the current malfunction?

YES >> Refer to CCS-177, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253641

1.CHECK DTC PRIORITY

If DTC “U0150D” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.CHECK TCM SELF-DIAGNOSIS RESULTS

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “TRANSMISSION”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to TM-70, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

U150E BCM CAN 3

DTC Logic

INFOID:0000000015253642

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U150E	BCM CAN CIRC 3 (BCM CAN circuit 3)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ADAS control unit detects an error signal that is received from BCM via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE

BCM

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U150E” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U150E” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U150E” detected as the current malfunction?

YES >> Refer to CCS-179, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253643

1.CHECK DTC PRIORITY

If DTC “U150E” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.CHECK BCM SELF-DIAGNOSIS RESULTS

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “BCM”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BCS-48, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

U1513 METER CAN 3

DTC Description

INFOID:0000000015253644

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1513	METER CAN CIR 3 (Meter CAN circuit 3)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ADAS control unit detects an error signal that is received from combination meter via ITS communication
		Diagnosis delay time	-

POSSIBLE CAUSE

Combination meter

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U1513” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U1513” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1513” detected as the current malfunction?

YES >> Refer to CCS-181, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253645

1.CHECK DTC PRIORITY

If DTC “U1513” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.CHECK COMBINATION METER SELF-DIAGNOSIS RESULTS

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “METER/M&A”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to MWI-32, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

U1514 STRG SEN CAN 3

DTC Description

INFOID:0000000015253646

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1514	STRG SEN CAN CIR 3 (Steering sensor CAN circuit 3)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication
		Diagnosis delay time	-

POSSIBLE CAUSE

Steering angle sensor

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)
- Blind Spot Warning (BSW)
- Rear Cross Traffic Alert (RCTA)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U1514” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the ICC or FEB system ON.
3. Select “All DTC Reading” mode.
4. Check if “U1514” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1514” detected as the current malfunction?

YES >> Refer to CCS-183, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253647

1.CHECK DTC PRIORITY

If DTC “U1514” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

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

CONSULT

Check if any DTC is detected in “Self Diagnostic Result” mode of “ABS”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to BRC-61, "DTC Index".

NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

U1515 ICC SENSOR CAN 3

DTC Description

INFOID:0000000015253648

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition	
U1515	ICC SENSOR CAN CIR 3 (ICC sensor CAN circuit 3)	Diagnosis condition	When ignition switch is ON.
		Signal (terminal)	-
		Threshold	ADAS control unit detects an error signal that is received from ICC sensor via ITS communication
		Diagnosis delay time	-

POSSIBLE CAUSE

ICC sensor

FAIL-SAFE

The following systems are canceled:

- Forward Emergency Braking (FEB)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U1515” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Select “All DTC Reading” mode.
4. Check if “U1515” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “U1515” detected as the current malfunction?

YES >> Refer to CCS-185, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000015253649

1.CHECK DTC PRIORITY

If DTC “U1515” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-166, "ADAS CONTROL UNIT : DTC Description".
NO >> GO TO 2.

2.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

CONSULT

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-80, "DTC Index".
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

C1B58 DRIVER ASSISTANCE BUZZER

DTC Logic

INFOID:0000000014899944

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms	DTC detection condition	
C1B58	DR ASSIST BUZZER CIRCUIT (Driver assistance buzzer circuit)	Diagnosis condition	When Ignition switch is ON.
		Signal (terminal)	—
		Threshold	ADAS control unit detects that driver assistance buzzer has a malfunction.
		Diagnosis delay time	—

POSSIBLE CAUSE

- Driver assistance buzzer
- Driver assistance buzzer control module
- ADAS control unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

CONSULT

1. Start the engine.
2. Operate the ICC system and drive.
   CAUTION:
   Always drive safely.
3. Stop the vehicle.
4. Select “All DTC Reading” mode of “ICC/ADAS”.
5. Check if the “C1B58” is detected as the current malfunction in “Self Diagnostic Result” mode of “ICC/ADAS”.

Is “C1B58” detected as the current malfunction?

YES >> Refer to CCS-186, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-54, "Intermittent Incident".
NO-2 >> Confirmation after repair: Inspection End.

Diagnosis Procedure

INFOID:0000000014899945

1.CHECK DTC PRIORITY

If DTC “C1B58” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-169, "ICC SENSOR : DTC Logic".
NO >> GO TO 2.

2.CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” mode of “BSW/BUZZER”.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts.
NO >> Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

POWER SUPPLY AND GROUND CIRCUIT

ADAS CONTROL UNIT

ADAS CONTROL UNIT : Diagnosis Procedure

INFOID:0000000015253650

Regarding Wiring Diagram information, refer to DAS-47, "Wiring Diagram".

1.CHECK FUSES

Check that the following fuse is not blown.

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

Is the fuse blown?

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

2.CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT

Check voltage between ADAS control unit harness connector and ground.

Terminal			Condition	Voltage (Approx.)
(+)		(–)		
ADAS control unit		Ground	Ignition switch	
Connector	Terminal			
B4	12		OFF	0 V
			ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the ADAS control unit power supply circuit.

3.CHECK ADAS CONTROL UNIT GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the ADAS control unit connector.
3. Check for continuity between ADAS control unit harness connector and ground.

ADAS control unit		Ground	Continuity
Connector	Terminal		
B4	5		Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair the ADAS control unit ground circuit.

ADAS CONTROL UNIT 2

ADAS CONTROL UNIT 2 : Diagnosis Procedure

INFOID:0000000015253651

Regarding Wiring Diagram information, refer to DAS-47, "Wiring Diagram".

1.CHECK FUSES

Check that the following fuse is not blown:

Signal name	Fuse No.
Ignition power supply	29 (10A)

Is the fuse blown?

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

2.CHECK ADAS CONTROL UNIT 2 POWER SUPPLY CIRCUIT

Check voltage between ADAS control unit 2 harness connector and ground.

Terminal			Condition	Voltage (Approx.)
(+)		(–)		
ADAS control unit 2		Ground	Ignition switch	
Connector	Terminal			
M148	3		OFF	0 V
			ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the ADAS control unit 2 power supply circuit.

3.CHECK ADAS CONTROL UNIT GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the ADAS control 2 unit connector.
3. Check for continuity between ADAS control unit 2 harness connector and ground.

ADAS control unit 2		Ground	Continuity
Connector	Terminal		
M148	1		Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair the ADAS control unit 2 ground circuit.

ICC SENSOR

ICC SENSOR : Diagnosis Procedure

INFOID:0000000014899947

1.CHECK ICC SENSOR POWER SUPPLY CIRCUIT

Check voltage between ICC sensor harness connector and ground.

Terminal				Condition	Standard voltage	Reference voltage (Approx.)
(+)		(–)				
ICC sensor				Ignition switch		
Connector	Terminal	Connector	Terminal			
E21	8	E21	1	OFF	0 - 0.1 V	0 V
				ON	9.5 - 16 V	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the ICC sensor power supply circuit.

2.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		
E21	1		Yes

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:0000000014899948

Symptoms		Reference page
Operation	MAIN switch does not turn ON	Refer to CCS-191, "Description"
	MAIN switch does not turn OFF	
	ICC system cannot be set (MAIN switch turns ON/OFF)	Refer to CCS-192, "Description"
	CANCEL switch does not function	Refer to CCS-194, "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 CVT selector lever is “N” position	Refer to CCS-195, "Description"
Display/Chime	ICC system display not appear	Refer to MWI-15, "INFORMATION DISPLAY : System Description"
	Chime does not sound	Refer to CCS-196, "Description"
Control	Driving force is hunting	Refer to CCS-198, "Description"
Function to detect a vehicle ahead	System frequently cannot detect a vehicle ahead	Refer to CCS-199, "Description"
	Distance to detect a vehicle ahead is short	
	System misidentifies a vehicle even though there is no vehicle ahead	• Adjust radar alignment: • Perform ICC system action test. Refer to CCS-102, "Description"
	System misidentifies a vehicle in the next lane	
	System does not detect a vehicle at all	Refer to CCS-201, "Description"

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

Description

INFOID:0000000014899949

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 lamp illuminates, perform the self-diagnosis of ICC system, and then repair or replace the malfunctioning parts.

Diagnosis Procedure

INFOID:0000000014899950

1. MAIN SWITCH INSPECTION

CONSULT
1. Start the engine.
2. Check that “MAIN SW” and “CRUISE LAMP” operate normally in “Data Monitor” mode of “ICC/ADAS”.

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” mode 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. Select “Self Diagnostic Result” mode of “METER/M&A”.
2. Check if DTC is detected. Refer to MWI-32, "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. Select “All DTC Reading”.
2. Check if the “U1000” is detected in “Self Diagnostic Result” 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-169, "ICC SENSOR : DTC Logic".

>> Inspection End.

6. CHECK ICC STEERING SWITCH

Check the ICC steering switch. Refer to CCS-126, "Component Inspection".

>> Inspection End.

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

Description

INFOID:0000000014899951

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 the drive mode select switch is in SNOW position.
- When ABS warning lamp is ON.

Diagnosis Procedure

INFOID:0000000014899952

1.CHECK CAUSE OF AUTOMATIC CANCELLATION

CONSULT

Check if there is the cancellation cause in the “CAUSE OF AUTO-CANCEL” on “Work support” of “ICC/ADAS”.

Is it displayed?

Not displayed>>GO TO 2.
“OPE SW VOLT CIRC”>>Refer to CCS-125, "DTC Logic".
“VHCL SPD UNMATCH”>>Refer to CCS-115, "ADAS CONTROL UNIT : DTC Description".
“IGN LOW VOLT”>>Refer to CCS-113, "ICC SENSOR : DTC Logic".
“ECM CIRCUIT”>>Refer to CCS-129, "DTC Description".
“CAN COMM ERROR”>>Refer to CCS-172, "ICC SENSOR : DTC Logic".
“ICC SENSOR CAN COMM ERR”>>Refer to CCS-169, "ICC SENSOR : DTC Logic".
“ABS/TCS/VDC CIRC”>>Refer to CCS-119, "ADAS CONTROL UNIT : DTC Description".
“ECD CIRCUIT”>>Refer to CCS-138, "DTC Logic".

2.PERFORM THE SELF-DIAGNOSIS

1. Select “All DTC Reading”.
2. Check if any DTC is detected in “Self Diagnostic Result” mode of “ICC/ADAS”” of “LASER/RADAR”. Refer to CCS-80, "DTC Index" (ICC/ADAS) or CCS-80, "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” mode 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 CCS-115, "ADAS CONTROL UNIT : DTC Description".

“D RANGE SW”>>Refer to CCS-134, "DTC Description".
“SET/COAST SW”>>Refer to CCS-125, "DTC Logic".
“BRAKE SW”>>Refer to CCS-122, "ADAS CONTROL UNIT : DTC Description".
“PKB SW”>>Refer to BRC-172, "Diagnosis Procedure".

5. REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

>> GO TO 6.

6. CHECK ICC SYSTEM

1. Erase the “Self Diagnostic Result”, and then select “All DTC Reading” again after performing the action test. (Refer to CCS-102, "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:0000000014899953

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.

Diagnosis Procedure

INFOID:0000000014899954

1.CHECK EACH SWITCH

CONSULT

1. Start the engine.
2. Check that each switch operates normally on “Data Monitor” mode of “ICC/ADAS”.

- “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. Select “All DTC Reading”.
2. Check if the “U1000” is detected in “Self Diagnostic Result” mode 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-169, "ICC SENSOR : DTC Logic".

>> Inspection End.

4.CHECK ICC STEERING SWITCH

Check the ICC steering switch. Refer to CCS-126, "Component Inspection".

>> GO TO 6.

5.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

>> GO TO 6.

6.CHECK ICC SYSTEM

1. Erase the “Self Diagnostic Result”, and then select “All DTC Reading” again after performing the action test. (Refer to CCS-102, "Description" for action test.)
2. Check that the ICC system is normal.

>> Inspection End.

ICC SYSTEM DOES NOT CANCEL WHEN CVT SELECTOR LEVER SETS ON "N"

Description

INFOID:0000000014899955

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

Diagnosis Procedure

INFOID:0000000014899956

1.CHECK D RANGE SWITCH

Check if “D RANGE SW” operates normally in “Data Monitor” mode of “ICC/ADAS”.

Is the inspection result normal?

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

2.PERFORM ALL SELF-DIAGNOSIS ITEMS

1. Select “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-169, "ICC SENSOR : DTC Logic".

>> Inspection End.

4.CHECK POSITION SWITCH

Check if “SLCT LVR POSI” operates normally in “Data Monitor” mode of “TRANSMISSION”.

Is the inspection result normal?

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

5.PERFORM TCM SELF-DIAGNOSIS

1. Select the “Self Diagnostic Result” mode of “TRANSMISSION”.
2. Repair or replace malfunctioning parts. Refer to TM-70, "DTC Index".

>> GO TO 7.

6.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to DAS-210, "Removal and Installation".

>> GO TO 7.

7.CHECK ICC SYSTEM

1. Erase the “Self Diagnostic Result”, and then select “All DTC Reading” again after performing the action test. (Refer to CCS-102, "Description" for action test.)
2. Check that the ICC system is normal.

>> Inspection End.

CHIME DOES NOT SOUND

Description

INFOID:0000000014899957

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-199, "Description".)

Diagnosis Procedure

INFOID:0000000014899958

1.PERFORM ACTIVE TEST

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

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-210, "Removal and Installation".

>> GO TO 8.

3.CHECK ICC WARNING CHIME CIRCUIT

Check the meter buzzer circuit. Refer to WCS-28, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 6.

4.PERFORM THE SELF-DIAGNOSIS

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

Is “U1000” detected?

YES >> GO TO 5.
NO >> GO TO 7.

5.CAN COMMUNICATIONS SYSTEM INSPECTION

Check the CAN communication system and repair or replace malfunctioning parts. Refer to CCS-113, "ICC SENSOR : DTC Logic".

>> Inspection End.

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-210, "Removal and Installation".

>> GO TO 8.

8. CHECK ICC SYSTEM

CONSULT

1. Erase the “Self Diagnostic Result”, and then select “All DTC Reading” again after performing the action test. (Refer to CCS-102, "Description" for action test.)
2. Check that the ICC system is normal.

>> Inspection End.

DRIVING FORCE IS HUNTING

Description

INFOID:0000000014899959

The vehicle causes hunting when the ICC system is active.

Diagnosis Procedure

INFOID:0000000014899960

1.PERFORM SELF-DIAGNOSIS OF ECM

CONSULT
1. Select “All DTC Reading”.
2. Check if the DTC is detected in “Self Diagnostic Result” mode of “ENGINE”. Refer to EC-109, "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-199, "Description".
2. Check the ICC sensor for contamination, foreign materials, or cracks. Refer to CCS-199, "Diagnosis Procedure".

>> Inspection End.

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts identified by the “Self Diagnostic Result”.

>> GO TO 4.

4.CHECK ICC SYSTEM

CONSULT
1. Erase the “Self Diagnostic Result”, and then select “All DTC Reading” again after performing the action test. (Refer to CCS-102, "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:0000000014899961

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:0000000014899962

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-26, "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. ADJUST RADAR ALIGNMENT

1. Install the front bumper. Refer to EXT-26, "Removal and Installation".
2. Adjust the radar alignment.
3. Perform ICC system action test. Refer to CCS-102, "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-206, "Removal and Installation".
2. Install the front bumper. Refer to EXT-26, "Removal and Installation".
3. Adjust the radar alignment.
4. Perform ICC system action test. Refer to CCS-102, "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-210, "Removal and Installation".

>> GO TO 8.

8. CHECK ICC SYSTEM

CONSULT

1. Erase the “Self Diagnostic Result”, and then Select “All DTC Reading” again after performing the action test. (Refer to CCS-102, "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:0000000014899963

When ICC system is active, the ICC system does not perform any control even through there is a vehicle ahead.

Diagnosis Procedure

INFOID:0000000014899964

1. CHECK ICC SYSTEM DISPLAY ON INFORMATION DISPLAY

1. Start the self-diagnosis mode of combination meter. Refer to CCS-181, "DTC Description".
2. Check that the 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 matter adhere?

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

3. VISUAL CHECK (2)

1. Remove the front bumper. Refer to EXT-26, "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 MATTER

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. RADAR ALIGNMENT ADJUSTMENT

1. Install the front bumper. Refer to EXT-26, "Removal and Installation".
2. Adjust the radar alignment.
3. Perform ICC system action test. Refer to CCS-102, "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-206, "Removal and Installation".
2. Install the front bumper. Refer to EXT-26, "Removal and Installation".
3. Adjust the radar alignment.
4. Perform ICC system action test. Refer to CCS-102, "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-210, "Removal and Installation".

>> GO TO 9.

9. CHECK ICC SYSTEM

CONSULT

1. Erase the “Self Diagnostic Result”, and then Select “All DTC Reading” again after performing the action test. (Refer to CCS-102, "Description" for action test.)
2. Check that the ICC system is normal.

>> Inspection End.

NORMAL OPERATING CONDITION

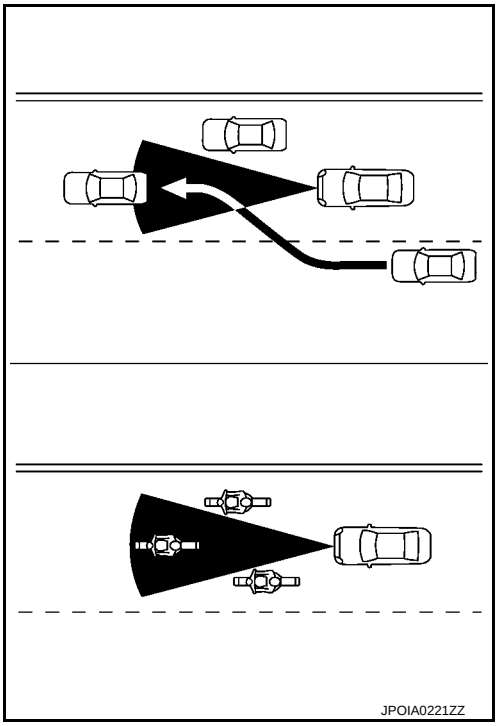
Description

INFOID:0000000014899965

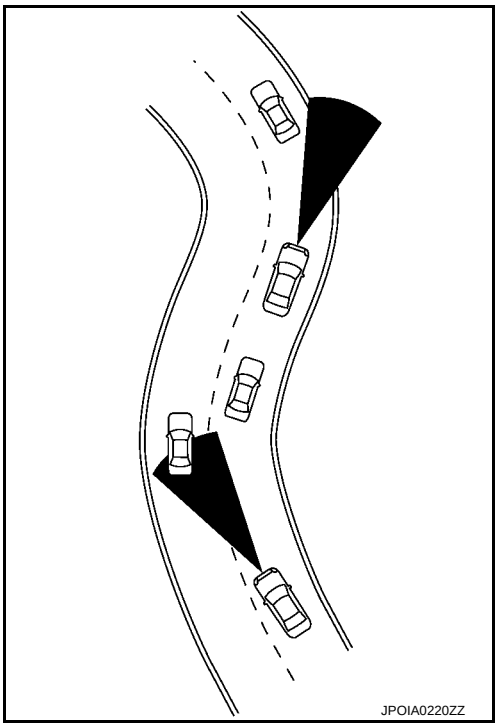
PRECAUTIONS FOR VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE

- ICC system is only an aid to assist the driver and is not a collision warning or avoidance system. 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. Never use the system on roads with sharp curves, or on icy roads, in heavy rain or in fog.
- The ICC sensor will not detect the following objects:
  - 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 ICC 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.
  - Never use the ICC system if own vehicle is towing a trailer. The system may not detect a vehicle ahead.
- 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 front bumper of the vehicle 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 luggage room of own vehicle.
- The ICC system is designed to automatically check the sensor's operation within the limitation of the system. When the front bumper area of the ICC sensor is covered with dirt or is obstructed, the system will automatically cancel. If the front bumper area of the ICC 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 front bumper area of the ICC 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.

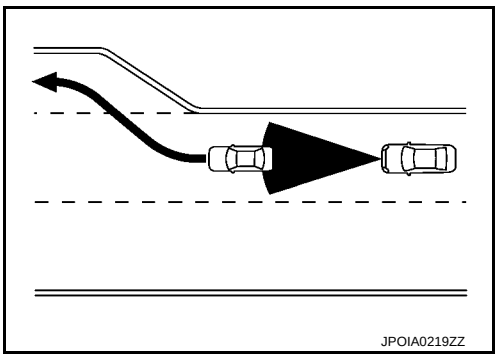
- The detection zone of the ICC sensor is limited. A vehicle ahead must be in the detection zone for the vehicle-to-vehicle distance detection mode to maintain the selected distance from the vehicle ahead. A vehicle ahead may move outside of the detection zone due to its position within the same lane 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.
- 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).

PRECAUTIONS FOR CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE

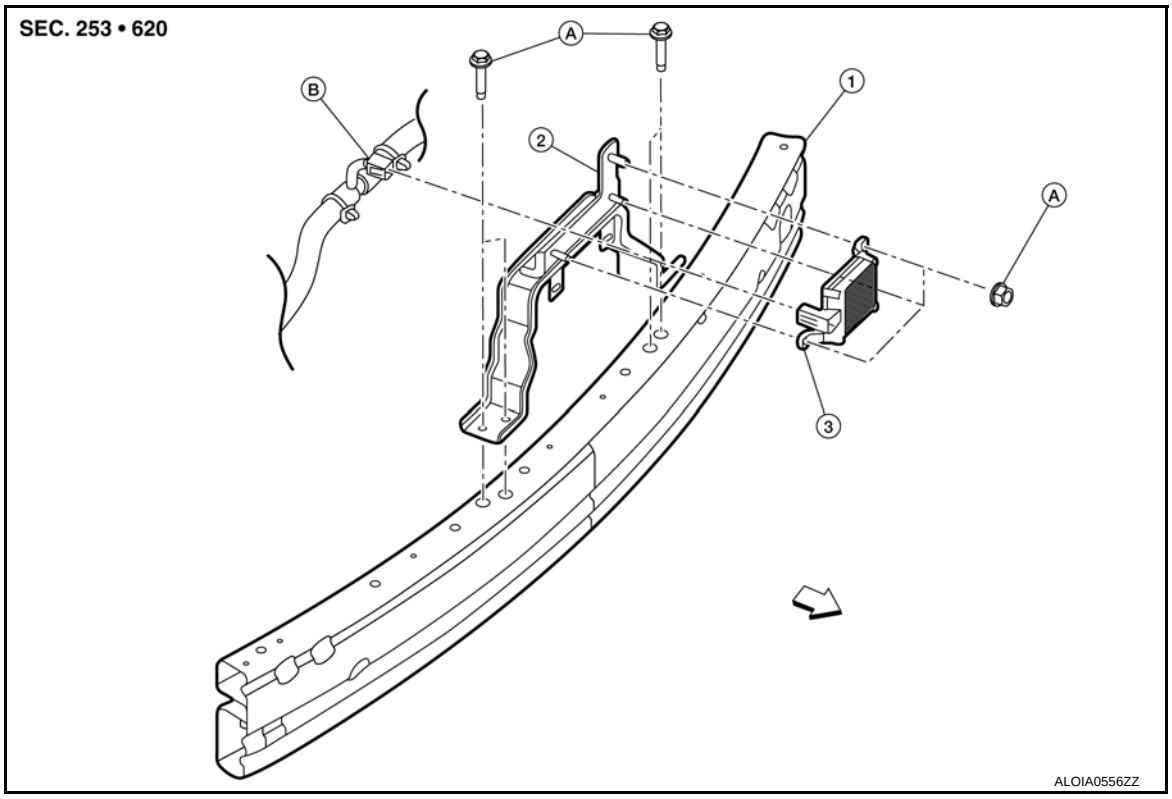
- In the conventional (fixed speed) cruise control mode, a warning chime does not sound to warn the driver if own vehicle is too close to the vehicle ahead, as neither the presence of the vehicle ahead nor the vehicle-to-vehicle distance is detected.
- Pay special attention to the distance between own vehicle and the vehicle ahead or a collision could occur.
- Always confirm the setting in the ICC system display.
- Never 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 the MAIN switch OFF when not using ICC system.

REMOVAL AND INSTALLATION

ICC SENSOR

Exploded View

INFOID:0000000014899966



1. Front bumper reinforcement
2. ICC sensor bracket
3. ICC sensor
A. Refer to INSTALLATION.
B. ICC sensor harness connector
⇦ Front

Removal and Installation

INFOID:0000000014899967

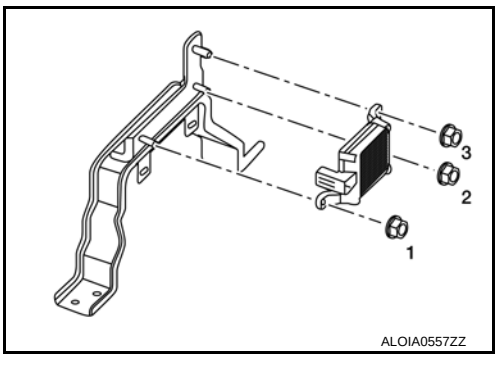
REMOVAL

1. Remove front grille. Refer to EXT-33, "Removal and Installation".
2. Disconnect harness connector from ICC sensor.
3. Remove ICC sensor nuts and remove ICC sensor.
4. Remove bolts and remove ICC sensor bracket (if necessary).

INSTALLATION

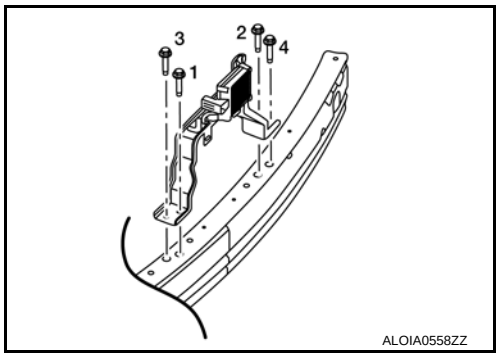
1. Install ICC sensor and ICC sensor nuts finger-tight.
2. Tighten ICC sensor nuts to the specified torque in the sequence shown.

ICC sensor nuts : 10.0 N·m (1.0 kg-m, 7 ft-lb)



3. Install ICC sensor bracket and ICC sensor bracket bolts finger-tight (if necessary).
4. Tighten ICC sensor bracket bolts to the specified torque in the sequence shown.

ICC sensor bracket bolts : 10.0 N·m (1.0 kg-m, 7 ft-lb)



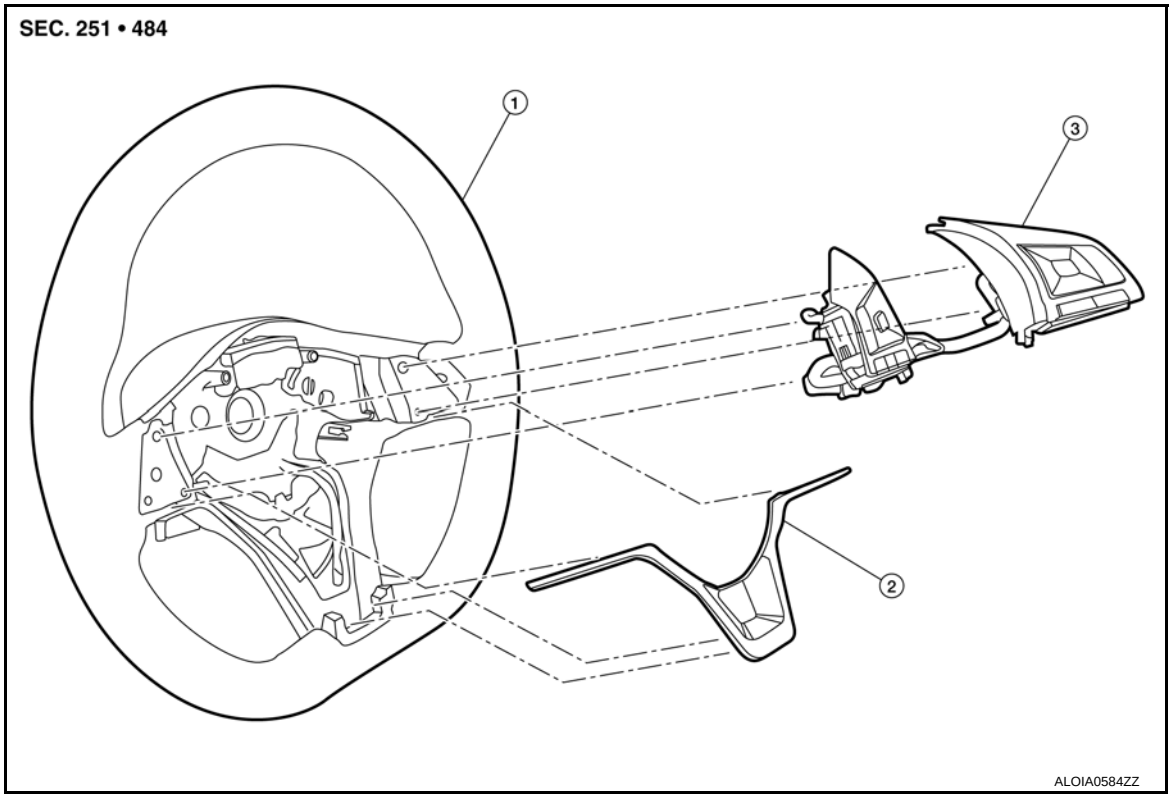
5. Installation of the remaining components is in the reverse order of removal.

CAUTION:
- **Always perform ICC sensor alignment and check operation after removal, installation or replacement of ICC sensor. Refer to CCS-94, "Description".**
- **Do not drop or shock ICC sensor.**
- **Make sure ICC sensor harness is installed without any twists.**

ICC STEERING SWITCH

Exploded View

INFOID:0000000014899968



1. Steering wheel
2. Steering wheel finisher
3. Steering switches

Removal and Installation

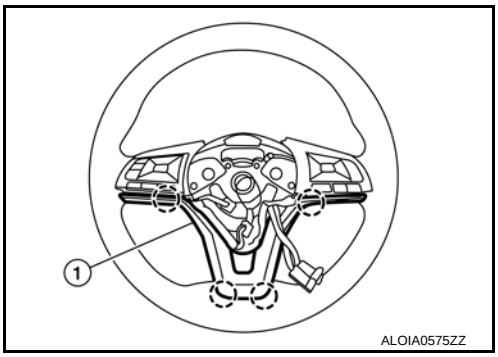
INFOID:0000000014899969

REMOVAL

NOTE:
The steering switches are serviced as an assembly.

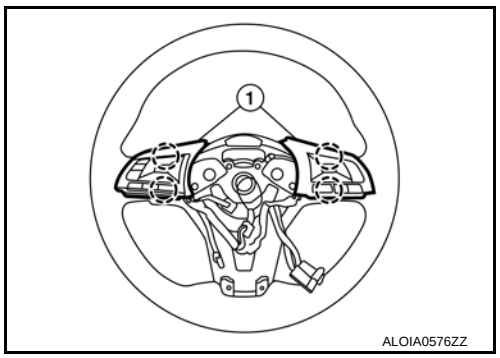
1. Remove driver airbag. Refer to SR-12, "Removal and Installation".
2. Release pawls on the steering wheel front finisher (1) using suitable tool and remove from the steering wheel.

: Pawl



3. Release pawls on the steering switches (1) using suitable tool and remove from the steering wheel.

: Pawl



4. Disconnect steering switch connector from spiral cable and remove from vehicle.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

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. Refer to CCS-102, "Description".

PRECAUTION

PRECAUTIONS

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

INFOID:0000000015253652

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

WARNING:

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

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

WARNING:

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

SYSTEM DESCRIPTION

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

Information

INFOID:0000000014621488

Automatic Speed Control Device (ASCD) system is controlled by HPCM.
Regarding the information for ASCD system, refer to HBC-36, "AUTOMATIC SPEED CONTROL DEVICE (ASCD) : System Description".