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< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

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

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Always observe the following items for preventing accidental activation.

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

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

WARNING:

Always observe the following items for preventing accidental activation.

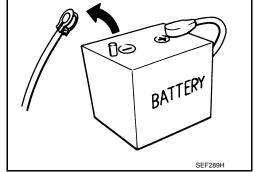
- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious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

Precautions for Removing Battery Terminal

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

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

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



NOTE:

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

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

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< PRECAUTION > [ICC]

- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
- Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
- Driving for 30 minutes or more on a steep slope.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

NOTE:

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
 NOTE:

The removal of 12V battery may cause a DTC detection error.

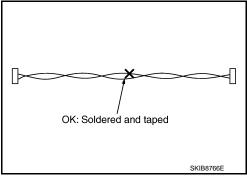
Precautions For Harness Repair

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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:

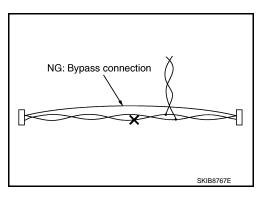
A fray of twisted lines must be within 110 mm (4.33 in).



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

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CAUTION:

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

PRECAUTION FOR ICC SENSOR

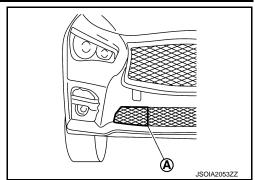
Never use the ICC sensor removed from vehicle. Never disassemble or remodel.

PRECAUTIONS

< PRECAUTION > [ICC]

• Never install a part that the radar irradiation range (A) is interfered with.

- If a part interferes with the radar irradiation range, then the following conditions are caused:
- The condition of ICC sensor becomes equal to an unclean condition, and this makes it difficult to measure the distance between cars.
- When it is impossible to measure the distance between cars, the following functions stop and DTC is detected.
- Forward Emergency Braking (FEB)
- Intelligent Cruise Control (ICC)
- Distance Control Assist (DCA)
- Predictive Forward Collision Warning (PFCW)



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< PREPARATION > [ICC]

PREPARATION

PREPARATION

Special Service Tools

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Tool number (Kent-Moore No.) Tool name		Description
KV99112700 (—) ICC target board	JSOIA1012ZZ	Uses for radar alignment
— (1-20-2721-1-IF) ICC alignment kit	AWOIA0016ZZ	Uses for radar alignment
 (1-20-2722-1-IF) Wheel adaptor	AWOIA0017ZZ	Uses for radar alignment
— (J-50808) ICC alignment kit attachment board	JSOIA1066ZZ	Uses for radar alignment

NOTE:

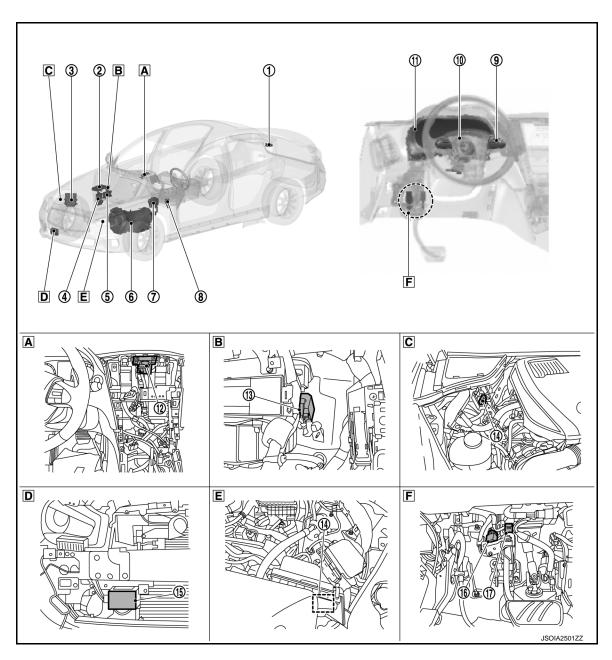
For radar alignment, KV99112700 or a set of Kent-Moore No. SST are to be used.

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SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location



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

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x: Applicable

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

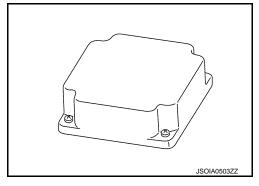
COMPONENT PARTS

[ICC] < SYSTEM DESCRIPTION >

		Fun	ction		
No.	Component	Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Description	
8	Chassis control module	×	×	Chassis control module transmits the drive mode signal to ADAS control unit via CAN communication Refer to DAS-516, "Component Parts Location" for detailed installation location	
9	ICC steering switch	×	×	Description: Refer to CCS-12, "ICC Steering Switch" Switch name and function: CCS-24, "VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION: Switch Name and Function" (Vehicle to vehicle distance control mode) Switch name and function: CCS-28, "CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION: Switch Name and Function" (Conventional cruise control mode)	
10	Steering angle sensor	×		Measures the rotation amount, rotation speed, and rotation direction of steering wheel, and then transmits them to ADAS control unit via CAN communication	
11)	Combination meter	×	×	Performs the following operations using the signals received from the AD control unit via the CAN communication • Description: Refer to CCS-13, "Combination Meter" • System display and warning: CCS-24, "VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION: Menu Displayed by Pressing Ea	
12	Driver assistance buzzer	×	×	Each Switch" (Conventional cruise control mode) Refer to MWI-8. "METER SYSTEM: Component Parts Location" for detailed installation location Refer to CCS-13, "Driver Assistance Buzzer"	
13	Driver assistance buzzer con-	×	×	Refer to CCS-13, "Driver Assistance Buzzer Control Module"	
14)	trol module ICC brake hold relay	×		Refer to CCS-13, "ICC Brake Hold Relay"	
15	ICC sensor	×	×	Refer to CCS-12, "ICC Sensor"	
16	Stop lamp switch	×	×	Defecto CCC 42 "Proke Dedal Decition Contab / Charleman Contab."	C
(17)	Brake pedal position switch	×	×	Refer to CCS-12, "Brake Pedal Position Switch / Stop Lamp Switch"	

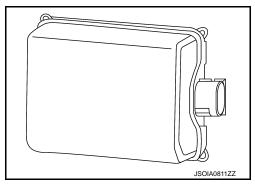
ADAS Control Unit

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



ICC Sensor

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



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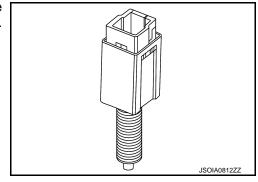
ICC Steering Switch

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

Brake Pedal Position Switch / Stop Lamp Switch

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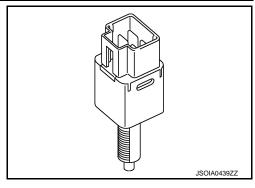
 Brake pedal position switch is installed at the upper part of the brake pedal and detects a brake operation performed by the driver.



- 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. (VR30DDTT)
- Brake pedal position switch signal is input to EMCM. Brake pedal position switch signal is transmitted from EMCM to ADAS control unit via CAN communication. (2.0 TURBO GASOLINE ENGINE)

< SYSTEM DESCRIPTION >

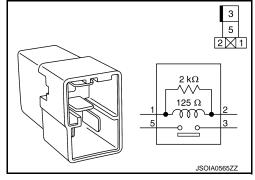
- Stop lamp switch is installed at the upper part of the brake pedal and detects a brake operation performed by the driver.
- Stop lamp switch is turned ON, when depressing the brake pedal.
- Stop lamp switch signal is input to ECM and ABS actuator and electric unit (control unit). Stop lamp switch signals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



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ICC Brake Hold Relay

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



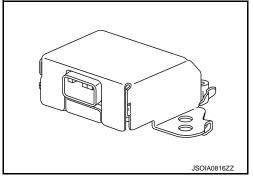
Combination Meter

Receives meter display signal from ADAS control unit via CAN communication.

Displays the system status according to a signal received from the ADAS control unit.

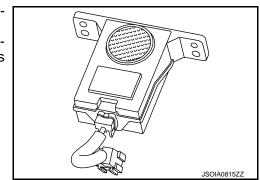
Driver Assistance Buzzer Control Module

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



Driver Assistance Buzzer

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



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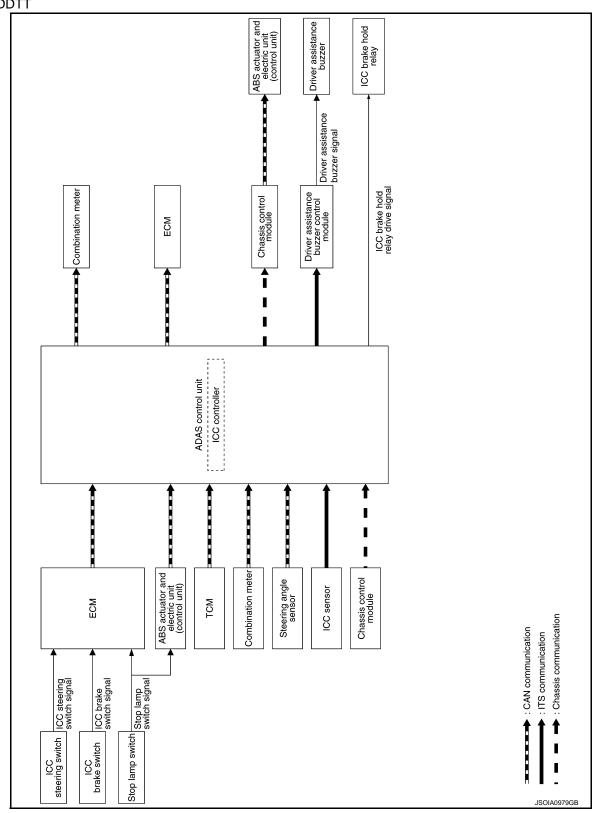
SYSTEM

System Description

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SYSTEM DIAGRAM

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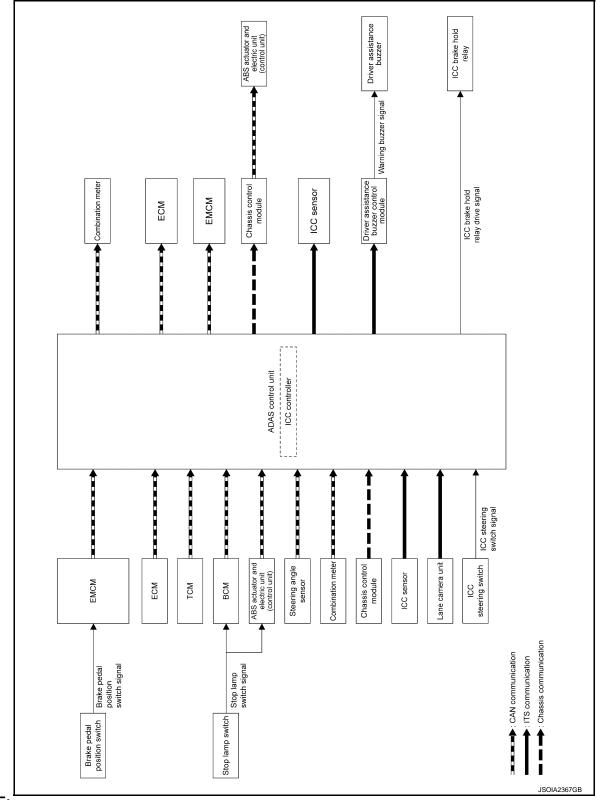
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2.0L TURBO GASOLINE ENGINE



NOTE:

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

ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit		Signal name	e	Description		
	Closed throttle position signal		on signal	Receives idle position state (ON/OFF)		
		Accelerator pedal position signal		Receives accelerator pedal position (angle)		
		ICC prohibition signa	al	Receives an operable/inoperable state of the ICC system		
		Engine speed signal		Receives engine speed		
			MAIN switch signal			
ECM	CAN com- munica-		SET/COAST switch signal			
LOW	tion	ICC steering switch signal	CANCEL switch signal	Receives the operational state of the ICC steering switch		
		o.g.i.a.	RESUME/ACCEL- ERATE switch signal			
			DISTANCE switch signal			
		Stop lamp switch sig	nal	Receives an operational state of the brake pedal		
		Brake pedal position	switch signal*1	Receives an operational state of the brake pedal		
EMCM*2	CAN com- munica- tion	Brake pedal position	switch signal	Receives an operational state of the brake pedal		
	CAN com- munica- tion	Input speed signal		Receives the number of revolutions of input shaft		
TCM		Current gear position signal		Receives a current gear position		
(Via ECM)*2		Shift position signal		Receives a selector lever position		
		Output shaft revolution signal		Receives the number of revolutions of output shaft		
		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		
ABS actuator	CAN com-	TCS operation signa	I	Receives an operational state of TCS		
and electric unit	munica-	VDC OFF switch signal		Receives an ON/OFF state of VDC		
(control unit)	tion	VDC malfunction sig	nal	Receives a malfunction state of VDC		
		VDC operation signal Vehicle speed signal (ABS)		Receives an operational state of VDC		
				Receives wheel speeds of four wheels		
		Stop lamp switch sig	nal	Receives an operational state of the brake pedal		
		Yaw rate signal		Receives yaw rate acting on the vehicle		
Combination meter	CAN com- munica- tion	Parking brake switch signal		Receives an operational state of the parking brake		
BCM*2	CAN com- munica- tion	Stop lamp switch signal		Receives an operational state of the brake pedal		
		Steering angle sense	or malfunction signal	Receives a malfunction state of steering angle sensor		
Steering angle sensor	CAN com- munica- tion	Steering angle sensor signal		Receives the number of revolutions, turning direction of the steering wheel		
		Steering angle speed	d signal	Receives the turning angle speed of the steering whee		

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

^{*1:} VR30DDTT ENGINE

Output Signal Item

Reception unit		Signal na	me	Description
ECM	CAN commu- nication	ICC operation s	ignal	Transmits an ICC operation signal necessary for intelligent cruise control
ABS actuator and electric unit (control unit)	CAN commu- nication	Brake fluid pres	sure control signal	Transmits a brake fluid pressure control signal to activates the brake via chassis control module
			Vehicle ahead detection indicator signal	
			Set vehicle speed indi- cator signal	
Combination	CAN commu-	Meter display	Set distance indicator signal	Transmits a signal to display a state of the system on the information display
meter	nication	signal	SET switch indicator signal	
			MAIN switch indicator signal	
			ICC malfunction signal	Transmits an ICC malfunction signal to turn ON the ICC system malfunction
ICC sensor	ITS commu- nication	Vehicle speed s	ignal	Transmits a vehicle speed calculated by the ADAS control unit
Driver assis- tance buzzer control module	ITS commu- nication	Warning buzzer	signal	Transmits a warning buzzer signal to turn ON the buzzer
ICC brake hold relay	ICC brake hold	d relay drive signa	al	Activates the brake hold relay and turns ON the stop lamp

DESCRIPTION

Intelligent Cruise Control

The Intelligent Cruise Control (ICC) system maintains a selected distance from the vehicle ahead within set speeds.

The driver can select the set speeds.

The vehicle travels at a set speed when the road ahead is clear.

The ICC system can be set to one of two cruise control modes:

CAUTION:

Never set the cruise speed exceeding the posted speed limit.

Vehicle-to-vehicle Distance Control Mode

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

Conventional (Fixed Speed) Cruise Control Mode

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

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^{*2: 2.0} TURBO GASOLINE ENGINE

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

WARNING:

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

Distance Control Assist (DCA) System

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

Predictive Forward Collision Warning (PFCW) System

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

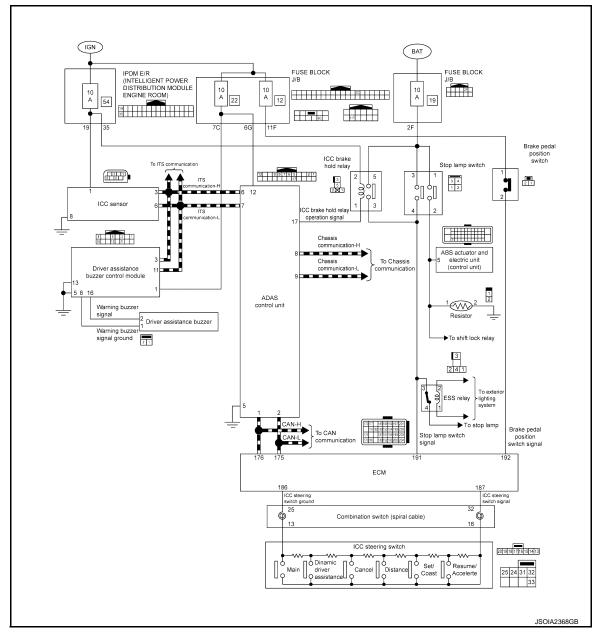
Forward Emergency Brake (FEB) System

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

Circuit Diagram

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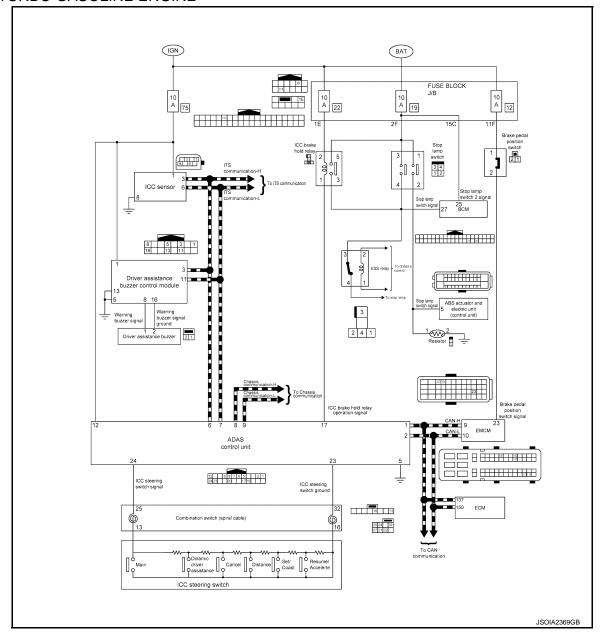
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2.0L TURBO GASOLINE ENGINE



Fail-safe (ADAS Control Unit)

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

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

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

Fail-safe (ICC Sensor)

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

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION

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

FUNCTION DESCRIPTION

In the vehicle-to-vehicle distance control mode, the Intelligent Cruise Control (ICC) system automatically maintains a selected distance from the vehicle traveling in front of own vehicle according to that vehicle's speed (up to the set speed), or at the set speed when the road ahead is clear.

With ICC system, the driver can maintain the same speed as other vehicles without the constant need to adjust the set speed as driver would with a normal cruise control system.

The following items are controlled in the vehicle-to-vehicle distance control mode

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

CAUTION:

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

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.

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ADAS control unit performs the control as per the following:

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

Set Condition

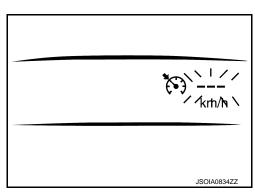
Under a standby state, pushing down the SET/COAST switch will start system control.

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

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

NOTE:

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



- When traveling below 32 km/h (20 MPH) and the vehicle ahead is not detected.
- When the selector lever is not in the "D" position or manual mode.
- When the parking brakes are applied.
- When the brakes are operated by the driver.
- When the SET/COAST switch is pushed under the following conditions, the system cannot be set.
- When the drive mode select switch is in SNOW position. (To use the ICC system, turn OFF the snow mode, push the MAIN switch to turn OFF the ICC system and reset the ICC system by pushing the MAIN switch again.)
- When the VDC is OFF. (To use the ICC system, turn ON the VDC system, push the MAIN switch to turn OFF the ICC system and reset the ICC system by pushing the MAIN switch again.)
- When ABS or VDC (including the TCS) operates.
- When the wheel is slipping. (To use the ICC system, make sure the wheels are no longer spinning, push the MAIN switch to turn OFF the ICC system and reset the ICC system by pushing the MAIN switch again.)

Cancel Conditions

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

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

FUNCTION DESCRIPTION

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

NOTE:

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

OPERATION DESCRIPTION

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

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

After hold the MAIN switch ON for longer than approximately 1.5 seconds, the ICC system display goes out. The MAIN switch indicator stays lit and brings the system to standby state.

NOTE:

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

ADAS control unit performs the control as per the following:

Set Condition

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

Cancel conditions

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

WARNING/INDICATOR/CHIME LIST

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

INFOID:0000000012789856

Name	Design	Function
CC system display Vehicle-to-vehicle distance control node)	100 km/h	CCS-24, "VEHICLE-TO-VEHICLE DISTANCE CON-
CC system warning Vehicle-to-vehicle		TROL MODE FUNCTION : Menu Displayed by Pressing Each Switch"
listance control node)	JSOIA0893ZZ	T
CC system display conventional (fixed peed) cruise control node)	ৈ 100 km/h	
	JSOIA1054ZZ	CCS-28. "CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION: Menu Displayed by Pressing Each Switch"
CC system warning conventional (fixed peed) cruise control node)	(5)	
	JSOIA0894ZZ	

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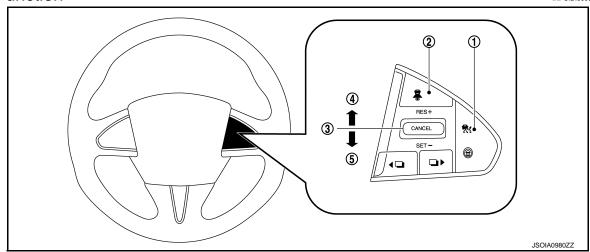
< SYSTEM DESCRIPTION > [ICC]

OPERATION

VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE FUNCTION

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

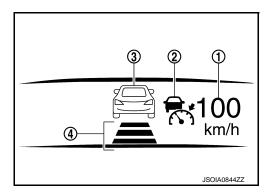
and Function



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

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

ICC SYSTEM DISPLAY (ON THE INFORMATION DISPLAY)



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

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

SYSTEM CONTROL CONDITION DISPLAY

Quickly push (less than 1.5 seconds) and release the MAIN switch ON.

The MAIN switch indicator (cruise indicator), set distance indicator, own vehicle indicator, and set vehicle speed indicator come on and ICC system is set to a standby state.

		Condition	Display on ICC system display
Standby mode			km/h JSOIA0845ZZ
		Set vehicle distance (Long)	100 km/h
Control mode	Without a vehicle	Set vehicle distance (Middle)	100 km/h
	ahead	Set vehicle distance (Short)	100 km/h
		When the vehicle speed exceeds the set speed	JSOIA0849ZZ

	ı	Condition	Display on ICC system display
		Set vehicle distance (Long)	100 km/h
Control mode	With a vehicle	Set vehicle distance (Middle)	100 km/h
Control mode	ahead	Set vehicle distance (Short)	100 km/h
		When the vehicle speed exceeds the set speed	JSOIA0853ZZ

NOTE:

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

APPROACH WARNING DISPLAY

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

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

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

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

The warning chime will not sound when own vehicle approaches vehicles that are parked or moving slowly.

The warning chime will not sound when the accelerator pedal is depressed, overriding the system.

The approach warning chime may sound and the system display may blink when the ICC sensor detects objects on the side of the vehicle or some reflectors on the side of the road.

This may cause the ICC system to decelerate or accelerate the vehicle.

The ICC sensor may detect these object when the vehicle is driven on winding roads, hilly roads or when entering or exiting a curve.

The ICC sensor may also detect object on narrow roads or in road construction zones.

In these cases driver will have to manually control the proper distance ahead of own vehicle.

Also, the sensor sensitivity can be affected by vehicle operation (steering maneuver or driving position in the lane) or traffic or vehicle condition (for example, if a vehicle is being driven with some damage).



	Cond	ition	Display on ICC system display
tween the	vehicles is not sufficient	e ahead and it is judged that the distance be-	JSOIA1047ZZ
	Condition	Description	Display on ICC system display
Warning	When the VDC is turned OFF When the VDC or ABS (including the TCS) operates When a wheel slips When the drive mode select switch is in SNOW mode	NOTE: When the conditions listed above are no longer present, turn the system OFF using the MAIN switch. Turn the ICC system back on to use the system	
display	When the front bumper grille near the ICC sensor is dirty, making it impossible to detect a vehicle ahead.	A chime sounds and the control is automatically canceled. NOTE: Park the vehicle in a safe place, turn the engine OFF. Clean the front bumper grille near the ICC sensor and then perform the settings again.	(Yellow) km/h JSOIA1048ZZ

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Condition		Description	Display on ICC system display
Warning display	When the ICC system is mal- functioning	A chime sounds and the control is automatically canceled. NOTE: Turn the engine OFF and restart engine. If there is no malfunction, it is possible to set the system.	(Yellow)
Automatic cancella- tion 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.	km/h JSOIA0845ZZ

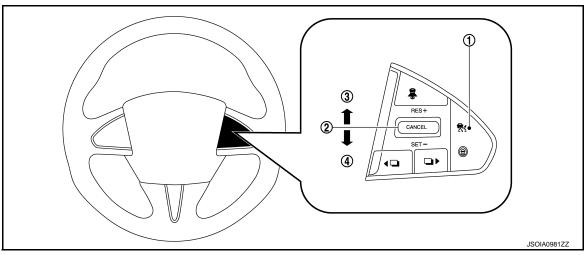
NOTE:

When the ICC system is automatically canceled, the cancellation condition can be displayed on "WORK SUP-PORT" of CONSULT (ICC/ADAS).

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION: Switch

Name and Function



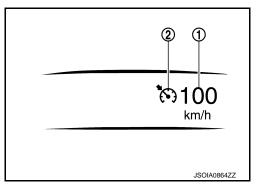
No.	Description	Function
1	MAIN switch	Master switch to activate the system (Press for more than 1.5 seconds)
2	CANCEL switch	Deactivates system without erasing set speed
3	RESUME/ACCELERATE switch	Resumes set speed or increases speed incrementally
4	SET/COAST switch	Sets desired cruise speed or reduces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

CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE FUNCTION: Menu

Displayed by Pressing Each Switch

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ICC SYSTEM DISPLAY (ON THE INFORMATION DISPLAY)



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

SYSTEM CONTROL CONDITION DISPLAY

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

Condition	Display on ICC system display
Standby mode	*************************************
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Control mode	**************************************
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WARNING AND AUTOMATIC CANCELLATION DISPLAY

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	Condition	Description	Display on ICC system display
Warning display	When the ICC system is malfunctioning	A chime sounds and the control is automatically canceled NOTE: Turn the engine OFF and restart engine. If there is no malfunction, it is possible to set the system	(Yellow)
	 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 	A chime sounds and the control is automatically canceled NOTE: • The system will be in a standby,	(White)
System cancel display	 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 	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	km/h JSOIA0865ZZ

NOTE:

When the ICC system is automatically canceled, the cancellation condition can be displayed on "WORK SUP-PORT" of CONSULT (ICC/ADAS).

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HANDLING PRECAUTION

Precautions for Vehicle-to-Vehicle Distance Control Mode

• ICC system is only an aid to assist the driver and is not a collision warning or avoidance device. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times.

The system is primarily intended for use on straight, dry, open roads with light traffic. It is not advisable to
use the system in city traffic or congested areas.

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

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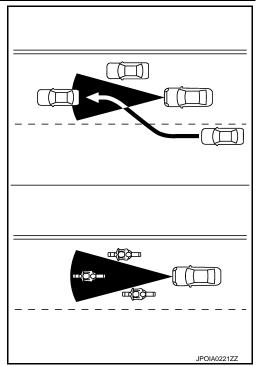
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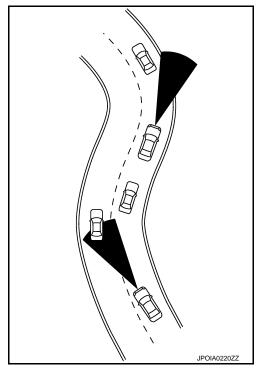
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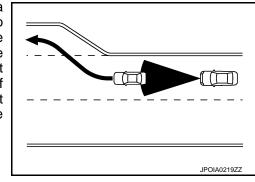
• The detection zone of the ICC sensor is limited. A vehicle ahead must be in the detection zone for the vehicle-to-vehicle distance detection mode to maintain the selected distance from the vehicle ahead. A vehicle ahead may move outside of the detection zone due to its position within the same lane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



HANDLING PRECAUTION

< SYSTEM DESCRIPTION >

[ICC]

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

Precautions for Conventional (Fixed Speed) Cruise Control Mode

INFOID:0000000012789862

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

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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

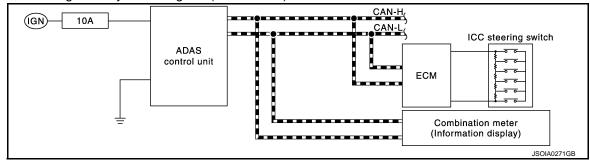
On Board Diagnosis Function (With ICC)

INFOID:0000000013398547

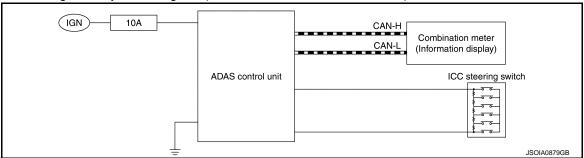
DESCRIPTION

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

On Board Self-diagnosis System Diagram (VR30DDTT)



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



METHOD OF STARTING

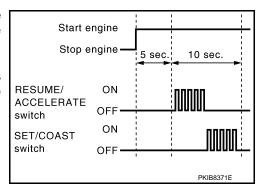
CAUTION:

Start condition of on board self-diagnosis

- ICC system OFF
- DCA system OFF
- Vehicle speed 0 km/h (0 MPH)
- 1. Turn the ignition switch OFF.
- 2. Start the engine.
- 3. Wait for 5 seconds after starting the engine. Push up the RESUME/ACCELERATE switch 5 times and push down the SET/COAST switch 5 times within 10 seconds.

NOTE:

If the above operation cannot be performed within 10 seconds after waiting for 5 seconds after starting the engine, repeat the procedure from step 1.



DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

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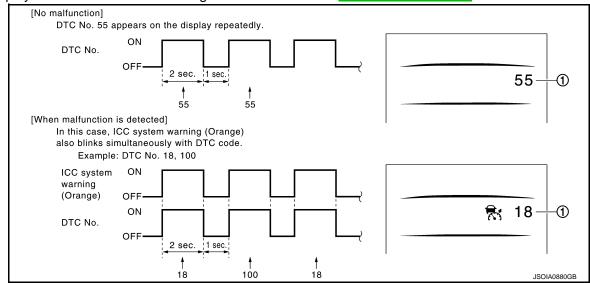
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 The DTC is displayed on the set vehicle speed indicator (1) on the ICC system display on the information display when the on board self-diagnosis starts. Refer to <u>DAS-53</u>, "<u>DTC Index</u>".



NOTE:

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

WHEN THE ON BOARD SELF-DIAGNOSIS DOES NOT START

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

Assumed abnormal part		Inspection item	
Information display	Combination meter malfunction	Check that the self-diagnosis function of the combination meter operates. Refer to MWI-68, "On Board Diagnosis Function".	
ICC/ASCD steering switch malfunction			
Harness malfunction between ICC steering switch and ECM		Desform the improcition for DTC "C1ACC" Defor to DAC	
Harness malfunction between ASCD steering switch and ADAS control unit		 Perform the inspection for DTC "C1A06". Refer to <u>DAS</u> <u>117, "DTC Logic"</u>. 	
ECM malfunction			
ADAS control unit malfunction		 Check power supply and ground circuit of ADAS control unit. Refer to <u>DAS-213</u>, "<u>Diagnosis Procedure</u>". Perform SELF-DIAGNOSIS for "ICC/ADAS" with CONSULT, and then check the malfunctioning parts. Refer to <u>DAS-53</u>, "<u>DTC Index</u>". 	

HOW TO ERASE ON BOARD SELF-DIAGNOSIS

- Turn the ignition switch OFF.
- 2. Start the engine, and then start the on board self-diagnosis.
- Press the CANCEL switch 5 times, and then press the DIS-TANCE switch 5 times under the condition that the on board self-diagnosis starts.

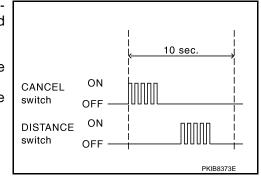
NOTE:

- Complete the operation within 10 seconds after pressing the CANCEL switch first.
- If the operation is not completed within 10 seconds, repeat the procedure from step 1.
- DTC 55 is displayed after erasing.

NOTE:

DTCs for existing malfunction can not be erased.

5. Turn ignition switch OFF, and finish the diagnosis.



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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ICC]

CONSULT Function (ICC/ADAS)

INFOID:0000000013398548

APPLICATION ITEMS

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

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

^{*:} Models with FEB system only.

CONFIGURATION

Configuration includes functions as follows.

NOTE:

Models with FEB system only.

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

WORK SUPPORT

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

NOTE

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

Display Items for The Cause of Automatic Cancellation 1

< SYSTEM DESCRIPTION > [ICC]

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

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< SYSTEM DESCRIPTION >

[ICC]

FEB) CURVATURE				×	Road curve was more than the specified value
FEB) YAW RATE				×	Detected yawing speed was more than the specified value
FEB) LTRL ACCELERA- TION				×	Detected lateral speed is the specified value or more
RADAR INTERFER- ENCE	×		×	×	ICC sensor receives electromagnetic interference
NO RECORD	×	×	×		_

Display Items for The Cause of Automatic Cancellation 2

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

[ICC] < SYSTEM DESCRIPTION >

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

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[ICC]

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

SELF DIAGNOSTIC RESULT

Refer to DAS-53, "DTC Index".

NOTE:

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

DATA MONITOR

NOTE:

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

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

< SYSTEM DESCRIPTION > [ICC]

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

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< SYSTEM DESCRIPTION >

[ICC]

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

< SYSTEM DESCRIPTION > [ICC]

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

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

[ICC] < SYSTEM DESCRIPTION >

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
SYSTEM CANCEL MESSAGE [NOREQ/SLIP/ SNOW/VDC OFF]	×	×	×	×		Indicates status of system cancel display output
CAMERA HI TEMP MSG [On/Off]			×	×		Indicates [On/Off] status of lane camera unit high temperature warning display output
ITS SETTING ITEM(DCA) [On/Off]	×	×	×	×		Indicates the presence or absence of DCA system.
ITS SETTING ITEM(LDP) [On/Off]	×	×	×	×		Indicates the presence or absence of LDP system.
ITS SETTING ITEM(BSI) [On/Off]	×	×	×	×		Indicates the presence or absence of Blind Spot Intervention system.
BSI WARNING INDI- CATOR [On/Off]				×		Indicates [On/Off] status of Blind Spot Intervention warning display output
BSW ON INDICATOR [On/Off]				×		Indicates [On/Off] status of BSW system ON display output
SIDE RADAR BLOCK COND [On/Off]				×		Indicates [On/Off] status of side radar with dirt or foreign materials
LDW WARNING ALERT TIMING [Nothing/Early/Late]			×			NOTE: The item is displayed, but it is not monitored
BSW IND BRIGHT- NESS [Nothing/Bright/Nor- mal/Dark]				×		Indicates status of brightness of Blind Spot Warning/Blind Spot Intervention indicator
SL MAIN SW [On/Off]		×				Indicates [On/Off] status as judged from steering switch
FUNC ITEM(FEB) [On/Off]	×					Indicates systems which can be set to ON/OFF by selecting "Driver Aids" ⇒ "Emergency Assist" of the integral switch Forward Emergency Braking
FEB SELECT [On/Off]	×					Indicates an ON/OFF state of the FEB system. The FEB system can be set to ON/OFF by selecting "Driving Aids" ⇒ "Emergency Assist" of the integral switch
FEB SW [On/Off]	×					Indicates [On/Off] status of FEB system
SL TARGET VEHI- CLE SPEED [km/h]	×					Indicates set vehicle speed memorized in ADAS control unit
SL SET LAMP [On/Off]	×					Indicates [On/Off] status of speed limiter SET display output
SL LIMIT LAMP [On/Off]	×					Indicates [On/Off] status of speed limiter MAIN switch display output
ASCD CANCEL (LOW SPEED) [NON/CUT]	×					Indicates the vehicle cruise condition. NON: Vehicle speed is maintained at the ASCD set speed. CUT: Vehicle speed decreased to excessively low, and ASCD operation is cut off.

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[ICC]

< SYSTEM DESCRIPTION >

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

ACTIVE TEST

CAUTION:

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

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

METER LAMP

NOTE:

< SYSTEM DESCRIPTION >

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

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

ICC BUZZER

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

BRAKE ACTUATOR

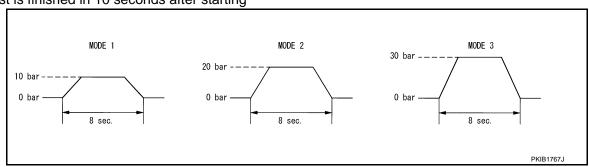
NOTE:

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

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

NOTE:

The test is finished in 10 seconds after starting



Active Pedal

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[ICC]

CAUTION:

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

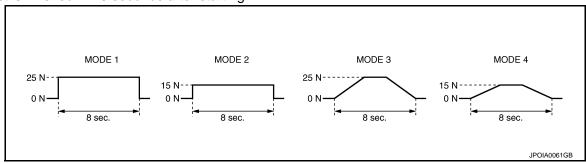
NOTE:

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

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

NOTE:

The test is finished in 10 seconds after starting



DCA INDICATOR

NOTE:

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

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

LDP BUZZER

Test item	Opera- tion	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

< SYSTEM DESCRIPTION >

[ICC]

Test item	Oper- ation	Description	LDP system display (Green)
	Off	Stops transmitting the meter display signal below to end the test	_
LDP ON IND	On	Transmits the meter display signal to the combination meter via CAN communication	ON
NE DEPARTURE V	V/L		
Test item	Oper- ation	Description	Lane departure system display (Yellow
LANE DEPARTURE	Off	Stops transmitting the meter display signal below to end the test	_
W/L	On	Transmits the meter display signal to the combination meter via CAN communication	ON
SW ON INDICATOR			
Test item	Oper- ation	Description	Blind Spot Warning system display (Yellow)
BSW ON INDICATOR	Off	Stops transmitting the meter display signal below to end the test	_
OI		Transmits the meter display signal to the combination meter via CAN communication	ON
SI ON INDICATOR			
Test item	Oper- ation	Description	Blind Spot Intervention system display (Green)
BSI ON INDICATOR	Off	Stops transmitting the meter display signal below to end the test	_
BSI ON INDICATOR	On	Transmits the meter display signal to the combination meter via CAN communication	ON
OW ON INDICATOR			
Test item	Oper- ation	Description	LDW system display (White)
	Off	Stops transmitting the meter display signal below to end the test	_
LDW ON INDICATOR -	On	Transmits the meter display signal to the combination meter via CAN communication	ON
OP WARNING INDIC	CATOR		
DP WARNING INDIC	Oper- ation	Description	LDP malfunction (Yellow)
	Oper-	Description Stops transmitting the meter display signal below to end the test	LDP malfunction (Yellow) —

LDW WARNING INDICATOR

< SYSTEM DESCRIPTION >

[ICC]

Test item	Oper- ation	Description	LDW malfunction (Yellow)
LDW WARNING IN- DICATOR	Off	Stops transmitting the meter display signal below to end the test	_
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSW WARNING INDICATOR

Test item	Oper- ation	Description	BSW malfunction (Yellow)
BSW WARNING IN- DICATOR	Off	Stops transmitting the meter display signal below to end the test	_
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSI WARNING INDICATOR

Test item	Oper- ation	Description	Blind Spot Intervention malfunction (Yellow)
BSI WARNING INDI- CATOR	Off	Stops transmitting the meter display signal below to end the test	_
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

ECU IDENTIFICATION

Displays ADAS control unit parts number.

DIAGNOSIS SYSTEM (ICC SENSOR)

< SYSTEM DESCRIPTION >

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DIAGNOSIS SYSTEM (ICC SENSOR)

CONSULT Function (LASER/RADAR)

INFOID:0000000012789865

APPLICATION ITEMS

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

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

WORK SUPPORT

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

Radar Alignment

Refer to CCS-114, "Application Notice".

SELF DIAGNOSTIC RESULT

Refer to CCS-71, "DTC Index".

NOTE:

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

DATA MONITOR

NOTE:

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

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

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DIAGNOSIS SYSTEM (ICC SENSOR)

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Monitored item [Unit]	Description	
DISTANCE [m]	Indicates the distance from the vehicle ahead	
RELATIVE SPD [m/s]	Indicates the relative speed of the vehicle ahead	
RADAR OFFSET [m]	NOTE: The item is indicated, but not used	
RADAR HEIGHT [m]	NOTE: The item is indicated, but not used	
STEERING ANGLE [deg]	The steering angle is displayed	
STRG ANGLE SPEED [deg/s]	The steering angle speed is displayed	
L/R ADJUST	The horizontal correction value of the radar is displayed	
U/D ADJUST	The vertical correction value of the radar is displayed	

< SYSTEM DESCRIPTION > [ICC]

DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MOD-ULE)

CONSULT Function (BSW/BUZZER)

INFOID:0000000013398556

DESCRIPTION

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

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

SELF DIAGNOSTIC RESULT

Self Diagnostic Result

Refer to DAS-353, "DTC Index".

FFD (Freeze Frame Data)

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

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

NOTE:

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

DATA MONITOR

NOTE:

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

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

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< SYSTEM DESCRIPTION > [ICC]

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

ACTIVE TEST

CAUTION:Never perform ACTIVE TEST while driving the vehicle.

Item list

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	em	Description
BUZZER 1 (ADAS)		Sounds a buzzer used for following systems by arbitrarily operating ON/OFF Lane Departure Warning (LDW) Blind Spot Warning (BSW) Blind Spot Intervention
BUZZER 2 (ADAS)		Sounds a buzzer used for following systems by arbitrarily operating ON/OFF Intelligent Cruise Control (ICC) Predictive Forward Collision Warning (PFCW) Distance Control Assist (DCA)
BUZZER 3 (ADAS)		Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Forward Emergency Braking (FEB)
BUZZER 4 (ADAS)		Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Predictive Forward Collision Warning (PFCW)
BUZZER 1 (CCM)		Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Lane Departure Warning (LDW) • Blind Spot Warning (BSW) • Blind Spot Intervention
BUZZER 2 (CCM)		Sounds a buzzer used for following systems by arbitrarily operating ON/OFF Intelligent Cruise Control (ICC) Predictive Forward Collision Warning (PFCW) Distance Control Assist (DCA)
BUZZER 3 (CCM)		Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Forward Emergency Braking (FEB)
BUZZER 4 (CCM)		Sounds a buzzer used for following systems by arbitrarily operating ON/OFF • Predictive Forward Collision Warning (PFCW)
UZZER 1 (ADAS)		
Active test item	Operation	Description
DUITTED 4 (ADAO)	Off	Stops transmitting the warning buzzer signal below to end of the test
BUZZER 1 (ADAS)		
BUZZER 1 (ADAS)	On	Transmits the warning buzzer signal to the warning buzzer
BUZZER 1 (ADAS) BUZZER 2 (ADAS)	On	Transmits the warning buzzer signal to the warning buzzer
	On	Transmits the warning buzzer signal to the warning buzzer Description
SUZZER 2 (ADAS) Active test item		
UZZER 2 (ADAS)	Operation	Description
SUZZER 2 (ADAS) Active test item	Operation Off	Description Stops transmitting the warning buzzer signal below to end of the test
Active test item BUZZER 2 (ADAS)	Operation Off	Description Stops transmitting the warning buzzer signal below to end of the test
Active test item BUZZER 2 (ADAS) BUZZER 2 (ADAS) BUZZER 3 (ADAS) Active test item	Operation Off On	Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer
Active test item BUZZER 2 (ADAS) BUZZER 2 (ADAS) BUZZER 3 (ADAS)	Operation Off On Operation	Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description
Active test item BUZZER 2 (ADAS) BUZZER 2 (ADAS) BUZZER 3 (ADAS) Active test item	Operation Off On Operation Off	Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description Stops transmitting the warning buzzer signal below to end of the test
Active test item BUZZER 2 (ADAS) BUZZER 2 (ADAS) BUZZER 3 (ADAS) Active test item BUZZER 3 (ADAS)	Operation Off On Operation Off	Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description Stops transmitting the warning buzzer signal below to end of the test
Active test item BUZZER 2 (ADAS) BUZZER 2 (ADAS) ACTIVE test item BUZZER 3 (ADAS) ACTIVE test item BUZZER 4 (ADAS) ACTIVE test item	Operation Off On Operation Off On Off	Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer
Active test item BUZZER 2 (ADAS) BUZZER 2 (ADAS) ACTIVE test item BUZZER 3 (ADAS) ACTIVE test item BUZZER 3 (ADAS)	Operation Off On Operation Off On Operation Off On	Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description
Active test item BUZZER 2 (ADAS) BUZZER 2 (ADAS) ACTIVE test item BUZZER 3 (ADAS) ACTIVE test item BUZZER 4 (ADAS) ACTIVE test item	Operation Off On Operation Off On Operation Off On Operation Off	Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description Stops transmitting the warning buzzer signal below to end of the test
Active test item BUZZER 2 (ADAS) BUZZER 2 (ADAS) Active test item BUZZER 3 (ADAS) Active test item BUZZER 4 (ADAS) Active test item BUZZER 4 (ADAS)	Operation Off On Operation Off On Operation Off On Operation Off	Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description Stops transmitting the warning buzzer signal below to end of the test
Active test item BUZZER 2 (ADAS) BUZZER 2 (ADAS) ACTIVE test item BUZZER 3 (ADAS) ACTIVE test item BUZZER 4 (ADAS) ACTIVE test item BUZZER 4 (ADAS) ACTIVE TEST ITEM BUZZER 4 (ADAS)	Operation Off On Operation Off On Operation Off On Operation Off On	Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer Description Stops transmitting the warning buzzer signal below to end of the test Transmits the warning buzzer signal below to end of the test Transmits the warning buzzer signal to the warning buzzer

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< SYSTEM DESCRIPTION >

BUZZER 2 (CCM)

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

BUZZER 3 (CCM)

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

BUZZER 4 (CCM)

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

ECU IDENTIFICATION

Displays driver assistance buzzer control module parts number.

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ECU DIAGNOSIS INFORMATION

ADAS CONTROL UNIT

Reference Value

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor item		Condition	Value/Status
MAIN SW	Ignition switch ON	When MAIN switch is pressed	On
IVIAIIN SVV	Ignition switch ON	When MAIN switch is not pressed	Off
057/00407-014/	Ignition quitab ON	When SET/COAST switch is pressed	On
SET/COAST SW	Ignition switch ON	When SET/COAST switch is not pressed	Off
CANCEL CM	Ignition switch ON	When CANCEL switch is pressed	On
CANCEL SW	Ignition switch ON	When CANCEL switch is not pressed	Off
RESUME/ACC SW	Ignition switch ON	When RESUME/ACCELERATE switch is pressed	On
RESUME/ACC SW	ignition switch ON	When RESUME/ACCELERATE switch is not pressed	Off
DISTANCE CW	Ignition quitab ON	When DISTANCE switch is pressed	On
DISTANCE SW	Ignition switch ON	When DISTANCE switch is not pressed	Off
	Drive the vehicle and activate	When ICC system is controlling	On
CRUISE OPE	the vehicle-to-vehicle distance control mode	When ICC system is not controlling	Off
	Ignition switch ON	When brake or clutch pedal is depressed	Off
BRAKE SW		When brake or clutch pedal is not depressed	On
OTOD LAMB OW	Ignition switch ON	When brake pedal is depressed	On
STOP LAMP SW		When brake pedal is not depressed	Off
IDLE SW	Engine running	Idling	On
		Except idling (depress accelerator pedal)	Off
	Start the engine and turn the ICC system ON Press the DISTANCE switch to change the vehicle-to-vehicle distance setting	When set to "long"	Long
		When set to "middle"	Mid
SET DISTANCE		When set to "short"	Short
CRUISE LAMP	Start the engine and press	ICC system ON (MAIN switch indicator ON)	On
CROISE LAWIF	MAIN switch	ICC system OFF (MAIN switch indicator OFF)	Off
OWN VHCL	NOTE: The item is indicated, but not not not not not not not not not no	nonitored	Off
/UCI AUEAD	Drive the vehicle and activate	When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
VHCL AHEAD	the vehicle-to-vehicle distance control mode	When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off
CC WARNING	Start the engine and press	When ICC system is malfunctioning (ICC system malfunction ON)	On
ICC WARNING	MAIN switch	When ICC system is normal (ICC system malfunction OFF)	Off

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< ECU DIAGNOSIS INFORMATION >

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

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

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Monitor item		Value/Status		
GEAR	While driving		Displays the gear position	
CLUTCH SW SIG	Ignition switch ON	NOTE: The item is indicated, but not monitored.	Off	
NP SW SIG	Ignition switch ON	When the shift lever is in neutral position	On	
NP SW SIG	Ignition switch ON	When the shift lever is in any position other than neutral	Off	
		When ICC system is deactivated	Off	
MODE SIG	Start the engine and press	When vehicle-to-vehicle distance control mode is activated	ICC	
	cc.r	When conventional (fixed speed) cruise control mode is activated	ASCD	
	Drive the vehicle and acti-	SET switch indicator ON	On	
SET DISP IND	vate the conventional (fixed speed) cruise control mode • Press SET/COAST switch	SET switch indicator OFF	Off	
DISTANCE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the distance from the preceding vehicle	
		When a vehicle ahead is not detected	0.0	
RELATIVE SPD	Drive the vehicle and activate the vehicle-to-vehicle distance	When a vehicle ahead is detected	Displays the relative speed.	
	control mode	When a vehicle ahead is not detected	0.0	
ON ROOT GUID- ANCE	NOTE: The item is indicated, but not m	NOTE: The item is indicated, but not monitored		
DVALA AGIOT OW	Ignition switch ON	When dynamic driver assistance switch is pressed	On	
DYNA ASIST SW		When dynamic driver assistance switch is not pressed	Off	
	Start the engine and press dy- namic driver assistance switch (When DCA setting is ON)	DCA system OFF	Off	
DCA ON IND		DCA system ON	On	
	Drive the vehicle and activate	When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off	
DCA VHL AHED	the DCA system	When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On	
IBA SW	NOTE: The item is indicated, but not m	nonitored	Off	
FCW SYSTEM ON	Ignition switch ON	When the PFCW system is ON	On	
	Ignition switch ON	When the PFCW system is OFF	Off	
АРА ТЕМР	Engine running	Display the accelerator pedal actuator integrated motor temperature		
APA PWR	Ignition switch ON	Power supply voltage value of accelerator ped- al actuator		
NAVI-ICC DISP	NOTE: The item is indicated, but not not not not not not not not not no	nonitored	Off	
LDW SVSTEM ON	Ignition quitab ON	When the LDW system is ON	On	
LDW SYSTEM ON	Ignition switch ON	When the LDW system is OFF	Off	

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< ECU DIAGNOSIS INFORMATION >

Monitor item		Condition	Value/Status	
LDW ON LAMP	Ignition quitab ON	When the LDW system is ON	On	
LDW ON LAMP	Ignition switch ON	When the LDW system is OFF	Off	
	Start the engine and press dy-	When the LDW system is ON	On	
LDP ON IND	namic driver assistance switch (When LDP system setting is ON)	When the LDW system is OFF	Off	
	Drive the vehicle and activate	Lane departure warning lamp ON	On	
LANE DPRT W/L	the LDW system or LDP system	Lane departure warning lamp OFF	Off	
LDW BUZER OUT-	Drive the vehicle and activate the LDW/LDP system or Blind	When the buzzer of the following system operates • LDW/LDP system • Blind Spot Warning/Blind Spot Intervention system	On	
PUT	Spot Warning/Blind Spot Intervention system	When the buzzer of the following system does not operate LDW/LDP system Blind Spot Warning/Blind Spot Intervention system	Off	
	Start the engine and press dy-	When the LDP system is ON	On	
LDP SYSTEM ON	namic driver assistance switch (When LDP system setting is ON)	When the LDP system is OFF	Off	
MARN REQ	Drive the vehicle and activate	Lane departure warning is operating	On	
WARN REQ	the LDP system	Lane departure warning is not operating	Off	
	Start the engine and press dy- namic driver assistance switch (When LDP system setting is ON)	When the LDP system is ON	On	
READY signal		When the LDP system is OFF	Off	
	Drive the vehicle and activate the LDW system, LDP system or Blind Spot Intervention sys- tem	Both side lane markers are detected	Detect	
Camera lost		Deviate side lane marker is lost	Deviate	
		Both side lane markers are lost	Both	
Langunglage	While driving	Lane marker is unclear	On	
Lane unclear	While driving	Lane marker is clear	Off	
OTATUO cierral		When the LDP system is ON	Stnby	
	Drive the vehicle and activate the LDP system	When the LDP system is operating	Warn	
STATUS signal		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 lamps OFF	Off		
Turn signal	Turn signal lamp LH blinking	LH		
Turri Sigriai	Turn signal lamp RH blinking	Turn signal lamp RH blinking		
	Turn signal lamp LH and RH blinking		LH&RH	
SIDE G	While driving	Vehicle turning right	Negative value	
	9	Vehicle turning left	Positive value	
		When the LDP system is ON	Stnby	
STATUS signal	Drive the vehicle and activate	When the LDP system is operating	Warn	
e Coo.ignai	the LDP system	When the LDP system is canceled	Cancl	
		When the LDP system is OFF	Off	
Lane unclear	While driving	Lane marker is unclear	On	
	9	Lane marker is clear	Off	
FUNC ITEM	Ignition switch ON	FUNC3		

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

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Monitor item		Condition		
FUNC ITEM (FCW)	Engine supping	"Forward Emergency Braking" set with the integral switch is ON	On	
TONG ITEM (I GW)	Engine running	"Forward Emergency Braking" set with the integral switch is OFF	Off	
FUNC ITEM (LDW)	Engine running	"Lane Departure Warning" set with the integral switch is ON	On	
TONG ITEM (LDW)	Linguie running	"Lane Departure Warning" set with the integral switch is OFF	Off	
FUNC ITEM (BSW)	Engine running	"Blind Spot Warning" set with the integral switch is ON	On	
TONOTIEM (BOVV)	Engine running	"Blind Spot Warning" set with the integral switch is OFF	Off	
FUNC ITEM (NV-ICC)	NOTE: The item is indicated, but not n	nonitored	Off	
FUNC ITEM (NV- DCA)	NOTE: The item is indicated, but not n	nonitored	Off	
DCA SELECT	Ignition quitab ON	"Distance Control Assist" set with the integral switch is ON	On	
DCA SELECT	Ignition switch ON	"Distance Control Assist" set with the integral switch is OFF	Off	
LDD CELECT	Innitian quitab ON	"Lane Departure Intervention" set with the integral switch is ON	On	
LDP SELECT	Ignition switch ON	"Lane Departure Intervention" set with the integral switch is OFF	Off	
	Ignition switch ON	"Blind Spot Intervention" set with the integral switch is ON		On
BSI SELECT		"Blind Spot Intervention" set with the integral switch is OFF	Off	
50W 051 50T	Ignition switch ON	"Forward Emergency Braking" set with the integral switch is ON	On	
FCW SELECT		"Forward Emergency Braking" set with the integral switch is OFF	Off	
I DW OF LEGT	1	"Lane Departure Warning" set with the integral switch is ON	On	
LDW SELECT	Ignition switch 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	
BSW SELECT	Ignition switch ON	"Blind Spot Warning" set with the integral switch is OFF	Off	
NAVI ICC SELECT	NOTE: The item is indicated, but not n	nonitored	Off	
NAVI DCA SELECT	NOTE: The item is indicated, but not n	nonitored	Off	
SYS SELECTABILITY	Ignition switch ON	Items set with the integral switch can be switched normally	On	
OTO GELLOTABILITY	ignition owner Or	Items set with the integral switch cannot be switched normally	Off	
		When drive mode select switch position is STANDARD	STD	
	When drive mode select switch position is in SPORT		SPORT	
		When drive mode select switch position is in ECO	ECO	
DRIVE MODE STATS	Ignition switch ON	When drive mode select switch position is in SNOW	SNOW	
		When drive mode select switch position is in PERSON-AL	STD	
		A signal other than those above is input	ERROR	

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< ECU DIAGNOSIS INFORMATION >

Monitor item		Value/Status	
WARN SYS SW	NOTE: The item is indicated, but not monitored		
BSW/BSI WARN LMP	Ignition switch ON	When the BSW system is malfunctioning	On
B3W/B3I WAINN LIVIF	Ignition switch ON	When the BSW system is normal	Off
BSI ON IND	Ignition switch ON	Blind Spot Intervention warning ON	On
DOI ON IND	Ignition switch Oil	Blind Spot Intervention warning OFF	Off
BSW SYSTEM ON	Ignition switch ON	When the BSW system is ON	On
BOW OTOTEW ON	ignition ownor or	When the BSW system is OFF	Off
BSI SYSTEM ON	Start the engine and press dy- namic driver assistance switch (When Blind Spot Intervention system setting is ON)	When the Blind Spot Intervention system is ON When the Blind Spot Intervention system is OFF	On Off
		When the FEB/PFCW system is ON	On
FCW SYSTEM ON	Engine running	When the FEB/PFCW system is OFF	Off
		When the BCI system is ON	On
BCI SYSTEM ON	Engine running	When the BCI system is OFF	Off
BCI SWITCH	NOTE: The item is indicated, but not m	nonitored	Off
BATTERY CIRCUIT OFF	NOTE: The item is indicated, but not u	sed	Off
LDP WARNING INDI-	Engine running	When the LDP system is malfunctioning	On
CATOR		When the LDP system is normal	Off
LDW ON INDICATOR	Ignition switch ON	LDW system display ON	On
LDW ON INDICATOR		LDW system display OFF	Off
LDW WARNING INDI-	Ignition switch ON	When the LDW system is malfunctioning	On
CATOR		When the LDW system is normal	Off
	Ignition switch ON	When the vehicle is normal	NOREQ
SYSTEM CANCEL		When the wheel is slipping	SLIP
MESSAGE		When the drive mode selector is SNOW mode	SNOW
		When the VDC is OFF	VDC OFF
CAMERA HI TEMP		Lane camera unit high temperature warning display ON	On
MSG	Ignition switch ON	Lane camera unit high temperature warning display OFF	Off
ITS SETTING ITEM(DCA)	Ignition switch ON		On
ITS SETTING ITEM(LDP)	Ignition switch ON		On
ITS SETTING ITEM(BSI)	Ignition switch ON		On
BSI WARNING INDI-	Engine running	When the Blind Spot Intervention is malfunctioning	On
CATOR		When the Blind Spot Intervention is normal	Off
BSW ON INDICATOR	Ignition switch ON	BSW system display ON	On
	ignition owiton on	BSW system display OFF	Off
SIDE RADAR BLOCK	Ignition switch ON	Front bumper or side radar is dirty	On
COND	.g. maon omiton on	Front bumper and side radar is clean	Off
		LDW system OFF	Nothing
LDW WARNING ALERT TIMING	Ignition switch ON	Lane departure warning timing is early setting	Early
-		Lane departure warning timing is late setting	Late

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

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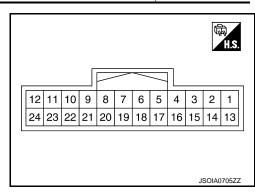
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Monitor item		Condition	Value/Status
		BSW system OFF	Nothing
DOW IND DDIOUT		Blind Spot Warning/Blind Spot Intervention indicator brightness bright	Bright
BSW IND BRIGHT- NESS	Ignition switch ON	Blind Spot Warning/Blind Spot Intervention indicator brightness normal	Normal
		Blind Spot Warning/Blind Spot Intervention indicator brightness dark	Dark
SL MAIN SW	Engine rupping	When speed limiter MAIN switch is pressed	On
SE IVIAIN SVV	Engine running	When speed limiter MAIN switch is not pressed	Off
ELING ITEM (EED)	Engine rupping	"Forward Emergency Braking" set with the integral switch is ON	On
FUNC ITEM (FEB)	Engine running	"Forward Emergency Braking" set with the integral switch is OFF	Off
EED OEL FOT	1	"Forward Emergency Braking" set with the integral switch is ON	On
FEB SELECT	Ignition switch ON	"Forward Emergency Braking" set with the integral switch is OFF	Off
EED CW	Facine supping	FEB system ON	On
FEB SW	Engine running	FEB system OFF	Off
SL TARGET VEHI- CLE SPEED	While driving	When vehicle speed is set	Displays the set vehicle speed
	Drive the vehicle and acti-	Speed limiter SET indicator ON	On
SL SET LAMP	vate the speed limiterPress speed limiter MAIN switch	Speed limiter SET indicator OFF	Off
	Drive the vehicle and acti-	Speed limiter system ON	On
SL LIMIT LAMP	vate the speed limiter • Press speed limiter MAIN switch	Speed limiter system OFF	Off
ASCD CANCEL	Drive the vehicle and activate	ASCD cancelled by low vehicle speed	On
(LOW SPEED)	the ASCD	Other than above	Off
ASCD CANCEL (SPEED DIFF)	Drive the vehicle and activate	ASCD cancelled by difference between set speed and vehicle speed	On
	the ASCD	Other than above	Off
KICK DOWN	Drive the vehicle and activate	When accelerator pedal is full depressed	On
KICK DOWN	the speed limiter	Other than above	Off

TERMINAL LAYOUT PHYSICAL VALUES



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

NOTE:

*1: VR30DDTT

*2: 2.0 TURBO GASOLINE ENGINE

*3: Used only in with ICC.

*4: Used only in without ICC.

the warning or indicator lamp.

Fail-safe (ADAS Control Unit)

If a malfunction occurs in each system, ADAS control unit cancels each control, sounds a beep, and turns ON

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

DTC Inspection Priority Chart

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

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

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ADAS CONTROL UNIT

[ICC]

Priority	Detected i	items (DTC)			
4	C1A01: POWER SUPPLY CIR C1A02: POWER SUPPLY CIR 2 C1A04: ABS/TCS//DC CIRC C1A06: BRAKE SW/STOP L SW C1A06: OPERATION SW CIRC C1A13: STOP LAMP RLY FIX C1A14: ECM CIRCUIT C1A24: NP RANGE C1A26: ECD MODE MALF C1A27: ECD PWR SUPLY CIR C1A31: CAN TRANSMISSION ERR C1A33: CAN TRANSMISSION ERR C1A34: COMMAND ERROR C1A35: APA CIR C1A36: APA CAN COMM CIR C1A37: APA CAN CIR 1 C1A39: STRG SEN CIR C1B01: CAM AIMING INCMP C1B03: CAM ABNRML TMP DETCT C1B5D: FEB OPE COUNT LIMIT C1B5D: FEB OPE COUNT LIMIT C1B59: CCM CIRCUIT C1B59: CCM CIRCUIT C1B42: DIST SEN OFF-CENTER C1B86: DIST SEN ABNORMAL TEMP C1B86: DIST SEN PWR SUP CIR C1F01: APA MOTOR MALF C1F01: APA MOTOR MALF C1F05: APA PWR SUPLY CIR	 U0121: VDC CAN CIR 2 U0126: STRG SEN CAN CIR 1 U0235: ICC SENSOR CAN CIRC 1 U0401: ECM CAN CIR 1 U0402: TCM CAN CIR 1 U0415: VDC CAN CIR 1 U0424: HVAC CAN CIR 1 U0428: STRG SEN CAN CIR 2 U1500: CAM CAN CIR 1 U1502: ICC SEN CAN COMM CIR U1503: SIDE RDR L CAN CIR 2 U1504: SIDE RDR L CAN CIR 2 U1505: SIDE RDR R CAN CIR 1 U1505: SIDE RDR R CAN CIR 1 U1506: SIDE RDR R CAN CIR 1 U1508: ECM CAN CIRC 3 U1509: TCM CAN CIRC 3 U1501: TCM CAN CIRC 3 U1501: TCM CAN CIRC 3 U1501: HVAC CAN CIRC 3 U1513: METER CAN CIRC 3 U1514: STRG SEN CAN CIRC 3 U1515: ICC SENSOR CAN CIRC 3 U1516: CAM CAN CIRC 3 U1516: CAM CAN CIRC 3 U1517: APA CAN CIRC 3 U1518: SIDE RDR L CAN CIRC 3 U1519: SIDE RDR R CAN CIRC 3 U1519: SIDE RDR L CAN CIRC 3 U1519: SIDE RDR L CAN CIRC 3 U1521: SONAR CAN COMMUNICATION 2 U1522: SONAR CAN COMMUNICATION 1 U1523: SONAR CAN COMMUNICATION 1 U1525: AVM CAN COMMUNICATION 3 U1527: CCM CAN CIR 1 U1538: EMCM CAN CIRC 2 U1538: EMCM CAN CIRC 1 U1538: EMCM CAN CIRC UIT 3 U1541: DAST 3 CAN CIR 2 			
5	C1A03: VHCL SPEED SE CIRC				
6	C1A15: GEAR POSITION				
7	C1A00: CONTROL UNIT				

[ICC]

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DTC Index INFOID:0000000013398552

Systems for fail-safe

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

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

CCS-67 Revision: November 2016 2016 Q50

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Systems for fail-safe

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- H: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- I: Automatic Speed COntrol Device (ASCD) (Without ICC)

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

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ICC]

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Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
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- D: Forward Emergency Braking (FEB)
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- H: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- I: Automatic Speed COntrol Device (ASCD) (Without ICC)

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

NOTE:

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

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

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ICC SENSOR

Reference Value

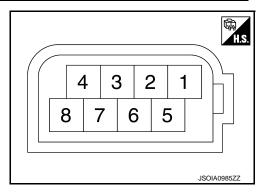
VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor item		Value/Status	
VHCL SPEED SE	While driving	Value of vehicle speed signal (wheel speed)	
		Vehicle stopped	0.0
YAW RATE	While driving	Vehicle turning right	Positive value
		Vehicle turning left	Negative value
PWR SUP MONI	Ignition switch ON	Power supply 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	When a vehicle ahead is detected	Displays the relative speed
	control mode	When a vehicle ahead is not detected	0.0
RADAR OFFSET	NOTE: The item is indicated, but not u	_	
RADAR HEIGHT	NOTE: The item is indicated, but not u	_	
077570110 41101 5		When setting the steering wheel in straight-ahead position	0.0
STEERING ANGLE	Ignition switch ON	When turning the steering wheel 90° rightward	+90
		When turning the steering wheel 90° leftward	-90
STRG ANGLE SPEED	Ignition switch ON At the time of turning the steering wheel		Steering wheel turning speed is displayed
L/R ADJUST	Ignition switch ON	At the completion of radar alignment adjustment	Horizontal cor- rection value is displayed
U/D ADJUST	Ignition switch ON	At the completion of radar alignment adjustment	Vertical correction value is displayed

TERMINAL LAYOUT



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PHYSICAL VALUES

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

Fail-safe (ICC Sensor)

INFOID:0000000012789872

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

DTC Inspection Priority Chart

INFOID:0000000012789873

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

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

DTC Index

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

< ECU DIAGNOSIS INFORMATION >

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DRIVER ASSISTANCE BUZZER CONTROL MODULE

Reference Value

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

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

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< ECU DIAGNOSIS INFORMATION >

[ICC]

Monitor item		Condition	Value/Status
		Except for the LDW/LDP/Blind Spot Warning/Blind Spot Intervention warning condition	Off
	Drive the vehicle and	When the LDW warning condition	TYPE 1
Buzzer 1 request (CCM)	operate each system	When the BSW warning condition	TYPE 2
		When the Blind Spot Intervention warning condition	TYPE 3
		When the warning condition cancel	Cancel
Buzzer 1 volume (CCM)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
		When the buzzer cancel immediate	IMEDIAT
Buzzer 1 stop (CCM)	Ignition switch ON	When the buzzer cancel other than above	CYCLE
		Except for the ICC/PFCW/DCA warning condition	Off
	Drive the vehicle and	When the approach warning condition	TYPE 1
Buzzer 2 request (CCM)	operate each system	When the PFCW warning condition	TYPE 2
		When the DCA condition	TYPE 3
		When the warning condition cancel	Cancel
Buzzer 2 volume (CCM)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
		When the buzzer cancel immediate	IMEDIAT
Buzzer 2 stop (CCM)	Ignition switch ON	When the buzzer cancel other than above	CYCLE
		Except for the FEB warning condition	Off
Buzzer 3 request (CCM)	Drive the vehicle and operate each system	When the FEB warning condition	TYPE 1
	operate each system	When the warning condition cancel	Cancel
Buzzer 3 volume (CCM)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
		When the buzzer cancel immediate	IMEDIAT
Buzzer 3 stop (CCM)	Ignition switch ON	When the buzzer cancel other than above	CYCLE
		Except for the PFCW warning condition	Off
Buzzer 4 request (CCM)	Drive the vehicle and operate each system	When the PFCW warning condition	TYPE 1
	operate each system	When the warning condition cancel	Cancel
Buzzer 4 volume (CCM)	Ignition switch ON	When the buzzer sound	It changes according to the sound volume of buzzer
		When the buzzer cancel immediate	IMEDIAT
Buzzer 4 stop (CCM)	Ignition switch ON	When the buzzer cancel other than above	CYCLE
ADAS MALEUNICTION	Ignition quiteb ON	When the ADAS control unit malfunction	On
ADAS MALFUNCTION	Ignition switch ON	When the ADAS control unit normal	Off
CCM MALFUNCTION	Ignition switch ON	When the chassis control module mal- function	On
		When the chassis control module normal	Off
DD ASSIST DUI77 MALE	Ignition quitch ON	When the driver assistance control module malfunction	On
DR ASSIST BUZZ MALF	Ignition switch ON	When the driver assistance control module normal	Off

< ECU DIAGNOSIS INFORMATION >

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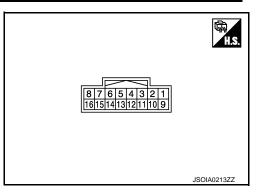
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Monitor item		Condition	Value/Status
		Except for the warning condition	Off
		LDW/LDP//Blind Spot Warning/Blind Spot Intervention system warning in progress	1
		ICC/PFCW/DCA system warning in progress	2
		FEB system warning in progress	3
DR ASSIST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

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No. e color)	Description			Condition	Standard value	Reference value
+	_	Signal name	Input/Out- put		Condition	Standard value	ixererence value
1 (G)	5 (B)	Ignition power supply	Input	Ignition switch ON	_	10 - 16 V	Battery voltage
3 (L)	_	ITS communication-H	_	_	_		_
5 (B)	Groun d	Ground	_	Ignition switch ON	_	0 - 0.1 V	Approx. 0 V

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< ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			Condition	Standard value	Reference value
+	-	Signal name	Input/Out- put		Condition	Standard value	Reference value
					Driver assistance buzzer OFF	0 - 0.1 V	Approx. 0 V
					At "BUZZER 1" test of "Active test"	(V) 4 0 -4	500μS JSOIA0949ZZ
8 (R)	16 (G)	Warning buzzer signal	Output	Ignition switch ON	At "BUZZER 2" test of "Active test"	(V) 4 0 -4	500µ\$ JSOIA0950ZZ
					At "BUZZER 3" test of "Active test"	(V) 4 0 -4	500μ S JSOIA0951ZZ
11 (Y)	_	ITS communication-L	_	_	_	_	_
13 (B)	Groun d	Ground	_	Ignition switch ON	_	0 - 0.1 V	Approx. 0 V
16 (G)	5 (B)	Warning buzzer signal ground	Output	Ignition switch ON	_	0 - 0.1 V	Approx. 0 V

DTC Inspection Priority Chart

INFOID:0000000013398558

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

Priority	Detected items (DTC)
1	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)
2	U0104: ADAS CAN CIR2 U1527: CCM CAN CIRCUIT 1
3	C1B20: CONTROL MODULE

DTC Index

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

< ECU DIAGNOSIS INFORMATION >

[ICC]

1 - 39: It increases like 0 → 1 → 2 ··· 38 → 39 after returning to the normal condition whenever the ignition switch OFF → ON. It returns to 0 when a malfunction is detected again in the process.

- If it is over 39, it is fixed to 39 until the self-diagnosis results are erased.

×: Applicable

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

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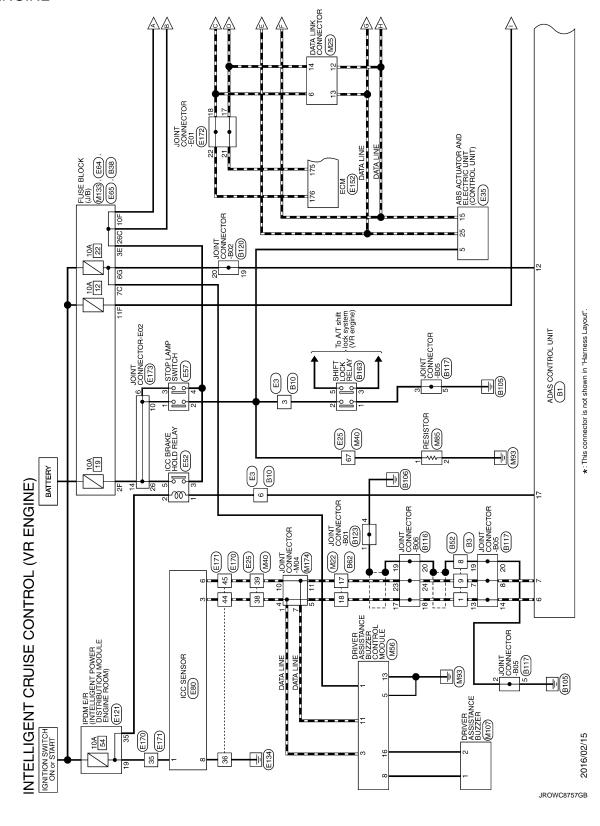
< WIRING DIAGRAM > [ICC]

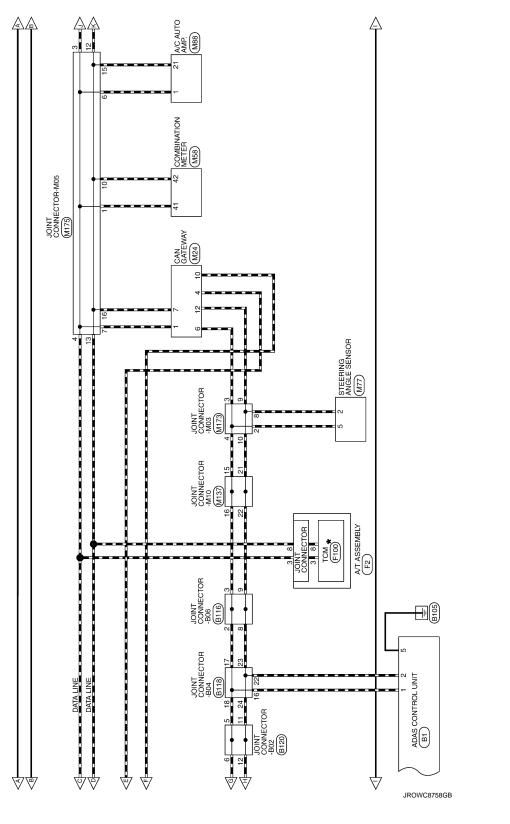
WIRING DIAGRAM

INTELLIGENT CRUISE CONTROL

Wiring Diagram

VR ENGINE





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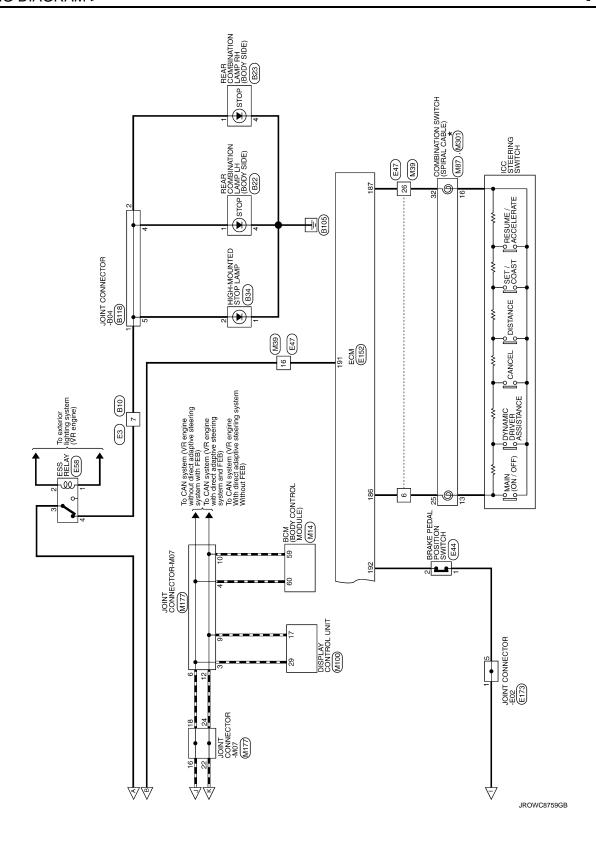
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INTELLIGENT CRUISE CONTROL

< WIRING DIAGRAM > [ICC]

	Connector No. 834	Connector Name HIGH-MOUNTED STOP LAMP	Connector Type TK02MBR-P		医	HS.	2 1			Terminal Color Of Signal Name [Specification]	t	2 1.6			Connector No. B38	(a) 1) AOO (a 3313)		Connector Type NS10FW-CS	đị.	Atth	H.S. 3G 12G1G	55 59	500		Transland Advanced		No. WIRE	¥5 ¾		╀														
-	1	4 R - [With 2.0L turbo gasoline engine]		Connector No. B22	Connector Name REAR COMBINATION LAMP LH(BODY SIDE)	Connector Type NS04MW-CS			<u>'</u>	4 3 2 1			Terminal Color Of Class Manual Manual Consideration 1	Wire		2 P -	3 SB .	4 B -		Connector No B22	l	Connector Name REAR COMBINATION LAMP RH(BODY SIDE)	Connector Type NS04MW-CS			<u> </u>		1 3 6 1			Terminal Color Of Col	o. Wire Signal Marile [Specification]	. LG .	2 R -		4 B -								
		GR : 2			Conn	Conn	810	و ا	TH24FW-NH		[12111119876543211	21 20 10 18 17 16 15 14 13	1 0 0 1 1 0 0 0 0 0 0			Color Of Signal Name (Specification)		LG - [With 2.0L turbo gasoline engine]	With VK30 engine)		- [With VR30 engine]	- [With 2.0L turbo gasoline engine]	- 1	19		× 3	× a	2 (2			. No.					LG - [With 2.0L turbo gasoline engine]	Y - [With VR30 engine]	_	R - [With 2.0L turbo gasoline engine]	V - [With VR30 engine]		· · /	
CRUISE CONTROL (VR ENGINE	111	ADAS CONTROL UNIT	TH24FW-NH 14	15	16		2 C C C C C C C C C C C C C C C C C C C		Connector Type	Signal Name [Specification]	H-NAC	CAN-L	GROUND	ITS COMM-H	ITS COMM-L	CHASSIS COMM-H	CHASSIS COMM-L Terminal	IGNITION (Except with VR30 engine and without ISS) No.	+	STATE HOLD RLY DRIVE SIGNAL CTECDING SW. SIGNAL GROUIND	STEERING SW SIGNAL		4 4	83 5	WIRE TO WIRE		NSIB+W-CS 8	0.00		□ 3 2 1	12 11 10 9 8		15		Signal Name (Specification)		- 19			- [Without BOSE system] 21	- 21	- 22	- 23	
INTELLIG	Connector No.	Connector Name	Connector Type		匮	H.S.				Terminal Color Of	۰	2 R	5 B	1 9	7 Y	7 8	9 R	12 G	12 GF	1) v	24 SB	1		Connector No.	Connector Name	Constant Time	Connector 1ype	Œ	在方	H.S.					a a	No. Wire	\dashv	+		+	+	80	6	

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Revision: November 2016 CCS-81 2016 Q50

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Connec	INTELLIGE Connector No.	INTELLIGENT CRUISE CONTROL (VR ENGINE)	GINE)	*	- [With VR30 engine and without BOSE system]	37	۵	- [With 2.0L turbo gasoline engine and without BOSE system]	78		
00000	Constant Mana	3diw Of 3diw	4	CHIELD	- [With VR30 engine]	37	Я	- [With VR30 engine]	79	В	
COLLIE	nor Name		4	>	- [With 2.0L turbo gasoline engine]	37	Α	- [With 2.0L turbo gasoline engine and with BOSE system]	80	GR	- [With 2.0L turbo gasoline engine]
Connec	Connector Type	NS16MW-CS	2	9	- [With VR30 engine]	38	۸		80	Μ	- [With VR30 engine]
ſ			2	۸	- [With 2.0L turbo gasoline engine]	39	Ь	- [With VR30 engine and without BOSE system]	81	8	- [With VR30 engine]
E	_		9	BG	- [With VR30 engine]	39	Я	- [With 2.0L turbo gasoline engine]	81	ж	- [With 2.0L turbo gasoline engine]
ŧ			9	BR	- [With 2.0L turbo gasoline engine]	39	Μ	- [With VR30 engine and with BOSE system]	82	9	- [With 2.0L turbo gasoline engine]
ė.	<u>, , , , , , , , , , , , , , , , , , , </u>	4 5	7	8	- [With 2.0L turbo gasoline engine and with BOSE system]	40	9	•	82	SHIELD	- [With VR30 engine]
		8 9 10 11 12 13 14 15 16	7	BR	- [With VR30 engine and without BOSE system]	41	٦	•	83	ж	- [With 2.0L turbo gasoline engine]
			7	Μ	- [With VR30 engine and with BOSE system]	42	R		83	Μ	- [With VR30 engine]
			7	>	- [With 2.0L turbo gasoline engine and without BOSE System]	43	SHIELD		84	BR	- [With VR30 engine]
			∞	8	- [With VR30 engine and with BOSE system]	44	۵		84	SHIELD	- [With 2.0L turbo gasoline engine]
Terminal	al Color Of	J.	00	o	- [With 2.0L turbo gasoline engine]	45	В	- [With 2.0L turbo gasoline engine]	85	BG	- [With VR30 engine]
No.	Wire		∞	>	- [With VR30 engine and without BOSE system]	45	ŋ	- [With VR30 engine]	85	ŋ	- [With 2.0L turbo gasoline engine]
1	-		6	97	- [With 2.0L turbo gasoline engine]	Н	SHIELD		98	œ	- [With 2.0L turbo gasoline engine]
4	æ		6	SHIELD	- [With VR30 engine]	47	9	4	98	Μ	- [With VR30 engine]
S	86	- [With BOSE system]	10	>		48	88		87	97	- [With VR30 engine]
ıs	>	- [Without BOSE system]	11	g		49	o		87	SHIELD	- [With 2.0L turbo gasoline engine]
7	~		12	>		20	>		89	97	
00	SHIELD		13	œ		51	GR		06	۵	- [With 2.0L turbo gasoline engine]
σ	۵		14	BG		25	3	- [With 2.0] turbo pasoline engine]	06	. >	- [With VR30 engine]
-	. «		: 12	8 8	- [With 2 OI turbo gasoline engine]	22	; >	- [With VR30 engine]	45	-	- (With 2 01 turbo gasoline engine)
13	+		i i	3 8	- [Mith VB30 paging]	3 2	۵ -	familia ocua mani	92	, _M	- [With West coming
13	+		1 4	5 >	familia ocua mana	3 5	2 8		93		- [With WB30 engine]
GT \$	+		P F	>		5 :	5 -		50	2 1	- (with vaso engine)
14	+		7	٠.		S, E	: ا		93	SHELD	- [With 2.0L turbo gasoline engine]
12	+		87	-		ç,	>		44	× ·	
16	æ		19	œ		22	œ		95		- [With 2.0L turbo gasoline engine]
			70	æ		28	9		95	>	- [With VR30 engine]
			21	œ		29	۵		96	œ	- [With 2.0L turbo gasoline engine]
Connec	Connector No.	B62	22	>		61	-		96	>	- [With VR30 engine]
January	Connector Name	WIRE TO WIRE	23	>		62	Ь	- [With VR30 engine]	97	٦	- [With VR30 engine]
	a la	WINE TO WINE	24	BG	- [With 2.0L turbo gasoline engine]	62	^	- [With 2.0L turbo gasoline engine]	97	æ	- [With 2.0L turbo gasoline engine and with BOSE system]
Connec	Connector Type	TH80FW-CS16-TM4	24	>	- [With VR30 engine]	63	٦		97	*	- [With 2.0L turbo gasoline engine and without BOSE system]
C			52	٦	- [With 2.0L turbo gasoline engine]	64	^		86	91	
B			25	SB	- [With VR30 engine]	99	91		66	BR	- [With VR30 engine and with BOSE system]
ŧ			56	9	- [With VR30 engine]	89	٦		66	d	- [With 2.0L turbo gasoline engine]
Ć.	<u>, 1</u>		56	Μ	- [With 2.0L turbo gasoline engine]	69	Ь		66	. γ	- [With VR30 engine and without BOSE system]
			27	ч		7.1	GR	- [With 2.0L turbo gasoline engine]	100	BR	- [With VR30 engine]
		5	59	97		71	æ	- [With VR30 engine]	100	×	- [With 2.0L turbo gasoline engine]
			30	91	- [With 2.0L turbo gasoline engine]	72	9	- [With VR30 engine]			
			30	d	- [With VR30 engine]	7.2	٨	- [With 2.0L turbo gasoline engine]			
Terminal	al Color Of	If Simpl Mamo [Specification]	31	SHIELD		73	Я	- [With 2.0L turbo gasoline engine]			
No.	_	ogna ivante jopecincacioni	32	٦		73	SHIELD	- [With VR30 engine]			
1	BR	- [With 2.0L turbo gasoline engine and without BOSE System]	33	В	- [With VR30 engine]	74	BG	- [With 2.0L turbo gasoline engine]			
1	PI	- [With VR30 engine]	33	PI	- [With 2.0L turbo gasoline engine]	74	٦	- [With VR30 engine]			
1	Μ	- [With 2.0L turbo gasoline engine and with BOSE system]	34	SHIELD		75	GR	 [With 2.0L turbo gasoline engine] 			
2	_	- [With VR30 engine]	32	91	- [With VR30 engine]	75	>	- [With VR30 engine]			
2	SHIELD		35	۸	- [With 2.0L turbo gasoline engine]	76	g.	- [With VR30 engine]			
9	BR	- [With 2.0L turbo gasoline engine]	36	œ	- [With VR30 engine]	76	>	- [With 2.0L turbo gasoline engine]			
	_	- [With VR30 angine and with ROSF everem]	36	×	- [With 2 OI turbo assoline engine]	77	۵				

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INTELLIGI Connector No.	INTELLIGENT CRUISE CONTROL (VR ENGINE) Conf	GINE)	VE)	8117	Connec	Connector No.	8118	19	-	- [With 2.0L turbo gasoline engine]
Omer Manager	POINT COMMETTED BACK	Jane	Omer Manager	and actornico traci	Jonas	Occupation Manage	AND SOUNDS THIS	19	SHIELD	- [With VR30 engine]
Malle		3	CIOI INGILIE	JOHN CONNECTOR BOS		IOI IVAILIE	JOHN CONNECTOR-BOX	20	1	- [With 2.0L turbo gasoline engine]
Connector Type	24342_4GA2A	Conne	Connector Type	24342_4GA2A	Connec	Connector Type	24342_4GA2A	20	SHIELD	- [With VR30 engine]
		ģ			ģ			21	٦	- [With 2.0L turbo gasoline engine]
		F	_	16 5 4 3 9 1	唐			21	SHIELD	- [With VR30 engine]
	6 6 6	Ę	v	1100	Ę		5 4 3	22	۷.	
	/ B 6 0L LL		5	ρ : Ο :		•	B :	23	æ	
	24 23 22 21 20 19			18 17 16 15 14 13			24 23 22 21 20 19	24	œ	
								Connector No.		8120
Color Of	Of Signal Name [Specification]	Terminal	nal Color Of	f Signal Name [Specification]	Terminal	al Color Of	Signal Name [Specification]	Connector Name		JOINT CONNECTOR-802
-		-	$^{+}$	- [With 2.0L turbo gasoline engine]	п	91	- [With VR30 engine]	Connector Type	Type	24342_4GA2A
-		7	SHIELD	L	П	SHIELD	- [With 2.0L turbo gasoline engine]	ľ		ı
-		7	8		2	97	- [With VR30 engine]	ß		
٦		9	В		2	SHIELD	- [With 2.0L turbo gasoline engine]	T.		5 4 3 2 1
_		3	SHIELD	- [With 2.0L turbo gasoline engine]	3	SHIELD		5		11 10 9 8
-		4	80		4	91	- [With VR30 engine]			17 15 14 13
œ		S	89		4	SHIELD	- [With 2.0L turbo gasoline engine]			24 23 22 21 20 19
œ		9	8		2	97	- [With VR30 engine]			
>		_	>		Ŋ	SHELD	- [With 2.0L turbo gasoline engine]			
œ		œ	>		9	91	- [With VR30 engine]	Terminal	Color Of	Signal Name [Specification]
>		6	۵.	- [With VR30 engine]	9	SHIELD	- [With 2.0L turbo gasoline engine]	No.	Wire	
œ		6	>	- [With 2.0L turbo gasoline engine]	7	æ	- [Color of wire differs depending on production]	1	Я	
>	- [With 2.0L turbo gasoline engine]	10	۵	- [With VR30 engine]	7	>	- [Color of wire differs depending on production]	2	æ	
>		97	+	- [With 2.0L turbo gasoline engine]		9	- [With 2.0L turbo gasoline engine]	3	_	- [With VR30 engine]
۵		1	+		∞	œ	- [With VR30 engine and without paddle shift]	3	œ	 [With 2.0L turbo gasoline engine]
≃	- [Without Gateway]	17	٠ .		·	> !	- [With VR30 engine and with paddle shift]	4	-	- [With VR30 engine]
SHIELD		13	- -		5 0	9 6	- [With 2.0L turbo gasoline engine]	4	¥ -	- [With 2.0L turbo gasoline engine]
9	- [With 2.0L turbo gasoline engine]	12	-		6	: >	- [With VR30 engine and with paddle shift]	9	, -	
SHIELD	- [With VR30 engine]	16	_		10	91	- [With 2.0L turbo gasoline engine]	7	_	
-	- [With VR30 engine]	17	-		10	SHIELD	- [With VR30 engine]	80	_	
SHIELD	LD - [With 2.0L turbo gasoline engine]	18	_		11	97	- [With 2.0L turbo gasoline engine]	6	1	- [With 2.0L turbo gasoline engine]
-		19	В	•	11	SHIELD	- [With VR30 engine]	6	R	- [With VR30 engine]
SHIELD	- [With	20	В		12	97	- [With 2.0L turbo gasoline engine]	10	7	- [With 2.0L turbo gasoline engine]
٦	- [With VR30 engine]	21	Н	- [With 2.0L turbo gasoline engine]	12	SHIELD	- [With VR30 engine]	10	В	- [With VR30 engine]
SHIELD		21	SHIELD		13	٦	- [With VR30 engine]	11	ч	•
٦	- [With	22	В	- [With 2.0L turbo gasoline engine]	13	Ь	- [With 2.0L turbo gasoline engine and without gateway]	12	В	
SHIELD		22	П	- [With VR30 engine]	13	R	- [With 2.0L turbo gasoline engine and with gateway]	13	W	
_	- [With 2.0L turbo gasoline engine]	23	П		14	٦	- [With VR30 engine]	14	W	•
SHIELD		24	SHIELD		14	Ь	- [With 2.0L turbo gasoline engine and without gateway]	15	W	
-					14	۳	- [With 2.0L turbo gasoline engine and with gateway]	17	SHIELD	
۵					15	-	- [With VR30 engine]	18	В	
۵					15	~	- [With 2.0L turbo gasoline engine]	19	В	- [With 2.0L turbo gasoline engine]
٠.	+				16	- -		19	8 G	- [With VR30 engine]
>	- [With 2.0L turbo gasoline engine]				17	_		20	GR	- [With VR30 engine]
					18	_		20	SHIELD	 [With 2.0L turbo gasoline engine]

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21 B - [With 2.0L turbo gasoline engine]	Connector No.	E3	Connector No.	E25	38	۵	- [With 2.0L turbo gasoline engine and without gateway]
21 GR - [With VR30 engine]		П			38	œ	- [With 2.0L turbo gasoline engine and with gateway]
Α	Connector Name	WIRE IO WIRE	Connector Name	e WIRE IO WIRE	39	BR	- [With 2.0L turbo gasoline engine]
	Connector Type	TH24MW-NH	Connector Type	TH80FW-CS16-TM4	39	>	- [With VR30 engine]
24 W	ſ		[40	SB	
	E		E	40	41	97	-
	, S		Š	20 PM	44	Y	
Connector No. 8123	ė.	1 2 3 4 5 6 7 8 9 10 11 12	<u> </u>	2 2 3 2 3 5	45	1	- [With 2.0L turbo gasoline engine]
Committee Down CONNECTOR BOX		15.16			45	Μ	- [With VR30 engine]
					46	В	- [With VR30 engine]
Connector Type TK04FW-J					46	>	- [With 2.0L turbo gasoline engine]
4					47	9	
	Terminal Color Of	of Signal Name (Specification)	Terminal Color Of	r Of Signal Name (Specification)	48	SHIELD	0
	No. Wire		No. Wire		49	æ	
M 4 3 2 1 1 M	1 LG	- [With 2.0L turbo gasoline engine]	1 86		20	BR	- [With VR30 engine]
	1 ^	- [With VR30 engine]	۸ 9		20	SR.	- [With 2.0L turbo gasoline engine]
	2 W		7		51	1	
	97 8		8 BG	5 - [With VR30 engine]	52	8	
	4 P	- [With VR30 engine]	8 BR	R - [With 2.0L turbo gasoline engine]	53	>	
Terminal Color Of	4 SB	- [With 2.0L turbo gasoline engine]	8 6		54	۵	- [With VR30 engine]
No. Wire Signal Name [Specification]	2		9	GR - [With VR3D engine] [Color of wire differs depending on production]	54	8	- [With 2.0L turbo gasoline engine]
1 SHIELD	· 9		6	LG · [With VR30 engine] [Color of wire differs depending on production]	55	┝	- [With 2.0L turbo gasoline engine]
2 SHIFID	7		ł	t	r.	ł	- [With VR30 engine]
3 B - (With 2 Al turbo gasoline engine)	. ×		+		19	╀	- (With 2 01 turbo gasoline engine)
adiad CRANIE VR30 anglos	+		12 CE	R - Mith WR30 engine	9 9	+	- DWith VR30 anginal
6	+		╀	- Iwith	5	8	- [With VR30 engine]
	H		13 SHIFID		57	3	- (With 2 01 turbo gasoline engine)
	╀		t	L	285	╁	- [Color of wire differs depending on production]
Connector No. B163	13 GR		H		28	B/W	╁
1	\vdash		ŀ	R - [With 2.0L turbo gasoline engine]	59	┝	⊢
Connector Name SHIFT LUCK KELAY	15 LG	- [With 2.0L turbo gasoline engine]	15 SB	- [With VR30 engine]	9	~	
Connector Type MS02FL-M2-LC	H	- [With VR30 engine]	H	- [With	64	>	
	16 Y		16 ,	- [With VR30 engine]	99	BR	- [Color of wire differs depending on production]
	17 P		17 BR	R - [With VR30 engine]	65	GR	- [Color of wire differs depending on production]
n	18 BR		17 G	GR - [With 2.0L turbo gasoline engine]	99	GR	
	19 16	- [With 2.0L turbo gasoline engine]	18 6	- [With 2.0L turbo gasoline engine]	49	91	
	γ γ	- [With VR30 engine]	18 P		89	BG	
2 X 1	20 GR		γ 4	,	69	-	
	21 R	- [With 2.0L turbo gasoline engine]	31 W	/ - [With 2.0L turbo gasoline engine]	70	œ	
	21 V	- [With VR30 engine]	H		71	L	- [With 2.0L turbo gasoline engine]
Terminal Color Of	22		32 G	- [With 2.0L turbo gasoline engine]	71	91	- [With VR30 engine]
No. Wire Signal Name (Specification)	23 P		32 GR	L	72	-	- [With 2.0L turbo gasoline engine]
1 8	24 B	- [With VR30 engine]	33	- [With VR30 engine]	72	>	- [With VR30 engine]
2 16 .	24 BR	- [With 2.0L turbo gasoline engine]	33 ×	- [With 2.0L turbo gasoline engine]	73	9	- [With VR30 engine]
3 V .			34 P		73	W	- [With 2.0L turbo gasoline engine]
S W .			35 GR		74	BR	- [With VR30 engine]
			36 R		74	_	- [With 2.0L turbo gasoline engine]
			37 L	- [With 2.0L turbo gasoline engine]	75	۵	- [With 2:0L turbo gasoline engine and without gateway]
			37 V	- [With VR30 engine]	75	œ	- [With 2.0L turbo gasoline engine and with gateway]
				C - weeks bring			Court Appear

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INTEL	LLIGE	INTELLIGENT CRUISE CONTROL (VR ENGINE)	3INE)								
76	9		4	>	MOTOR BATTERY	Connector No.	П	E47	Connector No.	E52	
77	> 2	. [With 2 Of trutho assoline analysis ADAS]	ın u	9 >	STOP LAMP SW SIGNAL [With ADAS]	Connecto	Connector Name	WIRE TO WIRE	Connector Name	ICC BRAKE HOLD RELAY	
78	3 a	- [With VR30 engine]	,	. g	RR LH WHEEL SENSOR SIGNAL	Connector Type	Γ	TH32MW-NH	Connector Type	MS02FL-M2-LC	
78	>	- [With 2.0L turbo gasoline engine and without ADAS]	∞	9	RR LH WHEEL SENSOR POWER SUPPLY	֓֞֞֜֜֜֜֜֜֜֜֜֜֜֜֓֓֓֜֜֜֟֜֜֜֜֜֟֜֜֜֜֜֜֜֟֜֜֜֓֓֓֓֓֜֜֜֜֜֜	 _		ŭ		
79	SB		6	BR	FR RH WHEEL SENSOR SIGNAL				E		
80	9		10	GR	FR RH WHEEL SENSOR POWER SUPPLY	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			Š	8	
81	æ		13	В	VACUUM SENSOR SIGNAL	2	_	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Ĉ.	4	
82	^		15	Ь	CAN-L [Without Gateway]			22 23 24		<u></u>	
83	BR	- [With 2.0L turbo gasoline engine]	15	~	CAN-L [With gateway]					2 X 1	
83	œ	- [With VR30 engine]	17	>	RR RH WHEEL SENSOR SIGNAL						
84	ΓG		18	PI	RR RH WHERL SENSOR POWER SUPPLY [With 2.01 turbo gasoline engine]						
98	BG		18	۸	RR RH WHEEL SENSOR POWER SUPPLY [With VR30 engine]	Terminal	Color Of	Signal Name (Specification)	Terminal Color Of	Signal Name (Specification)	
87	9		19	SB	FR LH WHEEL SENSOR SIGNAL	No.	Wire	officer regular Cobeculication	No. Wire	orginal value (openingatori)	
89	97		20	BG	FR LH WHEEL SENSOR POWER SUPPLY	1	9	- [Color of wire differs depending on production]	1 γ		
06	9	- [With VR30 engine]	25	7	CAN-H	1	λ	- [Color of wire differs depending on production]	2 6		
90	GR	- [With 2.0L turbo gasoline engine]	28	9	VACUUM SENSOR POWER SUPPLY	2	۸		3 ^		
91	9		30	œ	VDC OFF SW SIGNAL	æ	٦		5 BR	- [With 2.0L turbo gasoline engine]	
93	BG		32	SHIELD	VACUUM SENSOR GROUND	4	Ь	- [Without Gateway]	2 2	- [With VR30 engine]	
94	GR	- [With VR30 engine]	34	9	NSI	4	æ	- [With Gateway]			
94	_	- [With 2.0L turbo gasoline engine]				2	۸				
95	BG	- [With VR30 engine]				9	SB		Connector No.	E57	
95	۵	- [With 2.0L turbo gasoline engine and without gateway]	Connector No.	ır No.	E44	7	BR	- [Color of wire differs depending on production]			
95	œ	- [With 2.0L turbo gasoline engine and with gateway]				_	_	- [Color of wire differs depending on production]	Connector Name	STOP LAMP SWITCH	
96	M		Connector Name	r Name	BRAKE PEDAL POSITION SWITCH	∞	>		Connector Type	M04FW-LC	
97	91		Connector Type	ır Type	SOZEL	6	88	- [Without BOSE system]			
86	٦			_		6	>	- [With BOSE system]	Œ		
66	97	- [With 2.0L turbo gasoline engine]				10	>				
66	۵	- [With VR30 engine]	•		[11	SB		2	3 4	
100	SHIELD		2		4	12	9			1	
					2 1	13	9	-			
						15	BR				
Connector No.	l	E35				16	۵	1			
1		(APPENDIX DEPARTMENT APPRAISABLE APPROXIMATION APPROXIMATI				17	SHIELD		Terminal Color Of	(- 31 - 31 N 32	
onalie	Name	ABSACTORION AND SECURICON (CONTROL ONL)	Terminal	Color Of	61	18	_		No. Wire	olgital ivaline [opecification]	
Connector Type	r Type	SAZ30FB-5JZ4-U	No.	Wire	oignal Naille [opecification]	19	*		1 6	- [With ASCD]	
ı			1	9	- [Color of wire differs depending on production]	20	Μ		1	- [With ADAS]	
			1	>	- [Color of wire differs depending on production]	21	g		2 GR	- [With ASCD]	
		F	2	BG	- [With VR30 engine]	22	æ		2 1.6	- [With ADAS]	
Ż.		17 18 19 20	7	æ	- [With 2.0L turbo gasoline engine]	23	æ		3 BR		
						24	œ		۸ ۸		
		4 12 12 13 14 15 14 15 14 15 15 15				52	_				
						26	RG				
						2	9				
Terminal	Terminal Color Of					78	88				
No.	Wire	Signal Name [Specification]				59	>				
-	60	QND				8	>				
2	80	QNS				31	U				
m	ی	VALVE BATTERY [With VR30 engine]				8	g				
3	۵	VALVE BATTERY [With 2.0L turbo gasoline engine]				}	5				

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INTELLIGENT CRUISE CONTROL (VR ENGINE)	GINE)							
Connector No. E58	Connector No.	E65	Connector No.			Connector No.		E152
Connector Name ESS RELAY	Connector Name	FUSE BLOCK (J/B)	Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	ULE ENGINE	Connector Name		ECM
Connector Type MS03FB-M2-LC	Connector Type	TH12FW-NH	Connector Type	e TH32FW-NH		Connector Type		RH24FB-RZ8-L-RH
H3.	H.S.	6F5F 3F2F1F	E.S.	12 12 12 12 12 12 12 12	11 32 33 34	H.S.		22 00 00 00 00 00 00 00 00 00 00 00 00 0
Terminal Color Of Signal Name (Specification)	Terminal Color Of No. Wire	Of Signal Name [Specification]	Terminal Col	Color Of Signal Name [Specification]	[-	Terminal No.	Color Of Wire	Signal Name [Specification]
Ь	Н		Н	L - [With 2.0L turbo gasoline engine]	gine]	173	SB	FUEL TANK PRESSURE SENSOR
1 R - [With 2.0L turbo gasoline engine]	11F G	- [Color of wire differs depending on production]	19	P - [With VR30 engine]		175	Ь	CAN-L
9	4	- [Color of wire differs depending on production]	\dashv			176	_	CAN-H
+	1	- [With VR30 engine]	+	7		177	σ:	SENSOR POWER SUPPLY [FUEL TANK PRESSURE SENSOR]
4 LG :	12F Y	- [With 2.0L turbo gasoline engine]	23	LG - [With 2.0L turbo gasoline engine and without Anti theft diode] P - [With 2.0L turbo gasoline engine and with Anti theft diode]	nti theft diode]	178	> a	TACHO METER SIGNAL FUEL TANK TEMPERATURE SENSOR
	F		27	1		182	. »	FUEL PUMP CONTROL MODULE (FPCM) CHECK
Connector No. E64	3F P		28			185	SB	IGNITION SWITCH
(a) (1) (b) (c) (c) (d) (d) (d) (d) (d) (d) (d) (d) (d) (d	SF P		29			186	SB	ASCD STEERING SWITCH
	1 49		31	9		187	BG	SENSOR GROUND (ASCD STEERING SWITCH)
Connector Type NS08FW-CS	7F R		32	SB		188	٨	FUEL PUMP CONTROL MODULE (FPCM)
4	3F L		Н	SB		189	٨	ENGINE COMMUNICATION LINE-L
	9F L		34			190	٦	ENGINE COMMUNICATION LINE-H
			35			191	Ь	STOP LAMP SWITCH
2E			36	SB - [With VR30 engine]		192	BG	BRAKE PEDAL POSITION SWITCH
7E 6E 4E	Connector No.	E80	36	W - [With 2.0L turbo gasoline engine]	igine]	193	GR	EVAP CANSTER VERT CONTROL VALVE (calor of wire differs depending on preduction)
	Connector Name	a Co Naso Co	37	GR -		193	LG	EVAR CANISTER VEHT CONTECL VALVE (Color of wire differs depending on production)
	allego de la composición dela composición de la composición de la composición de la composición dela composición de la composición de la composición de la composición dela composición de la composición de la composición dela composición de la composición de la composición de la composición dela composición de la composición dela composición dela compos		38	BR -		194	W	SENSOR POWER SUPPLY
	Connector Type	AAZ08FB	\dashv	GR		195	BR	ACCELERATOR PEDAL POSITION SENSOR 2
le l	q		43	^		196	œ	SENSOR GROUND [ACCELERATOR PEDAL POSITION SENSOR 2]
Wire	唐					197	œ -	ECM POWER SUPPLY
$^{+}$	ς -	3 1 7				100	,	SENSON CONTRIB
3E V		8 8				199	n >	SENSOB GROUND
Ŧ		1				200	> 4	SUNSON SUSON
+						202	۰ >	ACCELERATOR PEDAL POSITION SENSOR 1
7E BG -						203	ŋ	SENSOR GROUND
	Terminal Color O	JC Signal Name (Specification)				204	В	ECM GROUND
	No. Wire							
	1 8	IGNITION						
	9	ITS COMM-H						
	+	ITS COMM-L						
	8 8	GROUND						

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INTELLIGENT CRUISE CONTROL

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INTELLIGENT	INTELLIGENT CRUISE CONTROL (VR EN	ENGINE)							
П	170	Connector No.	or No.	E171	Connector No.	П	E172	Connector No. E173	
Connector Name W	WIRE TO WIRE	Connector Name	or Name	WIRE TO WIRE	Connect	Connector Name	JOINT CONNECTOR-E01	Connector Name JOINT CONNECTOR-E02	
П	SAA36MB-RS10-SJZ2	Connector Type	or Type	SAA36FB-RS10-SJZ2	Connect	Connector Type	SGA28FLBR-J	Connector Type SGA28FDGY-J	
居.S.		H.S.		282755543271 6176154351116 25 22 27 20 130 30 25 22 27 20 139	便 ES.H		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	H.S.	
				1 日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日本の日			1318		
Terminal Color Of No. Wire	Signal Name [Specification]	Terminal No.	Color Of Wire	Signal Name [Specification]	Terminal No.	al Color Of Wire	Signal Name [Specification]	Terminal Color Of Signal Name [Specification] No. Wire	
10 V		10	>		-	GR		. 9	
11 GR		11 5	g ;		7 7	> }	•	1 R - [Color of wire differs depending on production]	
+		20	> SB		0 4	\$ _		2 00	
22 B		22	8		2	GR			
+	ı	24	m ·		9	> }		\dashv	
T		7 S	-			≥ -		+	
28 SHIFLD		28	SHIFID		σ	- GR		2 0	
Т		29	6			>		╀	
-		8	0		11	*		+	
┢		31	۵		12	_		┝	
L		32	۵		15	>			
H		33	>		16	BG		H	
34 GR		34	9		17	Ь		21 6 -	
H		35	œ		18	_			
36 B		36	8	٠	19	*		- T - T - T - T - T - T - T - T - T - T	
Ц		37	BG		20	BG			
38 ^		38	91	-	21	Ь			
39 Y		39	>		22	_		Connector No. F2	
40 P		40	۵.		23	SB	- [Color of wire differs depending on production]	Connector Name A/T ASSEMBLY	
4		41	_		23	≽	 [Color of wire differs depending on production] 	Т	
42 W		45	≥		24	BG	 [Color of wire differs depending on production] 	Connector Type RK10FG-DGY	
4		43	ω.		24	9] ,	- [Color of wire differs depending on production]	4	
+		44	۰,		ς ε	-		(Astr)	
+		45	> 2		3 29	_ ;		\$ P	
47 BG		47	8 8		2 8	-		5 4 3 2 1	
4		48	5		87			(3 2 8 6 0 P)	
								la	
								Wire	
								GR	
								H	
								2 P BATTERY POWER SUPPLY (MEMORY BACK-UP)	

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8	_	CAN-H	Connector No.	r No.	M14	Connector No	o. M22	12	25	SB	- [With VR30 engine]
4	œ	K-LINE	,					- C - C - C - C - C - C - C - C - C - C	56	9	- [With VR30 engine]
2	B GR	GROUND [With 2.0L turbo gasoline engine]	Connector Name	L Name	BCIM (BODY CONTROL MODULE)	Connector Name		WIRE IO WIRE	26	>	- [With 2.0L turbo gasoline engine]
2	H		Connector Type	r Type	TH40FB-NH	Connector Type		TH80MW-CS16-TM4	27	œ	
9	GR	IGNITION POWER SUPPLY					1		59	91	
7 B	BG	BACK-UP LAMP RELAY	1			Œ			30	SB	- [With VR30 engine]
80	Ь	CAN-L	į			Ě			30	W	- [With 2.0L turbo gasoline engine]
6	>	STARTER RELAY	2		20 20	2		33	31	SHIELD	
	8	GROUND						8 00 00 00 00 00 00 00 00 00 00 00 00 00	32	7	
									33	В	- [With VR30 engine]
									33	97	- [With 2.0L turbo gasoline engine]
Connector No.	. F100								34	SHIELD	
Constant Nome	TCAA		Terminal	Color Of	Complete Consideration	Terminal	Color Of	Cional Nama (Consideration)	35	91	- [With VR30 engine]
COLLIECTO IN ALL			No.	Wire	orginal reality (openification)	No.	Wire	oglial Name (openincation)	35	W	- [With 2.0L turbo gasoline engine]
Connector Type	oe SP10FG	JFG	48	ď	PUSH-BTN IGN SW ILL PWR		97		36	~	- [With VR30 engine]
			52	9	DONGLE LINK	2	7	- [With VR30 engine]	36	>	- [With 2.0L turbo gasoline engine]
Œ		<	54	>	COMM LINE	2 8	SHIELD	- [With 2.0L turbo gasoline engine]	37	~	- [With VR30 engine]
		«	22	æ	RAIN SENSOR	e	HB HB	- [With 2.0L turbo gasoline engine]	37	>	- [With 2.0L turbo gasoline engine]
Ċ			29	۵	CAN-L	9	œ	- [With VR30 engine]	38	>	
		t 0	09	٦	CAN-H	4	SHIELD	- [With VR30 engine]	39	Ь	- [With VR30 engine and without BOSE system]
		18 8 1/19	61	9	REAR WINDOW DEF RLY CONT	4	>	- [With 2.0L turbo gasoline engine]	39	~	- [With 2.0L turbo gasoline engine]
			62	~	STABTER BLY CONT		G	- [With VR30 engine]	39	>	- [With VB30 engine and with BOSE system]
			64	>	I-KFY WARN RUZZER	ı ır	>	- [With 2:01 turbo gasoline engine]	40	ی	
Torminal	Color Of		i u		OLITE UP LANGE CONT	4	. 20	Mith Wood coming	Ę	1-	
	Wire	Signal Name [Specification]	5	0	DI OMED CAN DIV CONT PAGE VIOLO	0 4	2 6	DATISH 2 Of studen appealing angles	7 5		
+	2	Videns days on Mortiston	90	۰ >	BLOWER FAIN ALL COINT [WILLI VASO BIRNIE]	p	6 5	- Iwith 2:0c turbo gasonile enginej	†	د ا	
	, Lvd	IGNITION POWER SUPPLY	8 5	- W//W	DECOVER THE CONTINUE SOUTH BUSINESS OF THE STREET	, ,	2 0	Dates 2 Of south account.	t	SHIELD	
7 ,	DW	TENT POWER SUPPLIT (MEMORI BACK-OF)	6 8	a/w	ISIN ALTAT (F/B) COINT	,	. ,	- [with 201 turbo gasonine engine]	7 4		Contract of the state of the state of
'n	,	CAN-H	80	¥	DIMMER	20	5	- [With 2.0L turbo gasoline engine]	45	2	- [with 2.0L turbo gasoline engine]
4		K-LINE	69	g.	A/T SHIFT SELECT PWR SPLY	80	۵	- [With VR30 engine]	┪	U	- [With VR30 engine]
2		GROUND	70	В	IGN RLYAY (IPDM E/R) CONT	6	FG.	- [With 2.0L turbo gasoline engine]	46	SHIELD	
9	,	IGNITION POWER SUPPLY	7.1	o	DR DOOR REQ SW	6	SHIELD	- [With VR30 engine]	47	g	,
7		BACK-UP LAMP RELAY	72	SB	PASS DOOR REQ SW	10	>		48	BG	- [Except with VR30 engine and with BOSE system]
	,	CAN-L	75	BR	COMBI SW INPUT 5	11	g.		48	BR	- [With VR30 engine and with BOSE system]
6	ļ.	STARTER RELAY	92	BG	COMBI SW INPUT 4	12	>		49	ŋ	
10	,	GROUND	77	>	COMBI SW INPUT 3	13	9		20	>	
			78	>	COMBLSW INPLIT 2	14	9		5	>	
			7	9	COMBLSW INPLIT 1	15	HR.	- (With 2.01 turbo gasoline engine)	25	ļ-	- fWith 2:01 turbo gasoline enginel
			8	-	TRIID OBNB SW	7	۵	- [With VR30 engine]	52	>	- [With VR30 posine]
			3	,		91	. 0	- DAVIS DOM	5 2		[200]
						2 2	3 >	[water Delay]	3 5	2 8	
						0 [, ,	- [Without DCIM]	t 1	<u>5</u> -	
						À	-		çç	-	•
						18	_		99	Ь	
						19	ŋ		57	œ	
						20	GR		28	91	
						21	œ		59	SB	1
						22	>		61	_	
						23	_		62	۵	- [With 2.0L turbo gasoline engine]
						24	BG	- [With 2.0L turbo gasoline engine]	62	>	- [With VR30 engine]
						24	>	- [With VR30 engine]	63	-	
						25	-	- [With 2.0L turbo gasoline engine]	64	*	,

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-	ď		66	۵	- [With 2.0L turbo gasoline engine]	9	_	CAN-H	25	٦	
Н	7		66	٨	- [With VR30 engine and without BOSE system]	7	N KI	KLINE [With 2.0L turbo gasoline engine]	56	λ	-
-	۵		100	BR	- [With VR30 engine]	7	×	KLINE [With VR30 engine]	27	91	,
Н	GR	- [With 2.0L turbo gasoline engine]	100	W	- [With 2.0L turbo gasoline engine]	8	W	IGN_SW	28	BR	
Н	æ	- [With VR30 engine]				11	SB	M_CAN_H	29	W/B	
Н	9	- [With VR30 engine]				12	R	CAN-L	30	Υ	
-	>	- [With 2.0L turbo gasoline engine]	Connector No.	No.	M24	13	٦	CAN-H	31	>	
Н	16	- [With 2.0L turbo gasoline engine]	Connector Name	Marrie	APWEIN'S NAC	14	Ь	CAN-L	32	٦	- [With Anti-theft diode]
Н	SHIELD	- [With VR30 engine]		DI IN	CALCALL	16	W	POWER	32	PT	- [Without Anti-theft diode]
Н	1	- [With VR30 engine]	Connector Type	Type	TH12FW-NH						
Н	97	- [With 2.0L turbo gasoline engine]	ſ								
Н	Ь		B			Connector No.	M39		Connec	Connector No.	M40
Н	SB	- [With 2.0L turbo gasoline engine]	Ę		<u>_</u>	Connector Name		WIRETOWIRE	Conner	Connector Name	AVIDE TO WIDE
Н	^	- [With VR30 engine]	2		1 3 4 5 6						WILL IS WILL
_	٨					Connector Type	Ė	TH32FW-NH	Connec	Connector Type	TH80MW-CS16-TM4
H	7				7 8 10 11 12						
۲	g					Œ					Į, E
H	GR	- [With 2.0L turbo gasoline engine]				ŧ			•		
۲	×	- [With VR30 engine]	Terminal	Color Of	5	Ź	119	0 0 0 0 0 0	2 E	- 7	
t	60	- [With VR30 engine]	Š	Wire	Signal Name [Specification]		0 00	14 13 12 11 10 9 8 7 9 0 4 3 2 1			
۰	œ	- [With 2.0L turbo gasoline engine]	н	_	CAN-H (CAN COMMUNICATION CIRCUIT 1)		070	2 22 62 42 62 62			
۰		- [With 2 OI turbo assoline engine]		×	RATTERY DOWNER CLIDDLY						2
۰	SHIFID	- [With VR30 engine]	9	-	CAN-H (CAN COMMUNICATION CIRCUIT 2)						
٠	۵	(Mith 2 Of turbo gasoline engine)	u	· ~	GNIOGS	Terminal Col	Color Of		Termina	al Color Of	L
+	· ^	- [With VR30 engine]	9	-	CAN-H (CAN COMMUNICATION CIRCUIT 2)		Wire	Signal Name [Specification]	Š		Signal Name [Specification]
٠	88	- [With VR30 engine]	2	١	CAN-L (CAN COMMUNICATION CIRCUIT 1)	t	W/B			8	
٠	SHIFLD	- IWith 2 01 turbo pasoline angine	σ		ISNITION POWER SUPPLY TWith VR30 engine and without ISSI		SB		ع	W/R	,
+	RR	- [With VR30 engine]	σ	3	IGNITION POWER SUPPLY (Except with VR30 engine and wethout ISS)	+	 -		-	>	
+	ś u	Mith 2 Of turbo conding control	, 5	۰	CAN I (CAN COMMINICATION OF MACHINES	$\frac{1}{1}$, ,	[Mithout Catomical]	•	. 8	DAVITH VB30 carinol
+	,	- [with 2.0t turbo gasonine engine]	OT ;	.	CAINTE (CAIN COUNTRY CINCOLL 2)	+		- [without dateway]	•	3 8	- [with was engine]
+	×	- [With 2.0L turbo gasoline engine]	11	-	GROUND	+	<u>_</u>	- [With Gateway]	20	ž	- [With 2.0L turbo gasoline engine]
\dashv	>	- [With VR30 engine]	12	~	CAN-L (CAN COMMUNICATION CIRCUIT 2)	2	BR		6	97	- [With VR30 engine]
\dashv	PI	- [With VR30 engine]				9	SB		6	۵	- [With 2.0L turbo gasoline engine]
-	SHIELD	 [With 2.0L turbo gasoline engine] 				7	٦	-	10	≥	-
-	BR	- [With VR30 engine]	Connector No.	No.	M25	00	*		11	≥	- [With VR30 engine]
Н	97	- [With 2.0L turbo gasoline engine]	Commoder	Money	OCEOGRAPO VIALLATAD	6	Ь	- [Without BOSE system]	11	Υ	- [With 2.0L turbo gasoline engine]
Н	SB	- [With 2.0L turbo gasoline engine]	COLLINGT	alle	DATA LINA CONNECTOR	6	>	- [With BOSE system]	12	В	- [With VR30 engine]
Н	>	- [With VR30 engine]	Connector Type	Type	BD16FW	10	>		12	æ	- [With 2.0L turbo gasoline engine]
۲	_	- [With 2.0L turbo gasoline engine]				H	SB		13	æ	- [With VR30 engine]
Н	Ν	- [With VR30 engine]	E			12	g		13	SHIELD	- [With 2.0L turbo gasoline engine]
Н	œ	- [With VR30 engine]			ŀ	13	o		14	8	
Н	SHIELD	- [With 2.0L turbo gasoline engine]	Ż		11112113114 16	15	œ		15	BG	- [With 2.0L turbo gasoline engine]
۲	~				0 7 8 8 7 8	H	SB		15	SB	- [With VR30 engine]
۰	-	- IWith 2 01 turbo gasoline engine			, o o +	t	SHEID		16	œ	- [With VR30 engine]
+	>	- [With VR30 engine]				t	3		16	88	- [With 2.0L turbo gasoline engine]
+	~	- [With 2.0L turbo gasoline engine]				+	>		17	97	
+	. >	- [With VR30 engine]	Terminal	Color Of		20	_		181	2 6	- [With VR30 engine]
3 2		[with wood meine]	Q.	Wine	Signal Name [Specification]	+	, ,		9 6	a san	Driett 3 Of 4:-th according
+	_	- [With VKsu engine]	No.	wire		+	9 6		8 9	M/b	- [With 2.0L turbo gasoline engine]
+	œ 8	- [With 2.0L turbo gasoline engine]	е ,	ه اد	M_CAN_L	22	<u>د</u> ا		19	> 3	
+	BR		4	œ	FARTH		-	-			_
				١		+	5		10	^	

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32	>	- [With VK3U engine]	7	>	- [With 2.0L turbo gasoline engine]	Connector No.	MS6	Connector No. M//
33	<u>-</u> [- [With VR30 engine]	27	_ !	- [With 2.0L turbo gasoline engine]	Connector Name	DRIVER ASSISTANCE BUZZER CONTROL MODULE	Connector Name STEERING ANGLE SENSOR
33	_	- [With 2.0L turbo gasoline engine]	7/	9	- [With VR30 engine]			Т
34	d 8		73	œ }	- [With VR30 engine]	Connector Type	TH16FW-NH	Connector Type TH08FW-NH
ક	ş		/3	>	- [With 2.UL turbo gasoline engine]	Q		Q
36	9	,	74	BR	- [With VR30 engine]	B		B
37	8		74	-	- [With 2.0L turbo gasoline engine]	VI.	_[/ 	
37	_	- [With 2.0L turbo gasoline engine]	75	В	- [With VR30 engine]	Ş	2 3	1 2 4
38	_	- [With VR30 engine]	75	۵	- [With 2:0L turbo gasoline engine and without gateway]		2 2	- 1
38	۵	- [With 2.0L turbo gasoline engine and without gateway]	75	œ	- [With 2.0L turbo gasoline engine and with gateway]			
38	œ	 [With 2.0L turbo gasoline engine and with gateway] 	9/	W/B				
39	R	 [With 2.0L turbo gasoline engine] 	77	SB				
39	γ	- [With VR30 engine]	78	9	- [With VR30 engine]	Terminal Color Of	Of Signal Name (Specification)	Terminal Color Of Sirmal Name (Specification)
40	GR		78	PI	- [With 2.0L turbo gasoline engine]	No. Wire		No. Wire Digner venire [Specindation]
41	ר		79	æ		1 G	IGNITION	1 B GROUND
44	BR		80	9		3 L	ITS COMM-H	2 P CAN-L [Without Gateway]
45	_	- [With 2.0L turbo gasoline engine]	81	æ		5 B	GROUND	2 R CAN-L [With Gateway]
45	Μ	- [With VR30 engine]	82	91		8 R	WARNING BUZZER SIGNAL	4 G IGN
46	9	- [With VR30 engine]	83	BR	- [With 2.0L turbo gasoline engine]	11 Y	ITS COMM-L	5 L CAN-H
46	٨	- [With 2.0L turbo gasoline engine]	83	œ	- [With VR30 engine]	13 B	GROUND	
47	BG	- [With 2.0L turbo gasoline engine]	84	^		16 G	WARNING BUZZER SIGNAL GROUND	
47	æ	- [With VR30 engine]	98	>				Connector No. M85
48	SHIELD		87	9				dCT23224
49	m	- [With VR30 engine]	88	>		Connector No.	M58	
49	9	- [With 2.0L turbo gasoline engine]	90	g	- [With VR30 engine]			Connector Type M02FBR-LC
20	8	- [With 2.0L turbo gasoline engine]	96	>	- [With 2.0L turbo gasoline engine]	Connector Name	COMBINATION METER	
20	BR	- [With VR30 engine]	91	>		Connector Type	TH12FW-NH	
51	_		95	9		[
25	W		93	BR		E		Ċ.
53	9		94	GR	- [With VR30 engine]	2	<u>_</u>	0
54	SB	- [With 2.0L turbo gasoline engine]	94	٦	- [With 2.0L turbo gasoline engine]	Ć.	A1 A2 A3 A4 A5 A5	
54	٨	- [With VR30 engine]	95	BR	- [With VR30 engine]		2	
55		- [With 2.0L turbo gasoline engine]	95	۵	- [With 2.0L turbo gasoline engine and without gateway]		4/48 51152	
55	Ь	- [With VR30 engine]	95	œ	- [With 2.0L turbo gasoline engine and with gateway]			Terminal Color Of
99	BG	- [With VR30 engine]	96	۸				No. Wire olginal value (specification)
99	GR	- [With 2.0L turbo gasoline engine]	97	97		Terminal Color Of	JC	1 16
57	GR	- [With VR30 engine]	86	>		No. Wire		2 B -
22	Ь	- [With 2.0L turbo gasoline engine]	66	BR	- [With VR30 engine]	41 L	CAN-H	
28	8		66	97	- [With 2.0L turbo gasoline engine]	42 P	CAN-L	
59	SB		100	SHIELD	L	43 B	ILLUMINATION CONTROL SIGNAL	
61	W/B					44 Y	FUEL LEVEL SENSOR GROUND	
64	>					45 W	BATTERY POWER SUPPLY	
65	œ	,				46 BG	IGNITION SIGNAL [Except with VR30 engine and without ISS]	
99	۵	- [Color of wire differs depending on production]				46 R	IGNITION SIGNAL [With VR30 engine and without ISS]	
99	۸	- [Color of wire differs depending on production]				47 SB	AV COMMUNICATION SIGNAL (H)	
- 67	LG					48 LG	AV COMMUNICATION SIGNAL (L)	
89	BG					51 BR	FUEL LEVEL SENSOR SIGNAL	
69						52 B	GROUND	
20	~ :							
7.1	^	- [With VR30 engine]						

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ŀ	+		2/2 R	30C N	32C W	\perp	R - [With	W/B	┝	36C R	: 3	+	+	╀	- 0	+	+	+	_		. 9 38	- n 36			Connector No. M137	Τ	Connector Name JOINT CONNECTOR-M10	Connector Time	Januarior Type 24342_46A2A	8		3 2	11 10 9 8	15 14 13	☐ 61 22 24 20 19 ☐			Jal	No. Wire	1 8 .	2 8 -	3 8	8 4		+	+	ام	+	1	11 8 -	13 L -	14 L	
	MIU	Connector Name DRIVER ASSISTANCE BUZZER	Connector Type NC03EM CC	NOCET WELCS	1			2 1				ſ		2	= (1	Connector No. M133	Connector Name FLISE BLOCK (1/R)		Connector Type TH40FW-NH					01 02 05 04 05 05 00 00 101 101 101 101 101 101 101	A) 100 CC (11) 100 CC (12) E0	31	[42		ē	Wire	10C V -	12C L -	13C L -	· ·		16C R -	17C L .	18C BG - [Without DRPO]		19C B	, a	: 3	*	4		23C L -	4	26C SB -	┞	
	20 5	27 LG IN-VEHICLE SENSOR SIGNAL 39 BB INTAVE CENICOD CICHAI	+	2 4	IONIZER (ON	BG			Connector No. M100	Г	Connector Name DISPLAY CONTROL UNIT	Connector Type Table Niu	7	4	人		1617 1920	26 28293031 3334				Terminal Color Of Signal Name (Consideration)	No. Wire ognering (Specification)	16 LG AV COMM (L)	۵		+		20 1	BR CAM	28 SB AV COMM (H)	٦	+	*	œ	33 SB ACC [Except for VR30 engine and with ISS]	V ACC [For VR30	34 Y BAT															
INTELLIGENT CRUISE CONTROL (VR ENGINE	т	Connector Name COMBINATION SWITCH (SPIRAL CABLE)	Connector Type Type Type	1			1.5	20 10 42 02	33			Torminal Color Of		t	+	30	31 W/B	4	33 B .			Connector No. M88	CENTRAL OF IN CO.		Connector Type TH40FW-NH	1	Œ	なまた		1 2 3 7 9 13 18 17 18 20	6 27 28 30 37 33				lal	No. Wire	1 L CAN-H		3 W BATTERY POWER SUPPLY	7 G AMBIENT SENSOR SIGNAL	9 R SUNLOAD SENSOR SIGNAL	SB ACC POWER SUPPLY [With 2.0L turbo gasoline	13 V ACC POWER SUPPLY [With VR30 engine]	IN SIGNAL		۵ ،	BLUWER MUTUR CUNTRUL SIGNA	-	21 P CAN-L	B GROUND	23 R IGNITION POWER SUPPLY [With VR30 engine and with ISS]	W IGNITION POWER SUPPLY [Except with VR30 engine and	

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15 L		22	SB	- [With VR30 engine and without ISS]	Connector No.	M175		Connector No.	M177	
16 L		22	>	- [With VR30 engine and with ISS]	Connector Name		OINT CONNECTOR-MOS	Connector Name	POINT CONNECTIOR-MO7	
19 R		23	æ	- [With 2.0L turbo gasoline engine]						_
20 R		23	SB	- [With VR30 engine and without ISS]	Connector Type	pe NH20FL-DC	r-pc	Connector Type	e 24342_4GA2A	I
21 R		23	>	- [With VR30 engine and with ISS]	ı			[1
22 R		24	œ	- [With 2.0L turbo gasoline engine]	E			ß		
		24	H	- [With VR30 engine and without ISS]	S.			SH	5 4 3 2 2 1	
Connector No	M172	74	>	- [With VK30 engine and with ISS]		1	47 16 5 4 3 2 1		D 40	
Collector No.	Т					N.	19 17 19 19 14 19 12		23 22 21 20 19	
Connector Name	JOINT CONNECTOR-M03	Conne	Connector No.	M174]				
Connector Type	24342_4GA2A	Conne	Connector Name	JOINT CONNECTOR-M04				- 1-	2 =	Г
q					Ja.	Color Of	Signal Name [Specification]	e e	Color Of Signal Name [Specification]	
医		Conne	Connector Type	24342_4GA2A	No.	Wire		No.	Wire	7
S.	2 C C C C C C C C C C C C C C C C C C C	qĮ						П		1
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	20 - 20 - 20	Ę	V.	0 :	η.			m.	,	T
	2 2 20		9	11 10 9 8 7	4	_		4		Т
				17 16 15 14	2			2		1
				24 23 22 21 20 19	9	٦		9		
Terminal Color Of					7			7	· d	
No. Wire	e olgilal ivalile [specification]				80			8	- d	Ι
1 1		Terminal	nal Color Of		10	Ь				Γ
2		No.	Wire	Signal Name [Specification]	11	۵		10	-	Г
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		ļ^	-		5			╀		Т
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0		١	-		± !			CT :		Т
9		4	+		15	<u>.</u>		14		Т
+		'n	-		16	1	- [With VR30 engine]	12	-	_
œ		9	٦		16	<u>«</u>	 [With 2.0L turbo gasoline engine] 	16		_
9 R		7	*	-	17	Ь	- [With VR30 engine]	17	1	
10 R		00	>		17	R	- [With 2.0L turbo gasoline engine]	18		
11 R		6	>		19	ď	- [With VR30 engine and with ISS]	19		
12 R		10	>		19	- [E	- [Except with VR30 engine and with ISS]	20	- M	
13 SB		11	>		20	æ	- [With VR30 engine and with ISS]	2.1		
14 SB		12	٨		20	w - [E	- [Except with VR30 engine and with ISS]	22	- d	
15 SB		13	SB					23	- Н	
16 L	- [With 2.0L turbo gasoline engine]	14	SB					Н	- d	
16 SB		15	SB							
17 L	- [With 2.0L turbo gasoline engine]	16	SB							
17 SB		17	SB							
18 1	- [With 2.0L turbo gasoline engine]	18	SB.							
18 SB	- [With VR30 engine]	19	97							
19 BR	t - [With VR30 engine]	20	97							
19 LG	[With 2.0L turbo gasoline engine]	21	91	•						
20 BR		22	PI							
20 LG	- [With	23	PT I'C							
21 BR		24	91							
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INTELLIGENT CRUISE CONTROL

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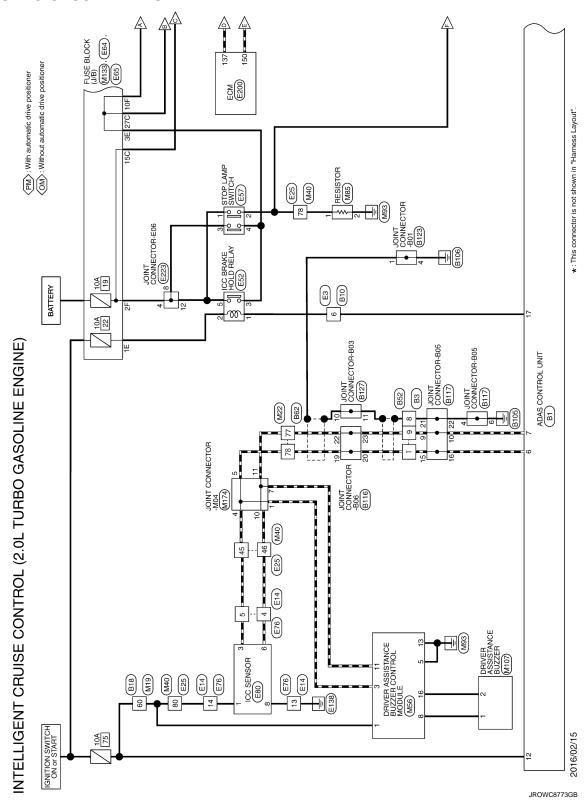
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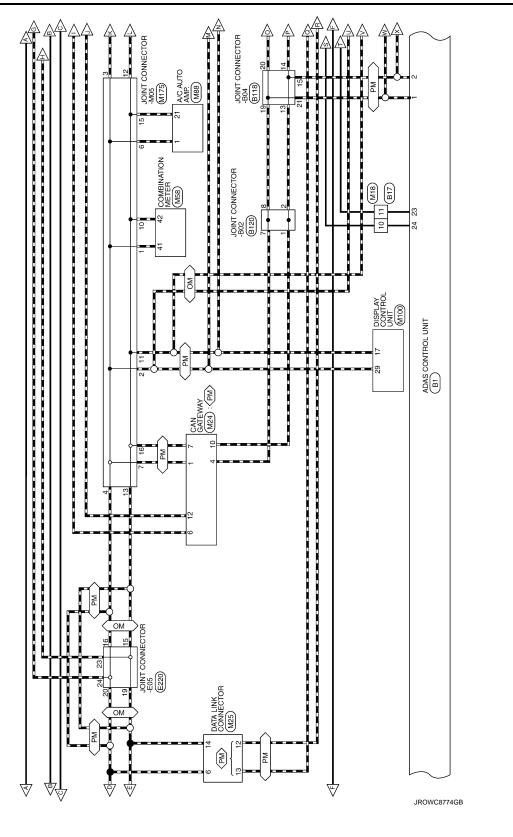
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Signal Name [Specification]	-					-		
Terminal Color Of No. Wire								
Terminal No.	13	14	15	16	17	18	19	20

2.0L TURBO GASOLINE ENGINE





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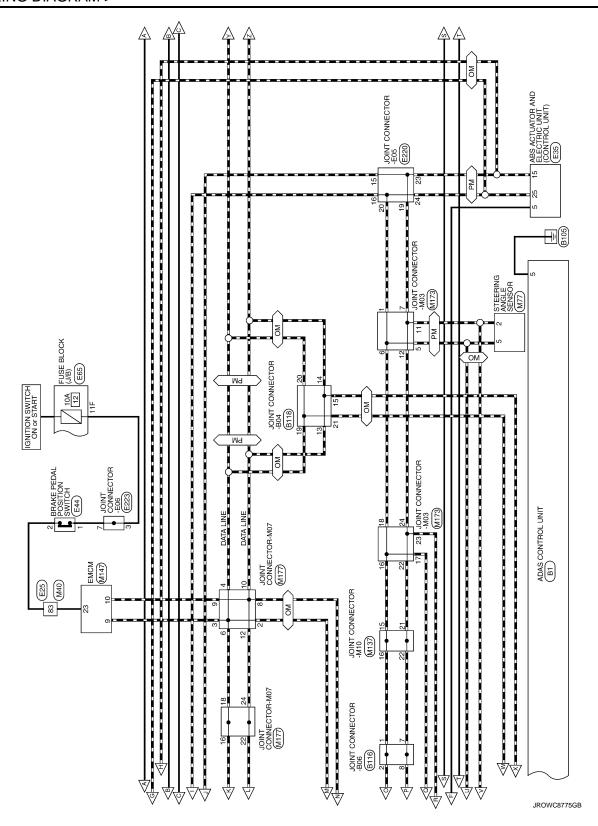
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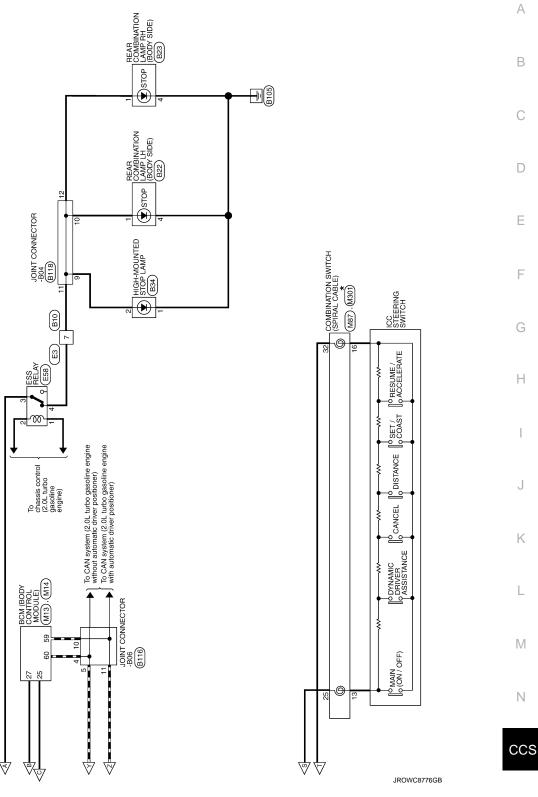
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NT CRU	ONTROL (2.0L		GASUL	UKBO GASOLINE ENGINE)	24	80 80	- [With VR30 engine] - [With 2 0] turbo gasoline engine]	14	~ -	
TIMIT IORTHOO SAGA	H	12	2 GR		24	æ	- [With 2.0L turbo gasoline engine]	15	٦	
I I I I		13	9					16	>	,
TH24FW-NH		14	\dashv					18	\dashv	•
		15	+		Connector No.		B17	19	+	
Ш	[TP	NS NS		Connector Name		WIRE TO WIRE	73	≥ 0	
ř	9788 011				Connector Type	Type	NS16FW-CS	23	+	,
	0 0	Conn	Connector No.	810	١			24	æ	- [With 2.0L turbo gasoline engine]
┨		J	Connector Name	WIRE TO WIRE	B			24	٨	- [With VR30 engine]
		3 ,	ampa name	WILL IS WILL	\ <u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>			25	+	- [With 2:0L turbo gasoline engine and without gateway]
		Con	Connector Type	TH24FW-NH	S. C.		0 9	25	+	- [With 2.0L turbo gasoline engine and with gateway]
Signal Na	Signal Name [Specification]	Œ	•				0 6 0111212141611	52	\$ (- [With VK3U engine]
	CAN-H	手	T					27	+	,
	CAN-L	4	Ŋ.	12/11/10/9 8 7 8 5 4 3 2 1				28	H	•
	GROUND			21 20 10 18 17 18 15	Terminal Color Of	Color Of	Complete Com	31	L	- [With VR30 engine]
-	ITS COMM-H			0 0 1 0 0 0 0	No.	Wire	ognal Name (opecinication)	31	BR	- [With 2.0L turbo gasoline engine]
	ITS COMM-L				10	SB		32	H	
3	CHASSIS COMM-H				11	>		33	В	
Э	CHASSIS COMM-L	Terminal	inal Color Of	ocificational Name [Specification]	12	GR		34	91	
Except v	IGNITION [Except with VR30 engine and without ISS]	No.	. Wire					32	Ь	
SAV] NC	IGNITION [VR30 engine and without ISS]	1	91	- [With 2.0L turbo gasoline engine]				36	M	
AKE HO	BRAKE HOLD RLY DRIVE SIGNAL	ī	>	- [With VR30 engine]	Connector No.		818	37	SB	
EERING	STEERING SW SIGNAL GROUND	2	Μ		Connector Name		Jan of Jan of	38	91	,
STEEF	STEERING SW SIGNAL	m	91			.	**************************************	40		
		4	\dashv	- [With VR30 engine]	Connector Type		TH80FW-CS16-TM4	41	\dashv	
		4	SB.	- [With 2.0L turbo gasoline engine]	ą			45	+	
		2	+		B			43	+	
WIRE TO WIRE		٥	+		<u>د</u> ا			44	+	
00 1110 1014		7	9 4		2		# PO	46	+	'
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		6	+					21	+	,
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		11	_					53		
ر م /	<u></u>	12	\dashv		Terminal	Color Of	Signal Name (Specification)	24	~	
16 15 14 13	12 11 10	13	-		No.	Wire		22	~	
		14	4 BG		1	٨		22	W	
		15	5 BR		2	9		28	>	
		Ä	16 LG		3	L		59	GR	•
Standard Mile	(Contraction of Contraction of Contr	17	۸ /		4	91		09	9	
Signal N	Signal Name (Specification)	18	8 BR		5	>		9	g	
		Ĥ	H	- [With 2.0L turbo gasoline engine]	9	œ		62	H	,
		-	γ γ	- [With VR30 engine]	7	>		63	┝	
- [Wit	th BOSE system]	2	> 0		∞	97		64	H	
- [With	- [Without BOSE system]	2	-E	- [With 2.0L turbo gasoline engine]	10	BG		99	œ	
		21	۱ ۸	- [With VR30 engine]	11	BG		70	ď	
	-	2.	7 r	-	12	PT	•	71	W	
		2	>		13	S.		72	L	

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TELLIGENT (INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE	URBO GASO	LINE ENGINE)						
73 W		Connector No.	823	Connector No.		B52	m	>	 With VR30 engine and without BOSE system
٦		Connector Name	REAR COMBINATION LAMP RH(BODY SIDE)	Connector Name		WIRE TO WIRE	4	SHIELD	- [With VR30 engine]
ď	 [Without paddle shift] 						4	>	- [With 2.0L turbo gasoline engine]
^	- [With paddle shift]	Connector Type	NS04MW-CS	Connector Type		NS16MW-CS	2	9	- [With VR30 engine]
BR		(ú			2	۸	- [With 2.0L turbo gasoline engine]
8							9	BG	- [With VR30 engine]
SB		¥		· ·		16	9	BR	- [With 2.0L turbo gasoline engine]
>	- [With VR30 engine]	2		2		1 2 3 - 4 5 6 7	7	8	- [With 2.0L turbo gasoline engine and with BOSE system]
M	- [With 2.0L turbo gasoline engine]		4 3 2 1			8 9 10 11 12 13 14 15 16	7	BR	- [With VR30 engine and without BOSE system]
9							_	×	- [With VR30 engine and with BOSE system]
œ							7	>	- [With 2.0L turbo gasoline engine and without BOSE System]
BG							∞	8	- [With VR30 engine and with BOSE system]
٦		Terminal Color Of		Terminal	Color Of	911111111111111111111111111111111111111	∞	9	- [With 2.0L turbo gasoline engine]
œ	- [Without paddle shift]	No. Wire	olgnai Name [Specification]	No.	Wire	Signal Name [Specification]	00	>	- [With VR30 engine and without BOSE system]
>	- [With paddle shift]	1 16		1	_		6	91	- [With 2.0L turbo gasoline engine]
В		2 R		4	В		6	CHIELD	- [With VR30 engine]
9		3 \		5	BR	- [With BOSE system]	10	۸	•
>	- [With 2.0L turbo gasoline engine]	4 B		2	>	- [Without BOSE system]	11	GR	
W	- [With VR30 engine]			7	~		12	>	,
GR				8	SHIELD		13	æ	
GR		Connector No.	B34	6	Ь		14	BG	
>		-	COLOR COLOR COLOR COLOR	11	8		15	88	- [With 2.0L turbo gasoline engine]
^		Connector Name		12	GR		15	GR	- [With VR30 engine]
BR - [)	- [With VR30 engine and with BOSE system]	Connector Type	TK02MBR-P	13	o		16	>	,
t	- [Except with VR30 engine and with BOSE system]			14	8		17	Ь	
		Œ		15	M		18	_	
				16	BR		19	œ	
Connector No. B22		Ď.	<u>I</u>				20	GR	
Г	CONTRACTOR OF THE PART I AND THE PART OF T		2 1				21	œ	
Connector Name	COMBINATION DAMP LINGOUS SIDE)			Connector No.		B62	22	>	
Connector Type NS0	NS04MW-CS			Connector Name		WIRE TO WIRE	23	W	•
							24	BG	- [With 2.0L turbo gasoline engine]
		Terminal Color Of	Of Signal Name (Specification)	Connector Type	П	TH80FW-CS16-TM4	24	>	- [With VR30 engine]
		No. Wire		ć			25	٦	- [With 2.0L turbo gasoline engine]
		1 B		修			25	SB	- [With VR30 engine]
	4 3 2 1	2 LG		Ę		(1) (2) (2) (2) (3) (3) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	52	9	- [With VR30 engine]
				ν̈́Ε		207	56	×	- [With 2.0L turbo gasoline engine]
						8 5	27	œ	
							53	91	
Color Of	Cionel Masses (Casaiffeedian)						30	91	- [With 2.0L turbo gasoline engine]
Wire	olgiiai Naille (opeciiicatiori)						30	d	- [With VR30 engine]
97				Terminal	Color Of	Complete Com	31	SHIELD	
۵				No.	Wire	Signal Name [Specification]	32	_	
SB				1	BR	- [With 2.0L turbo gasoline engine and without BOSE System]	33	8	- [With VR30 engine]
8				1	91	- [With VR30 engine]	33	91	- [With 2.0L turbo gasoline engine]
				1	W	- [With 2.0L turbo gasoline engine and with BOSE system]	34	SHIELD	
				2	_	- [With VR30 engine]	32	91	- [With VR30 engine]
				2	SHIELD	- [With 2.0L turbo gasoline engine]	32	Μ	- [With 2.0L turbo gasoline engine]
				3	BR	- [With 2.0L turbo gasoline engine]	36	R	- [With VR30 engine]
				3	В	- [With VR30 engine and with BOSE system]	36	W	- [With 2.0L turbo gasoline engine]

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37	d	- [With 2.0L turbo gasoline engine and without BOSE system]	78	1		Connector No.		B116	Connector No.		8117	
37	В	- [With VR30 engine]	79	æ		Connector Name		POR BOLDONNOCINO	Connector Name		ONIT CONNECTION BOS	
37	Μ	- [With 2.0L turbo gasoline engine and with BOSE system]	80	GR	- [With 2.0L turbo gasoline engine]	COLLECTOR		ON THE CONTROL OF THE POOR			DIN CONNECTOR BOS	
38	Μ		80	*	- [With VR30 engine]	Connector Type		24342_4GA2A	Connector Type		24342_4GA2A	
39	Ь	- [With VR30 engine and without BOSE system]	81	В	- [With VR30 engine]	4			4			
39	œ	- [With 2.0L turbo gasoline engine]	81	œ	- [With 2.0L turbo gasoline engine]	F			彦			
39	>	- [With VR30 engine and with BOSE system]	82	O	- [With	۲		2	ў П		† :	
40	9		82	SHIELD		2		11 10 9 8 7	5		9 =	
41	٦		83	В	- [With 2.0L turbo gasoline engine]			17 16 15 14			18 17 16 15 14 13	
42	æ		83	W	- [With VR30 engine]			24 23 22 21 20 19			24 23 22 21 20 19 5	
43	SHIELD	-	84	BR								
44	d		84	SHIELD	- [With							
45	8	- [With 2.0L turbo gasoline engine]	82	BG	- [With VR30 engine]	Terminal	Color Of	Simal Name (Specification)	Terminal	Color Of	Signal Name [Specification]	
45	9	- [With VR30 engine]	85	9	- [With 2.0L turbo gasoline engine]	No.	Wire	oignal value (obscultation)	No.	Wire	organical contraction of	
46	SHIELD		98	~	- [With 2.0L turbo gasoline engine]	1	_		1	8	- [With 2.0L turbo gasoline engine]	
47	ŋ		98	>	- [With VR30 engine]	2	7		1	SHIELD	- [With VR30 engine]	
48	BG		87	9	- [With VR30 engine]	e	-		2	8		
49	9		87	SHIELD	[With 2.0L turbo gasoline engine]	4	٦		m	8	- [With VR30 engine]	
20	>		8	9	L	5	-		3	SHELD	- [With 2.0L turbo gasoline engine]	
51	GR		90	۵	- [With 2.0L turbo gasoline engine]	9	_		4	80		
52	*	- [With 2.0] turbo gasoline engine]	8	>	- [With VR30 engine]	7	~		L.	-		
1 0	>	- [Mith WR30 engine]	8 6	· -	. [With 2 Of turbo associate	. 00	: 0	. [With Gateway]	1		,	
25		(Surgina Contains)	3 6	, 3	DAVIS COLUMN AND DESCRIPTION OF THE PROPERTY O		: ;	(Avietorie Concessor)	,	, ,		
2 :	z į		35	3	- [with vks0 engine]	0	>	- [without bateway]		-		
54	æ		93	~	4	6	~	- [With Gateway]	80	*		
55	٦	-	93	SHIELD	- [With 2.0L turbo gasoline engine]	6	^	- [Without Gateway]	6	Ь	- [With VR30 engine]	
56	^		94	~		10	ж	- [With VR30 engine]	6	٨	- [With 2.0L turbo gasoline engine]	
57	æ		95	_	- [With 2.0L turbo gasoline engine]	10	>	- [With 2.0L turbo gasoline engine]	10	۵	- [With VR30 engine]	
28	97		95	>	- [With VR30 engine]	11	>		10	>	- [With 2.0L turbo gasoline engine]	
59	۵		96	~	- [With 2.0L turbo gasoline engine]	12	۵	- [With Gateway]	11	۵		
61	_		96	3	- [With VR30 engine]	12	~	- [Without Gateway]	12	۵		
62	۵	- [With VR30 engine]	97	-	- [With VR30 engine]	t	SHIELD		13	-		
62	>	- [With 2.0L turbo gasoline engine]	97	~	- [With 2.0L turbo gasoline engine and with BOSE system]	t	SHELD		14	_		
63	_		6	3	- [With 2.0L turbo gasoline engine and without BOSE system]	t	60	- (With 2.0L turbo gasoline engine)	15	-		
64	*		š	-		t	SHIFLD	- [With VR30 engine]	16	<u> </u>		
99	9		g	88	- IWith VR30 engine and with BOSE system!	t	-	- [With VR30 engine]	17	-		
68	-		66	^	- [With 2 OI turbo gasoline engine]	t	SHEID	- [With 2 01 turbo gasoline engine]	18	-		
9	۵		g	. >	- (Mith VR30 engine and without BOSF system)	t	-	- [With VR30 engine]	19			
71	æ	- [With 2 OI turbo gasoline engine]	Ş	8	- [With VR30 engine]	t	SHEID	- [With 2 0] turbo gasoline engine]	20	-		
7.1	٥	- [Mileh Wash contine]	100	3	Mith 2 Of the confined	t	-	- DAIth VB30 engine]	2.1		- DAVIEW 2 OF Principle appropriate	
1 2	ی ء	- (With WR30 engine)	3	•	[with 2.0t turbo gazonne engine]	+	, Ellin	- [With 2 Of turbo excelling angles]	27	CHEID	- [With 2.0c tailo gasonile engine]	
4 5	,	DAVIS OF STATE OF STA				t	-	Datish 2 Of studen annuline continual	32		Daties 2 Of earth according against	
۲	-	- [with 2.0t tuino gasonine engine]				†	-	- [with 2.0c tubo gasonine engine]	77	٥	- [with 2.00 turno gasonine engine]	
2	×	- [With				+	SHIELD	- [With VR30 engine]	77	SHIELD	- [With VR30 engine]	
73	SHIELD	- [With VR30 engine				7	_	 [With 2.0L turbo gasoline engine] 	23	SHIELD		
74	BG	- [With 2.0L turbo gasoline engine]				20	SHIELD	- [With VR30 engine]	24	SHIELD		
74	7	- [With VR30 engine]				2.1	٦	-				
75	GR.	- [With 2.0L turbo gasoline engine]				22	Ь					
75	>	- [With VR30 engine]				23	۵					
9/	GR	- [With VR30 engine]				24	d.	- [With VR30 engine]				
9/	>	- [With 2.0L turbo gasoline engine]				24	>	- [With 2.0L turbo gasoline engine]				
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< WIRING DIAGRAM > [ICC]

19 L - [Wit	0L TURBO GASOLINE ENGINE) 13	8 g	- [With 2.0L turbo gasoline engine] - [With VR30 engine]	9	P	
- STIELD	laugue	+	fauld vectoring -	10	SHEID	- [With 2:0] turbo easoline engine]
SHIELD		L		11	97	- [With VR30 engine]
-	engine]	Μ		11	SHIELD	- [With 2.0L turbo gasoline engine]
돐	- [With VR30 engine]			13	BG	
22 R	Conne	Connector No.	R123	15	28 28	. ,
Н	Conne	۽	IOINT CONNECTOR-BOJ	17	91	
		T		18	91	,
Connector No. B120	1	connector type	TKO4FW-J	20	91	
Connector Name JOINT CONNECTOR-B02						
Connector Type 24342_4GA2A		201	1143211	Connector No.	П	E3
				Connector Name		WIRE TO WIRE
-	4			Connector Type	П	TH24MW-NH
2 2 2	10 9 8 7 1 14 14 13 1 Torminal	JOseph Joseph		1		
_	22 21 20 19	Wire	Signal Name [Specification]	李		
	1-1	H		Š		4 5 6 7 8 9 10
Terminal Color Of	2 8	B B	- [With 2.0L turbo gasoline engine]			131415161718192021222324
	ognai Name [opecification]	SHIELD	- [With VR30 engine]			
ez (4	8	,	F	30-1-1-0	
-	[With VB30 engine]			No.	Wire	Signal Name [Specification]
R - [With 2	ngine]	Connector No.	B127	1	16	- [With 2.0L turbo gasoline engine]
1		Connector Name	JOINT CONNECTOR-B03	1	>	- [With VR30 engine]
4 R - [With 2	- [With 2.0L turbo gasoline engine]	T	CO COCCEIN	2 5	× -	
- L		7	DC-DC-DC-DC-DC-DC-DC-DC-DC-DC-DC-DC-DC-D	0 <	2 0	- IWith VB30 angles
, _				4	. SB	- [With 2.0L turbo gasoline engine]
7 8	1			2	_	
1	- [With 2.0L turbo gasoline engine]	5	987654321	9	>	-
œ	- [With VR30 engine]		20 19 18 17 15 14 13 11 10	7	91	
	- [With 2.0L turbo gasoline engine]	_		80	BG	1
œ	ith VR30 engine]			6	>	
+		-		10	8	
+	- Terminal	_	Signal Name [Specification]	11	U	
\dashv	- No.	Wire	(1000000000000000000000000000000000000	12	ď	
\dashv	- 1	В		13	g	
15 W	- 2	SHIELD		14	9	
17 SHIELD		SHIELD		15	16	- [With 2.0L turbo gasoline engine]
B	. 4	SHIELD		15	^	- [With VR30 engine]
19 B - [Wit	[With 2.0L turbo gasoline engine] 5	SHIELD	•	16	٨	
\dashv		۵		17	Ь	
GR	_		_	10		
	- [With VR30 engine] 7	_		81	BK	

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INTELL	INTELLIGENT CRUISE CONTROI		JRBO	GASOLI	(2.0L TURBO GASOLINE ENGINE)						
19	Y - [With	[With VR30 engine]	Conne	ctor No.	E25	38	Ь	- [With 2.0L turbo gasoline engine and without gateway]	76	9	
20			Jonno	Connector Name	WIRE TO WIRE	38	ч	- [With 2.0L turbo gasoline engine and with gateway]	77	Υ	
2.1	R - [With 2.0L turbo gasoline	urbo gasoline engine]		SCLOI IVAILLE	WINE IO WINE	39	BR	- [With 2.0L turbo gasoline engine]	78	91	- [With 2.0L turbo gasoline engine and with ADAS]
21	V - [With	- [With VR30 engine]	Conne	Connector Type	TH80FW-CS16-TM4	39	Υ	- [With VR30 engine]	78	Ь	- [With VR30 engine]
22			4			40	SB		78	>	- [With 2.0L turbo gasoline engine and without ADAS]
23	Ь	-	ß	_		41	91		79	SB	
24	B - [With	- [With VR30 engine]	₹	e	5 2	44	٨		80	9	
24	BR - [With 2.0L tu	- [With 2.0L turbo gasoline engine]	1	á	2 C C C C C C C C C C C C C C C C C C C	45	_	- [With 2.0L turbo gasoline engine]	81	~	
					8	45	W	- [With VR30 engine]	82	>	
					92	46	В	- [With VR30 engine]	83	BR	- [With 2.0L turbo gasoline engine]
Connector No.	r. E14					46	٨	- [With 2.0L turbo gasoline engine]	83	æ	- [With VR30 engine]
omen rotocaco	DOM OT DOM					47	9		84	91	
N IODAINO			Terminal	inal Color Of	Complete Consideration	48	SHIELD		98	BG	
Connector Type	pe SAA18MB-RS10-SJZ2	2	No.	Wire	olgital ivalite [openiication]	49	ж		87	9	
			-	BG		20	BB	- [With VR30 engine]	88	97	
E		20012020	9	>		20	GR	- [With 2.0L turbo gasoline engine]	90	9	- [With VR30 engine]
ŧ	211101	10 11 12 13 14 15 16 17 18	_	_		51	_		8	æ	- [With 2.0L turbo gasoline engine]
Ċ	02	20 21 22 23 24	00	BG	- [With VR30 engine]	52	>		91	ŋ	
	92	27 28 29 30 23	∞	H	- [With 2.0L turbo gasoline engine]	23	>		93	B	
			6	m	- [With 2.0L turbo gasoline engine]	54	۵	- [With VR30 engine]	94	S	- [With VR30 engine]
			6	GR.	- [With VR30 engine] (Color of wire differs depending on production)	54	>	- [With 2,0L turbo gasoline engine]	94	L	- [With 2,0L turbo gasoline engine]
			6	H	- [With VR30 engine] [Color of wire differs depending on production]	55	В	- [With 2.0L turbo gasoline engine]	95	88	- [With VR30 engine]
Terminal Co	Color Of		10	╀		55	>	- [With VR30 engine]	95	۵	- [With 2.0L turbo gasoline engine and without gateway]
		Signal Name (Specification)	=	╀		y.	S.	- [With 2 Of turbo gasoline angine]	ő	۵	[With 3 Oil turbo gasoling apging and with gatesian]
t)		112		- [With VR30 engine]	2,6	8 8	- [with VR30 engine]	96	4 3	[with 2.0t to be gasonife engine and with Bateway]
	-		5	╀	Mith 3 Of the parallel and a series	5	8	[Mith Wood coming]	6		
0	ه ا د		12	-	1) i	20 3	- [with 5 of 4-th coording	6	3 -	
D I	0 %		3 3	†	1	n s	\$ 6	- [אוווו ביסר וחומס פֿמסוווום בוופֿוווב]	000		
,	BG.		2	+	- [With VR30 engine]	28	a .	- [Color of wire differs depending on production]	S :	2	- [With 2.0L turbo gasoline engine]
∞	91		14	\dashv		28	B/W	 [Color of wire differs depending on production] 	66	۵	- [With VR30 engine]
6	~		15	GR	- [With 2.0L turbo gasoline engine]	59	≥		100	SHIELD	
11	GR		15	SB	- [With VR30 engine]	61	ч				
12	8		16	BR	- [With 2.0L turbo gasoline engine]	64	٨				
13	8	-	16	*	- [With VR30 engine]	9	BR	- [Color of wire differs depending on production]	Connec	Connector No.	E35
14	9	1	17	BR	- [With VR30 engine]	65	æ	- [Color of wire differs depending on production]		N	TARREST TOWNSHIP AND THE STREET AND THE STREET STREET STREET
15	9		17	- GR	- [With 2.0L turbo gasoline engine]	99	æ)allion	OI NATHE	ABS ACTUAL ON MIND ELECTRIC OWIT (CONTROL OWIT)
16	۸		18	9	- [With 2.0L turbo gasoline engine]	67	91		Connec	Connector Type	SAZ30FB-SJZ4-U
17	8		18	۵.	- [With VR30 engine]	89	BG] [,	
18	SB		19	>		69	_		E		
21	8		31	*	- [With 2.0L turbo gasoline engine]	70	æ				25 30 30
t	SHIELD		31	┞	- [With VR30 engine]	17	g	- [With 2.0L turbo gasoline engine]	?	-	2 15 17 18 19 20
t	۵		32	o	- [With 2.0L turbo gasoline engine]	7.1	91	- [With VR30 engine]			<u>.</u>
24			32	ŀ	- [With VR30 engine]	72	_	- [With 2.0L turbo gasoline engine]			4 / E1 1016812 S . 1 h
25	^		33	H	- [With VR30 engine]	72	>	- [With VR30 engine]			
56	9		33	>	- [With 2.0L turbo gasoline engine]	73	9	- [With VR30 engine]			
28	80		34	۵		73	>	- [With 2.0L turbo gasoline engine]	Terminal	al Color Of	
	-		35	89		74	BR	- [With VR30 engine]	No.	Wire	Signal Name [Specification]
			36	╀		74	_	- [With 2.0L turbo gasoline engine]	-	6	dnb
			37	٦	- [With 2.0L turbo gasoline engine]	75	۵	- [With 2.0L turbo gasoline engine and without gateway]	2	8	GND
			37	>	- [With VR30 engine]	75	. ~	- [With 2.0L turbo gasoline engine and with gateway]	m	ی ا	VALVE BATTERY [With VR30 engine]
			38	٦	- [With VR30 engine]	75	>	- [With VR30 engine]	٣	۵	VALVE BATTERY [With 2.0L turbo gasoline engine]

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< WIRING DIAGRAM >

TELAY Gometon Gometon Gometon Gometon	Signal Name [Specification] -[With 2.0t Lutho gasodine engine] - BLOCK (J/B) SEW-CS 3E 2 18	Signal Name (Specification)
NE ENGINE) 15:2 ICORNECTOR NO. ICC BRAKE HOLD RELAY MS027E-M32-LC Connector Name Connector Type 15 15 11.5	Terminal Color Of Name [Specification] Terminal Color Of Name Specification] Terminal Color Of Name Terminal Color Of Name	No. Wire Signal Nane [Specification] No. Wire No. No. Wire No. No.
V	19	Terminal Color Of Signal Name [Specification] 1 G - [Color of wire diffres depending on production] 1 D V - [Color of wire defres depending on production] 2 BG - [With VR3d ownine] 2 BR - [With 2.0! turbo gasoline engine]

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	ł	╀	> = > > = 1	. W	$^{+}$	+		23 P -	24 BR -	26 V -	H	28 BG .			Connector No. M13	(2 III GOW COTMOO MOOD WOOD		Connector Type TH40FG-NH				20 18 17 16 15 14 13 12 11 10	39 33 33 27 28 23 21				Terminal Color Of Signal Name (Secretion)	No. Wire olginal value [apecinication]	1 R PUSH SW	3 Y SENS PWR SPLY	4 BG OPTICAL SENSOR		10 W COMBI SW OUTPUT 5	SB	7	13 G COMBI SW OUTPUT 2	14 P COMBI SW OUTPUT 1	15 G ONE TOUCH UNLK SENS (DR)	16 G ONE TOUCH UNLK SENS (PASS)	17 P RECEIVER/SENSOR GND	18 L SECURITY IND LAMP CONT	20 R DETENT SW	21 SB STEP LAMP CONT	25 R STOP LAMP SW2	26 R EXTENDED STORAGE FUSE SW	а	30 W DR DOOR UNLK SENS	33 V TR LID OP CANCEL SW	g	39 BR P/N POSITION
Connector No. F720		Connector Name JOINT CONNECTOR-E05	Connector Type NH24FB-J	1	€	(本)			0.00	24 23			Terminal Color Of	No. Wire Signal Name (Specification)	3 W	4 1	7 W 7			٦	-	15 R - [With Gateway]		19 P - [Without Gateway]	19 R - [With Gateway]	20 L	23 P - [Without Gateway]	23 R - [With Gateway]	24 L			Connector No. E223	Connector Name IOINT CONNECTOR-FOR	П	Connector Type SGA28FB-J	ф		n c	5 2 2 2	0 0	92 20			Terminal Color Of Cianal Manage (Canadigated)	No. Wire Signal Name [Specification]	2 GR -	3 6	4 BR -	- B0	7 6
(2.0L TURBO GASOLINE ENGINE)	Т	Connector Name ECM	Connector Type ADA52FB-AHZ6	1			101 102 101 102 103 103 103 103 103 103 103 103 103 103	W1 88					Terminal Color Of	No. Wire Signal Name [Specification]	97 G POWER SUPPLY (MAIN)	98 B ECM GROUND	99 G POWER SUPPLY (MAIN)	100 B ECM GROUND	101 G POWER SUPPLY (MAIN)	102 B ECM GROUND	V COOLIN	*	R SEI	W	109 P ENGINE SPEED SIGNAL	111 G POWER SUPPLY	116 LG STARTER RELAY-L	119 BR SENSOR GROUND	BG	123 BR MAIN RELAY CONTROL SIGNAL	^	G ACCELERATOR PE	7	٦	GR	143 LG REFRIGERANT PRESSURE SENSOR	145 L ACCELERATOR PEDAL POSITION SENSOR 2	146 L FUEL TANK PRESSURE SENSOR	L STAR	150 P CAN-L	Ь	152 B EVAP CANISTER VENT CONTROL VALVE	153 G EVAP PURGE CONTROL VALVE							
INTELLIGENT CRUISE CONTROL (2.0L TU	+	2 8	5) >	+	+	+	_	22 SHIELD -	23 P .	24 L -	25 V	26 B	28 B			Connector No. E80		Connector Name ICC SENSOR	Connector Type AAZ08FB	í			=======================================	9 8				Terminal Color Of Signal Name (Specification)	No. Wire Signal Name (Specification)	1 R IGNITION	3 L ITS COMM-H	۲ .	8 B GROUND																

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						engine)					100	OSE system)	BOSE Systemy								8 1:	2 2 2	101	7		[uo,			engine]	engine]			fau@ua	engine		engine]		engine]	engine]		cugine	
						- [With 2.0L turbo gasoline engine]	- [With VR30 engine				of the contract of the contrac	- [with VK50 engine and with bose system]	- Icacept with viso engine and with		M22	WIDE TO WIDE	VINE 10 WINE	TH80MW-CS16-TM4						4		Signal Name [Specification]		- [With VR30 engine]	- [With 2.0L turbo gasoline engine]	- [With 2.0L turbo gasoline engine]	- [With VR30 engine]	- [With VR30 engine	- [With Z.OL (dibb gasonine engine] - [With VR30 engine]	- [With 2.0L turbo gasoline engine]	- [With VR30 engine	- [With 2.0L turbo gasoline engine]	- [With VR30 engine]	- [With 2.0L turbo gasoline engine]	- [With 2.0L turbo gasoline engine]	- [With VR30 engine]	- [with 2.0L turbo gasoline	
8	Я	98	J //		9	>	W	GR	GR	W	> 8	¥ >	-			Г		П								Color Of Wire	91	_	SHIELD	BR	œ	SHIELD	ی ۔	>	BG	BR	91	d	g	٩ .	01	
81	82	83	8 8	8 8	88	88	68	91	94	96	97	8 8	8		Connector No.	Omera Name	Onallion	Connector Type	Q	事						Terminal	1	2	2	3	т	4	4 "	LS.	9	9	7	7	8	00 0	n	0
	•		- [With 2:0L turbo gasoline engine]	- [With 2.0L turbo gasoline engine]	- [With VR30 engine]		•																					1														
>	SB	æ	¥ >	- -	*	9	œ	œ	BR	В	e0 :	> 6	- ≥	: 8	97	Ь	9	BR	BR	H S	2 3	>	- >	91	æ	ж ×	; >	98	9	9	BG	88 ×	- «	91	*	8	*	_	>	W c	٥	
20	22	23	24	25	25	56	27	28	31	32	33	ŧ :	36	33	38	40	41	42	43	44	46	3 12	52	53	54	55	28	59	09	61	62	63	# 9 9	20	71	72	73	74	75	2,6	/ /	
M18	WIRE TO WIRE	┑	NS16MW-CS			123 - 4567	8 9 10 11 12 13 14 15 16			-	Of Signal Name [Specification]						M19	WIRE TO WIRE	Т	TH80MW-CS16-TM4	ĺ	20 E E E E E E E E E E E E E E E E E E E						Signal Name [Specification]			•											
Connector No.	Connector Name		Connector Type	_	Ţ	2				- 1	la D	NO.	11 4	12 GR	$\frac{1}{2}$		Connector No.	Connector Name		Connector Type		_	Ξ. Š.				Ferminal Color Of		1	2 6	+	4 BR	6 9	A .	8	10 BG	11 BR	Н	13 GR	14 R	12 CT	
M14 Conr	BCM (BODY CONTROL MODULE)		IH40FB-NH				80 70 78 77 78 78 78 78 78 78 68 68 68 68 68 68 68 68 68 68 68 68 68				Signal Name [Specification]	1	DONGIE LINK			CAN-L		CONT		LKEY WARN BUZZER	OUIS HD LAMP CON!	BLOWER FAN RLY CONT [With VK30 engine]		DIMMER	A/T SHIFT SELECT PWR SPLY	IGN RLYAY (IPDM E/R) CONT			COMBI SW INPUT 4	COMBI SW INPUT 3		COMBI SW INPUT 1				<u> [</u>			0			
$\overline{}$. 1	Т			_		-		Ī	Color Of	2 2	ی د	, >	œ	Ь	٦	9	œ	> (2 α	α >	. M/B	œ	GR	a (88	BR.	BG	^	>	១ -	,									
Connector No.	Connector Name	ļ	Connector Type								8_1	1	L	L	L	L	ш	Ш		_	ᆚ	┵	┸	ш	╝	_	┸	┺	ш		┚	_	╛									

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INTE	LLIGE	INTELLIGENT CRUISE CONTROL (2.0L TL	IRBO G	ASOLI	(2.0L TURBO GASOLINE ENGINE)					
12	>		49	9		88	BR	- [With VR30 engine]	Connector No.	M25
13	9 9		20	> >		8 8	9 9	- [With 2:0L turbo gasoline engine]	Connector Name	DATA LINK CONNECTOR
15	88	- [With 2.0L turbo gasoline engine]	52		- [With 2.0L turbo gasoline engine]	06	3 >	- [With VR30 engine]	Connector Type	BD16FW
15	Ь	- [With VR30 engine]	52	>	- [With VR30 engine]	92	٦	- [With 2.0L turbo gasoline engine]	ı	
16	SB	- [With DCM]	53	w.		95	Μ	- [With VR30 engine]	E	
16	^	- [Without DCM]	24	GR		93	В	- [With VR30 engine]	· ·	
17	γ	•	25	٦		93	SHIELD	- [With 2.0L turbo gasoline engine]	Ċ	11 12 13 14 16
18	٦		26	۵		94	œ	•		3 4 5 6 7 8
19	9		57	~		95	_	- [With 2.0L turbo gasoline engine]		
20	GR	•	28	97	-	95	>	- [With VR30 engine]		
21	R		29	SB		96	Я	- [With 2.0L turbo gasoline engine]		
22	>	•	61	٦		96	≥	- [With VR30 engine]	Terminal Color Of	Signal Name (Specification)
23	_		62	۵.	- [With 2.0L turbo gasoline engine]	97	_	- [With VR30 engine]	No. Wire	from and a man and a
24	BG	- [With 2.0L turbo gasoline engine]	62	>	- [With VR30 engine]	97	œ	- [With 2.0L turbo gasoline engine]	3 16	M_CAN_L
24	>	- [With VR30 engine]	63	٦		86	BR		4 B	EARTH
25	7	- [With 2.0L turbo gasoline engine]	64	W		66	BR	- [With VR30 engine and with BOSE system]	5 B	EARTH
25	SB	- [With VR30 engine]	99	~		66	Ь	- [With 2.0L turbo gasoline engine]	7 9	CAN-H
56	9	- [With VR30 engine]	89	_		66	>	- [With VR30 engine and without BOSE system]	7	KLINE [With 2.0L turbo gasoline engine]
56	×	- [With 2.0L turbo gasoline engine]	69	۵		100	BR	- [With VR30 engine]	. M	KLINE [With VR30 engine]
27	æ		71	g	- [With 2.0L turbo gasoline engine]	100	*	- [With 2.0L turbo gasoline engine]	8	NS NDI
53	91		71	œ	- [With VR30 engine]				11 SB	M_CAN_H
30	SB	- [With VR30 engine]	72	9	- [With VR30 engine]				12 R	CAN-L
30	>	- [With 2.0L turbo gasoline engine]	72	>	- [With 2.0L turbo gasoline engine]	Connector No.	r No.	M24	13 L	CAN-H
31	SHIELD		73	91	- [With 2.0L turbo gasoline engine]	Strongo	Connector Mamo	CAN CATEMAN	14 P	CAN-L
32	٦		73	SHIELD	- [With VR30 engine]		i Nallic	CAN GALLWAY	16 W	POWER
33	В	- [With VR30 engine]	74	٦	- [With VR30 engine]	Connector Type	ır Type	TH12FW-NH		
33	97	- [With 2.0L turbo gasoline engine]	74	91	- [With 2.0L turbo gasoline engine]	4				
34	SHIELD		75	Ь		B			Connector No.	M40
35	97	- [With VR30 engine]	16	SB	- [With 2.0L turbo gasoline engine]	· ·			Connector Name	HINE TO WIRE
35	W	- [With 2.0L turbo gasoline engine]	26	۸	- [With VR30 engine]	Ś		1 3 4 5 6	COIIIIECTOI MAIIIE	WINE IS WINE
36	В	- [With VR30 engine]	77	٨				0 -	Connector Type	TH80MW-CS16-TM4
36	>	- [With 2.0L turbo gasoline engine]	78	٦				7 1 10 16 17	4	
37	æ	- [With VR30 engine]	79	9	-				B	
37	>	- [With 2.0L turbo gasoline engine]	80	GR	- [With 2.0L turbo gasoline engine]				Ě	1
38	Μ	-	80	Μ	- [With VR30 engine]	Terminal	Color Of	Simal Name (Specification)	21	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
39	۵	- [With VR30 engine and without BOSE system]	81	8	- [With VR30 engine]	No.	Wire	office realize (observed or)		A 9 NAME (1988) NA
39	æ	- [With 2.0L turbo gasoline engine]	81	В	- [With 2.0L turbo gasoline engine]	1	٦	CAN-H (CAN COMMUNICATION CIRCUIT 1)		30 30 30 30 30 30 30 30 30 30 30 30 30 3
39	>	- [With VR30 engine and with BOSE system]	82	9	- [With 2.0L turbo gasoline engine]	m	Μ	BATTERY POWER SUPPLY		
40	9		82	SHIELD	- [With VR30 engine]	4	_	CAN-H (CAN COMMUNICATION CIRCUIT 2)		
41	_		83	œ	- [With 2.0L turbo gasoline engine]	Ŋ	8	GROUND	Terminal Color Of	3
42	~	,	83	>	- [With VR30 engine]	9	_	CAN-H (CAN COMMUNICATION CIRCUIT 2)	No. Wire	Signal Name (Specification)
43	SHIELD		84	BR	- [With VR30 engine]	7	а	CAN-L (CAN COMMUNICATION CIRCUIT 1)	1 BG	
44	۵		84	SHIELD	- [With 2.0L turbo gasoline engine]	6	~	IGNITION POWER SUPPLY [With VR30 engine and without ISS]	8/M 9	
45	8	- [With 2.0L turbo gasoline engine]	82	BR	- [With VR30 engine]	6	Α	IGNITION POWER SUPPLY [Except with VR30 engine and without ISS]	7 V	1
45	9	- [With VR30 engine]	82	9	- [With 2.0L turbo gasoline engine]	10	В	CAN-L (CAN COMMUNICATION CIRCUIT 2)	8 BG	- [With VR30 engine]
46	SHIELD		98	ď	- [With 2.0L turbo gasoline engine]	11	В	GROUND	8 BR	- [With 2.0L turbo gasoline engine]
47	ŋ	-	98	>	- [With VR30 engine]	12	œ	CAN-L (CAN COMMUNICATION CIRCUIT 2)	\dashv	- [With VR30 engine]
48	BG	\dashv	87	91	- [With VR30 engine]				_	 (With 2.0L turbo gasoline engine)
48	BR	 [With VR30 engine and with BOSE system] 	87	SHIELD	- [With 2.0L turbo gasoline engine]				10 W	

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[ICC] < WIRING DIAGRAM >

11	w - [With VR30 e	engine]	55	۵	- [With VR30 engine]	95 R	- [With 2.0L turbo gasoline engine and with gateway]		BATTERY POWER SUPPLY
11	Y - [With 2.0L turbo gasoline engine	soline engine]	26	98	- [With VR30 engine]	M 96		46 BG IGNITION SIGNAL [E	IGNITION SIGNAL [Except with VR30 engine and without ISS]
12	B - [With VR30 engine]	angine]	99	GR	- [With 2.0L turbo gasoline engine]	97 /6		46 R IGNITION SIGNAL	IGNITION SIGNAL [With VR30 engine and without ISS]
12	BR - [With 2.0L turbo gasoline engine	soline engine]	22	GR	- [With VR30 engine]	γ 86		47 SB AV COMI	AV COMMUNICATION SIGNAL (H)
13	GR - [With VR30 engine]	ngine]	23	Ь	- [With 2.0L turbo gasoline engine]	99 BR	- [With VR30 engine]	48 LG AV COM	AV COMMUNICATION SIGNAL (L)
T	SHIELD - [With 2.0L turbo gasoline engine	soline engine]	28	8		\dashv	- [With 2.0L turbo gasoline engine]	BR	EVEL SENSOR SIGNAL
14			29	SB		100 SHIELD	- 01	52 B	GROUND
15	BG - [With 2.0L turbo gasoline engine	soline engine]	61	W/B					
15	SB - [With VR30 engine]	ingine]	64	٨					
16	B - [With VR30 engine]	ingine]	9	~		Connector No.	M56	Connector No. M77	
16	BR - [With 2.0L turbo gasoline engine	soline engine]	99	Ь	- [Color of wire differs depending on production]	Connector Name	STREET OF STREET STREET STREET STREET	GOSINGS STONY SINIGHESTS	BOSINGO
17			99	>	- [Color of wire differs depending on production]	CONTRECTOR INSTITUT			E SEINSUR
18	B - [With VR30 engine]	ingine]	29	91		Connector Type	TH16FW-NH	Connector Type TH08FW-NH	
\dashv	W/B - [With 2.0L turbo gas	soline engine]	89	BG		ģ		þ	
19	Υ.		69	٦		B		B	
31			70	æ		Ě	<u> </u>	3	_
32	G - [With 2.0L turbo gasoline engine	soline engine)	71	>	- [With VR30 engine]	Ž	5 3	113	1 2 4
32	V - [With VR30 engine]	sugine]	7.1	Μ	- [With 2.0L turbo gasoline engine]		9		1
33	L - [With VR30 engine]	ingine]	72	_	- [With 2.0L turbo gasoline engine]		13 111		2
33	Y - [With 2.0L turbo gasoline engine	soline engine]	72	91	- [With VR30 engine]				
34			73	æ	- [With VR30 engine]				
	BG .		73	>	- [With 2.0L turbo gasoline engine]	Terminal Color Of		Terminal Color Of	3 3
H	. 9		74	BR	- [With VR30 engine]	No. Wire	Signal Name [Specification]		Signal Name [Specification]
37	B - [With VR30 engine]	'ngine]	74	-	- [With 2.0L turbo gasoline engine]	1 6	NOILION	1 8	GROUND
37	L - [With 2.0L turbo gasoline engine	soline engine]	75	а	- [With VR30 engine]	3	ITS COMM-H		CAN-L [Without Gateway]
38	L - [With VR30 engine]	ngine	75	۵	- [With 2.0L turbo gasoline engine and without gateway]	15		2 R CAI	CAN-L [With Gateway]
388	P - [With 2:0L turbo gasoline engine and without	e and without gateway	75	~	- [With 2.0L turbo gasoline engine and with gateway]	ŀ	WARNIN		NSI
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45	- With	soline engine]	81	~		Connector Name	COMBINATION METER	Connector Type M02FBR-LC	
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46	+	engine]	83	æ	 [With 2.0L turbo gasoline engine] 	Connector Type	TH12FW-NH	生力	[
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+	BG - [With 2.0L turbo gasoline engine	soline engine]	84	>		B		n.3.	-
47	R - [With VR30 engine]	ingine]	98	>		Ę	<u>_</u>		0
48 SF	SHIELD -		87	g		Ċ.	41 40 40 44 45 46]
49	B - [With VR30 engine]	ngine]	68	>			01 01 11 01 71 -1		
49	G - [With 2.0L turbo gasoline engine	soline engine]	96	ی	- [With VR30 engine]		25 [5] [27]		
20		soline engine]	06	>	- [With 2.0L turbo gasoline engine]			Terminal Color Of	
╀	ŀ	nginel	91	3				Wire	Signal Name [Specification]
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+	SB - [With 2.0L turbo gasoline engine	soline engine)	94	-	- [With 2.0L turbo gasoline engine]	+	+		
54	Y - [With VR30 engine]	angine]	92	BR	- [With VR30 engine]	43 B	ILLUMINATION CONTROL SIGNAL		

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INTELLIC	INTELLIGENT CRUISE CONTROL (2.0L TURBO GASOLINE ENGINE)	URBO	GASOI	INE ENGINE)						
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是		38	\dashv	IONIZER (ON/OFF) CONTROL SIGNAL	唐			32C	4	
Ě		40	BG G	_	Ě			33C	4	- [With VR30 engine]
5	25 24 31 32				2		<u></u>	33C	~	- [With 2.0L turbo gasoline engine]
	33						2 1	34C	M/B	
		Conne	Connector No.	M100				35C	SB	
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		3	all land					37C	W	
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No. W	Wire Signal Name [Specification]	[No.	Wire	olgnar Name (opecification)	39C	>	
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		25	_	CAN-H	Terminal Col	Color Of	Circuit Money Concidential	•		5 4 3 2 1
		30	R	IGN [For VR30 engine]	-	Wire	signal Name (specification)	-	Ų.	8
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lal	Color Of Signal Name (Specification)	31	. R	VEHICLE SPEED SIGNAL (8-PULSE)	12C	٦				22 21 20 19
No. W	Wire Uppermeason	33	S SB	ACC [Except for VR30 engine and with ISS]	13C	T				
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2	B GROUND	34	>	BAT	15C	æ		Terminal	nal Color Of	Cinnal Name [Candification]
3	W BATTERY POWER SUPPLY				16C	ж		No.	Wire	orginal ivaline [obsermeation]
7	G AMBIENT SENSOR SIGNAL				17C	7		1	В	
6	R SUNLOAD SENSOR SIGNAL				18C	BG	- [Without DRPO]	7	ω	
13 S	SB ACC POWER SUPPLY [With 2.0L turbo gasoline engine]				18C	Ь	- [With DRPO]	3	8	
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50	L HEATED STEERING WHEEL RELAY CONTROL SIGNAL				22C	1		6	В	
21	P CAN-L				23C	_		10	8	
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23	R IGNITION POWER SUPPLY [With VR30 engine and with ISS]				36C :	SB	,	13	_	
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INTELLIGENT CRUISE CONTROL

[ICC] < WIRING DIAGRAM >

INTELLIGENT CRUISE CONTROL (2.0L LURBO GASOLINE ENGINE)	IKBO GAS	OLINE LINGINE,			
	Connector No.	П	Connector No.	M174	П
16 L :	Connector Name	me JOINT CONNECTOR-M03	Connector Name	JOINT CONNECTOR-M04	Connector Name JOINT CONNECTOR-M05
\vdash	Connector Type	pe 24342_4GA2A	Connector Type	24342_4GA2A	Connector Type NH20FL-DC
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88	18	SB - [With VR30 engine]	+		· «
R SUB BATTERY CURRENT SENSOR	19	ŀ	+		9
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SENSOR GROUND (MAIN BATTERY CURRENT/TEMPERATL	50	ŀ	╀		
36 G SENSOR GROUND (SUB BATTERY CURRENT/TEMPERATURE SENSOR)	20	LG - [With 2.0L turbo gasoline engine]	$\left\{ \right.$		
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	24	SB - [With VR30 engine and with ISS] V - [With VR30 engine and with ISS]			

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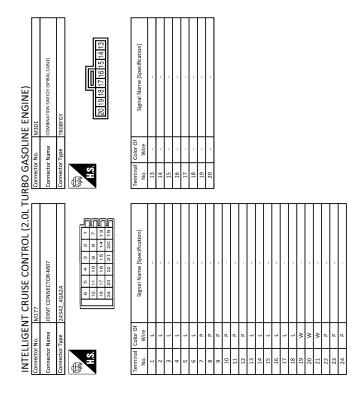
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< BASIC INSPECTION > [ICC]

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

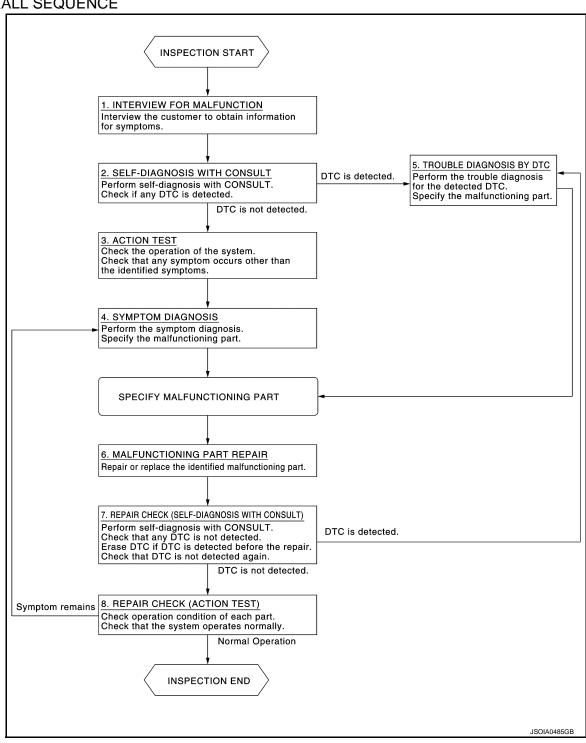
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OVERALL SEQUENCE



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:

DIAGNOSIS AND REPAIR WORK FLOW

[ICC]

< BASIC INSPECTION >

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

>> GO TO 2.

2. SELF-DIAGNOSIS WITH CONSULT

- 1. Perform "All DTC Reading" with CONSULT.
- Check if any DTC is detected in self-diagnosis results of "ICC/ADAS", "LASER/RADAR", and "BSW/BUZZER".

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 3.

3. ACTION TEST

Perform the ICC system action test to check the operation status. Refer to CCS-126, "Description". Check if any other malfunctions occur.

>> GO TO 4.

4.SYMPTOM DIAGNOSIS

Perform the applicable diagnosis according to the diagnosis chart by symptom. Refer to CCS-150, "Symptom Table".

>> GO TO 6.

5. TROUBLE DIAGNOSIS BY DTC

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

NOTE:

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

>> GO TO 6.

6. MALFUNCTIONING PART REPAIR

Repair or replace the identified malfunctioning parts.

>> GO TO 7.

7. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)

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

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 8.

8.REPAIR CHECK (ACTION TEST)

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

YES >> GO TO 4.

NO >> INSPECTION END

ADDITIONAL SERVICE WHEN REPLACING ICC SENSOR

< BASIC INSPECTION > [ICC]

ADDITIONAL SERVICE WHEN REPLACING ICC SENSOR

Description

• Always perform the radar alignment after removing and installing or replacing the ICC sensor.

CAUTION:

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

• Perform the ICC system action test to check that the ICC system operates normally.

Work Procedure

1.PERFORM RADAR ALIGNMENT

>> GO TO 2.

2.ICC SYSTEM ACTION TEST

Perform the ICC system action test. Refer to <u>CCS-126, "Description"</u>.

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

2. Check that the ICC system operates normally.

>> INSPECTION END

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Revision: November 2016 CCS-113 2016 Q50

< BASIC INSPECTION > [ICC]

ICC SENSOR ALIGNMENT

Application Notice

INFOID:0000000012789882

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

TYPF 1

TYPE 1 : Description

INFOID:0000000012789883

OUTLINE OF RADAR ALIGNMENT PROCEDURE

- A 4-wheel vehicle alignment must be performed before proceeding with radar alignment procedure.
- Always perform the radar alignment after removing and installing or replacing the ICC sensor.

WARNING

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

CAUTION:

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

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

CAUTIONARY POINT FOR RADAR ALIGNMENT PROCEDURE

CAUTION:

- For radar alignment procedure, choose a level location with a few meter of working space in front and surrounding the vehicle.
- Vehicle must be stationary and unoccupied during the whole alignment procedure.
- Any slight vibration during the alignment procedure can cause the test to fail. If this happens, you
 will have to restart the alignment process.
- The ignition switch must be in the ON position.
- The battery voltage must not fall below 12 volts during the whole alignment procedure. Failure to maintain adequate battery voltage will cause the test to fail. If this happens, you will have to restart the alignment process.
- The ICC target board must be set in front of the vehicle facing the sensor.
- Adjust the radar alignment with CONSULT. (The radar alignment procedure cannot be adjusted without CONSULT.)
- Never enter the vehicle during radar alignment.
- Never block the area between the radar and the ICC target board at any time during the alignment process.
- Accurate steering wheel setting is crucial. Once set, do not disturb the steering wheel for the remainder of the alignment procedure.
- For proper system operation and adjustment, all vehicle wheels must be of the same size.

TYPE 1: Work Procedure (Preparation)

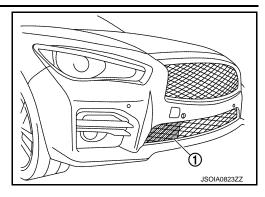
INFOID:0000000012789884

1. ADVANCE PREPARATION FOR RADAR ALIGNMENT

- 1. Adjust all tire pressure to the specified value.
- 2. Empty the vehicle. (Remove any luggage from the passenger compartment, trunk room, etc.)
- 3. Shift the selector lever to "P" position, and release the parking brake.
- 4. Fully fill the fuel tank, and then check that the coolant and oils are filled up to correct level.

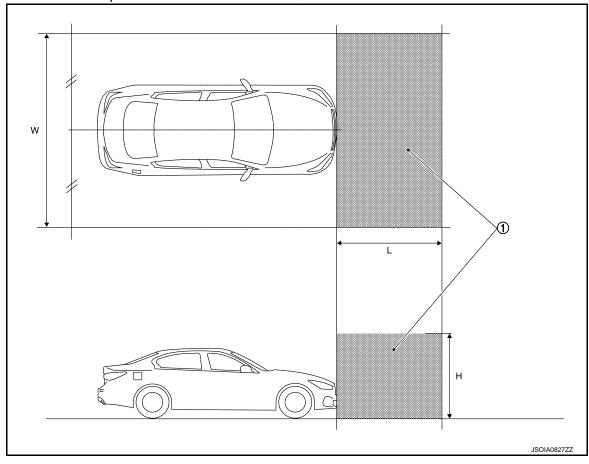
Clean the ICC sensor area ① of the front bumper grille.

>> GO TO 2.



2. RADAR ALIGNMENT OPERATION AREA

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



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

NOTE:

1) is a no object zone.

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

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

INFOID:0000000012789885

DESCRIPTION

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

CAUTION:

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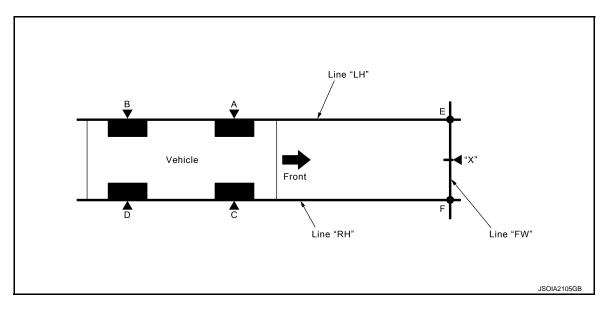
If the radar alignment is adjusted with the distance sensor target board in the incorrect position, the ICC system does not function normally.

1. DISTANCE SENSOR TARGET BOARD HEIGHT ADJUSTMENT

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

>> GO TO 2.

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



Mark points "A", "B", "C" and "D"at the center of the lateral surface of each wheels.

NOTE:

Hang a string with a cone from the fender so as to pass through the center of wheel, and then mark a point at the center of the lateral surface of the wheel.

2. Draw line "LH" passing through points "A" and "B" on the left side of vehicle.

NOTE:

Approximately 2 m (6.56 ft) or more from the front end of vehicle.

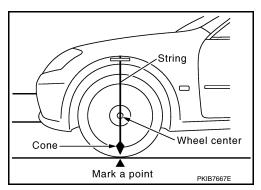
- 3. Mark point "E" on the line "LH" at the positions 1727 mm (67.99 in) from point "A".
- 4. Draw line "RH" passing through points "C" and "D" on the right side of vehicle in the same way as step 2. **NOTE:**
 - Approximately 2 m (6.56 ft) or more from the front end of vehicle.
- 5. Mark point "F" on the line "RH" at the positions 1727 mm (67.99 in) from point "C".
- 6. Draw line "FW" passing through the points "E" and "F" on the front side of vehicle.
- 7. Mark point "X" at the center of point "E" and "F" on the line "FW".

Make sure that "E" to "X" is equal to "F" to "X".

>> GO TO 3.

3. SETTING DISTANCE SENSOR TARGET BOARD

Place the center of ICC target board on point "G" at line "E-F" and install the ICC target board. CAUTION:

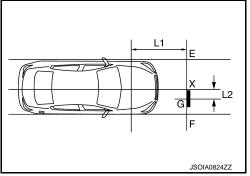


< BASIC INSPECTION > [ICC]

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

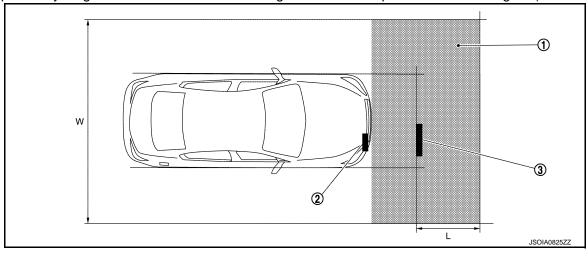
L1 : 1727 mm (67.99 in) L2 : 368 mm (14.49 in)

>> GO TO 4.



4. CHECK THE DISTANCE SENSOR TARGET BOARD INSTALLATION AREA

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



(1) No object zone

W. 3000 mm (118.11 in)

(2) ICC sensor

L. 1500 mm (59.06 in)

(3) ICC target board

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

TYPE 1: Work Procedure (Radar Alignment)

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.
- 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.
- Select "Next" after the "Starting alignment." screen is displayed.NOTE:

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< BASIC INSPECTION >

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

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

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

NOTE:

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

8. Confirm displayed value.

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

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

NOTE:

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

CAUTION:

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

>> RADAR ALIGNMENT END

TYPE 2

TYPE 2 : Description

INFOID:0000000012789887

OUTLINE OF RADAR ALIGNMENT PROCEDURE

- A 4-wheel vehicle alignment must be performed before proceeding with radar alignment procedure.
- Always perform the radar alignment after removing and installing or replacing the ICC sensor.
- Always perform the radar alignment if rear axle toe settings have been made.

WARNING

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

CAUTION:

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

ICC SENSOR ALIGNMENT

< BASIC INSPECTION > [ICC]

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

CAUTIONARY POINT FOR RADAR ALIGNMENT PROCEDURE

CAUTION:

- For radar alignment procedure, choose a level location with a few feet of working space in front and surrounding the vehicle.
- Vehicle must be stationary and unoccupied during the whole alignment procedure.
- Any slight vibration during the alignment procedure can cause the test to fail. If this happens, you
 will have to restart the alignment process.
- The battery voltage must not fall below 12 volts during the whole alignment procedure. Failure to maintain adequate battery voltage will cause the test to fail. If this happens, you will have to restart the alignment process.
- The ICC target board must be set in front of the vehicle facing the sensor.
- Adjust the radar alignment with CONSULT. (The radar alignment procedure cannot be adjusted without CONSULT.)
- Never enter the vehicle during radar alignment.
- Never block the area between the radar and the ICC target board at any time during the alignment process.
- Accurate steering wheel setting is crucial. Once set, do not disturb the steering wheel for the remainder of the alignment procedure.
- For proper system operation and adjustment, all vehicle wheels must be of the same size.

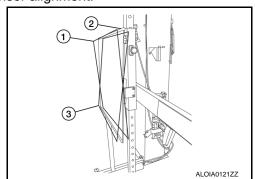
TYPE 2: Required Tools

INFOID:0000000012789888

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

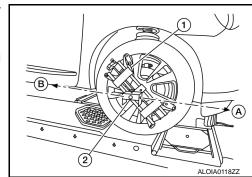
The following ICC alignment kit are necessary to perform the ICC sensor alignment:

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



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

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



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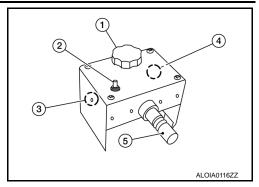
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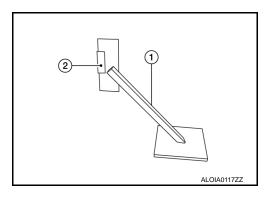
< BASIC INSPECTION > [ICC]

• Laser assembly (with bi-directional laser beam) as shown in the illustration.

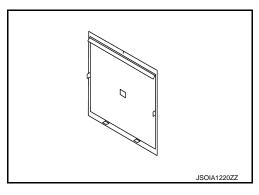
- Tightening knob (1)
- Power ON/OFF button (2)
- Front laser beam opening ③
- Rear laser beam opening 4
- Attaching shaft (5)



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



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



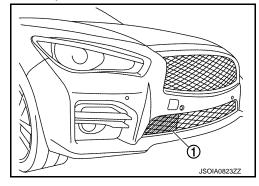
TYPE 2: Preparation

INFOID:0000000012789889

1. ADVANCE PREPARATION FOR RADAR ALIGNMENT PROCEDURE

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

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



TYPE 2: Vehicle Set Up

INFOID:0000000012789890

DESCRIPTION

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

CAUTION:

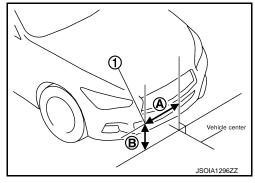
If the radar alignment is adjusted with the ICC target board, wheel adapter, laser assembly, or stationary target in the incorrect position, the ICC system will not function properly or the alignment procedure may not be completed successfully.

1. PREPOSITION TARGET BOARD

NOTE:

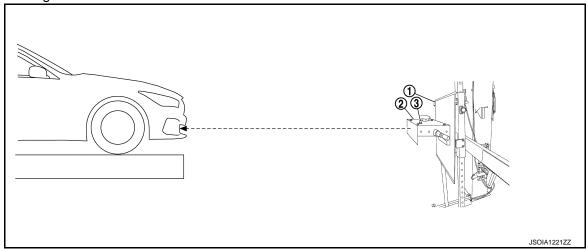
 To identify the sensor wave axis center, measure the point ① as shown in the illustration.

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



(1)

- ICC target board setting must be in the center position. (Position 2)
- Attaching the ICC alignment kit attachment board to the ICC target board.
- 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 $(41.73 \text{ in.}) \pm 50 \text{ mm} (1.97 \text{ in})$ 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.
- Move the ICC target board ① as necessary so that center of ICC target board aligns with center of ICC sensor.

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Turn the laser assembly OFF when done.

Are using Hunter alignment equipment?

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

NO >> GO TO 2.

2.INSTALLING LASER ASSEMBLY

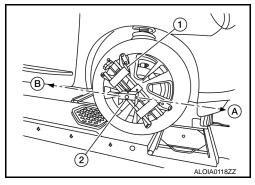
NOTE:

- Insure the steering wheel is positioned in the center straight forward position.
- Insure all 4 vehicle wheels do not contain any physical damage.
- 1. Install the wheel adapter (1) on the right front wheel.
- 2. Mount the laser assembly ② to the wheel adapter ① as shown in the figure.

NOTE:

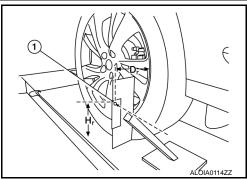
When the power switch is turned ON, the front laser signal (A) will be emitted toward the front ICC target board, and the rear laser signal (B) will be emitted toward the rear of the vehicle.

>> GO TO 3.



3.SETTING UP STATIONARY TARGET

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



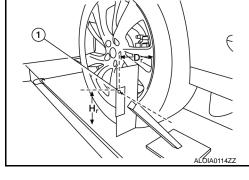
- Turn the laser assembly ON allowing the laser beam to be emitted through the front and rear laser assembly openings.
- Measure and record the distance (Dr) between the edge of the right rear wheel and the laser beam (1) on the stationary target (horizontal line).
- Measure and record the height (Hr)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

NOTE:

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

NOTE:

Must be verify both horizontal and vertical adjustments anytime one adjustment is made.



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

TYPE 2: Setting The ICC Target Board

INFOID:0000000012789891

DESCRIPTION

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

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

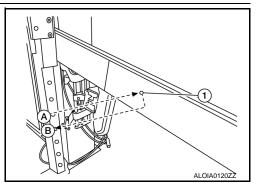
1.ICC TARGET BOARD FINAL SETTING

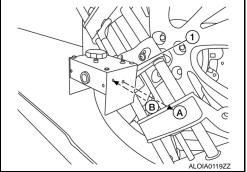
With the ICC target board arm extended, the laser beam (1) emitted by the laser assembly (A) will be reflected back (B) toward the laser assembly.

NOTE:

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

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

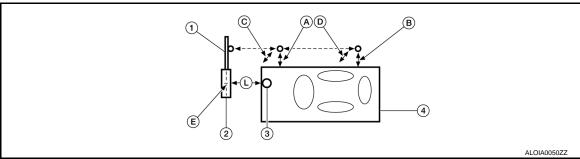




>> GO TO 2.

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

ICC sensor

(4) Vehicle

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ICC SENSOR ALIGNMENT

< BASIC INSPECTION > [ICC]

- Distance between front wheel and laser beam (Df)
- B Distance between rear wheel and laser beam (Dr)
- Height between front laser beam and ground (Hf)

- D Height between rear laser beam and ground (Hr)
- © ICC target board center position
- ① 1010 1110 mm (39.76 43.7 in)

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

TYPE 2 : ICC Sensor Adjustment

INFOID:0000000012789892

DESCRIPTION

The radar alignment is performed automatically with CONSULT.

CAUTION:

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

1. PERFORM RADAR ALIGNMENT

- 1. Start the engine.
- Connect CONSULT and select "Work support" of "LASER/RADAR".
- 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.

NOTF:

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

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

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

Confirm displayed value.

ICC SENSOR ALIGNMENT

< BASIC INSPECTION > [ICC]

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

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

NOTE:

- Check the condition of the 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

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< BASIC INSPECTION > [ICC]

ACTION TEST

Description INFOID:000000012789893

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

CAUTION:

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

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

INFOID:0000000012789894

NOTE:

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

CAUTION:

Never set the cruise speed exceeding the posted speed limit.

1. CHECK FOR MAIN SWITCH

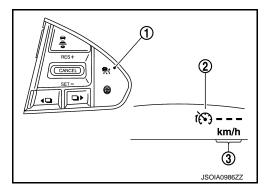
- 1. Start the engine.
- 2. Press the MAIN switch (1) (less than 1.5 seconds).

Information display status

MAIN switch indicator ② : ON

Set distance indicator ③ : Long mode

Set vehicle speed indicator 4 : "km/h" ("MPH")



- Check the ICC system display on the information display to check that the vehicle-to-vehicle distance control mode is ready for activation.
- 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.

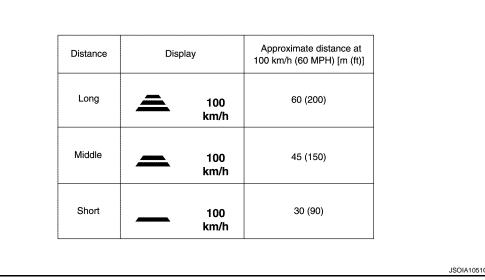
>> GO TO 2.

2. CHECK FOR DISTANCE SWITCH

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

< BASIC INSPECTION > [ICC]

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



NOTE:

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

>> GO TO 3.

${f 3.}$ CHECK FOR RESUME/ACCELERATE, SET/COAST, AND CANCEL SWITCHES

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

>> GO TO 4.

4.SET CHECKING (1)

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

NOTE:

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

>> GO TO 5.

CHECK FOR INCREASE OF CRUISING SPEED (1)

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

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

CAUTION:

Never set the cruise speed exceeding the posted speed limit.

>> GO TO 6.

6.CHECK FOR DECREASE OF CRUISING SPEED (1)

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

NOTE:

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

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ACTION TEST < BASIC INSPECTION >

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

>> GO TO 7.

7.SET CHECKING (2)

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

NOTE:

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

>> GO TO 8.

8. CHECK FOR INCREASE OF CRUISING SPEED (2)

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

NOTE:

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

CAUTION:

Never set the cruise speed exceeding the posted speed limit.

>> GO TO 9.

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

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

NOTE:

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

CAUTION:

The creep occurs because the stop status is not maintained.

>> GO TO 10.

10.check for cancellation of vehicle-to-vehicle distance control mode

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

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

>> GO TO 11.

ACTION TEST

[ICC] < BASIC INSPECTION >

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

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

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

>> INSPECTION END

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

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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

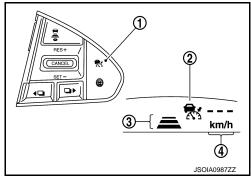
1. Start the engine.

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

Information display status

MAIN switch indicator (2)

Set vehicle speed indicator (3) "km/h" ("MPH")



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

>> GO TO 2.

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

Check that RESUME/ACCELERATE, SET/COAST, CANCEL switches are operated smoothly.

ON

2. Check that switches come up as hand is released from the switches.

>> GO TO 3.

3. SET CHECKING

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

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ACTION TEST

< BASIC INSPECTION > [ICC]

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

NOTE

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

>> GO TO 4.

4. CHECK FOR INCREASE OF CRUISING SPEED

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

NOTE:

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

CAUTION:

Never set the cruise speed exceeding the posted speed limit.

>> GO TO 5.

5. CHECK FOR DECREASE OF CRUISING SPEED

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

NOTE:

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

>> GO TO 6.

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

Check that the conventional (fixed speed) cruise control mode is canceled when performing the following operations.

- When the brake pedal is depressed after the conventional (fixed speed) cruise control mode is set and the vehicle is driven.
- When the selector lever is in the "N" position after the conventional (fixed speed) cruise control mode is set and the vehicle is driven.
- When the MAIN switch is turned OFF after the conventional (fixed speed) cruise control mode is set and the vehicle is driven.
- When the CANCEL switch is pressed after the conventional (fixed speed) cruise control mode is set and the vehicle is driven.

>> GO TO 7.

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

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

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

ACTION TEST [ICC] < BASIC INSPECTION > A>> INSPECTION END В С D Е F G Н J Κ L \mathbb{N} Ν

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DTC/CIRCUIT DIAGNOSIS

C1A00 CONTROL UNIT

DTC Logic (INFOID:000000012789896

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

ICC sensor

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A00" detected as the current malfunction?

YES >> Refer to CCS-132, "Diagnosis Procedure".

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789897

1. CHECK SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-71. "DTC Index".

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

C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

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C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

DTC Logic

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

- · Connector, harness, fuse
- ICC sensor

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

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

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

Diagnosis Procedure

INFOID:0000000012789899

1. CHECK ICC SENSOR POWER SUPPLY AND GROUND CIRCUIT

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

Is the inspection result normal?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

NO >> Repair or replace the malfunctioning parts.

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[ICC]

C1A12 RADAR OFF-CENTER

DTC Logic

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

Radar is off the aiming point

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A12" detected as the current malfunction?

YES >> Refer to CCS-134, "Diagnosis Procedure".

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789901

1. ADJUST RADAR AIMING

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

Is "C1A12" detected?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

NO >> INSPECTION END

C1A16 RADAR BLOCKED

< DTC/CIRCUIT DIAGNOSIS >

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C1A16 RADAR BLOCKED

DTC Logic (INFOID:000000012789902

DTC DETECTION LOGIC

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

NOTE:

DTC "C1A16" may be detected under the following conditions. (Explain to the customer about the difference between the contamination detection function and the indication when the malfunction is detected and tell them "This is not malfunction".)

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

POSSIBLE CAUSE

- · Stain or foreign materials is deposited
- · Cracks or scratches exist

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A16" detected as the current malfunction?

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

Diagnosis Procedure

INFOID:0000000012789903

1. VISUAL CHECK 1

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

Does contamination or foreign materials adhere?

YES >> Wipe out the contamination and foreign matter on the ICC sensor area of the front bumper.

NO >> GO TO 2.

2. VISUAL CHECK 2

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

Does contamination or foreign matter adhere?

YES >> Wipe out the contamination and foreign matter from the ICC sensor.

NO >> GÓ TO 3.

3. VISUAL CHECK 3

Check ICC sensor for cracks and scratches.

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C1A16 RADAR BLOCKED

[ICC]

< DTC/CIRCUIT DIAGNOSIS >

Is it found?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

NO >> GO TO 4.

4.PERFORM RADAR ALIGNMENT

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

Is "C1A16" detected?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

NO >> GO TO 5.

5.INTERVIEW

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

Is any of above conditions seen?

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

C1A21 UNIT HIGH TEMP

[ICC] < DTC/CIRCUIT DIAGNOSIS >

C1A21 UNIT HIGH TEMP

DTC Logic INFOID:0000000012789904

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

Temperature around the ICC sensor becomes extremely low or high

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A21" detected as the current malfunction?

>> Refer to CCS-137, "Diagnosis Procedure".

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

1. CHECK ENGINE COOLING SYSTEM

Check for any malfunctions in engine cooling system.

Is engine cooling system normal?

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

NO >> Repair engine cooling system.

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[ICC]

C1A23 UNIT LOW TEMP

DTC Logic (INFOID:000000012789906

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

Temperature around the ICC sensor becomes extremely low or high

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A23" detected as the current malfunction?

YES >> Refer to CCS-138, "Diagnosis Procedure".

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789907

1. CHECK ENVIRONMENT CONDITION

Check ambient temperature.

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

YES >> Replace the ICC sensor. Refer to CCS-166, "Removal and Installation".

NO >> Perform check again at 0°C (32°F) or more.

C1A39 STEERING ANGLE SENSOR [ICC] < DTC/CIRCUIT DIAGNOSIS > C1A39 STEERING ANGLE SENSOR Α DTC Logic INFOID:0000000012789908 DTC DETECTION LOGIC DTC DTC detecting condition Trouble diagnosis name STRG SEN CIR C1A39 If the steering angle sensor is malfunction (Steering angle sensor circuit) POSSIBLE CAUSE D Steering angle sensor FAIL-SAFE The following systems are canceled. Е Vehicle-to-vehicle distance control mode Conventional (fixed speed) cruise control mode Distance Control Assist (DCA) Forward Emergency Braking (FEB) Predictive Forward Collision Warning (PFCW) DTC CONFIRMATION PROCEDURE 1. CHECK DTC PRIORITY If DTC "C1A39" is displayed with DTC "U1000", first diagnose the DTC "U1000". Н Is applicable DTC detected? YES >> Perform diagnosis of applicable. Refer to DAS-175, "DTC Logic". NO >> GO TO 2. 2.PERFORM DTC CONFIRMATION PROCEDURE Start the engine. Turn the MAIN switch of ICC system ON. Perform "All DTC Reading" with CONSULT. Check if the "C1A39" is detected as the current malfunction in self-diagnosis results of "LASER/RADAR". Is "C1A39" detected as the current malfunction? >> Refer to CCS-139, "Diagnosis Procedure". NO-1 >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident". NO-2 >> Confirmation after repair: INSPECTION END Diagnosis Procedure INFOID:0000000012789909 1. CHECK DTC PRIORITY M If DTC "C1A39" is displayed with DTC "U1000", first diagnose the DTC "U1000". Is applicable DTC detected? Ν YES >> Perform diagnosis of applicable. Refer to DAS-175, "DTC Logic". NO >> GO TO 2. 2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".

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

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C1A50 ADAS CONTROL UNIT

DTC Logic

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A50" detected as the current malfunction?

YES >> Refer to CCS-140, "Diagnosis Procedure".

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789911

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1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67. "DTC Index".

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

U0104 ADAS CAN 1

[ICC] < DTC/CIRCUIT DIAGNOSIS >

U0104 ADAS CAN 1

Α DTC Logic INFOID:0000000012789912

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

Start the engine.

- Turn the MAIN switch of ICC system ON.
- Perform "All DTC Reading" with CONSULT.
- 4. Check if the "U0104" is detected as the current malfunction in "Self Diagnostic Result" of "LASER/ RADAR".

Is "U0104" detected as the current malfunction?

>> Refer to CCS-141, "Diagnosis Procedure".

>> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident".

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".

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

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[ICC]

U0121 VDC CAN 2

DTC Logic

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

ABS actuator and electric unit (control unit)

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U0121" detected as the current malfunction?

YES >> Refer to CCS-142, "Diagnosis Procedure".

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789915

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".

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

U0126 STRG SEN CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[ICC]

U0126 STRG SEN CAN 1

DTC Logic INFOID:0000000012789916

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

Steering angle sensor error

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U0126" detected as the current malfunction?

>> Refer to CCS-143, "Diagnosis Procedure".

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2 .CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".

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

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[ICC]

U0405 ADAS CAN 2

DTC Logic INFOID:000000012789918

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U0405" detected as the current malfunction?

YES >> Refer to CCS-144, "Diagnosis Procedure".

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789919

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".

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

U0415 VDC CAN 1 [ICC] < DTC/CIRCUIT DIAGNOSIS > U0415 VDC CAN 1 Α DTC Logic INFOID:0000000012789920 DTC DETECTION LOGIC В DTC DTC detecting condition Trouble diagnosis name VDC CAN CIR1 If ICC sensor detects an error signal that is received from ABS actuator and U0415 (VDC CAN circuit1) electric unit (control unit) via ADAS control unit POSSIBLE CAUSE D ABS actuator and electric unit (control unit) FAIL-SAFE The following systems are canceled. Е Vehicle-to-vehicle distance control mode Conventional (fixed speed) cruise control mode Distance Control Assist (DCA) Forward Emergency Braking (FEB) Predictive Forward Collision Warning (PFCW) DTC CONFIRMATION PROCEDURE 1. CHECK DTC PRIORITY If DTC "U0415" is displayed with DTC "U1000", first diagnose the DTC "U1000". Н Is applicable DTC detected? YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic". NO >> GO TO 2. 2.PERFORM DTC CONFIRMATION PROCEDURE Start the engine. Turn the MAIN switch of ICC system ON. Perform "All DTC Reading" with CONSULT. Check if the "U0415" is detected as the current malfunction in "Self Diagnostic Result" of "LASER/ RADAR". Is "U0415" detected as the current malfunction? >> Refer to CCS-145, "Diagnosis Procedure". >> To check malfunction symptom before repair: Refer to GI-45, "Intermittent Incident". NO-2 >> Confirmation after repair: INSPECTION END Diagnosis Procedure INFOID:0000000012789921 M 1. CHECK DTC PRIORITY If DTC "U0415" is displayed with DTC "U1000", first diagnose the DTC "U1000". Ν

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67, "DTC Index".

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

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U0428 STRG SEN CAN 2

DTC Logic

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

Steering angle sensor

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U0428" detected as the current malfunction?

YES >> Refer to CCS-146, "Diagnosis Procedure".

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789923

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to CCS-147, "DTC Logic".

NO >> GO TO 2.

2.CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to CCS-67. "DTC Index".

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

U1000 CAN COMM CIRCUIT [ICC] < DTC/CIRCUIT DIAGNOSIS > U1000 CAN COMM CIRCUIT Α Description INFOID:0000000012789924 ITS COMMUNICATION В • ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with 2 communication lines. ITS communication lines adopt twisted-pair line style (two lines twisted) for noise immunity. DTC Logic INFOID:0000000012789925 DTC DETECTION LOGIC D DTC DTC detecting condition Trouble diagnosis name Е CAN COMM CIRCUIT If ICC sensor is not transmitting or receiving ITS communication signal for 2 sec-U1000 (CAN communication circuit) onds or more POSSIBLE CAUSE F ITS communication system **FAIL-SAFE** The following systems are canceled. Vehicle-to-vehicle distance control mode Conventional (fixed speed) cruise control mode Distance Control Assist (DCA) Forward Emergency Braking (FEB) Predictive Forward Collision Warning (PFCW) DTC CONFIRMATION PROCEDURE ${f 1}$.PERFORM DTC CONFIRMATION PROCEDURE Start the engine. 2. Turn the MAIN switch of ICC system ON. Perform "All DTC Reading" with CONSULT. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1000" detected as the current malfunction?

>> Refer to CCS-147, "Diagnosis Procedure". YES

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

${f 1}$.PERFORM THE SELF-DIAGNOSIS

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

Is "U1000" detected as the current malfunction?

YES >> Refer to LAN-41, "Trouble Diagnosis Flow Chart".

NO >> INSPECTION END ccs

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INFOID:0000000012789926

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[ICC]

U1010 CONTROL UNIT (CAN)

Description INFOID:000000012789927

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

DTC Logic

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

ICC sensor

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1.perform dtc confirmation procedure

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

Is "U1000" detected as the current malfunction?

YES >> Refer to CCS-147, "Diagnosis Procedure".

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

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000012789929

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1010" detected as the current malfunction?

YES >> Replace the ICC sensor. Refer to CCS-166. "Removal and Installation".

NO >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ICC]

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POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000012789930

1. CHECK FUSES

Check if any of the following fuses are blown:

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

2.CHECK ICC SENSOR POWER SUPPLY CIRCUIT

Check voltage between ICC sensor harness connector and ground.

	Terminal	Condition		
(+)	(-)	Condition	Voltage
ICC s	sensor	Ignition	(Approx.)	
Connector	Terminal		switch	
		Ground	OFF	0 V
E80	1		ON	Battery volt- age

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the ICC sensor power supply circuit.

3.check icc sensor ground circuit

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

ICC s	sensor		Continuity
Connector	Terminal	Ground	Continuity
E80	8		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the ICC sensor ground circuit.

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[ICC]

SYMPTOM DIAGNOSIS

INTELLIGENT CRUISE CONTROL SYSTEM SYMPTOMS

Symptom Table

	Symptoms	Reference page	
	MAIN switch does not turn ON	Defeate COC 454 IIDintiII	
	MAIN switch does not turn OFF	Refer to CCS-151, "Description"	
	ICC system cannot be set (MAIN switch turns ON/OFF)	Refer to CCS-152, "Description"	
	CANCEL switch does not function		
Operation	Resume does not function		
	Set speed does not increase	Refer to CCS-154, "Description"	
	Set distance to a vehicle ahead cannot be changed		
	ICC is not canceled when the A/T selector lever is "N" position	Refer to CCS-155, "Description"	
Display/Chime	ICC system display not appear	Refer to MWI-68, "On Board Diagnosis Function"	
Display/Crime	Chime does not sound	Refer to CCS-156, "Description"	
Control	Driving force is hunting	Refer to CCS-158, "Description"	
	System frequently cannot detect a vehicle ahead	Refer to CCS-159, "Description"	
	Distance to detect a vehicle ahead is short		
Function to detect a vehicle ahead	System misidentifies a vehicle even though there is no vehicle ahead	Perform radar alignment: Refer to CCS-114, "Application Notice"	
	System misidentifies a vehicle in the next lane	Perform ICC system action test. Refer to <u>CCS-126, "Description"</u>	
	System does not detect a vehicle at all	Refer to CCS-161, "Description"	

MAIN SWITCH DOES NOT TURN ON, MAIN SWITCH DOES NOT TURN OFF < SYMPTOM DIAGNOSIS > MAIN SWITCH DOES NOT TURN ON, MAIN SWITCH DOES NOT TURN **OFF** Description INFOID:0000000012789932 В 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. D When ICC system warning illuminates, perform the self-diagnosis of ICC system, and then repair or replace the malfunctioning parts. Diagnosis Procedure INFOID:0000000012789933 Е 1. MAIN SWITCH INSPECTION Start the engine. F Check that "MAIN SW" and "CRUISE LAMP" operate normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT. Is the inspection result normal? YES >> GO TO 2. NO >> GO TO 4. 2.CHECK COMBINATION METER Н Check that "CRUISE IND" operates normally in "DATA MONITOR" of "METER/M&A". Is the inspection result normal? >> GO TO 3. YFS NO >> GO TO 4. 3.perform self-diagnosis of combination meter Perform "Self Diagnostic Result" of "METER/M&A". Check if DTC is detected. Refer to MWI-87, "DTC Index". Is any DTC detected? YES >> Repair or replace malfunctioning parts. NO >> GO TO 4. f 4.PERFORM SELF-DIAGNOSIS RESULTS OF ICC SYSTEM Perform "All DTC Reading". Check if the "U1000" is detected in self-diagnosis results of "ICC/ADAS". Is "U1000" detected? YES >> GO TO 5. NO >> GO TO 6. Ν ${f 5.}$ CAN COMMUNICATIONS INSPECTION Check the CAN communication and repair or replace malfunctioning parts. Refer to CCS-147, "DTC Logic". ccs >> INSPECTION END 6.CHECK ICC STEERING SWITCH Check the ICC steering switch. Refer to DAS-119, "Diagnosis Procedure (2.0 TURBO GASOLINE ENGINE)"

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(2.0L turbo gasoline engine) or DAS-117, "Diagnosis Procedure (VR30DDTT)." (VR30DDTT).

>> INSPECTION END

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

< SYMPTOM DIAGNOSIS >

[ICC]

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

Description INFOID:000000012789934

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

NOTE:

The system cannot be set in the following case.

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

Diagnosis Procedure

INFOID:0000000012789935

1. CHECK CAUSE OF AUTOMATIC CANCELLATION

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

Is it displayed?

Not displayed>>GO TO 2.

"OPE SW VOLT CIRC">>Refer to DAS-117, "DTC Logic".

"VHCL SPD UNMATCH">>Refer to DAS-106, "DTC Logic".

"IGN LOW VOLT">>Refer to CCS-133, "DTC Logic".

"ECM CIRCUIT">>Refer to DAS-132, "DTC Logic".

"CAN COMM ERROR">>Refer to DAS-168, "DTC Logic".

"ICC SENSOR CAN COMM ERR">>Refer to DAS-168, "DTC Logic".

"ABS/TCS/VDC CIRC">>Refer to DAS-108, "DTC Logic".

"ECD CIRCUIT">>Refer to DAS-138, "DTC Logic".

2. PERFORM THE SELF-DIAGNOSIS

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

Is any DTC detected?

YES >> GO TO 3.

NO >> GO TO 4.

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

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

>> GO TO 6.

4. CHECK EACH SWITCH AND VEHICLE SPEED SIGNAL

- 1. Start the engine.
- 2. Check that the following items operate normally in "DATA MONITOR" of "ICC/ADAS".
- "VHCL SPEED SE"
- "D RANGE SW"
- "SET/COAST SW"
- "BRAKE SW"
- "PKB SW"

Is there a malfunctioning item?

All items are normal>>GO TO 5.

"VHCL SPEED SE">>Refer to DAS-106, "DTC Logic".

"D RANGE SW">>Refer to CCS-155, "Diagnosis Procedure".

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ICC SYSTEM CANNOT BE SET (MAIN SWITCH TURNS ON/OFF	
< SYMPTOM DIAGNOSIS > "SET/COAST SIA"> Poter to DAS 117 "DTC Logio"	[ICC]
"SET/COAST SW">>Refer to <u>DAS-117</u> , " <u>DTC Logic"</u> . "BRAKE SW">>Refer to <u>DAS-109</u> , " <u>DTC Logic</u> ".	
"PKB SW">>Refer to WCS-65, "Diagnosis Procedure".	
5.REPLACE ADAS CONTROL UNIT	
Replace the ADAS control unit. Refer to <u>DAS-214, "Removal and Installation"</u> .	
>> GO TO 6. 6.CHECK ICC SYSTEM	
1. Erase the self-diagnosis results, and then perform "All DTC Reading" again after performing test. (Refer to CCS-126 , "Description" for action test.)	ng the action
2. Check that the ICC system is normal.	
>> INSPECTION END	
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ICC STEERING SWITCH (OTHER THAN MAIN SWITCH) DOES NOT FUNCTION

< SYMPTOM DIAGNOSIS > [ICC]

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

Description INFOID:000000012789936

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

NOTE:

Resume is not accepted when the following condition is met.

• When the MAIN switch is turned OFF once.

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

When the DCA system is turned ON.

Diagnosis Procedure

INFOID:0000000012789937

1. CHECK EACH SWITCH

- 1. Start the engine.
- 2. Check that each switch operates normally on "DATA MONITOR" of "ICC/ADAS" with CONSULT.
- "RESUME/ACC SW"
- "CANCEL SW"
- "DISTANCE SW"

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 2.

2.perform all of the self-diagnosis items

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

Is "U1000" detected?

YES >> GO TO 3.

NO >> GO TO 4.

3.can communications inspection

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

>> INSPECTION END

4. CHECK ICC STEERING SWITCH

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

>> GO TO 6.

5. REPLACE ADAS CONTROL UNIT

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

>> GO TO 6.

6. CHECK ICC SYSTEM

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

>> INSPECTION END

ICC SYSTEM DOES NOT CANCEL WHEN A/T SELECTOR LEVER SETS ON "N' < SYMPTOM DIAGNOSIS > [ICC	<u> </u>
ICC SYSTEM DOES NOT CANCEL WHEN A/T SELECTOR LEVER SET ON "N"	S
Description	9938 B
The ICC system is not canceled even when the A/T selector lever is shifted to the N position while the IC system is active.	
Diagnosis Procedure	I939
1. CHECK D RANGE SWITCH	D
Check if "D RANGE SW" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT. Is the inspection result normal? YES >> GO TO 6. NO >> GO TO 2. 2.PERFORM ALL SELF-DIAGNOSIS ITEMS	E E
1. Perform "All DTC Reading". 2. Check if the "U1000" is detected in "self-diagnosis results" of "ICC/ADAS". Is "U1000" detected? YES >> GO TO 3. NO >> GO TO 4. 3. CAN COMMUNICATIONS INSPECTION	F G
Check the CAN communication and repair or replace malfunctioning parts. Refer to CCS-147 , "DTC Logic". >> INSPECTION END 4.CHECK POSITION SWITCH	
Check if "SLCT LVR POSI" operates normally in "DATA MONITOR" of "TRANSMISSION". Is the inspection result normal? YES >> GO TO 6. NO >> GO TO 5.	J
 Perform the "Self Diagnostic Result" of "TRANSMISSION". Repair or replace malfunctioning parts. Refer to TM-102, "2.0L TURBO GASOLINE ENGINE: DTC Inde (2.0L turbo gasoline engine) or TM-111, "VR30DDTT: DTC Index" (VR30DDTT). 	<u> </u>
>> GO TO 7. 6. REPLACE ADAS CONTROL UNIT	M
Replace the ADAS control unit. Refer to <u>DAS-214</u> , "Removal and Installation".	N
>> GO TO 7. 7.CHECK ICC SYSTEM	CC
 Erase the self-diagnosis results, and then perform "All DTC Reading" again after performing the action test. (Refer to CCS-126. "Description" for action test.) Check that the ICC system is normal. 	on P

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>> INSPECTION END

CHIME DOES NOT SOUND

Description INFOID:000000012789940

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

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

Diagnosis Procedure

INFOID:0000000012789941

1. PERFORM ACTIVE TEST

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

Does the warning chime sound?

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

2.CHECK THE MALFUNCTION SYMPTOM DURING WARNING CHIME OPERATION

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

>> GO TO 8.

3. CHECK DRIVER ASSISTANCE BUZZER

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

Is the inspection result normal?

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

4.PERFORM THE SELF-DIAGNOSIS OF ADAS CONTROL UNIT

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

Is any DTC detected?

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

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

- 1. Perform "All DTC Reading" with CONSULT.
- 2. Check if the "any DTC" is detected in self-diagnosis results of "BSW/BUZZER".

Is "any DTC" detected?

YES >> GO TO 6. NO >> GO TO 7.

6.repair or replace malfunctioning parts

Repair or replace malfunctioning parts.

>> GO TO 8.

7. REPLACE ADAS CONTROL UNIT

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

CHIME DOES NOT SOUND

< SYMPTOM DIAGNOSIS > [ICC]

>> GO TO 8.

8. CHECK ICC SYSTEM

1. Erase the self-diagnosis results, and then perform "All DTC Reading" again after performing the action test. (Refer to CCS-126, "Description" for action test.)

2. Check that the ICC system is normal.

>> INSPECTION END

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DRIVING FORCE IS HUNTING

< SYMPTOM DIAGNOSIS > [ICC]

DRIVING FORCE IS HUNTING

Description INFOID:000000012789942

The vehicle causes hunting when the ICC system is active.

Diagnosis Procedure

INFOID:0000000012789943

1.PERFORM SELF-DIAGNOSIS OF ECM

- 1. Perform "All DTC Reading" with CONSULT.
- Check if the DTC is detected in self-diagnosis results of "ENGINE".
- 2.0L turbo gasoline engine: Refer to EC4-146, "DTC Index".
- VR30DDTT for USA and Canada
- Turbo high pressure model: Refer to <u>EC6-164, "TURBO HIGH PRESSURE MODEL: DTC Index"</u>.
- Turbo low pressure model: Refer to <u>EC6-205</u>, "TURBO LOW PRESSURE MODEL: <u>DTC Index"</u>.
- VR30DDTT for Mexico: Refer to <u>EC6-1139</u>, "DTC Index".

Is any DTC detected?

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

2.check icc sensor

- Check the vehicle driving conditions. Refer to <u>CCS-159</u>, "<u>Description</u>".
- Check the ICC sensor for contamination, foreign materials, or cracks. Refer to <u>CCS-159</u>, "<u>Diagnosis Procedure</u>".

>> INSPECTION END

3.repair or replace malfunctioning parts

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

>> GO TO 4.

4. CHECK ICC SYSTEM

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

>> INSPECTION END

FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT

[ICC] < SYMPTOM DIAGNOSIS > FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT Description INFOID:0000000012789944 В 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 D 1. VISUAL CHECK (1) Check the contamination and foreign matter on the ICC sensor area of the front bumper. Е Do foreign matter adhere? YES >> GO TO 3. NO >> GO TO 2. F 2.VISUAL CHECK (2) Remove the front bumper. Refer to EXT-15, "Removal and Installation". Check ICC sensor for contamination and foreign matter. Do foreign matter adhere? YES >> GO TO 3. >> GO TO 4. NO 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. ${f 5.}$ PERFORM RADAR ALIGNMENT Install the front bumper. Refer to EXT-15. "Removal and Installation". Perform the radar alignment. Refer to CCS-114, "Application Notice". 2. Perform ICC system action test. Refer to CCS-126, "Description". Check that the vehicle ahead detection performance improves. Does it improve? YES >> INSPECTION END Ν >> GO TO 6. NO 6.REPLACE ICC SENSOR Replace the ICC sensor. Refer to CCS-166, "Exploded View". Install the front bumper. Refer to <u>EXT-15</u>, "<u>Removal and Installation</u>".
 Perform the radar alignment. Refer to <u>CCS-114</u>, "<u>Application Notice</u>". Perform ICC system action test. Refer to CCS-126, "Description". Р Check that the vehicle ahead detection performance improves. Does it improve?

YES >> INSPECTION END

NO >> GO TO 7.

.REPLACE ADAS CONTROL UNIT

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

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FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT

< SYMPTOM DIAGNOSIS > [ICC]

>> GO TO 8.

8. CHECK ICC SYSTEM

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

>> INSPECTION END

THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL

[ICC] < SYMPTOM DIAGNOSIS > THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL Α Description INFOID:0000000012789946 When ICC system is active, the ICC system does not perform any control even through there is a vehicle ahead. Diagnosis Procedure INFOID:0000000012789947 ${f 1}$.CHECK ICC SYSTEM DISPLAY ON MULTI INFORMATION DISPLAY Start the self-diagnosis mode of combination meter. Refer to MWI-68, "On Board Diagnosis Function". Check that the multi information display turns on normally. Is the inspection result normal? YES >> GO TO 2. Е NO >> Replace the combination meter. 2.VISUAL CHECK (1) Check the contamination and foreign matter on the ICC sensor area of the front bumper. Do foreign materials adhere? YES >> GO TO 4. NO >> GO TO 3. 3.VISUAL CHECK (2) Remove the front bumper. Refer to EXT-15, "Removal and Installation". Н 2. Check ICC sensor for contamination and foreign matter. Do foreign matter adhere? YES >> GO TO 4. NO >> GO TO 5. 4. WIPE OUT DIRT AND FOREIGN MATERIALS Wipe out the contamination and foreign matter in the area around the ICC sensor. >> GO TO 9. K 5.VISUAL CHECK (3) Check ICC sensor for cracks and/or scratches. Are there cracks? YES >> GO TO 7. NO >> GO TO 6. 6. PERFORM RADAR ALIGNMENT M Install the front bumper. Refer to EXT-15, "Removal and Installation". 2. Perform the radar alignment. Refer to CCS-114, "Application Notice". Ν Perform ICC system action test. Refer to CCS-126, "Description". Check that the vehicle ahead detection performance improves. Does it improve?

YFS >> INSPECTION END

NO >> GO TO 8.

REPLACE ICC SENSOR

- Replace the ICC sensor. Refer to CCS-166, "Exploded View".
- Install the front bumper. Refer to EXT-15, "Removal and Installation".
- 3. Perform the radar alignment. Refer to CCS-114, "Application Notice".
- 4. Perform ICC system action test. Refer to CCS-126, "Description"
- Check that the vehicle ahead detection performance improves.

Does it improve?

YES >> INSPECTION END

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THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL

< SYMPTOM DIAGNOSIS > [ICC]

NO >> GO TO 8.

8. REPLACE ADAS CONTROL UNIT

Replace ADAS control unit. Refer to <u>DAS-214</u>, "Removal and Installation".

>> GO TO 9.

9. CHECK ICC SYSTEM

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

>> INSPECTION END

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS > [ICC]

NORMAL OPERATING CONDITION

Description A

PRECAUTIONS FOR VEHICLE-TO-VEHICLE DISTANCE CONTROL MODE

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

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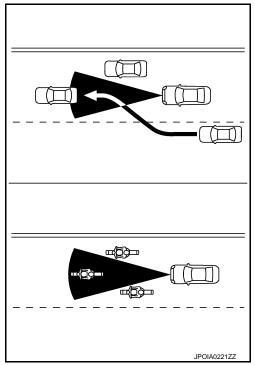
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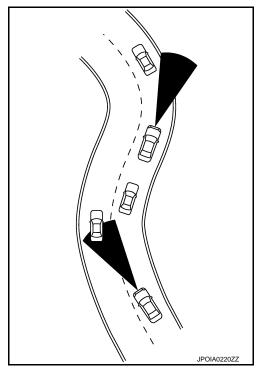
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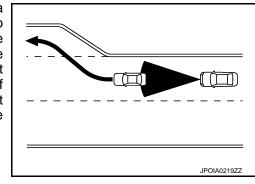
• The detection zone of the ICC sensor is limited. A vehicle ahead must be in the detection zone for the vehicle-to-vehicle distance detection mode to maintain the selected distance from the vehicle ahead. A vehicle ahead may move outside of the detection zone due to its position within the same lane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



NORMAL OPERATING CONDITION

[ICC] < SYMPTOM DIAGNOSIS >

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

PRECAUTIONS FOR CONVENTIONAL (FIXED SPEED) CRUISE CONTROL MODE

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

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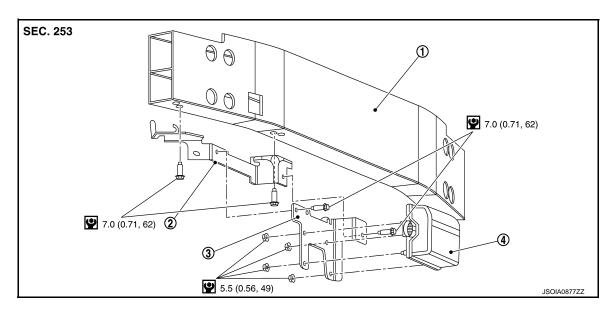
REMOVAL AND INSTALLATION

ICC SENSOR

Exploded View

CAUTION:

Always perform the laser beam aiming adjustment and check the operation after the replacement, removal and installation of ICC sensor.



- (1) Front bumper reinforcement
- ② Bracket B

3 Bracket A

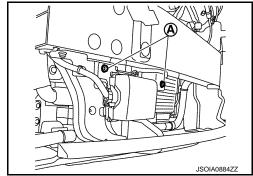
- (4) ICC sensor
- : N-m (kg-m, in-lb)

Removal and Installation

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REMOVAL

- 1. Remove front bumper fascia. Refer to EXT-15, "Removal and Installation".
- Disconnect ICC sensor connector.



ICC SENSOR

< REMOVAL AND INSTALLATION >

[ICC]

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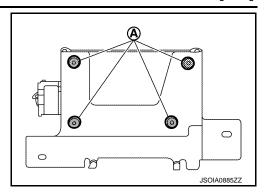
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4. Remove mounting nuts (A) of ICC sensor.



- 5. Remove ICC sensor.
- 6. Remove mounting bolts of bracket B to remove bracket B from front bumper reinforcement.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

Always perform the radar alignment and check the operation after the replacement, removal, and installation of ICC sensor. Refer to CCS-113, "Description".

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ICC STEERING SWITCH

< REMOVAL AND INSTALLATION >

[ICC]

ICC STEERING SWITCH

Exploded View

ICC steering switch is integrated in the steering switch.

Refer to ST-134, "Removal and Installation".

NOTE:

Always remove ICC steering switch together with steering wheel.

HOW TO USE THIS SECTION

< HOW TO USE THIS MANUAL >

[ASCD]

HOW TO USE THIS MANUAL

HOW TO USE THIS SECTION

Information BINFOID:000000013189411 B

For ICC system, refer to CCS-14, "System Description".

FOR 2.0L TURBO GASOLINE ENGINE MODELS

This section includes information of the system except for 2.0l turbo gasoline engine models.

FOR VR30DDTT ENGINE MODELS

Automatic Speed Control Device (ASCD) system for VR30DDTT engine models is controlled by ECM. Regarding the information for ASCD system for VR30DDTT engine models, refer to EC6-83, "AUTOMATIC SPEED CONTROL DEVICE (ASCD): System Description" (For USA and Canada) or EC6-1074, "AUTOMATIC SPEED CONTROL DEVICE (ASCD): System Description" (For Mexico).

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< PRECAUTION > [ASCD]

PRECAUTION

PRECAUTIONS

Precautions for Removing Battery Terminal

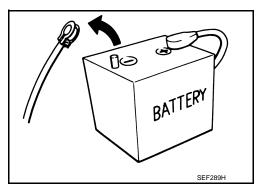
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When disconnecting the battery terminal, pay attention to the following.

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

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

R9M engine : 4 minutes



NOTE:

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

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

NOTE:

- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
- Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
- Driving for 30 minutes or more on a steep slope.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

NOTE:

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

NOTE:

The removal of 12V battery may cause a DTC detection error.

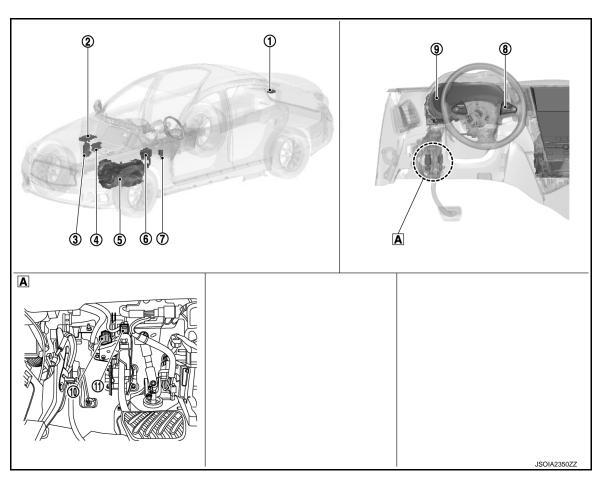
[ASCD]

INFOID:0000000013189413

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location



Upper side of brake pedal

x: Applicable

No.	Component	Description
1	ADAS control unit	Refer to CCS-172, "ADAS Control Unit" Refer to DAS-16, "Component Parts Location" for detailed installation location
2	ECM	 ECM transmits the accelerator pedal position signal, etc. to ADAS control unit via CAN communication ECM controls the fuel injection quantity based on the engine torque demand received from the ADAS control unit via CAN communication Refer to <u>EC4-25</u>, "<u>ENGINE CONTROL SYSTEM</u>: <u>Component Parts Location</u>" for detailed installation location
3	ВСМ	BCM transmits the stop lamp switch signal to ADAS control unit via CAN communication Refer to BCS-5, "BODY CONTROL SYSTEM: Component Parts Location" for detailed installation location
4	EMCM	EMCM transmits the brake pedal position switch signal to ADAS control unit via CAN communication EMCM transmits the brake pedal position switch signal, stop lamp switch signal to ECM control unit via CAN communication Refer to EC4-25 , "ENGINE CONTROL SYSTEM: Component Parts Location" for detailed installation location

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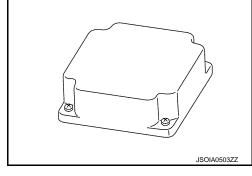
< SYSTEM DESCRIPTION >

No.	Component	Description
(5)	ТСМ	TCM transmits the signal related to A/T control to ADAS control unit via ECM Refer to TM-13, "A/T CONTROL SYSTEM: Component Parts Location" for detailed installation location
6	ABS actuator and electric unit (control unit)	 ABS actuator and electric unit (control unit) transmits the vehicle speed signal (wheel speed), stop lamp switch signal and VDC/TCS/ABS system operation condition to ADAS control unit via CAN communication Refer to <u>BRC-10</u>, "Component Parts Location" for detailed installation location
7	Chassis control module	Chassis control module transmits the a drive mode signal to ADAS control unit via CAN communication Refer to DAS-516, "Component Parts Location" for detailed installation location
8	Steering switch	Description: Refer to <u>CCS-172</u> , "ASCD Steering Switch" Switch name and function: <u>CCS-177</u> , "AUTOMATIC SPEED CONTROL DEVICE (ASCD): Switch Name and Function"
9	Combination meter	Performs the following operations using the signals received from the ADAS control unit via the CAN communication • Description: Refer to CCS-173 , "Combination Meter" • System display and warning: CCS-177 , "AUTOMATIC SPEED CONTROL DEVICE (ASCD): Menu Displayed by Pressing Each Switch"
10	Brake pedal position switch	Refer to CCS-172, "Brake Pedal Position Switch / Stop Lamp Switch"
11	Stop lamp switch	TREEL TO GOOTHE. DIAKE FEURI FUSITION SWITCH / STOP LAMP SWITCH

ADAS Control Unit

INFOID:0000000013374531

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



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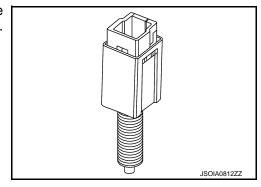
ASCD Steering Switch

- ASCD steering switch is installed to the steering wheel and allows the driver to operate the ASCD/Speed limiter system by using this switch.
- ASCD steering switch allows the ON/OFF of the Automatic Speed Control Device (ASCD) and Speed limiter.
- ASCD steering switch signal is transmitted to ADAS control unit.

Brake Pedal Position Switch / Stop Lamp Switch

INFOID:0000000013189416

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



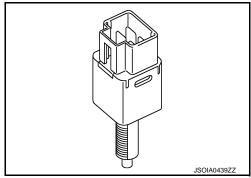
• Brake pedal position switch is turned OFF when depressing the brake pedal.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

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

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



Combination Meter

INFOID:0000000013189417

[ASCD]

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

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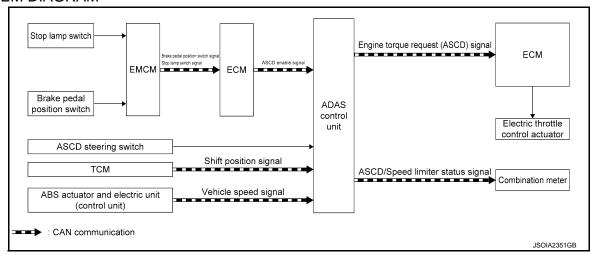
AUTOMATIC SPEED CONTROL DEVICE (ASCD)

AUTOMATIC SPEED CONTROL DEVICE (ASCD): System Description

INFOID:0000000013189418

SYSTEM DIAGRAM

< SYSTEM DESCRIPTION >



SYSTEM DESCRIPTION

Automatic Speed Control Device (ASCD) allows a driver to keep vehicle at predetermined constant speed without depressing accelerator pedal. The selectable speed ranges are as follows:

Between approximately 40 km/h (25 MPH) and 144 km/h (90 MPH)

ECM controls fuel injectors to regulate engine speed.

Operation status of ASCD is indicated on the information display in the combination meter. If any malfunction occurs in ASCD system, it automatically deactivates control.

For the switch function, refer to <u>CCS-177</u>, "AUTOMATIC SPEED CONTROL DEVICE (ASCD): Switch Name and Function".

For the ASCD indicator, refer to CCS-177, "AUTOMATIC SPEED CONTROL DEVICE (ASCD): Menu Displayed by Pressing Each Switch".

CAUTION:

Always drive vehicle in a safe manner according to traffic conditions and obey all traffic laws.

SET OPERATION

Press MAIN switch. (The CRUISE indicator in combination meter illuminates.)

When vehicle speed reaches a desired speed, press SET/COAST switch. (Then SET lamp in combination meter illuminates.)

NOTE:

The selectable speed ranges are as follows:

Between approximately 40 km/h (25 MPH) and 144 km/h (90 MPH)

ACCELERATE OPERATION

the switch is released or vehicle speed reaches maximum speed controlled by the system.

And then ASCD will maintain the new set speed.

COAST OPERATION

When the SET/COAST switch is pressed during cruise control driving, decrease vehicle set speed until the switch is released. And then ASCD will keep the new set speed.

CANCEL OPERATION

When any of following conditions exist, cruise operation will be canceled.

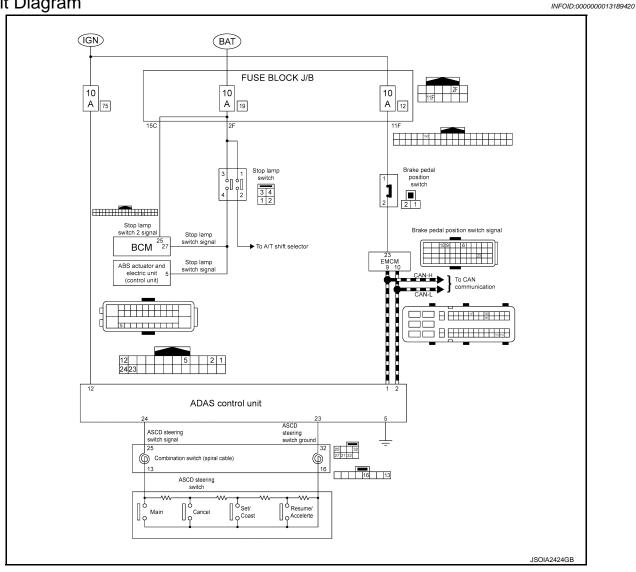
- CANCEL switch is pressed
- More than 2 switches on ASCD steering switch are pressed at the same time (Set speed will be cleared)
- · Brake pedal is depressed
- Selector lever position is N, P, or R position
- Vehicle speed decreased to 13 km/h (8 MPH) lower than the set speed
- TCS system is operated

RESUME OPERATION

When the RESUME/ACCELERATE switch is pressed after cancel operation other than pressing ASCD MAIN switch is performed, vehicle speed will return to last set speed. To resume vehicle set speed, vehicle condition must meet following conditions.

- Brake pedal is released
- Selector lever position is not P, R, or N.
- Vehicle speed between 40 km/h (25 MPH) and 144 km/h (90 MPH)

Circuit Diagram



WARNING/INDICATOR/CHIME LIST

WARNING/INDICATOR/CHIME LIST: Indicator/Information

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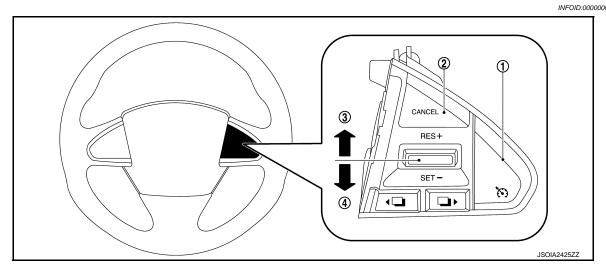
< SYSTEM DESCRIPTION >

SYSTEM			
< SYSTEM DESCRIPTI	ON >	[ASCD]	
Item	Symbol	Function	
ASCD indicator	JSCIA0831ZZ	For detail of ASCD function, refer to CCS-177, "AU-TOMATIC SPEED CONTROL DEVICE (ASCD): Menu Displayed by Pressing Each Switch".	

OPERATION

AUTOMATIC SPEED CONTROL DEVICE (ASCD)

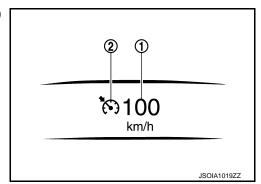
AUTOMATIC SPEED CONTROL DEVICE (ASCD): Switch Name and Function



No.	Description	Function
1	ASCD MAIN switch	Master switch to activate the system
2	CANCEL switch	Deactivates system without erasing set speed
3	RESUME/ACCELERATE switch	Resumes set speed or increases speed incrementally
4	SET/COAST switch	Sets desired cruise speed or reduces speed incrementally

AUTOMATIC SPEED CONTROL DEVICE (ASCD): Menu Displayed by Pressing Each Switch

ASCD SYSTEM DISPLAY (ON THE INFORMATION DISPLAY)



No.	Description	Function	
1	Set vehicle speed indicator	Indicates the set vehicle speed	
	ASCD system warning (green: blink)	Indicates that a malfunction occurs in the ICC system	
2	MAIN switch indicator (white)	Indicates that the MAIN switch is ON (ASCD system ON)	
	SET switch indicator (green)	Indicates that the set ASCD is controlled	F

SYSTEM CONTROL CONDITION DISPLAY

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

CCS-177 Revision: November 2016 2016 Q50

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Condition	Display on system display	
Standby mode	*(S) km/h	
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Control mode	**************************************	
	JSOIA1021ZZ	

WARNING AND AUTOMATIC CANCELLATION DISPLAY

Condition		Description	Display on system display
Warning display	When the ASCD system is mal- functioning	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	
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	km/h JSOIA1020ZZ

NOTE:

When the ASCD system is automatically canceled, the cancellation condition can be displayed on "WORK SUPPORT" of CONSULT (ICC/ADAS).

HANDLING PRECAUTION

< SYSTEM DESCRIPTION > [ASCD]

HANDLING PRECAUTION

Precautions for Automatic Speed Control Device (ASCD)

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- Always observe the posted speed limits and do not set the speed over them.
- Do not use the cruise control when driving under the following conditions. Doing so could cause a loss of vehicle control and result in an accident.
- When it is not possible to keep the vehicle at a constant speed
- When driving in heavy traffic
- When driving in traffic that varies speed
- When driving in windy areas
- When driving on winding or hilly roads
- When driving on slippery (rain, snow, ice, etc.) roads

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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ASCD]

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

CONSULT Function (ICC/ADAS)

INFOID:0000000013374666

APPLICATION ITEMS

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

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

^{*:} Models with FEB system only.

CONFIGURATION

Configuration includes functions as follows.

NOTE:

Models with FEB system only.

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

WORK SUPPORT

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

NOTE:

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

Display Items for The Cause of Automatic Cancellation 1

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

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FEB) CURVATURE				×	Road curve was more than the specified value
FEB) YAW RATE				×	Detected yawing speed was more than the specified value
FEB) LTRL ACCELERA- TION				×	Detected lateral speed is the specified value or more
RADAR INTERFER- ENCE	×		×	×	ICC sensor receives electromagnetic interference
NO RECORD	×	×	×		_

Display Items for The Cause of Automatic Cancellation 2

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

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Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
BSI) End by yaw angle		×	Yaw angle was the end of Blind Spot Intervention control
BSI) Departure yaw large		×	Detected more than the specified value of yaw angle in departure direction
BSI) ICC WARNING		×	Target approach warning of ICC system, FEB system or PFCW system was activated
BSI) CURVATURE		×	Road curve was more than the specified value
BSI) Steering angle large		×	Steering angle was more than the specified value
BSI) Brake is operated		×	Brake pedal was operated
BSI) IGN LOW VOLT		×	Decrease in ADAS control unit IGN voltage
BSI) Lateral offset		×	Distance of vehicle and lane was detached in lateral direction more than the specified
BSI) Lane marker lost		×	Lane camera unit lost the trace of lane marker
BSI) Lane marker un- clear		×	Detected lane marker was unclear
BSI) Yaw acceleration		×	Detected yawing speed was more than the specified value
BSI) Deceleration large		×	Deceleration in a longitudinal direction was more than the specified value
BSI) Accel is operated		×	Accelerator pedal was depressed
BSI) Departure steering		×	Steering wheel was steered more than the specified value in departure direction
BSI) Evasive steering		×	Steering wheel was steered more than the specified value in the evasive direction
BSI) R range		×	Selector lever was operated to R range
BSI) Parking brake drift		×	Rear wheels lock was detected
BSI) SNOW MODE SW		×	Shifting of the drive mode selector to SNOW position
BSI) VDC OFF SW		×	VDC OFF switch was pressed
BSI) OPE VDC/ABS 2		×	The activation of VDC or ABS during a standby time of Blind Spot Intervention system control
BSI) Not operating condition		×	Did not meet the operating condition (vehicle speed, turn signal operation, etc.)
Side Radar Lost		×	Unrecognized side radar LH or RH by the ADAS control unit
NO RECORD	×	×	_
Display Items for The C	Cause of	Automat	ic Cancellation 3
Cause of cancellation	on	Back-up Collision Intervention	Description
CAN COMM ERROR (CA	N)	×	ADAS control unit received an abnormal signal with CAN communication

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ADAS control unit received an abnormal signal with CAN communication

CAN COMM ERROR (ECD)

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

SELF DIAGNOSTIC RESULT

Refer to CCS-205, "DTC Index".

NOTE:

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

DATA MONITOR

NOTE:

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

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

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

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

< SYSTEM DESCRIPTION > [ASCD]

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

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

< SYSTEM DESCRIPTION > [ASCD]

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
SYSTEM CANCEL MESSAGE [NOREQ/SLIP/ SNOW/VDC OFF]	×	×	×	×		Indicates status of system cancel display output
CAMERA HI TEMP MSG [On/Off]			×	×		Indicates [On/Off] status of lane camera unit high temperature warning display output
ITS SETTING ITEM(DCA) [On/Off]	×	×	×	×		Indicates the presence or absence of DCA system.
ITS SETTING ITEM(LDP) [On/Off]	×	×	×	×		Indicates the presence or absence of LDP system.
ITS SETTING ITEM(BSI) [On/Off]	×	×	×	×		Indicates the presence or absence of Blind Spot Intervention system.
BSI WARNING INDI- CATOR [On/Off]				×		Indicates [On/Off] status of Blind Spot Intervention warning display output
BSW ON INDICATOR [On/Off]				×		Indicates [On/Off] status of BSW system ON display output
SIDE RADAR BLOCK COND [On/Off]				×		Indicates [On/Off] status of side radar with dirt or foreign materials
LDW WARNING ALERT TIMING [Nothing/Early/Late]			×			NOTE: The item is displayed, but it is not monitored
BSW IND BRIGHT- NESS [Nothing/Bright/Nor- mal/Dark]				×		Indicates status of brightness of Blind Spot Warning/Blind Spot Intervention indicator
SL MAIN SW [On/Off]		×				Indicates [On/Off] status as judged from steering switch
FUNC ITEM(FEB) [On/Off]	×					Indicates systems which can be set to ON/OFF by selecting "Driver Aids" ⇒ "Emergency Assist" of the integral switch Forward Emergency Braking
FEB SELECT [On/Off]	×					Indicates an ON/OFF state of the FEB system. The FEB system can be set to ON/OFF by selecting "Driving Aids" ⇒ "Emergency Assist" of the integral switch
FEB SW [On/Off]	×					Indicates [On/Off] status of FEB system
SL TARGET VEHI- CLE SPEED [km/h]	×					Indicates set vehicle speed memorized in ADAS control unit
SL SET LAMP [On/Off]	×					Indicates [On/Off] status of speed limiter SET display output
SL LIMIT LAMP [On/Off]	×					Indicates [On/Off] status of speed limiter MAIN switch display output
ASCD CANCEL (LOW SPEED) [NON/CUT]	×					Indicates the vehicle cruise condition. NON: Vehicle speed is maintained at the ASCD set speed. CUT: Vehicle speed decreased to excessively low, and ASCD operation is cut off.

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[ASCD]

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

ACTIVE TEST

CAUTION:

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

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

METER LAMP

NOTE:

< SYSTEM DESCRIPTION >

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

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

ICC BUZZER

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

BRAKE ACTUATOR

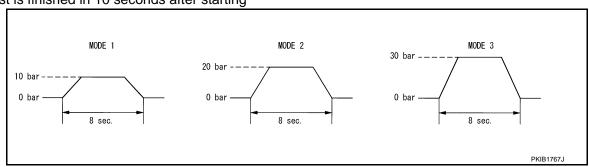
NOTE:

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

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

NOTE:

The test is finished in 10 seconds after starting



Active Pedal

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CAUTION:

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

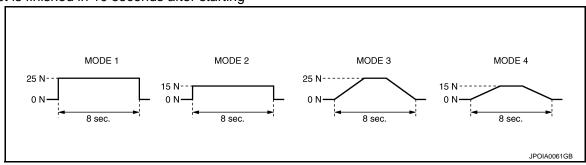
NOTE:

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

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

NOTE:

The test is finished in 10 seconds after starting



DCA INDICATOR

NOTE:

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

Test item	Opera- tion	Description	DCA system display
DCA INDICATOR	Off	Stops transmitting the meter display signal below to end the test	_
DOA INDICATOR	On	Transmits the meter display signal to the combination meter via CAN communication	ON

LDP BUZZER

Test item	Opera- tion	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

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Test item	Oper- ation	Description	LDP system display (Green)
I DD ON IND	Off	Stops transmitting the meter display signal below to end the test	-
LDP ON IND	On	Transmits the meter display signal to the combination meter via CAN communication	ON
NE DEPARTURE V	V/L		
Test item	Oper- ation	Description	Lane departure system display (Yellow
LANE DEPARTURE	Off	Stops transmitting the meter display signal below to end the test	_
W/L	On	Transmits the meter display signal to the combination meter via CAN communication	ON
W ON INDICATOR			
Test item	Oper- ation	Description	Blind Spot Warning system display (Yellow)
BSW ON INDICATOR —	Off	Stops transmitting the meter display signal below to end the test	_
	On	Transmits the meter display signal to the combination meter via CAN communication	ON
I ON INDICATOR			
I ON INDICATOR			
Test item	Oper- ation	Description	Blind Spot Intervention system display (Green)
Test item	-	Description Stops transmitting the meter display signal below to end the test	
	ation	Stops transmitting the meter display signal below to end	
Test item	Off On	Stops transmitting the meter display signal below to end the test Transmits the meter display signal to the combination	(Green)
Test item BSI ON INDICATOR	Off On	Stops transmitting the meter display signal below to end the test Transmits the meter display signal to the combination	(Green)
Test item BSI ON INDICATOR W ON INDICATOR Test item	off On Oper-	Stops transmitting the meter display signal below to end the test Transmits the meter display signal to the combination meter via CAN communication	(Green) — ON
Test item BSI ON INDICATOR W ON INDICATOR	Off On Operation	Stops transmitting the meter display signal below to end the test Transmits the meter display signal to the combination meter via CAN communication Description Stops transmitting the meter display signal below to end	(Green) — ON
Test item BSI ON INDICATOR W ON INDICATOR Test item	Off On Operation Off On	Stops transmitting the meter display signal below to end the test Transmits the meter display signal to the combination meter via CAN communication Description Stops transmitting the meter display signal below to end the test Transmits the meter display signal to the combination	(Green) ON LDW system display (White) —
Test item BSI ON INDICATOR W ON INDICATOR Test item LDW ON INDICATOR	Operation Off On Off On Off On OATOR	Stops transmitting the meter display signal below to end the test Transmits the meter display signal to the combination meter via CAN communication Description Stops transmitting the meter display signal below to end the test Transmits the meter display signal to the combination	(Green) ON LDW system display (White) —
Test item BSI ON INDICATOR W ON INDICATOR Test item LDW ON INDICATOR	Off On Operation Off On CATOR	Stops transmitting the meter display signal below to end the test Transmits the meter display signal to the combination meter via CAN communication Description Stops transmitting the meter display signal below to end the test Transmits the meter display signal to the combination meter via CAN communication	(Green) ON LDW system display (White) — ON

LDW WARNING INDICATOR

< SYSTEM DESCRIPTION >

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Test item	Oper- ation	Description	LDW malfunction (Yellow)
LDW WARNING IN- DICATOR	Off	Stops transmitting the meter display signal below to end the test	_
	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSW WARNING INDICATOR

Test item	Oper- ation	Description	BSW malfunction (Yellow)
BSW WARNING IN-	Off	Stops transmitting the meter display signal below to end the test	_
DICATOR	On	Transmits the meter display signal to the combination meter via CAN communication	ON

BSI WARNING INDICATOR

Test item	Oper- ation	Description	Blind Spot Intervention malfunction (Yellow)
BSI WARNING INDI-	Off	Stops transmitting the meter display signal below to end the test	_
CATOR	On	Transmits the meter display signal to the combination meter via CAN communication	ON

ECU IDENTIFICATION

Displays ADAS control unit parts number.

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ECU DIAGNOSIS INFORMATION

ADAS CONTROL UNIT

Reference Value

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor item		Condition	Value/Status
MAIN SW	Ignition quitab ON	When MAIN switch is pressed	On
IVIAIIN SVV	Ignition switch ON	When MAIN switch is not pressed	Off
SET/COAST SW/	Ignition quitab ON	When SET/COAST switch is pressed	On
SET/COAST SW	Ignition switch ON	When SET/COAST switch is not pressed	Off
CANCEL CW	Ignition quitab ON	When CANCEL switch is pressed	On
CANCEL SW	Ignition switch ON	When CANCEL switch is not pressed	Off
DECLIME/ACC CW/	Ignition quitab ON	When RESUME/ACCELERATE switch is pressed	On
RESUME/ACC SW	Ignition switch ON	When RESUME/ACCELERATE switch is not pressed	Off
DIOTANIOE OW	Ignitian quitab ON	When DISTANCE switch is pressed	On
DISTANCE SW	Ignition switch ON	When DISTANCE switch is not pressed	Off
	Drive the vehicle and activate	When ICC system is controlling	On
CRUISE OPE	the vehicle-to-vehicle distance control mode	When ICC system is not controlling	Off
BRAKE SW	Ignition quitab ON	When brake or clutch pedal is depressed	Off
	Ignition switch ON	When brake or clutch pedal is not depressed	On
07001 4440 044	Ignition switch ON	When brake pedal is depressed	On
STOP LAMP SW		When brake pedal is not depressed	Off
IDI E CW	Engine running	Idling	On
IDLE SW		Except idling (depress accelerator pedal)	Off
	Start the engine and turn the ICC system ON Press the DISTANCE switch to change the vehicle-to-vehicle distance setting	When set to "long"	Long
		When set to "middle"	Mid
SET DISTANCE		When set to "short"	Short
CRUISE LAMP	Start the engine and press	ICC system ON (MAIN switch indicator ON)	On
ORUISE LAIVIF	MAIN switch	ICC system OFF (MAIN switch indicator OFF)	Off
OWN VHCL	NOTE: The item is indicated, but not not not not not not not not not no	nonitored	Off
VUCI AUEAD	Drive the vehicle and activate	When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
VHCL AHEAD	the vehicle-to-vehicle distance control mode	When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off
ICC WARNING	Start the engine and press	When ICC system is malfunctioning (ICC system malfunction ON)	On
IOO WAINING	MAIN switch	When ICC system is normal (ICC system malfunction OFF)	Off

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

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ASCD]

Monitor item		Condition	Value/Status
GEAR	While driving		Displays the gear position
CLUTCH SW SIG	Ignition switch ON	NOTE: The item is indicated, but not monitored.	Off
NP SW SIG	Ignition switch ON	When the shift lever is in neutral position	On
NP SW SIG	Ignition switch ON	When the shift lever is in any position other than neutral	Off
		When ICC system is deactivated	Off
MODE SIG	Start the engine and press MAIN switch	When vehicle-to-vehicle distance control mode is activated	ICC
	WW and Control	When conventional (fixed speed) cruise control mode is activated	ASCD
	Drive the vehicle and acti-	SET switch indicator ON	On
SET DISP IND	vate the conventional (fixed speed) cruise control mode • Press SET/COAST switch	SET switch indicator OFF	Off
DISTANCE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the distance from the preceding vehicle
		When a vehicle ahead is not detected	0.0
RELATIVE SPD	Drive the vehicle and activate the vehicle-to-vehicle distance	When a vehicle ahead is detected	Displays the relative speed.
	control mode	When a vehicle ahead is not detected	0.0
ON ROOT GUID- ANCE	NOTE: The item is indicated, but not not not not not not not not not no	nonitored	Off
DVNA ACICT CW	Ignition quitab ON	When dynamic driver assistance switch is pressed	On
DYNA ASIST SW	Ignition switch ON	When dynamic driver assistance switch is not pressed	Off
	Start the engine and press dy-	DCA system OFF	Off
DCA ON IND	namic driver assistance switch (When DCA setting is ON)	DCA system ON	On
DCA VHL AHED	Drive the vehicle and activate	When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off
DCA VIIL ARED	the DCA system	When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
IBA SW	NOTE: The item is indicated, but not m	nonitored	Off
ECM SVSTEM ON	Ignition quitch ON	When the PFCW system is ON	On
FCW SYSTEM ON	Ignition switch ON	When the PFCW system is OFF	Off
АРА ТЕМР	Engine running		Display the accelerator pedal actuator integrated motor temperature
APA PWR	Ignition switch ON		Power supply voltage value of accelerator ped- al actuator
NAVI-ICC DISP	NOTE: The item is indicated, but not not not not not not not not not no	nonitored	Off
I DW SYSTEM ON	Ignition switch ON	When the LDW system is ON	On
LDW SYSTEM ON	Ignition switch ON	When the LDW system is OFF	Off

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Monitor item		Condition	Value/Status
LDW ON LAMP	Ignition switch ON	When the LDW system is ON	On
LDW ON LAWF	Igrillion Switch Oil	When the LDW system is OFF	Off
	Start the engine and press dy-	When the LDW system is ON	On
LDP ON IND	namic driver assistance switch (When LDP system setting is ON)	When the LDW system is OFF	Off
	Drive the vehicle and activate	Lane departure warning lamp ON	On
LANE DPRT W/L	the LDW system or LDP system	Lane departure warning lamp OFF	Off
LDW BUZER OUT-	Drive the vehicle and activate the LDW/LDP system or Blind	When the buzzer of the following system operates • LDW/LDP system • Blind Spot Warning/Blind Spot Intervention system	On
PUT	Spot Warning/Blind Spot Intervention system	When the buzzer of the following system does not operate LDW/LDP system Blind Spot Warning/Blind Spot Intervention system	Off
	Start the engine and press dy-	When the LDP system is ON	On
LDP SYSTEM ON	namic driver assistance switch (When LDP system setting is ON)	When the LDP system is OFF	Off
MADNI DEO	Drive the vehicle and activate	Lane departure warning is operating	On
WARN REQ	the LDP system	Lane departure warning is not operating	Off
	Start the engine and press dy- namic driver assistance switch (When LDP system setting is ON)	When the LDP system is ON	On
READY signal		When the LDP system is OFF	Off
	Drive the vehicle and activate the LDW system, LDP system or Blind Spot Intervention sys-	Both side lane markers are detected	Detect
Camera lost		Deviate side lane marker is lost	Deviate
	tem	Both side lane markers are lost	Both
Lane unclear	While driving	Lane marker is unclear	On
Lane unclear	While driving	Lane marker is clear	Off
		When the LDP system is ON	Stnby
STATUS signal	Drive the vehicle and activate	When the LDP system is operating	Warn
OTATOO SIGITAL	the LDP system	When the LDP system is canceled	Cancl
		When the LDP system is OFF	Off
Shift position	Engine runningWhile driving		Displays the shift position
	Turn signal lamps OFF		Off
Turn signal	Turn signal lamp LH blinking		LH
Tarri orginar	Turn signal lamp RH blinking		RH
	Turn signal lamp LH and RH bl	inking	LH&RH
SIDE G	While driving	Vehicle turning right	Negative value
-	- · · · · · · · · · · · · · · · · · · ·	Vehicle turning left	Positive value
		When the LDP system is ON	Stnby
STATUS signal	Drive the vehicle and activate	When the LDP system is operating	Warn
g	the LDP system	When the LDP system is canceled	Cancl
		When the LDP system is OFF	Off
Lane unclear	While driving	Lane marker is unclear	On
	, and the second	Lane marker is clear	Off
FUNC ITEM	Ignition switch ON		FUNC3

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

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Monitor item		Condition	Value/Status
ELINO ITEM (EQ.)	F	"Forward Emergency Braking" set with the integral switch is ON	On
FUNC ITEM (FCW)	Engine running	"Forward Emergency Braking" set with the integral switch is OFF	Off
FUNC ITEM (LDW)	Engine rupping	"Lane Departure Warning" set with the integral switch is ON	On
FONC ITEM (LDW)	Engine running	"Lane Departure Warning" set with the integral switch is OFF	Off
FUNC ITEM (BSW)	Engine running	"Blind Spot Warning" set with the integral switch is ON	On
TONO ITEM (BOW)	Engine running	"Blind Spot Warning" set with the integral switch is OFF	Off
FUNC ITEM (NV-ICC)	NOTE: The item is indicated, but not r	monitored	Off
FUNC ITEM (NV- DCA)	NOTE: The item is indicated, but not r	monitored	Off
DCA SELECT	Ignition switch ON	"Distance Control Assist" set with the integral switch is ON	On
DOM SELECT	Ignition switch ON	"Distance Control Assist" set with the integral switch is OFF	Off
	I mities awitch ON	"Lane Departure Intervention" set with the integral switch is ON	On
LDP SELECT	Ignition switch ON	"Lane Departure Intervention" set with the integral switch is OFF	Off
DOLOGI FOT	1	"Blind Spot Intervention" set with the integral switch is ON	On
BSI SELECT	Ignition switch ON	"Blind Spot Intervention" set with the integral switch is OFF	Off
50W 05L 50T	1	"Forward Emergency Braking" set with the integral switch is ON	On
FCW SELECT	Ignition switch ON	"Forward Emergency Braking" set with the integral switch is OFF	Off
I DIM OFI FOT	Louiting switch ON	"Lane Departure Warning" set with the integral switch is ON	On
LDW SELECT	Ignition switch 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
JOVY OLLLOI	igililion switch Ort	"Blind Spot Warning" set with the integral switch is OFF	Off
NAVI ICC SELECT	NOTE: The item is indicated, but not r	monitored	Off
NAVI DCA SELECT	NOTE: The item is indicated, but not r	monitored	Off
SYS SELECTABILITY	Ignition switch ON	Items set with the integral switch can be switched normally	On
		Items set with the integral switch cannot be switched normally	Off
		When drive mode select switch position is STANDARD	STD
		When drive mode select switch position is in SPORT	SPORT
	Lambida a sociale ON	When drive mode select switch position is in ECO	ECO
DRIVE MODE STATS	Ignition switch ON	When drive mode select switch position is in SNOW When drive mode select switch position is in PERSON-	SNOW
		AL	
		A signal other than those above is input	ERROR

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Monitor item	Condition		Value/Statu
WARN SYS SW	NOTE: The item is indicated, but not n	nonitored	Off
BSW/BSI WARN LMP	Ignition quitab ON	When the BSW system is malfunctioning	On
DOW/DOI WAIKIN LIMI	Ignition switch ON	When the BSW system is normal	Off
DOLON IND	Ignition switch ON	Blind Spot Intervention warning ON	On
BSI ON IND	Ignition switch ON	Blind Spot Intervention warning OFF	Off
SSW SYSTEM ON	Ignition switch ON	When the BSW system is ON	On
33W 3T3TEM ON	Ignition switch ON	When the BSW system is OFF	Off
3SI SYSTEM ON	Start the engine and press dy- namic driver assistance switch (When Blind Spot Intervention system setting is ON)	When the Blind Spot Intervention system is ON When the Blind Spot Intervention system is OFF	On Off
	System setting to Giv)	When the FEB/PFCW system is ON	On
CW SYSTEM ON	Engine running	When the FEB/PFCW system is OFF	Off
		When the BCI system is ON	On
CI SYSTEM ON	Engine running	When the BCI system is OFF	Off
SCI SWITCH	NOTE: The item is indicated, but not n		Off
BATTERY CIRCUIT	NOTE: The item is indicated, but not u	sed	Off
DP WARNING INDI-	Facility and a second	When the LDP system is malfunctioning	On
ATOR	Engine running	When the LDP system is normal	Off
DIA ON INDIOATOR	Lesition control ON	LDW system display ON	On
DW ON INDICATOR	Ignition switch ON	LDW system display OFF	Off
DW WARNING INDI-	Ignition switch ON	When the LDW system is malfunctioning	On
ATOR		When the LDW system is normal	Off
	Ignition switch ON	When the vehicle is normal	NOREQ
YSTEM CANCEL		When the wheel is slipping	SLIP
IESSAGE		When the drive mode selector is SNOW mode	SNOW
		When the VDC is OFF	VDC OFF
AMERA HI TEMP		Lane camera unit high temperature warning display ON	On
ISG	Ignition switch ON	Lane camera unit high temperature warning display OFF	Off
TS SETTING TEM(DCA)	Ignition switch ON		On
TS SETTING TEM(LDP)	Ignition switch ON		On
TS SETTING TEM(BSI)	Ignition switch ON		On
SI WARNING INDI-	Engine running	When the Blind Spot Intervention is malfunctioning	On
CATOR	g	When the Blind Spot Intervention is normal	Off
SW ON INDICATOR	Ignition switch ON	BSW system display ON	On
	J	BSW system display OFF	Off
IDE RADAR BLOCK	Ignition switch ON	Front bumper or side radar is dirty	On
COND		Front bumper and side radar is clean	Off
DW WA BAIRIO		LDW system OFF	Nothing
.DW WARNING LERT TIMING	Ignition switch ON	Lane departure warning timing is early setting	Early
		Lane departure warning timing is late setting	Late

ADAS CONTROL UNIT

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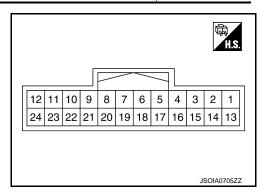
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Monitor item		Condition	Value/Status
		BSW system OFF	Nothing
BSW IND BRIGHT-		Blind Spot Warning/Blind Spot Intervention indicator brightness bright	Bright
NESS	Ignition switch ON	Blind Spot Warning/Blind Spot Intervention indicator brightness normal	Normal
		Blind Spot Warning/Blind Spot Intervention indicator brightness dark	Dark
SL MAIN SW	Engine running	When speed limiter MAIN switch is pressed	On
SL WAIN SW	Lingine running	When speed limiter MAIN switch is not pressed	Off
FUNC ITEM (FEB)	Engine rupping	"Forward Emergency Braking" set with the integral switch is ON	On
TONCTILM (LED)	Engine running	"Forward Emergency Braking" set with the integral switch is OFF	Off
FED OF LEGT	Localitica consistent CNI	"Forward Emergency Braking" set with the integral switch is ON	On
FEB SELECT	Ignition switch ON	"Forward Emergency Braking" set with the integral switch is OFF	Off
FEB SW	Engine rupping	FEB system ON	On
LED 244	Engine running	FEB system OFF	Off
SL TARGET VEHI- CLE SPEED	While driving	When vehicle speed is set	Displays the set vehicle speed
	Drive the vehicle and acti-	Speed limiter SET indicator ON	On
SL SET LAMP	vate the speed limiterPress speed limiter MAIN switch	Speed limiter SET indicator OFF	Off
	Drive the vehicle and acti-	Speed limiter system ON	On
SL LIMIT LAMP	vate the speed limiterPress speed limiter MAIN switch	Speed limiter system OFF	Off
ASCD CANCEL	Drive the vehicle and activate	ASCD cancelled by low vehicle speed	On
(LOW SPEED)	the ASCD	Other than above	Off
ASCD CANCEL	Drive the vehicle and activate	ASCD cancelled by difference between set speed and vehicle speed	On
(SPEED DIFF)	the ASCD	Other than above	Off
KICK DOWN	Drive the vehicle and activate	When accelerator pedal is full depressed	On
MICK DOWN	the speed limiter	Other than above	Off

TERMINAL LAYOUT PHYSICAL VALUES



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

NOTE:

*1: VR30DDTT

*2: 2.0 TURBO GASOLINE ENGINE

*3: Used only in with ICC.

*4: Used only in without ICC.

Fail-safe (ADAS Control Unit)

INFOID:0000000013374668

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

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

DTC Inspection Priority Chart

INFOID:0000000013374669

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

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

cs

ADAS CONTROL UNIT

Priority	Detected items (DTC)					
4	 C1A01: POWER SUPPLY CIR C1A02: POWER SUPPLY CIR 2 C1A04: ABS/TCS/VDC CIRC C1A05: BRAKE SW/STOP L SW C1A06: OPERATION SW CIRC C1A13: STOP LAMP RLY FIX C1A14: ECM CIRCUIT C1A24: NP RANGE C1A26: ECD MODE MALF C1A27: ECD PWR SUPLY CIR C1A33: CAN TRANSMISSION ERR C1A34: COMMAND ERROR C1A35: APA CIR C1A36: APA CAN COMM CIR C1A37: APA CAN CIR 2 C1A38: APA CAN CIR 1 C1A39: STRG SEN CIR C1B01: CAM AIMING INCMP C1B03: CAM ABNRML TMP DETCT C1B5D: FEB OPE COUNT LIMIT C1B56: SONAR CIRCUIT C1B57: AVM CIRCUIT C1B59: CCM CIRCUIT C1B59: DIST SEN OFF-CENTER C1B85: DIST SEN ABNORMAL TEMP C1B86: DIST SEN PWR SUP CIR C1F01: APA MOTOR MALF C1F05: APA PWR SUPLY CIR 	 U0121: VDC CAN CIR 2 U0126: STRG SEN CAN CIR 1 U0235: ICC SENSOR CAN CIRC 1 U0401: ECM CAN CIR 1 U0402: TCM CAN CIR 1 U0415: VDC CAN CIR 1 U0424: HVAC CAN CIR 1 U0428: STRG SEN CAN CIR 2 U1500: CAM CAN CIR 1 U1501: CAM CAN CIR 1 U1502: ICC SEN CAN COMM CIR 1 U1503: SIDE RDR L CAN CIR 2 U1504: SIDE RDR L CAN CIR 2 U1506: SIDE RDR R CAN CIR 1 U1505: SIDE RDR R CAN CIR 1 U1506: SIDE RDR R CAN CIR 1 U1508: ECM CAN CIRC 3 U1500: VDC CAN CIRC 3 U1500: TCM CAN CIRC 3 U1501: BCM CAN CIRC 3 U1501: HVAC CAN CIRC 3 U1512: HVAC CAN CIRC 3 U1514: STRG SEN CAN CIRC 3 U1515: ICC SENSOR CAN CIRC 3 U1516: CAM CAN CIRC 3 U1516: CAM CAN CIRC 3 U1517: APA CAN CIRC 3 U1518: SIDE RDR L CAN CIRC 3 U1519: SIDE RDR L CAN CIRC 3 U1519: SIDE RDR L CAN CIRC 3 U1518: SIDE RDR L CAN CIRC 3 U1519: SIDE RDR CAN CIRC 3 U1519: SIDE RDR CAN CIRC 3 U1521: SONAR CAN COMMUNICATION 2 U1522: SONAR CAN COMMUNICATION 1 U1523: SONAR CAN COMMUNICATION 1 U1525: AVM CAN COMMUNICATION 3 U1527: CCM CAN CIR 1 U1538: EMCM CAN CIR 2 U1530: DR ASSIST BUZZER CAN CIR 1 U1531: DAST 3 CAN CIR 1 U1541: DAST 3 CAN CIR 1 U1541: DAST 3 CAN CIR 2 				
5	C1A03: VHCL SPEED SE CIRC					
	C1A15: GEAR POSITION					
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[ASCD]

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DTC Index INFOID:0000000013374670

Systems for fail-safe

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

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

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Systems for fail-safe

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

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

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ASCD]

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Systems for fail-safe

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

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

NOTE:

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

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

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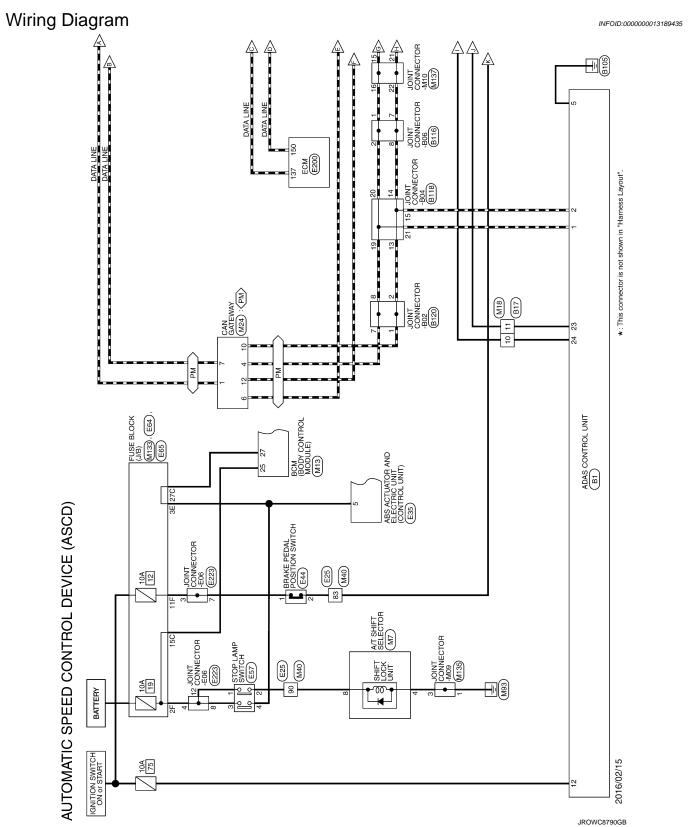
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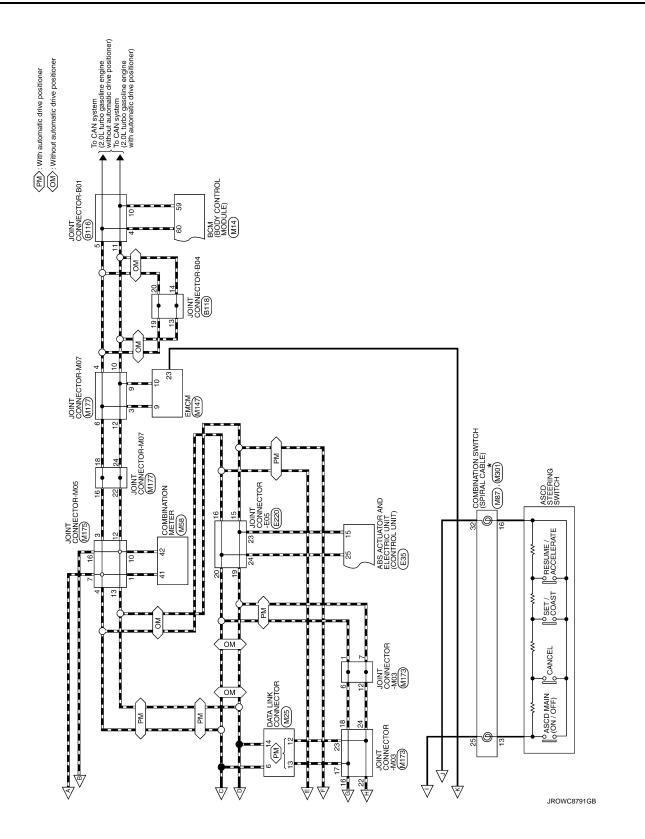
2016 Q50

< WIRING DIAGRAM > [ASCD]

WIRING DIAGRAM

AUTOMATIC SPEED CONTROL DEVICE (ASCD)





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AUTOMAT	AUTOMATIC SPEED CONTROL DEVICE (ASCD)	ASCD)	_							
Connector No.	81	Conne	Connector No.	8116	Connector No.	or No.	B118	18	_	-
Connector Name	ADAS CONTROL UNIT	Conne	Connector Name	JOINT CONNECTOR-B06	Connectu	Connector Name	JOINT CONNECTOR-804	\forall	1	- [With 2.0L turbo gasoline engine]
Connector Tune	THE PROPERTY.	, and	Connector Tune	24242 46424	our Tuno	or Type	* *************************************	79 S	SHIELD -	- [With VK30 engine]
connection type	I I I Z 4F VV - IV II		actor type	24342_4GA2A	2011102	3 13 15	24342_40A2A	t	SHEID	- [With Z.OL turbo Basonine engine]
€		Œ	•		1			t	-	- [With 2 Of turbo assoline engine]
A STATE OF THE STA	[手		6 5 4 3 2 1	彭		6 5 4 3 2 1	t	SHIFLD	- [With VR30 engine]
Z.	1	7	S.	11 10 8	S H S		+	t	-	[might position of the control of th
	ς ¹ , Ω		ı	17 16 15 14 13			17	23	: 00	
	24 23			24 23 22 21 20 19			24 23 22 21 20 19	24	~	,
Tominal Color Of		Tominal	Joseph Jon		Tormina	Color Of		Connector No	00,00	c
No Wire	Signal Name [Specification]	N		Signal Name [Specification]	N N		Signal Name [Specification]		T	
t	CAN-H	-	+		-	91	- [With VR30 engine]	Connector Name		JOINT CONNECTOR-B02
2 R	CAN-L	2	٦		1	SHIELD	- [With 2.0L turbo gasoline engine]	Connector Type	Г	24342 4GA2A
2 8	GROUND	٣	_		2	9	- [With VR30 engine]		1	
9	ITS COMM-H	4	٦		2	SHIELD	- [With 2.0L turbo gasoline engine]	Œ		
7	ITS COMM-L	2	-		e	SHIELD				6 5 4 3 2 1
8	CHASSIS COMM-H	9	1		4	97	- [With VR30 engine]	Ċ.		12 11 10 9 8 7
9	CHASSIS COMM-L	7	æ		4	SHIELD	- [With 2.0L turbo gasoline engine]			18 17 15 14 13
12 6	IGNITION [Except with VR30 engine and without ISS]	00	œ	- [With Gateway]	S	97	- [With VR30 engine]			24 23 22 21 20 19
L	IGNITION [VR30 engine and without ISS]	00	>	- [Without Gateway]	5	SHIELD	- [With 2.0L turbo gasoline engine]			
L	BRAKE HOLD RLY DRIVE SIGNAL	6	œ	- [With Gateway]	9	91	- [With VR30 engine]			
23 Y	STEERING SW SIGNAL GROUND	6	>	- [Without Gateway]	9	SHIELD	- [With 2.0L turbo gasoline engine]	Terminal Co	Color Of	3
24 SB	STEERING SW SIGNAL	10	æ	- [With VR30 engine]	7	ď	- [Color of wire differs depending on production]	No.	Wire	olgnal Name (opecification)
		10	>	- [With 2.0L turbo gasoline engine]	7	>	- [Color of wire differs depending on production]	1	œ	
		11	>		∞	97	- [With 2.0L turbo gasoline engine]	2	œ	
Connector No.	817	12	d	- [With Gateway]	∞	æ	- [With VR30 engine and without paddle shift]	3	1	- [With VR30 engine]
Connector Name	WIRETOWIRE	12	R	- [Without Gateway]	80	^	- [With VR30 engine and with paddle shift]	3	æ	- [With 2.0L turbo gasoline engine]
		13	H		6	ΓG	- [With 2.0L turbo gasoline engine]	4		- [With VR30 engine]
Connector Type	NS16FW-CS	14	1 SHIELD		6	æ	- [With VR30 engine and without paddle shift]	4	œ	- [With 2.0L turbo gasoline engine]
ó		15	┪	- [With	6	>	 [With VR30 engine and with paddle shift] 	2	_	
B		15	SHIELD		10	Pl	 [With 2.0L turbo gasoline engine] 	9		-
ě	Į	16	┪		10	SHIELD	- [With VR30 engine]	7	_	
2	<u></u>	16	SHIELD	- [With	11	PT	 [With 2.0L turbo gasoline engine] 	00		
	16 15 14 13 12 11 10 9 8	17	┪		11	SHIELD	- [With VR30 engine]	6	_	 [With 2.0L turbo gasoline engine]
		17	' SHIELD	- [With	12	Γe	- [With 2.0L turbo gasoline engine]	6	œ	- [With VR30 engine]
		18	┪		12	SHIELD	- [With VR30 engine]	10	_	 [With 2.0L turbo gasoline engine]
		18	3 SHIELD		13	_	- [With VR30 engine]	10	œ	- [With VR30 engine]
Terminal Color Of	Sinal Name (Specification)	13	7	- [With 2.0L turbo gasoline engine]	13	Ь	- [With 2.0L turbo gasoline engine and without gateway]	11	œ	-
_	organia manne lobecimeatori)	19	SHIELD	- [With VR30 engine]	13	В	- [With 2.0L turbo gasoline engine and with gateway]	12	æ	
10 SB	-	20	7	- [With 2.0L turbo gasoline engine]	14	٦	- [With VR30 engine]	13	W	-
11 γ		20	SHIELD	- [With VR30 engine]	14	Ь	- [With 2.0L turbo gasoline engine and without gateway]	14	W	
12 GR		21	_		14	œ	- [With 2.0L turbo gasoline engine and with gateway]	15	×	
		22	\dashv		15	_	- [With VR30 engine]	┪	SHIELD	
		23	\dashv		15	œ	- [With 2.0L turbo gasoline engine]	18	8	
		24	_	- [With VR30 engine]	16	٦		19	В	- [With 2.0L turbo gasoline engine]
		24	, t	- [With 2.0L turbo gasoline engine]	17	_		19	GR	- [With VR30 engine]

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

< WIRING DIAGRAM > [ASCD]

L - [With	>	G - [With VR30 engine]	w - [With	BR - [With VR30 engine]	L - [With 2.0L turbo gasoline engine]	R LIMith 3 Oil further easenline and with prateriory	V - [With VR30 engine]	. (5	╁	8 LG - [With 2.01 turbo gasoline engine and with ADAS]	18 P - [With VR30 engine] Terminal Color Of	V - [With 2.0L turbo gasoline engine and without ADAS] No. Wire	9 SB	G 2 B	. 3 G	52 V - 3 P VALVE BATTERY (With 2.0L turbo gasoline engine)	BR - [With 2.0L turbo gasoline engine] 4 Y	R - [With VR30 engine] 5 LG	14 LG - 5 V STOP LAMP SW SIGNAL [With ASCD]	BG - GR	G . 8 G RR	LG - 9 BR	G - [With VR30 engine] 10 GR FR RH	GR - [With 2.0L turbo gasoline engine] 13 R	. 15 P C	BG . 15 R	GR - [With VR30 engine] 17 Y	L - [With 2.0L turbo gasoline engine]	BG - [With VR30 engine] 18 V	+	W 1 Will 2:02 to to to gasonine engine and with gateway) 20 00	23 C2 VACIIIIM SE	2008	LG - [With 2.0L turbo gasoline engine] 32 SHIELD VA	P - [With VR30 engine] 34 G	SHIELD											
	 	- [With 2.0L turbo gasoline engine] 73	- 73	. 74	24/ 10/14/20 Of turbo and continuing 27	I T		ithout gateway]	L	- [With 2.0L turbo gasoline engine] 78	- [With VR30 engine] 78	- 78		 	engine]		- [With VR30 engine] 83	- [With 2.0L turbo gasoline engine] 83	. 84	98	- 87		- [With 2.0L turbo gasoline engine] 90		- 91			 T	engine)	- [With VK30 engine]	I T	T	enginel	tion]	- [Color of wire differs depending on production]	_			- [Color of wire differs depending on production]	- [Color of wire differs depending on production]						- [With 2.0L turbo gasoline engine]	- [With VR30 engine]
GR	_	*	۵ (Y5 -	× -	, >	> -			BR	>	SB	97	>	_	Μ	8	٨	9	SHIELD	æ	BR	g.	_	>	>	۵	3	œ 3	× 2	8 8	RG S	3 >	20	B/W	Μ	œ	>	BR	GR	GR	97	BG	_	œ	9	97
	33	33	34	35	36	5 6	38	89	38	39	39	40	41	44	45	45	46	46	47	48	49	20	20	51	52	53	24	24	55	ž į	25	22	57	28	28	59	61	64	9	65	99	- 67	89	69	70	71	71
20 GR	- [With 2.0L turbo gasoline engine]	- [With 2.0L turbo gasoline engine]	- [With VR30 engine]							WIRE IO WIRE	TH80FW-CS16-TM4					8 6 6				Signal Name [Specification]	object to the contract of the				- [With VR30 engine]	 [With 2.0L turbo gasoline engine] 	 [With 2.0L turbo gasoline engine] 	- [With VR30 engine] [Color of wire differs depending on production]	[With VR30 engine] [Color of wire differs depending on production]		- [Mith VR30 engine]	- IWith 2 OI turbo gasoline engine	- [With 2.0L turbo gasoline engine]	- [With VR30 engine]		- [With 2.0L turbo gasoline engine]	- [With VR30 engine]	- [With 2.0L turbo gasoline engine]	- [With VR30 engine]	- [With VR30 engine]	- [With 2.0L turbo gasoline engine]	- [With 2.0L turbo gasoline engine]	- [With VR30 engine]		- [With 2.0L turbo gasoline engine]	- [With VR30 engine]	- [With 2.0L turbo gasoline engine]

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)	ASCD)									
Connector No. E44	Connector No.	. E64	4	Connector No.		E200	Connector No	tor No.	E220	
Connector Name BRAKE PEDAL POSITION SWITCH	Connector Name		FUSE BLOCK (J/B)	Connector Name		ECM	Connec	Connector Name	JOINT CONNECTOR-E05	
Connector Type S02FL	Connector Type	П	NS08FW-CS	Connector Type	П	ADA52FB-AHZ6	Connec	Connector Type	NH24FB-J	
E	Œ			Œ			Œ			
H.S. 201	HS		3E2E 1E 7E 6E 4E	HS		101 102 184 184 185	ES			
Terminal Color Of Signal Name [Specification] No. Wire	Terminal Col No. W	Color Of Wire	Signal Name [Specification]	Terminal No.	Color Of Wire	Signal Name [Specification]	Terminal No.	al Color Of Wire	Signal Name [Specification]	
H	H	9		26	ø	POWER SUPPLY (MAIN)	т	W		
- [Color of w	2E	Ь		86	В	ECM GROUND	4	٦	•	
2 BG - (With VR30 engine)	3E	۸		66	9	POWER SUPPLY (MAIN)	7	W	•	
2 BR - [With 2.0L turbo gasoline engine]	4E	GR		100	В	ECM GROUND	∞	٦		
	\dashv	٦		101	9	POWER SUPPLY (MAIN)	11	W		
	7E	BG		102	В	ECM GROUND	12	٦	-	
Connector No. E57				103	>	COOLING FAN CONTROL SIGNAL (PWM)	15	а	- [Without Gateway]	
Connector Name STOP LAMP SWITCH				104	>	SENSOR POWER SUPPLY	15	œ	- [With Gateway]	
.	Connector No.	. E65	2	105	œ	SENSOR POWER SUPPLY	16	_		
Connector Type M04FW-LC	Connector Name		FUSE BLOCK (J/B)	106	>	SENSOR GROUND	19	۵	- [Without Gateway]	
Ó		П	() () () () () () () () () ()	109	۵	ENGINE SPEED SIGNAL	19	œ	- [With Gateway]	
B	Connector Type		TH12FW-NH	111	G	POWER SUPPLY	20	_		
	ą			116	97	STARTER RELAY-L	23	۵	- [Without Gateway]	
3 4	B			119	BR	SENSOR GROUND	23	œ	- [With Gateway]	
1 2	Ě		/	120	BG	SENSOR GROUND	24		-	
	120		6F 5F 3F 2F 1F	123	BR	MAIN RELAY CONTROL SIGNAL				
			195 115 105 05 85 75	127	>	FUEL PUMP ON SIGNAL				
			5	132	G	ACCELERATOR PEDAL POSITION SENSOR 1	Connec	Connector No.	E223	
a le				137	٦	CAN-H	Connec	Connector Name	JOINT CONNECTOR-E06	
61		ł		138	_	DRIVETRAIN CAN-H				
1 G - [With ASCD]	ē	Color Of	Signal Name [Specification]	142	ğ	BACK-UP LAMP SWITCH	Connec	Connector Type	SGA28FB-J	
1 L - [With AbAS]	o S	Wire		143	9 -	ACCELEBATOR DEDAIL POSTITION SENSOR	Œ			
No.	$^{+}$	$^{+}$	Color of wire differe depending on production	C#T	1	SCELENATION FEDAL FOSITION SENSON Z	季			
21 52	+	+	Iconol of wife differs depending on productional	140	٠,	FUEL IAIN PRESSURE SEIVED	SH		4 00 N 00	
3 BK	4	+	- [Color of wire differs depending on production]	148	-	STARTER RELAY-H		•	-	
4 V	+	γ :	- [With VR30 engine]	150	ه ه	CAN-L			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
	121	_	- [With 2.UL turbo gasoline engine]	151	1	DRIVE I KAIN CAN-L			02.20	
	\dashv	œ		152	8	EVAP CANISTER VENT CONTROL VALVE				
	+	88		153	G	EVAP PURGE CONTROL VALVE				
	35	۵ ۵					Terminal	al Color Of	Signal Name [Specification]	
	<u>,</u>	<u>.</u>					So	wire		
	49	1					7	ğ ,		
	+ ;	¥ .					'n	9		
	50	1					4	£ 1		
	9F	_					9 1	. B		
							7	G		

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

< WIRING DIAGRAM > [ASCD]

Connector No. M18	Connector Name WIRE TO WIRE		H.S. 1 2 3 — 4 5 6 7 8 9 10111213141516	10 Signal Name Specification 10 Signal Name Specification 10 Signal Name Specification 11 V	
M14	BCM (BODY CONTROL MODULE)	TH40FB-NH	(2) (2) (3) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	Signal Name (Specification) PUSH-BTN (Sby MLL PWR COMM INE RANI SERSOR COMM INE RANI SERSOR CAN-I CAN-I CAN-I STAFTER RIV CONT STAFTER STAFTER CONHEIS SW INPUT 3 CONHEIS SW INPUT 3 CONHEIS SW INPUT 1 TR LID CONR SW	
Connector No.	ne ne		H.S.	Terminal Color Of No. Write A8 R R R S S G G C R S G G C R G G G G G G G G G G G G G G G G	
M13	BCM (BODY CONTROL MODULE)	TH40FG-NH		Signal Name (Specification) PUSH SW SENS PWIN SPLY OPTICAL SINNOR COMBIS SW OUTPUT 3 COMBIS SW OUTPUT 3	
ctor No.	ne			Terminal Color Of No. Wire No. Wire 1	
AUTOMATIC SPEED CONTROL DEVICE (ASCD)			W FISH TO THE	Connector Name M7 Connector Name A/T SHIFT SELECTOR	

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ACI	OMA	AUTOMATIC SPEED CONTROL DEVICE (ASCD)	4SCD)								
Connector No.	tor No.	M25	11	Μ	- [With VR30 engine]	55	Ь	- [With VR30 engine]	92	R - [Wit	- [With 2.0L turbo gasoline engine and with gateway]
Journal	Connector Name	DATA LINK CONNECTOR	11	γ	- [With 2.0L turbo gasoline engine]	26	BG	- [With VR30 engine]	96	w	-
			12	8	- [With VR30 engine]	56	GR	- [With 2.0L turbo gasoline engine]	26	16	,
Connec	Connector Type	BD16FW	12	BR	- [With 2.0L turbo gasoline engine]	57	GR	- [With VR30 engine]	86	٨	
4			13	GR	- [With VR30 engine]	57	Р	- [With 2.0L turbo gasoline engine]	66	BR	- [With VR30 engine]
B			13	SHIELD	- [With 2.0L turbo gasoline engine]	28	В	•	66	91	- [With 2.0L turbo gasoline engine]
Ę		ΙL	14	В		59	SB		100 SF	SHIELD	
5	7	11 12 13 14 16	15	BG	- [With 2.0L turbo gasoline engine]	61	W/B				
		3 4 5 6 7 8	15	8S	- [With VR30 engine]	64	Å				
		Н	16	8	- [With VR30 engine]	9	R		Connector No.	M58	
			16	BR	- [With 2.0L turbo gasoline engine]	99	Ь	- [Color of wire differs depending on production]			CONTRACTOR INCIDENTIAL INCIDEN
			17	91		99	>	- [Color of wire differs depending on production]	Confidence Name		MATION METER
Terminal	al Color Of		18	8	- [With VR30 engine]	-67	97		Connector Type	pe TH12FW-NH	HN-W
No.	Wire	olgnal Name [opecification]	18	W/B	- [With 2.0L turbo gasoline engine]	89	BG		[
m	97	M CAN L	19	>		69	٦		E		
4	80	EARTH	31	*		70	æ	٠	•		7
S	8	EARTH	32	ی	- [With 2.0L turbo gasoline engine]	71	>	- [With VR30 engine]	Ĉ.		24 40 44 45
9	-	CAN-H	32	>	- [With VR30 engine]	7.1	×	- [With 2.0L turbo gasoline engine]			
7	>	KLINE [With 2.0L turbo gasoline engine]	33	_	- [With VR30 engine]	72	_	- [With 2.0L turbo gasoline engine]			47 48 51 52
7	*	KLINE [With VR30 engine]	33	>	- [With 2.0L turbo gasoline engine]	72	91	- [With VR30 engine]			
00	*	IGN_SW	34	۵		73	В	- [With VR30 engine]			
11	SB	M_CAN_H	32	BG		73	Μ	- [With 2.0L turbo gasoline engine]	Terminal Co	Color Of	9
12	œ	CAN-L	36	g		74	BR	- [With VR30 engine]	No.	Wire	Signal Name (Specification)
13	_	CAN-H	37	-	- [With VR30 engine]	74	٦	- [With 2.0L turbo gasoline engine]	41	_	CAN-H
14	Ь	CAN-L	37	_	- [With 2.0L turbo gasoline engine]	75	В	- [With VR30 engine]	42	Ь	CAN-L
16	>	POWER	38	_	- [With VR30 engine]	75	۵	- [With 2.0L turbo gasoline engine and without gateway]	43	8	ILLUMINATION CONTROL SIGNAL
			38	۵	- [With 2.0L turbo gasoline engine and without gateway]	75	ж	- [With 2.0L turbo gasoline engine and with gateway]	44	٨	FUEL LEVEL SENSOR GROUND
			38	W.	- [With 2.0L turbo gasoline engine and with gateway]	9/	W/B		45	w	BATTERY POWER SUPPLY
Connector No.	tor No.	M40	39	ď	- [With 2.0L turbo gasoline engine]	77	SB	-	46	BG IGNITIC	IGNITION SIGNAL [Except with VR30 engine and without ISS]
Journal	Connector Name	WIRE TO WIRE	39	>	- [With VR30 engine]	78	G	- [With VR30 engine]	46	R IGNITI	IGNITION SIGNAL [With VR30 engine and without ISS]
			40	GR		78	LG	 [With 2.0L turbo gasoline engine] 	47	SB	AV COMMUNICATION SIGNAL (H)
Connec	Connector Type	TH80MW-CS16-TM4	41	1		79	Я		48	91	AV COMMUNICATION SIGNAL (L)
			44	BR		80	G		51	BR	FUEL LEVEL SENSOR SIGNAL
E			45	٦	- [With 2.0L turbo gasoline engine]	81	Я		52	8	GROUND
ŧ		90 10 SEE SEE SEE SEE SEE SEE SEE SEE SEE SE	45	W	- [With VR30 engine]	82	LG				
=		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	46	9	- [With VR30 engine]	83	BR	 [With 2.0L turbo gasoline engine] 			
		A 9 10 10 10 10 10 10 10 10 10 10 10 10 10	46	>	- [With 2.0L turbo gasoline engine]	83	В	- [With VR30 engine]			
			47	BG	- [With 2.0L turbo gasoline engine]	84	٧	-			
			47	æ	- [With VR30 engine]	86	^				
			48	SHIELD		87	9	•			
Terminal	al Color Of	Manual Specification	49	8	- [With VR30 engine]	89	۸				
No.	Wire		49	9	- [With 2.0L turbo gasoline engine]	90	9	- [With VR30 engine]			
1	BG		20	В	- [With 2.0L turbo gasoline engine]	06	۸	- [With 2.0L turbo gasoline engine]			
9	W/B		20	BR	- [With VR30 engine]	91	W				
7	۸		51	7		92	9				
∞	BG	- [With VR30 engine]	52	^		93	BR				
∞	BR	- [With 2.0L turbo gasoline engine]	23	9		94	GR	- [With VR30 engine]			
6	P1	- [With VR30 engine]	54	SB	- [With 2.0L turbo gasoline engine]	94	٦	- [With 2.0L turbo gasoline engine]			
6	Ь	- [With 2.0L turbo gasoline engine]	24	>	- [With VR30 engine]	95	BR	- [With VR30 engine]			
10	Μ		22	8	- [With 2.0L turbo gasoline engine]	95	Ь	- [With 2.0L turbo gasoline engine and without gateway]			

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AUTOMATIC SPEED CONTROL DEVICE (ASCD)

[ASCD] < WIRING DIAGRAM >

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AUTO	MATIC	AUTOMATIC SPEED CONTROL DEVICE (ASCD)	ASCD)									
Connector	No.	M173	Conne	Connector No.	M175	Connector No.		M177	Connector No.		M301	
Connector Name		JOINT CONNECTOR-M03	Conne	Connector Name	JOINT CONNECTOR-M05	Connect	Connector Name	JOINT CONNECTOR-M07	Connecto	Connector Name	COMBINATION SWITCH (SPIRAL CABLE)	
Connector Type		24342_4GA2A	Conne	Connector Type	NH20FL-DC	Connector Type		24342_4GA2A	Connector Type		TKO8FGY	
Œ		1 1	Œ			Œ			Œ			
H.S.		6 5 4 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	HS	<i>જ</i> ં	2019 1716151413121110	HS	_	6 5 4 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	H.S.		2019181716151413	
Terminal No.	Color Of Wire	Signal Name (Specification)	Terminal No.	nal Color Of . Wire	of Signal Name [Specification]	Terminal No.	Color Of Wire	Signal Name [Specification]	Terminal No.	Color Of Wire	Signal Name [Specification]	
1	_		Ţ	-		1			13		1	
2	-		7	-		2	-	•	14	٠	•	
e .	_		m	- -		e .	_		15			
4	_		4	-		4	-		16			
2	_		S	_		2	_		17			
9	_		φ	-		9	_		18		•	
7	œ		7	_		7	Ь		19	,		
œ	œ	-	œ	_	-	8	Ь		20		-	
6	В		10	۵		6	Ь					
10	×		11	۵		10	Ь					
11	В		12	d	•	11	Ь					
12	×		13	۵		12	Ь					
13	SB		14	۵.		13	7					
14	SB		15	۵		14	_					
15	SB		16	۵	- [With VR30 engine]	15	_					
16	_	- [With 2.0L turbo gasoline engine]	19	۵۲	- [With 2.0L turbo gasoline engine]	16	_					
16	SB	- [With VR30 engine]	17	۵	- [With VR30 engine]	17	_					
17	7	- [With 2.0L turbo gasoline engine]	17	~	- [With 2.0L turbo gasoline engine]	18	7					
17	SB	- [With VR30 engine]	19	~	- [With VR30 engine and with ISS]	19	>					
18	_	- [With 2.0L turbo gasoline engine]	19	>	- [Except with VR30 engine and with ISS]	20	>					
18	SB	- [With VR30 engine]	20	~	- [With VR30 engine and with ISS]	21	M					
19	BR	- [With VR30 engine]	20	>	- [Except with VR30 engine and with ISS]	22	۵					
19	97	 [With 2.0L turbo gasoline engine] 				23	Ь					
20	BR	- [With VR30 engine]				24	Ь	1				
20	5	- [With 2.0L turbo gasoline engine]										
21	BR	- [With VR30 engine]										
21	91	 [With 2.0L turbo gasoline engine] 										
22	œ	 [With 2.0L turbo gasoline engine] 										
22	SB	- [With VR30 engine and without ISS]										
22	>	- [With VR30 engine and with ISS]										
23	В	- [With 2.0L turbo gasoline engine]										
23	SB	- [With VR30 engine and without ISS]										
23	>	- [With VR30 engine and with ISS]										
24	œ	- [With 2.0L turbo gasoline engine]										
24	SB	- [With VR30 engine and without ISS]										
24	>	- [With VR30 engine and with ISS]										

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[ASCD] < BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow INFOID:0000000013189436 В

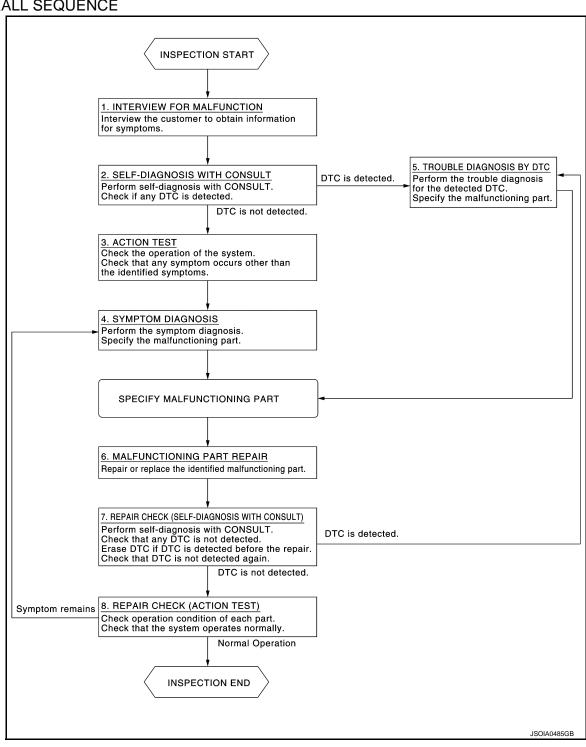
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OVERALL SEQUENCE



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:

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[ASCD]

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

>> GO TO 2.

2.self-diagnosis with consult

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

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 3.

3. ACTION TEST

Perform the ASCD system action test to check the operation status. Refer to CCS-219, "Description". Check if any other malfunctions occur.

>> GO TO 4.

4. SYMPTOM DIAGNOSIS

Perform the applicable diagnosis according to the diagnosis chart by symptom. Refer to CCS-221, "Symptom Table.

>> GO TO 6.

5. TROUBLE DIAGNOSIS BY DTC

- 1. Check the DTC in the self-diagnosis results.
- 2. Perform trouble diagnosis for the detected DTC. Refer to CCS-205, "DTC Index" (ICC/ADAS).

NOTE

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

>> GO TO 6.

6. MALFUNCTIONING PART REPAIR

Repair or replace the identified malfunctioning parts.

>> GO TO 7.

7.REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)

- 1. Erases self-diagnosis results.
- 2. Perform "All DTC Reading" again after repairing or replacing the malfunctioning parts.
- 3. Check if any DTC is detected in self-diagnosis results of "ICC/ADAS".

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 8.

8.REPAIR CHECK (ACTION TEST)

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

Is there any malfunction symptom?

YES >> GO TO 4.

ACTION TEST

[ASCD] < BASIC INSPECTION > ACTION TEST Α Description INFOID:0000000013189437 Always perform the ASCD system action test to check that the ASCD system operates normally after repairing any ASCD system malfunction. Refer to CCS-219. "Work Procedure [Automatic Speed Control Device (ASCD)]". **CAUTION:** Always drive safely when performing the action test. Work Procedure [Automatic Speed Control Device (ASCD)] INFOID:0000000013189438 D 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. Е 1. CHECK FOR ASCD MAIN SWITCH 1. Start the engine. Press the ASCD MAIN switch Check that the ASCD system display on the information display turns ON and the display is ready for activation. 4. Press the ASCD MAIN switch, and check that the ASCD system display on the information display turns OFF when the ASCD system is deactivated. Check that the ASCD system display on the information display turns OFF after starting the engine again. Н >> GO TO 2. 2.CHECK FOR RESUME/ACCELERATE, SET/COAST, AND CANCEL SWITCHES Check that RESUME/ACCELERATE, SET/COAST, CANCEL switches are operated smoothly. Check that switches come up as hand is released from the switches. >> GO TO 3. 3.set checking 1. Start the engine. Press the ASCD MAIN switch and turn the ASCD to ON. 3. Drive the vehicle at 40 km/h (25 MPH) or more. 4. Push down the SET/COAST switch. Check that the desired speed is set and ASCD control starts when releasing SET/COAST switch. NOTE: Display the set status in the ASCD system display on the information display. >> GO TO 4. 4. CHECK FOR INCREASE OF CRUISING SPEED Ν Set the vehicle speed to any desired speed, and drive the vehicle. Check that the set speed increases by 1.6 km/h (1 MPH) as RESUME/ACCELERATE switch is pushed ccs up. NOTE: The maximum set speed is 144 km/h (90 MPH). The set vehicle speed increases while pushing up the RESUME/ACCELERATE switch. Р CAUTION: Never set the cruise speed exceeding the posted speed limit. >> GO TO 5. ${f 5.}$ CHECK FOR DECREASE OF CRUISING SPEED

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Set the vehicle speed to any desired speed, and drive the vehicle.

ACTION TEST

< BASIC INSPECTION > [ASCD]

- 2. Check that the set speed decreases by 1.6 km/h (1 MPH) as SET/COAST switch is pushed down. **NOTE:**
- The minimum set speed is 40 km/h (25 MPH).
- The set vehicle speed decreases while pressing down the SET/COAST switch.

>> GO TO 6.

6. CHECK FOR CANCELLATION OF ASCD

Check that the ASCD is canceled when performing the following operations.

- When the brake pedal is depressed after the ASCD is set and the vehicle is driven.
- When the selector lever is in the "N" position after the ASCD is set and the vehicle is driven.
- When the ASCD MAIN switch is turned OFF after the ASCD is set and the vehicle is driven.
- When the CANCEL switch is pressed after the ASCD is set and the vehicle is driven.

>> GO TO 7.

7.CHECK FOR RESTORING SPEED THAT IS SET BY ASCD BEFORE CANCELLATION

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

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

AUTOMATIC SPEED CONTROL DEVICE (ASCD) SYMPTOMS

< SYMPTOM DIAGNOSIS > [ASCD]

SYMPTOM DIAGNOSIS

AUTOMATIC SPEED CONTROL DEVICE (ASCD) SYMPTOMS

Symptom Table

Symptoms		Reference page
Operation	MAIN switch does not turn ON	Refer to CCS-222, "Description"
	MAIN switch does not turn OFF	
	System cannot be set (MAIN switch turns ON/ OFF)	Refer to CCS-223, "Description"
	CANCEL switch does not function	Refer to CCS-225, "Description"
	Resume does not function	
	Set speed does not increase	
	ASCD is not canceled when the A/T selector lever is "N" position	Refer to CCS-226, "Description"
Display	System display not appear	Refer to MWI-68, "On Board Diagnosis Function"
Control	Driving force is hunting	Refer to CCS-227, "Description"

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

< SYMPTOM DIAGNOSIS >

[ASCD]

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

Description INFOID:000000013189440

MAIN switch does not turn ON

ASCD system display does not appear even when MAIN switch is pressed.

MAIN switch does not turn OFF

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

NOTE:

When system malfunction illuminates, perform the self-diagnosis of system, and then repair or replace the malfunctioning parts.

Diagnosis Procedure

INFOID:0000000013189441

1. MAIN SWITCH INSPECTION

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

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 4.

2. CHECK COMBINATION METER

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

3.perform self-diagnosis of combination meter

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

Is any DTC detected?

YES >> Repair or replace malfunctioning parts.

NO >> GO TO 4.

4. PERFORM SELF-DIAGNOSIS RESULTS OF SYSTEM

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

Is "U1000" detected?

YES >> GO TO 5.

NO >> GO TO 6.

5. CAN COMMUNICATIONS INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to DAS-175, "DTC Logic".

>> INSPECTION END

6. CHECK ASCD STEERING SWITCH

Check the ASCD steering switch. Refer to DAS-120, "Component Inspection (Without ICC)".

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

< SYMPTOM DIAGNOSIS > [ASCD]

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

Description INFOID:0000000013189442

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

NOTE:

The system cannot be set in the following case.

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

Diagnosis Procedure

1. CHECK CAUSE OF AUTOMATIC CANCELLATION

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

Is it displayed?

Not displayed>>GO TO 2.

"OPE SW VOLT CIRC">>Refer to DAS-117, "DTC Logic".

"VHCL SPD UNMATCH">>Refer to DAS-106, "DTC Logic".

"IGN LOW VOLT">>Refer to DAS-105, "DTC Logic".

"ECM CIRCUIT">>Refer to DAS-132, "DTC Logic".

"CAN COMM ERROR">>Refer to DAS-175, "DTC Logic".

"ABS/TCS/VDC CIRC">>Refer to DAS-108, "DTC Logic".

"ECD CIRCUIT">>Refer to DAS-138, "DTC Logic".

2.perform the self-diagnosis

1. Perform "All DTC Reading".

 Check if any DTC is detected in "Self Diagnostic Result" of "ICC/ADAS". Refer to <u>CCS-205, "DTC Index"</u> (ICC/ADAS).

Is any DTC detected?

YES >> GO TO 3.

NO >> GO TO 4.

3.REPAIR OR REPLACE MALFUNCTIONING PARTS

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

>> GO TO 6.

4. CHECK EACH SWITCH AND VEHICLE SPEED SIGNAL

- Start the engine.
- Check that the following items operate normally in "DATA MONITOR" of "ICC/ADAS".
- "VHCL SPEED SE"
- "D RANGE SW"
- "SET/COAST SW"
- "BRAKE SW"
- "PKB SW"

Is there a malfunctioning item?

All items are normal>>GO TO 5.

"VHCL SPEED SE">>Refer to DAS-106, "DTC Logic".

"D RANGE SW">>Refer to CCS-226, "Diagnosis Procedure".

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

< SYMPTOM DIAGNOSIS >

[ASCD]

"SET/COAST SW">>Refer to DAS-117, "DTC Logic".

"BRAKE SW">>Refer to DAS-109, "DTC Logic".

"PKB SW">>Refer to WCS-65, "Diagnosis Procedure".

5. REPLACE ADAS CONTROL UNIT

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

>> GO TO 6.

6. CHECK AUTOMATIC SPEED CONTROL DEVICE (ASCD) SYSTEM

- 1. Erase the self-diagnosis results, and then perform "All DTC Reading" again after performing the action test. (Refer to CCS-219, "Description" for action test.)
- 2. Check that the ASCD system is normal.

STEERING SWITCH (OTHER THAN MAIN SWITCH) DOES NOT FUNCTION [ASCD] < SYMPTOM DIAGNOSIS > STEERING SWITCH (OTHER THAN MAIN SWITCH) DOES NOT FUNC-TION Description INFOID:0000000013189444 В MAIN switch can be turned ON/OFF, but the operation of RESUME/ACCELERATE switch and CANCEL switch cannot be performed during ASCD system operation. NOTE: Resume is not accepted when the following condition is met. When the MAIN switch is turned OFF once. Diagnosis Procedure D INFOID:0000000013189445 1. CHECK EACH SWITCH Е Start the engine. Check that each switch operates normally on "DATA MONITOR" of "ICC/ADAS" with CONSULT. "RESUME/ACC SW" "CANCEL SW" F Is the inspection result normal? YES >> GO TO 5. NO >> GO TO 2. 2.PERFORM ALL OF THE SELF-DIAGNOSIS ITEMS Perform "All DTC Reading". Н Check if the "U1000" is detected in "Self Diagnostic Result" of "ICC/ADAS". Is "U1000" detected? YES >> GO TO 3. NO >> GO TO 4. ${f 3.}$ CAN COMMUNICATIONS INSPECTION Check the CAN communication and repair or replace malfunctioning parts. Refer to DAS-175, "DTC Logic". >> INSPECTION END K 4. CHECK ASCD STEERING SWITCH Check the ASCD steering switch. Refer to DAS-120, "Component Inspection (Without ICC)". >> GO TO 6. REPLACE ADAS CONTROL UNIT

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

>> GO TO 6.

6.CHECK ASCD SYSTEM

Erase the self-diagnosis results, and then perform "All DTC Reading" again after performing the action test. (Refer to <u>CCS-219</u>, "<u>Description</u>" for action test.)

Check that the ASCD system is normal.

>> INSPECTION END

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CCS-225 Revision: November 2016 2016 Q50

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

< SYMPTOM DIAGNOSIS >

[ASCD]

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

Description INFOID:000000013189446

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

Diagnosis Procedure

INFOID:0000000013189447

1. CHECK D RANGE SWITCH

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

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 2.

2. PERFORM ALL SELF-DIAGNOSIS ITEMS

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

Is "U1000" detected?

YES >> GO TO 3.

NO >> GO TO 4.

3. CAN COMMUNICATIONS INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to DAS-175, "DTC Logic".

>> INSPECTION END

4. CHECK POSITION SWITCH

Check if "POSI OF SELECT RANGE VALV" operates normally in "DATA MONITOR" of "TRANSMISSION".

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

5. PERFORM TCM SELF-DIAGNOSIS

- 1. Perform the "Self Diagnostic Result" of "TRANSMISSION".
- Repair or replace malfunctioning parts. Refer to <u>TM-102, "2.0L TURBO GASOLINE ENGINE: DTC Index"</u>.

>> GO TO 7.

6. REPLACE ADAS CONTROL UNIT

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

>> GO TO 7.

.CHECK ASCD SYSTEM

- 1. Erase the self-diagnosis results, and then perform "All DTC Reading" again after performing the action test. (Refer to CCS-226. "Description" for action test.)
- 2. Check that the ASCD system is normal.

DRIVING FORCE IS HUNTING

[ASCD] < SYMPTOM DIAGNOSIS > DRIVING FORCE IS HUNTING Α Description INFOID:0000000013189448 The vehicle causes hunting when the ASCD system is active. В Diagnosis Procedure INFOID:0000000013189449 1.PERFORM SELF-DIAGNOSIS OF ECM/EMCM Perform "All DTC Reading" with CONSULT. 2. Check if the DTC is detected in self-diagnosis results of "ENGINE". Refer to EC4-146, "DTC Index". D Is any DTC detected? YES >> GO TO 2. NO >> INSPECTION END Е 2.repair or replace malfunctioning parts Repair or replace malfunctioning parts identified by the self-diagnosis result. F >> GO TO 3. 3. CHECK ASCD SYSTEM Erase the self-diagnosis results, and then perform "All DTC Reading" again after performing the action test. (Refer to CCS-226, "Description" for action test.) Check that the ASCD system is normal. Н >> INSPECTION END K M Ν

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Revision: November 2016 CCS-227 2016 Q50

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS > [ASCD]

NORMAL OPERATING CONDITION

Description INFOID:000000013189450

PRECAUTIONS FOR AUTOMATIC SPEED CONTROL DEVICE (ASCD)

- Always observe the posted speed limits and do not set the speed over them.
- Do not use the cruise control when driving under the following conditions. Doing so could cause a loss of vehicle control and result in an accident.
- When it is not possible to keep the vehicle at a constant speed
- When driving in heavy traffic
- When driving in traffic that varies speed
- When driving in windy areas
- When driving on winding or hilly roads
- When driving on slippery (rain, snow, ice, etc.) roads

STEERING SWITCH

< REMOVAL AND INSTALLATION > [ASCD]

REMOVAL AND INSTALLATION

STEERING SWITCH

Exploded View

ASCD steering switch is integrated in the steering switch.

Refer to <u>ST-32</u>, "Exploded View". **NOTE**:

Always remove ASCD steering switch together with steering wheel.

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