

SECTION **DAS**

DRIVER ASSISTANCE SYSTEM

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PRECAUTION

PRECAUTIONS

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

INFOID:000000011509918

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

Always observe the following items for preventing accidental activation.

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

Precautions for Removing Battery Terminal

INFOID:000000011509919

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

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.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

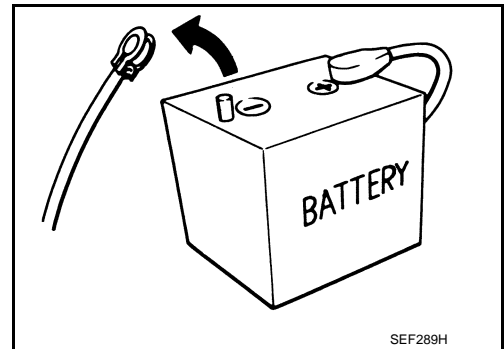
NOTE:

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

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

NOTE:

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



Precautions For Harness Repair

INFOID:000000011449751

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

PRECAUTIONS

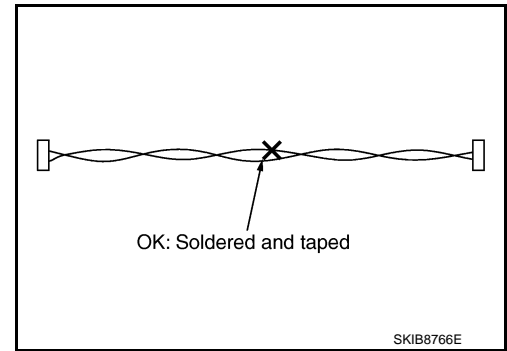
[ADAS CONTROL UNIT]

< PRECAUTION >

- Solder the repaired area and wrap tape around the soldered area.

NOTE:

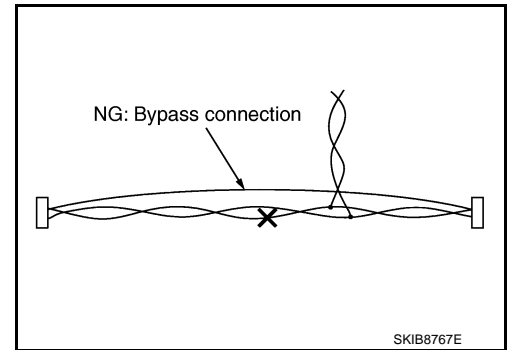
A fray of twisted lines must be within 110 mm (4.33 in).



- 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.



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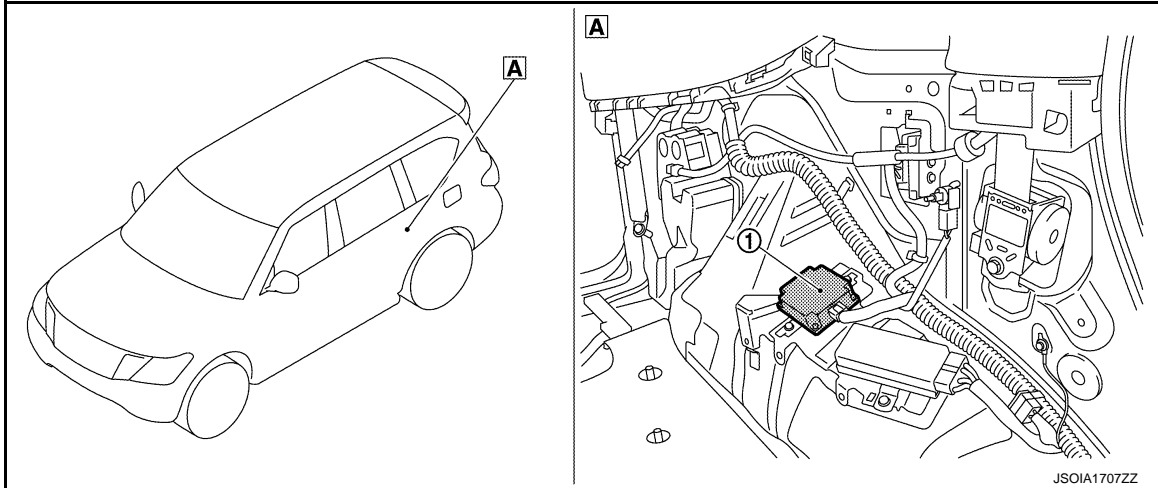
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000011449752



A Inside of luggage side finisher lower

No.	Component	Description
①	ADAS control unit	<ul style="list-style-type: none"> Controls each system, based on CAN communication and ITS communication signals received from each control unit Transmits signals necessary for control between CAN communication and ITS communication

ADAS Control Unit

INFOID:000000011449753

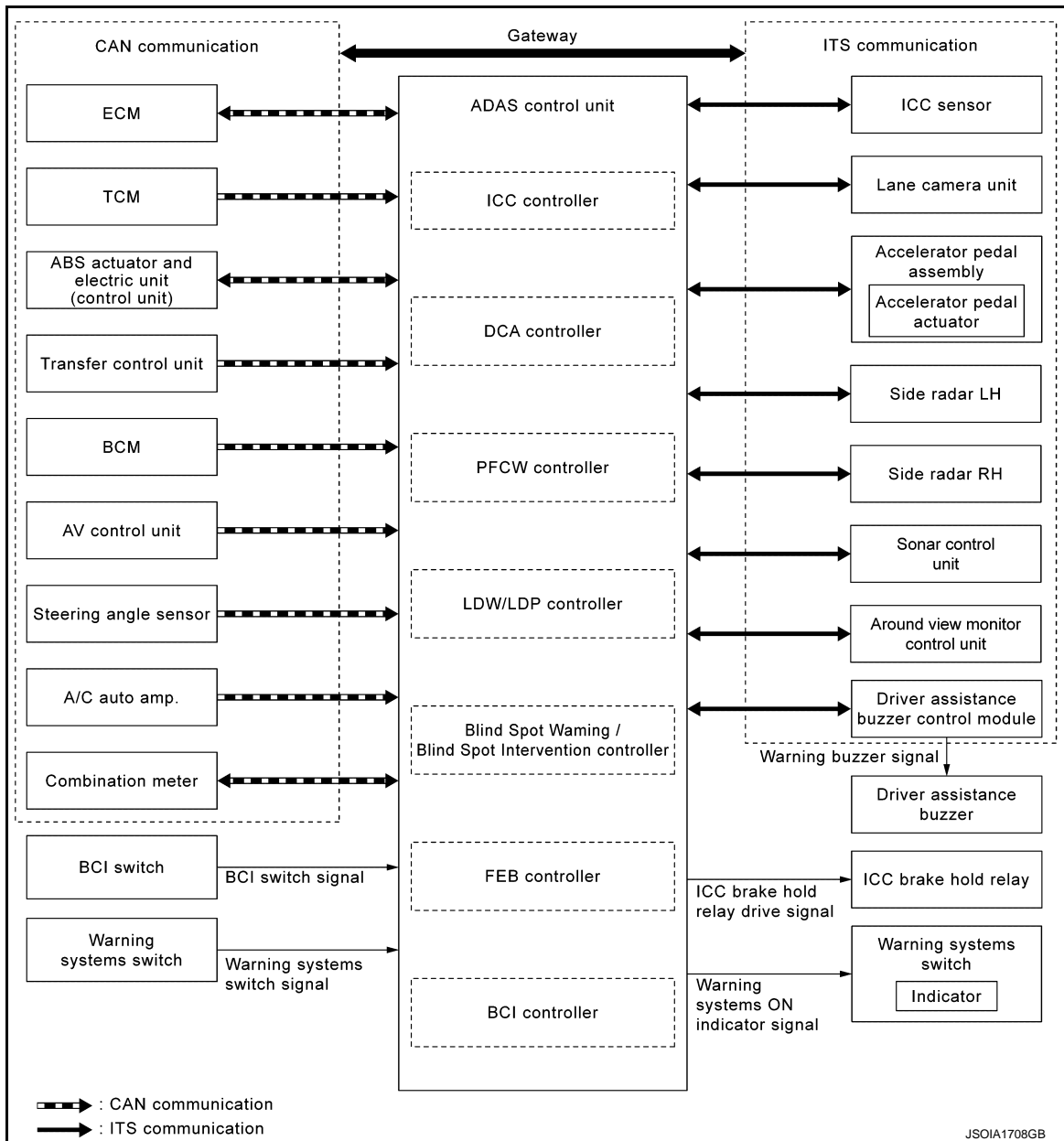
- ADAS control unit is installed at inside of luggage side finisher lower.
- Communicates with each control unit via CAN communication/ITS communication.
- ADAS control unit included gateway function, and necessary for system control signals are transmitted to each control unit between CAN communication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

SYSTEM

System Description

INFOID:000000011449754

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

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[ADAS CONTROL UNIT]

Transmit unit	Signal name		Description	
ECM	CAN communication	Closed throttle position signal	Receives idle position state (ON/OFF)	
		Accelerator pedal position signal	Receives accelerator pedal position (angle)	
		ICC prohibition signal	Receives an operable/inoperable state of the ICC system	
		Engine speed signal	Receives engine speed	
		ICC steering switch signal	MAIN switch signal	Receives the operational state of the ICC steering switch
			SET/COAST switch signal	
			CANCEL switch signal	
			RESUME/ACCELERATE switch signal	
			DISTANCE switch signal	
			Dynamic driver assistance switch signal	
			Stop lamp switch signal	Receives an operational state of the brake pedal
	ICC brake switch signal	Receives an operational state of the brake pedal		
	Snow mode switch signal	Receives an operational state of the snow mode		
TCM	CAN communication	Input speed signal	Receives the number of revolutions of input shaft	
		Current gear position signal	Receives a current gear position	
		Shift position signal	Receives a select lever position	
		Output shaft revolution signal	Receives the number of revolutions of output shaft	
ABS actuator and electric unit (control unit)	CAN communication	ABS malfunction signal	Receives a malfunction state of ABS	
		ABS operation signal	Receives an operational state of ABS	
		ABS warning lamp signal	Receives an ON/OFF state of ABS warning lamp	
		TCS malfunction signal	Receives a malfunction state of TCS	
		TCS operation signal	Receives an operational state of TCS	
		VDC OFF switch signal	Receives an ON/OFF state of VDC	
		VDC malfunction signal	Receives a malfunction state of VDC	
		VDC operation signal	Receives an operational state of VDC	
		Vehicle speed signal	Receives wheel speeds of four wheels	
		Yaw rate signal	Receives yaw rate acting on the vehicle	
		Side G sensor signal	Receives lateral G acting on the vehicle	
	Stop lamp switch signal	Receives an operational state of the brake pedal		
Combination meter	CAN communication	Parking brake switch signal	Receives an operational state of the parking brake	
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp	
		Front wiper request signal	Receives an operational state of front wiper(s)	
		Dimmer signal	Receives ON/OFF state of dimmer signal	
Steering angle sensor	CAN communication	Steering angle sensor malfunction signal	Receives a malfunction state of steering angle sensor	
		Steering angle sensor signal	Receives the number of revolutions, turning direction of the steering wheel	
		Steering angle speed signal	Receives the turning angle speed of the steering wheel	

SYSTEM

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

Transmit unit	Signal name		Description
AV control unit	CAN communication	System selection signal	Receives a selection state of each item in "Driver assistance" selected with the navigation screen
A/C auto amp.	CAN communication	Ambient temperature signal	Receives ambient temperature signal
Transfer control unit	CAN communication	Current 4WD mode signal	Receives a mode selection state of the 4WD shift switch
ICC sensor	ITS communication	ICC sensor signal	Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle
Lane camera unit	ITS communication	Detected lane condition signal	Receives detection results of lane marker
Accelerator pedal actuator	ITS communication	Accelerator pedal actuator operation status signal	Receives an operational state of accelerator pedal actuator
Side radar LH, RH	ITS communication	Vehicle detection signal	Receives vehicle detection condition of detection zone
Sonar control unit	ITS communication	Rear object detection signal	Receives objects detection result of rear area behind vehicle
Warning systems switch	Warning systems switch signal		Receive an ON/OFF state of the warning systems switch
BCI switch	BCI switch signal		Receive an ON/OFF state of the BCI switch

Output Signal Item

Reception unit	Signal name		Description
ECM	CAN communication	ICC operation signal	Transmits an ICC operation signal necessary for intelligent cruise control
TCM	CAN communication	ICC operation signal	Transmits an ICC operation signal necessary for intelligent cruise control via ECM
ABS actuator and electric unit	CAN communication	Brake fluid pressure control signal	Transmits a brake fluid pressure control signal to activates the brake
		Target yaw moment signal	Transmits a target yaw moment signal to generate yaw moment to the vehicle

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[ADAS CONTROL UNIT]

Reception unit	Signal name		Description
Combination meter	CAN communication	Own vehicle indicator signal	Transmits a signal to display a state of the system on the information display
		Vehicle ahead detection indicator signal	
		Set vehicle speed indicator signal	
		Set distance indicator signal	
		Meter display signal SET switch indicator signal	
		MAIN switch indicator signal	
		DCA system display signal	
		FEB system display signal	
	BCI system display signal		
		FEB warning lamp signal	<ul style="list-style-type: none"> • Transmits a signal to turn ON the lamp • Transmits an ON/OFF state of the Forward Emergency Brake
		Blind Spot Warning/Blind Spot Intervention warning lamp signal	Transmits a Blind Spot Warning/Blind Spot intervention warning lamp signal to turn ON the Blind Spot Warning/Blind Spot intervention warning lamp
	Blind Spot Intervention ON indicator lamp signal	Transmits a Blind Spot Intervention ON indicator lamp signal to turn ON the Blind Spot Intervention ON indicator lamp	
	LDP ON indicator lamp signal	Transmits an LDP ON indicator lamp signal to turn ON the LDP ON indicator lamp	
	Lane departure warning lamp signal	Transmits an lane departure warning lamp signal to turn ON the lane departure warning lamp	
	ICC warning lamp signal	Transmits an ICC warning lamp signal to turn ON the ICC warning lamp	
ICC sensor	ITS communication	Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit
		Steering angle sensor signal	Transmits a steering angle sensor signal received from the steering angle sensor
Lane camera unit	ITS communication	Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit
		Turn indicator signal	Transmits a turn indicator signal received from BCM
Accelerator pedal actuator	ITS communication	Accelerator pedal position signal	Transmits an accelerator pedal angle calculated by the ADAS control unit
		Accelerator pedal feedback force control signal	Transmits a target actuation force value calculated by the ADAS control unit
Side radar LH, RH	ITS communication	Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit
		Blind Spot Warning/Blind Spot Intervention indicator signal	Transmits a Blind Spot Warning/Blind Spot Intervention indicator signal to turn ON the Blind Spot Warning/Blind Spot Intervention indicator
		Blind Spot Warning/Blind Spot Intervention indicator dimmer signal	Transmits a Blind Spot Warning/Blind Spot Intervention indicator dimmer signal to dimmer Blind Spot Warning/Blind Spot Intervention indicator
Sonar control unit	ITS communication	Buzzer drive signal	Transmits a buzzer drive signal to activate buzzer

SYSTEM

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

Reception unit	Signal name		Description
Around view monitor control unit	ITS communication	BCI warning signal	Transmits a BCI warning signal to indicate a yellow/red frame on the upper display
Driver assistance buzzer control module	ITS communication	Driver assistance buzzer signal	Transmits a driver assistance buzzer signal to activates the buzzer
ICC brake hold relay	ICC brake hold relay drive signal		Activates the brake hold relay and turns ON the stop lamp
Warning systems ON indicator	Warning systems ON indicator signal		Turns ON the warning systems ON indicator

DESCRIPTION

- ADAS* control unit controls the following systems, based on ITS communication signal and CAN communication signal from each control unit.

NOTE:

*: Advanced Driver Assistance Systems

- Intelligent Cruise Control (ICC)
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)
- Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

System	Reference
Intelligent Cruise Control (ICC)	CCS-12, "System Description"
Distance Control Assist (DCA)	DAS-168, "DCA : System Description"
Forward Emergency Braking (FEB)	BRC-154, "System Description"
Predictive Forward Collision Warning (PFCW)	DAS-172, "PFCW : System Description"
Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)	<ul style="list-style-type: none"> • Lane Departure Warning: DAS-174, "LDW : System Description" • Lane Departure Prevention: DAS-176, "LDP : System Description"
Blind Spot Warning (BSW)/Blind Spot Intervention	<ul style="list-style-type: none"> • Blind Spot Warning: DAS-179, "BSW : System Description" • Blind Spot Intervention: DAS-182, "BLIND SPOT INTERVENTION : System Description"
Back-up Collision Intervention (BCI)	DAS-186, "BCI : System Description"

Fail-safe (ADAS Control Unit)

INFOID:0000000011509924

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/Indicator lamp	Description
Vehicle-to-vehicle distance control mode	High-pitched tone	ICC system warning lamp	Cancel
Conventional (fixed speed) cruise control mode	High-pitched tone	ICC system warning lamp	Cancel

SYSTEM

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

System	Buzzer	Warning lamp/Indicator lamp	Description
Forward Emergency Braking (FEB)	High-pitched tone	FEB warning lamp	Cancel
Predictive Forward Collision Warning (PFCW)	High-pitched tone	FEB warning lamp	Cancel
Distance Control Assist (DCA)	High-pitched tone	ICC system warning lamp	Cancel
Lane Departure Warning (LDW)	—	Lane departure warning lamp	Cancel
Lane Departure Prevention (LDP)	Low-pitched tone	Lane departure warning lamp	Cancel
Blind Spot Warning (BSW)	—	Blind Spot Warning/Blind spot Intervention warning lamp	Cancel
Blind Spot Intervention	Low-pitched tone	Blind Spot Warning/Blind spot Intervention warning lamp	Cancel
Back-up Collision Intervention (BCI)	High-pitched tone	BCI malfunction indicator	Cancel

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

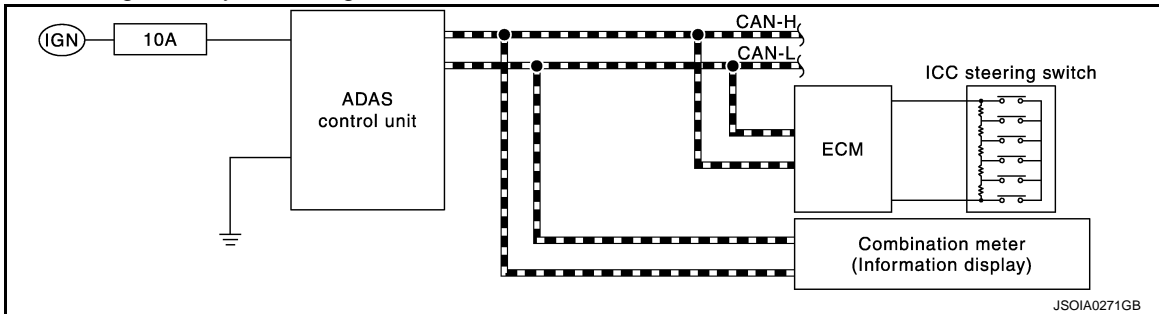
On Board Diagnosis Function

INFOID:000000011449756

DESCRIPTION

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

On Board Self-diagnosis System Diagram



METHOD OF STARTING

CAUTION:

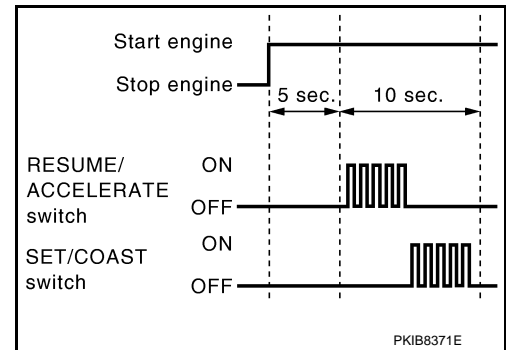
Start condition of on board self-diagnosis

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

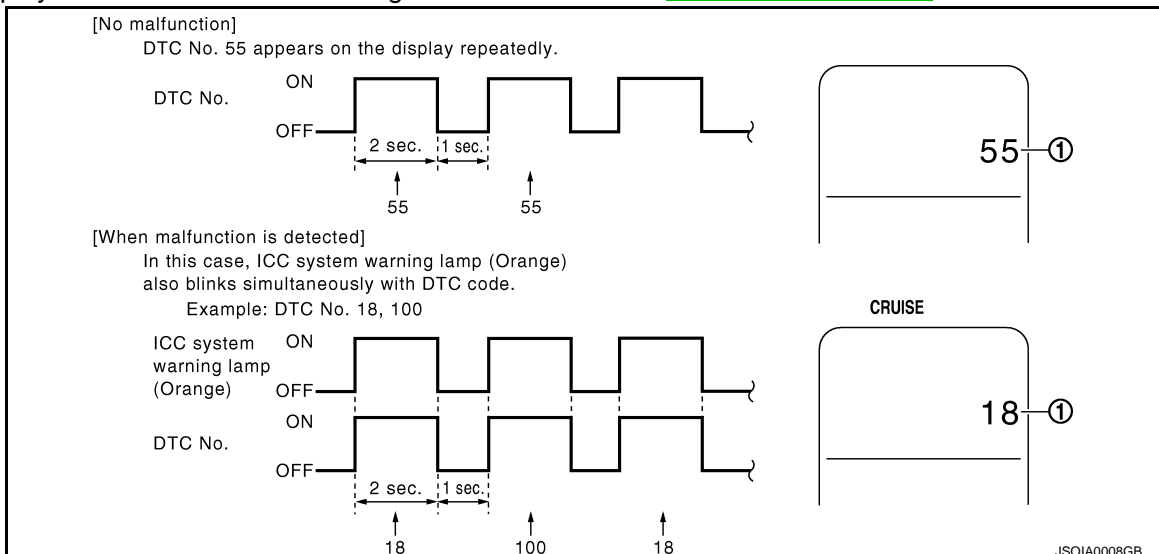
1. Turn the ignition switch OFF.
2. Start the engine.
3. Wait for 5 seconds after starting the engine. Push up the RESUME/ACCELERATE switch 5 times and push down the SET/COAST switch 5 times within 10 seconds.

NOTE:

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



4. The DTC is displayed on the set vehicle speed indicator ① on the ICC system display on the information display when the on board self-diagnosis starts. Refer to [DAS-40. "DTC Index"](#).



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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

- 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-30, "On Board Diagnosis Function" .
ICC steering switch malfunction		Perform the inspection for DTC "C1A06". Refer to DAS-74, "DTC Logic" .
Harness malfunction between ICC steering switch and ADAS control unit		
ADAS control unit malfunction		
Harness malfunction between ICC steering switch and ECM		
ECM control unit malfunction		<ul style="list-style-type: none"> • Check power supply and ground circuit of ADAS control unit. Refer to DAS-158, "Diagnosis Procedure". • Perform SELF-DIAGNOSIS for "ICC/ADAS" with CONSULT, and then check the malfunctioning parts. Refer to DAS-40, "DTC Index".
ADAS control unit malfunction		

HOW TO ERASE ON BOARD SELF-DIAGNOSIS

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

NOTE:

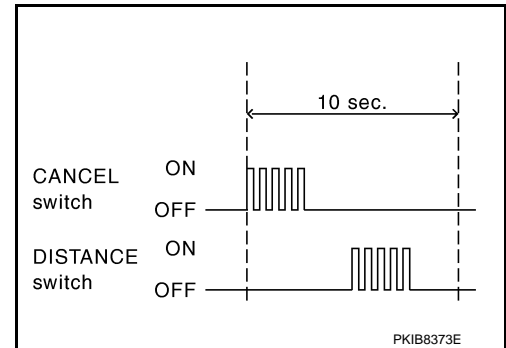
- Complete the operation within 10 seconds after pressing the CANCEL switch first.
- If the operation is not completed within 10 seconds, repeat the procedure from step 1.

4. DTC 55 is displayed after erasing.

NOTE:

DTCs for existing malfunction can not be erased.

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



CONSULT Function (ICC/ADAS)

INFOID:000000011449757

APPLICATION ITEMS

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

Diagnosis mode	Description
Configuration	<ul style="list-style-type: none"> • The vehicle specification that is written in ADAS control unit can be displayed or stored • The vehicle specification can be written when ADAS control unit is replaced
Work Support	Displays causes of automatic system cancellation occurred during system control
Self Diagnostic Result	Displays the name of a malfunctioning system stored in the ADAS control unit
Data Monitor	Displays ADAS control unit input/output data in real time
Active Test	Enables an operational check of a load by transmitting a driving signal from the ADAS control unit to the load
ECU Identification	Displays ADAS control unit part number
CAN Diag Support Monitor	Displays a reception/transmission state of CAN communication and ITS communication

CONFIGURATION

Configuration includes functions as follows.

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

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

WORK SUPPORT

Work support items	Description
CAUSE OF AUTO-CANCEL 1	Displays causes of automatic system cancellation occurred during control of the following systems <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Lane Departure Prevention (LDP) • Blind Spot Intervention
CAUSE OF AUTO-CANCEL 3	Displays causes of automatic system cancellation occurred during control of the Back-up Collision Intervention (BCI)

NOTE:

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

Display Items for The Cause of Automatic Cancellation 1

Cause of cancellation	Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Distance Control Assist	Forward Emergency Braking	Description
OPERATING WIPER	×				The wiper operates at HI (it includes when the wiper is operated at HI with the wiper switch AUTO position)
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	×		×		SNOW mode switch was pressed
OP SW DOUBLE TOUCH	×	×			ICC steering switches were pressed at the same time

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

VHCL SPD DOWN	×	×	×		Vehicle speed lower than the speed as follows <ul style="list-style-type: none"> • 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
4WD LOCK MODE	×	×	×	×	Shifting of the 4WD shift switch to 4H or 4L
ABS WARNING LAMP	×		×		ABS warning lamp ON
FR RADAR BLOCKED	×		×	×	Inclusion of dirt or stains on the ICC sensor area of the front bumper
FEB) CURVATURE				×	Road curve was more than the specified value
FEB) YAW RATE				×	Detected yawing speed was more than the specified value
FEB) LTRL ACCELERATION				×	Detected lateral speed is the specified value or more
RADAR INTERFERENCE	×		×	×	ICC sensor receives electromagnetic interference
NO RECORD	×	×	×		—

Display Items for The Cause of Automatic Cancellation 2

Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
OPE VDC/TCS/ABS 1	×		The activation of VDC, TCS, or ABS during LDP system control
Vehicle dynamics	×		Vehicle behavior exceeds specified value
Steering speed	×		Steering speed was more than the specified value in evasive direction
End by yaw angle	×		Yaw angle was the end of LDP control
Departure yaw large	×		Detected more than the specified value of yaw angle in departure direction

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
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
4WD LOCK MODE	×		Shifting of the 4WD shift switch to 4H or 4L
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
BSI) End by yaw angle		×	Yaw angle was the end of Blind Spot Intervention control
BSI) Departure yaw large		×	Detected more than the specified value of yaw angle in departure direction
BSI) ICC WARNING		×	Target approach warning of ICC system, FEB system or PFCW system was activated
BSI) CURVATURE		×	Road curve was more than the specified value
BSI) Steering angle large		×	Steering angle was more than the specified value
BSI) Brake is operated		×	Brake pedal was operated
BSI) IGN LOW VOLT		×	Decrease in ADAS control unit IGN voltage
BSI) Lateral offset		×	Distance of vehicle and lane was detached in lateral direction more than the specified
BSI) Lane marker lost		×	Lane camera unit lost the trace of lane marker
BSI) Lane marker unclear		×	Detected lane marker was unclear

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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

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[ADAS CONTROL UNIT]

Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
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		×	SNOW mode switch was pressed
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.)
BSI) 4WD LOCK MODE		×	Shifting of the 4WD shift switch to 4H or 4L
Side Radar Lost		×	Unrecognized side radar LH or RH by the ADAS control unit
NO RECORD	×	×	—

Display Items for The Cause of Automatic Cancellation 3

Cause of cancellation	Back-up Collision Intervention	Description
CAN COMM ERROR (CAN)	×	ADAS control unit received an abnormal signal with CAN communication
CAN COMM ERROR (ECD)	×	ADAS control unit received an abnormal signal with CAN communication
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-40. "DTC Index"](#).

DATA MONITOR

NOTE:

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

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 (ECM transmits ICC steering switch signal through CAN communication)
SET/COAST SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)
CANCEL SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)
RESUME/ACC SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)
DISTANCE SW [On/Off]	×					Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)
CRUISE OPE [On/Off]	×	×				Indicates whether controlling or not (ON means “controlling”)
ON ROOT GUID- ANCE [On/Off]	×					NOTE: The item is displayed, but not used
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)
CLUTCH SW SIG [On/Off]	×	×	×	×		NOTE: The item is displayed, but not used
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]	×					Indicates [On/Off] status of own vehicle indicator output
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 not used
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)

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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
NAVI-ICC DISP [On/Off]	×					NOTE: The item is displayed, but not used
YAW RATE [deg/s]	×					NOTE: The item is displayed, but not used
BA WARNING [On/Off]	×					Indicates [On/Off] status of FEB warning 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)
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)
NP SW SIG [On/Off]	×					NOTE: The item is displayed, but not used
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
DYNA ASIST SW [On/Off]	×	×		×		Indicates [On/Off] status as judged from ICC steering switch signal
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 not used
FCW SYSTEM ON [On/Off]	×	×				Indicates [On/Off] status of PFCW system

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
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)
LDW SYSTEM ON [On/Off]			×			Indicates [On/Off] status of LDW system
LDW ON LAMP [On/Off]			×			Indicates [On/Off] status of LDW system ON 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
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)
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 [FUNC 3]	×	×	×	×		Indicates systems which can be set to ON/OFF by selecting "Driver Assistance" ⇒ "Dynamic Assistance Setting" of the navigation screen FUNC3: Distance Control Assist (DCA), Lane Departure Prevention (LDP), Blind spot Intervention
FUNC ITEM (NV-ICC) [Off]	×	×	×	×		NOTE: The item is displayed, but not used

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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
FUNC ITEM (NV-DCA) [Off]	×	×	×	×		NOTE: The item is displayed, but not used
DCA SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the DCA system. The DCA system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen
LDP SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of LDP system. LDP system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen
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 “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen
BSW SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the BSW system. The BSW system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen
NAVI ICC SELECT [Off]	×	×	×	×		NOTE: The item is displayed, but not used
NAVI DCA SELECT [Off]	×	×	×	×		NOTE: The item is displayed, but not used
SYS SELECTABILITY [On/Off]	×	×	×	×		Indicates the availability of ON/OFF switching for “Driver Assistance” items received from the AV control unit via CAN communication
4WD SW [AUTO/4H/4L]	×	×	×	×		Indicates [On/Off] status as judged from current 4WD mode signal (Transfer control unit transmits current 4WD mode signal through CAN communication)
WARN SYS SW [On/Off]	×	×	×	×		Indicates [On/Off] status of warning systems switch
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
BCI SYSTEM ON [On/Off]					×	Indicates [On/Off] status of BCI system
BCI SWITCH [On/Off]					×	Indicates [On/Off] status of BCI switch
BCI ON IND [On/Off]					×	Indicates [On/Off] status of BCI ON indicator
BCI OFF IND [On/Off]					×	Indicates [On/Off] status of BCI OFF indicator
BCI WARNING IND [On/Off]					×	Indicates [On/Off] status of BCI malfunction indicator
BCI HI TEMP WARN IND [On/Off]					×	Indicates [On/Off] status of BCI not available indicator

ACTIVE TEST

CAUTION:

- Never perform “Active Test” while driving the vehicle.
- The “Active Test” cannot be performed when the following systems malfunction is displayed.

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

- ICC system
- DCA
- LDW
- LDP
- Blind Spot Warning
- Blind Spot Intervention
- BCI
- The “Active Test” cannot be performed when the FEB warning lamp is illuminated.
- Shift the selector lever to “P” position, and then perform the test.

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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 <ul style="list-style-type: none"> • Intelligent Cruise Control (ICC) • Distance Control Assist (DCA) • Predictive Forward Collision Warning (PFCW) • Forward Emergency Braking (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 switch display can be illuminated by ON/OFF operations as necessary
LDP BUZZER	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> • Lane Departure Warning (LDW) • Lane Departure Prevention (LDP) • Blind Spot Warning (BSW) • Blind Spot Intervention
WARNING SYSTEMS IND	The warning systems ON indicator (on warning systems switch) can be illuminated by ON/OFF operations as necessary
LDP ON IND	The LDP ON indicator lamp can be illuminated by ON/OFF operations as necessary
LANE DEPARTURE W/L	The Lane departure warning lamp can be illuminated by ON/OFF operations as necessary
BSW/BSI WARNING LAMP	The Blind Spot warning/Blind Spot Intervention warning lamp can be illuminated by ON/OFF operations as necessary
BSI ON INDICATOR	The Blind Spot Intervention ON indicator can be illuminated by ON/OFF operations as necessary
BCI WARNING LAMP	The BCI malfunction indicator can be illuminated by ON/OFF operations as necessary

METER LAMP

NOTE:

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

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Test item	Operation	Description	Signal
METER LAMP	Off	Stops sending the following signals to exit from the test <ul style="list-style-type: none"> • Meter display signal • FEB warning lamp signal 	OFF
	On	Transmits the following signals to the combination meter via CAN communication <ul style="list-style-type: none"> • Meter display signal • FEB warning lamp signal 	ON

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STOP LAMP

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

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

ICC BUZZER

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

BRAKE ACTUATOR

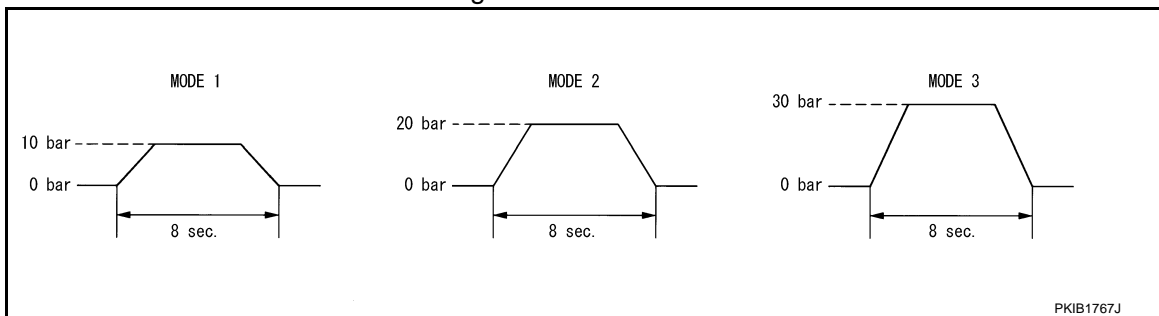
NOTE:

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

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

NOTE:

The test is finished in 10 seconds after starting



Active Pedal

CAUTION:

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

NOTE:

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

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

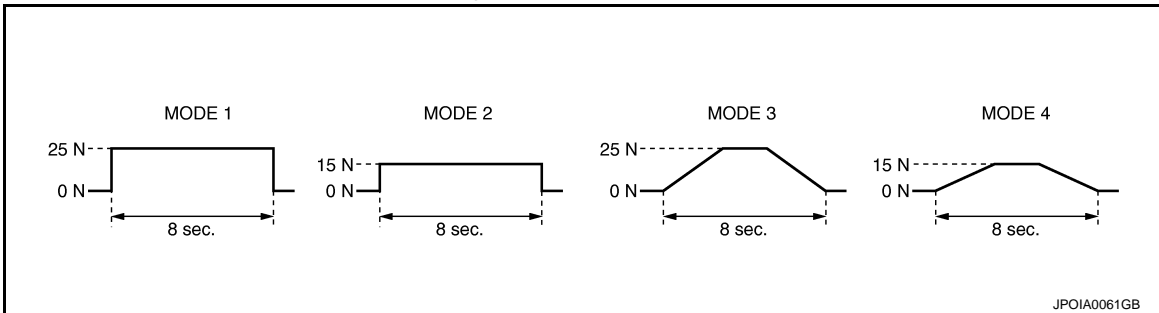
< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

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

NOTE:

The test is finished in 10 seconds after starting



DCA INDICATOR

NOTE:

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

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

LDP BUZZER

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

WARNING SYSTEM IND

Test item	Operation	Description	Warning systems ON indicator
WARNING SYSTEM IND	Off	Stops transmitting the warning systems ON indicator signal below to end the test	—
	On	Transmits the warning systems ON indicator signal to the warning systems ON indicator	ON

LDP ON IND

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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[ADAS CONTROL UNIT]

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

LANE DEPARTURE W/L

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

BSW/BSI WARNING LAMP

Test item	Operation	Description	Blind Spot Warning/Blind Spot Intervention warning lamp (Yellow)
BSW/BSI WARNING LAMP	Off	Stops transmitting the Blind Spot Warning/Blind spot Intervention warning lamp signal below to end the test	—
	On	Transmits the Blind Spot Warning/Blind spot Intervention warning lamp signal to the combination meter via CAN communication	ON

BSI ON INDICATOR

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

BCI WARNING LAMP

Test item	Operation	Description	BCI warning indicator
BCI WARNING LAMP	Off	Stops transmitting the BCI warning indicator signal below to end the test	—
	On	Transmits the BCI warning indicator signal to the combination meter via CAN communication	ON

ECU IDENTIFICATION

Displays ADAS control unit parts number.

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

ECU DIAGNOSIS INFORMATION

ADAS CONTROL UNIT

Reference Value

INFOID:0000000011449758

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor item	Condition		Value/Status
MAIN SW	Ignition switch ON	When MAIN switch is pressed	On
		When MAIN switch is not pressed	Off
SET/COAST SW	Ignition switch ON	When SET/COAST switch is pressed	On
		When SET/COAST switch is not pressed	Off
CANCEL SW	Ignition switch ON	When CANCEL switch is pressed	On
		When CANCEL switch is not pressed	Off
RESUME/ACC SW	Ignition switch ON	When RESUME/ACCELERATE switch is pressed	On
		When RESUME/ACCELERATE switch is not pressed	Off
DISTANCE SW	Ignition switch ON	When DISTANCE switch is pressed	On
		When DISTANCE switch is not pressed	Off
CRUISE OPE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When ICC system is controlling	On
		When ICC system is not controlling	Off
ON ROOT GUID-ANCE	NOTE: The item is displayed, but not used		Off
BRAKE SW	Ignition switch ON	When brake is depressed	Off
		When brake is not depressed	On
STOP LAMP SW	Ignition switch ON	When brake pedal is depressed	On
		When brake pedal is not depressed	Off
CLUTCH SW SIG	NOTE: The item is displayed, but not used		Off
IDLE SW	Engine running	Idling	On
		Except idling (depress accelerator pedal)	Off
SET DISTANCE	<ul style="list-style-type: none"> Start the engine and turn the ICC system ON Press the DISTANCE switch to change the vehicle-to-vehicle distance setting 	When set to "long"	Long
		When set to "middle"	Mid
		When set to "short"	Short
CRUISE LAMP	Start the engine and press MAIN switch	ICC system ON (MAIN switch indicator ON)	On
		ICC system OFF (MAIN switch indicator OFF)	Off
OWN VHCL	Start the engine and press MAIN switch	ICC system ON (Own vehicle indicator ON)	Off
		ICC system OFF (Own vehicle indicator OFF)	Off
VHCL AHEAD	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
		When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off

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ADAS CONTROL UNIT

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[ADAS CONTROL UNIT]

Monitor item	Condition		Value/Status
ICC WARNING	Start the engine and press MAIN switch	When ICC system is malfunctioning	On
		When ICC system is normal	Off
VHCL SPEED SE	While driving		Displays the vehicle speed calculated by ADAS control unit
SET VHCL SPD	While driving	When vehicle speed is set	Displays the set vehicle speed
BUZZER O/P	Engine running	When the buzzer of the following system operates <ul style="list-style-type: none"> • Vehicle-to-vehicle distance control mode • DCA system • PFCW system • FEB system 	On
		When the buzzer of the following system not operates <ul style="list-style-type: none"> • Vehicle-to-vehicle distance control mode • DCA system • PFCW system • FEB system 	Off
THRTL SENSOR	NOTE: The item is displayed, but not used		0.0
ENGINE RPM	Engine running		Equivalent to tachometer reading
WIPER SW	Ignition switch ON	Wiper not operating	Off
		Wiper LO operation	Low
		Wiper HI operation	High
NAVI-ICC DISP	NOTE: The item is displayed, but not used		Off
YAW RATE	NOTE: The item is displayed, but not used		0.0
BA WARNING	Engine running	FEB warning lamp ON <ul style="list-style-type: none"> • When FEB system is malfunctioning • When FEB system is turned to OFF 	On
		FEB warning lamp OFF <ul style="list-style-type: none"> • When FEB system is normal • When FEB system is turned to ON 	Off
STP LMP DRIVE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When ICC brake hold relay is activated	On
		When ICC brake hold relay is not activated	Off
D RANGE SW	Engine running	When the selector lever is in "D" position or manual mode	On
		When the selector lever is in any position other than "D" or manual mode	Off
NP RANGE SW	Engine running	When the selector lever is in "N", "P" position	On
		When the selector lever is in any position other than "N", "P"	Off
PKB SW	Ignition switch ON	When the parking brake is applied	On
		When the parking brake is released	Off
PWR SUP MONI	Engine running		Power supply voltage value of ADAS control unit

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

Monitor item	Condition		Value/Status
VHCL SPD AT	While driving		Value of A/T vehicle speed sensor signal
THRTL OPENING	Engine running	Depress accelerator pedal	Displays the throttle position
GEAR	While driving		Displays the gear position
NP SW SIG	NOTE: The item is displayed, but not used		Off
MODE SIG	Start the engine and press MAIN switch	When ICC system is deactivated	Off
		When vehicle-to-vehicle distance control mode is activated	ICC
		When conventional (fixed speed) cruise control mode is activated	ASCD
SET DISP IND	<ul style="list-style-type: none"> • Drive the vehicle and activate the conventional (fixed speed) cruise control mode • Press SET/COAST switch 	SET switch indicator ON	On
		SET switch indicator OFF	Off
DISTANCE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the distance from the preceding vehicle
		When a vehicle ahead is not detected	0.0
RELATIVE SPD	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the relative speed.
		When a vehicle ahead is not detected	0.0
DYNA ASIST SW	Ignition switch ON	When dynamic driver assistance switch is pressed	On
		When dynamic driver assistance switch is not pressed	Off
DCA ON IND	Start the engine and press dynamic driver assistance switch (When DCA setting is ON)	DCA system OFF	Off
		DCA system ON	On
DCA VHL AHED	Drive the vehicle and activate the DCA system	When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off
		When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
IBA SW	NOTE: The item is displayed, but not used		Off
FCW SYSTEM ON	Ignition switch ON	When the PFCW system is ON	On
		When the PFCW system is OFF	Off
APA TEMP	Engine running		Display the accelerator pedal actuator integrated motor temperature
APA PWR	Ignition switch ON		Power supply voltage value of accelerator pedal actuator
LDW SYSTEM ON	Ignition switch ON	When the LDW system is ON	On
		When the LDW system is OFF	Off
LDW ON LAMP	Ignition switch ON	When the LDW system is ON	On
		When the LDW system is OFF	Off

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< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

Monitor item	Condition		Value/Status
LDP ON IND	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDW system is ON	On
		When the LDW system is OFF	Off
LANE DPRT W/L	Drive the vehicle and activate the LDW system or LDP system	Lane departure warning ON	On
		Lane departure warning OFF	Off
LDW BUZER OUT-PUT	Drive the vehicle and activate the LDW/LDP system or Blind Spot Warning/Blind Spot Intervention system	When the buzzer of the following system operates • LDW/LDP system • Blind Spot Warning/Blind Spot Intervention system	On
		When the buzzer of the following system does not operate • LDW/LDP system • Blind Spot Warning/Blind Spot Intervention system	Off
LDP SYSTEM ON	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDP system is ON	On
		When the LDP system is OFF	Off
WARN REQ	Drive the vehicle and activate the LDP system	Lane departure warning is operating	On
		Lane departure warning is not operating	Off
READY signal	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDP system is ON	On
		When the LDP system is OFF	Off
Camera lost	Drive the vehicle and activate the LDW system, LDP system or Blind Spot Intervention system	Both side lane markers are detected	Detect
		Deviated side lane marker is lost	Deviated
		Both side lane markers are lost	Both
Shift position	<ul style="list-style-type: none"> • Engine running • While driving 		Displays the shift position
Turn signal		Turn signal lamps OFF	Off
		Turn signal lamp LH blinking	LH
		Turn signal lamp RH blinking	RH
		Turn signal lamp LH and RH blinking	LH&RH
SIDE G	While driving	Vehicle turning right	Negative value
		Vehicle turning left	Positive value
STATUS signal	Drive the vehicle and activate the LDP system	When the LDP system is ON	Stnby
		When the LDP system is operating	Warn
		When the LDP system is canceled	Cancl
		When the LDP system is OFF	Off
Lane unclear	While driving	Lane marker is unclear	On
		Lane marker is clear	Off
FUNC ITEM	Ignition switch ON		FUNC 3
FUNC ITEM (NV-ICC)	NOTE: The item is displayed, but not used		Off
FUNC ITEM (NV-DCA)	NOTE: The item is displayed, but not used		Off
DCA SELECT	Ignition switch ON	"Distance Control Assist" set with the navigation screen is ON	On
		"Distance Control Assist" set with the navigation screen is OFF	Off

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

Monitor item	Condition		Value/Status
LDP SELECT	Ignition switch ON	"Lane Departure Prevention" set with the navigation screen is ON	On
		"Lane Departure Prevention" set with the navigation screen is OFF	Off
BSI SELECT	Ignition switch ON	"Blind Spot Intervention" set with the navigation screen is ON	On
		"Blind Spot Intervention" set with the navigation screen is OFF	Off
BSW SELECT	Ignition switch ON	"Blind Spot Warning" set with the navigation screen is ON	On
		"Blind Spot Warning" set with the navigation screen is OFF	Off
NAVI ICC SELECT	NOTE: The item is displayed, but not used		Off
NAVI DCA SELECT	NOTE: The item is displayed, but not used		Off
SYS SELECTABILITY	Ignition switch ON	Items set with the navigation screen can be switched normally	On
		Items set with the navigation screen cannot be switched normally	Off
4WD SW	Engine running	4WD shift switch position is in AUTO	AUTO
		4WD shift switch position is in 4H	4H
		4WD shift switch position is in 4L	4L
WARN SYS SW	Ignition switch ON	When warning systems switch is pressed	On
		When warning systems switch is not pressed	Off
BSW/BSI WARN LMP	Ignition switch ON	When the BSW system is malfunctioning	On
		When the BSW system is normal	Off
BSI ON IND	Ignition switch ON	Blind Spot Intervention warning ON	On
		Blind Spot Intervention warning OFF	Off
BSW SYSTEM ON	Ignition switch ON	When the BSW system is ON	On
		When the BSW system is OFF	Off
BSI SYSTEM ON	Start the engine and press dynamic driver assistance switch (When Blind Spot Intervention system setting is ON)	When the Blind Spot Intervention system is ON	On
		When the Blind Spot Intervention system is OFF	Off
BCI SYSTEM ON	Engine running	When the BCI system is ON	On
		When the BCI system is OFF	Off
BCI SWITCH	Ignition switch ON	When BCI switch is pressed	On
		When BCI switch is not pressed	Off
BCI ON IND	Ignition switch ON	When BCI ON indicator is ON	On
		When BCI ON indicator is OFF	Off
BCI OFF IND	Ignition switch ON	When BCI OFF indicator is ON	On
		When BCI OFF indicator is OFF	Off
BCI WARNING IND	Ignition switch ON	When BCI malfunction indicator is ON	On
		When BCI malfunction indicator is OFF	Off
BCI HI TEMP WARN IND	Ignition switch ON	When BCI not available indicator is ON	On
		When BCI not available indicator is OFF	Off

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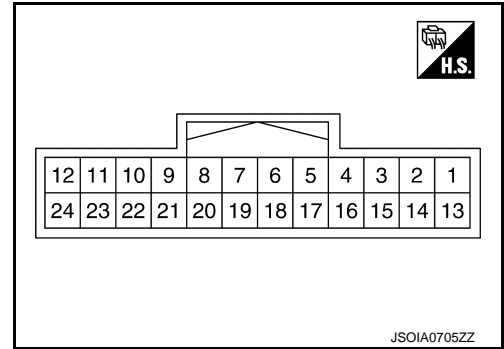
ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

TERMINAL LAYOUT

PHYSICAL VALUES



Terminal No. (Wire color)		Description		Condition		Standard value	Reference value
+	-	Signal name	Input/ Output				
1 (L)	—	CAN -H	—	—		—	—
2 (P)	—	CAN -L	—	—		—	—
5 (B)	Ground	Ground	—	Ignition switch ON		0 - 0.1 V	Approx. 0 V
6 (L)	—	ITS communication-H	—	—		—	—
7 (Y)	—	ITS communication-L	—	—		—	—
12 (WG)	5 (B)	Ignition power supply	Input	Ignition switch ON	—	10 - 16 V	Battery voltage
17 (R)		ICC brake hold relay drive signal	Output	Ignition switch ON	— At "STOP LAMP" test of "Active test"	10 - 16 V 0 - 0.1 V	Approx. 12 V Approx. 0 V
18 (V/W)		Warning systems switch	Input	Ignition switch ON	When warning systems switch is not pressed	10 - 16 V	Approx. 12 V
					When warning systems switch is pressed	0 - 0.1 V	Approx. 0 V
19 (LG/B)		Warning systems ON indicator	Output	Ignition switch ON	Warning systems ON indi- cator ON	10 - 16 V	Approx. 12 V
					Warning systems ON indi- cator OFF	0 - 0.1 V	Approx. 0 V
22 (O)	BCI switch	Input	Ignition switch ON	When BCI OFF switch is not pressed	10 - 16 V	Approx. 12 V	
				When BCI OFF switch is pressed	0 - 0.1 V	Approx. 0 V	

Fail-safe (ADAS Control Unit)

INFOID:000000011449759

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

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

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

DTC Inspection Priority Chart

INFOID:0000000011449760

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

Priority	Detected items (DTC)
1	<ul style="list-style-type: none"> • U1507: LOST COMM (SIDE RDR R) • U1508: LOST COMM (SIDE RDR L)
2	<ul style="list-style-type: none"> • C1A0A: CONFIG UNFINISHED • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	<ul style="list-style-type: none"> • C1B00: CAMERA UNIT MALF • C1F02: APA C/U MALF • C1B53: SIDE RDR R MALF • C1B54: SIDE RDR L MALF • C1B84: DIST SEN MALFUNCTION

DAS

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

Priority	Detected items (DTC)	
4	<ul style="list-style-type: none"> • 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 SUPPLY 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 INCOMP • C1B03: CAM ABNORMAL TMP DETCT • C1B5D: FEB OPE COUNT LIMIT • C1B56: SONAR CIRCUIT • C1B57: AVM CIRCUIT • C1B58: DR ASSIST BUZZER CIRCUIT • C1B82: DIST SEN OFF-CENTER • C1B83: DIST SEN BLOCKED • C1B85: DIST SEN ABNORMAL TEMP • C1B86: DIST SEN PWR SUP CIR • C1F01: APA MOTOR MALF • C1F05: APA PWR SUPPLY CIR 	<ul style="list-style-type: none"> • 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 • U150B: ECM CAN CIRC 3 • U150C: VDC CAN CIRC 3 • U150D: TCM CAN CIRC 3 • U150E: BCM CAN CIRC 3 • U150F: AV CAN CIRC 3 • U1500: CAM CAN CIR 2 • U1501: CAM CAN CIR 1 • U1502: ICC SEN CAN COMM CIR • U1503: SIDE RDR L CAN CIR 2 • U1504: SIDE RDR L CAN CIR 1 • U1505: SIDE RDR R CAN CIR 2 • U1506: SIDE RDR R CAN CIR 1 • U1512: HVAC CAN CIRC3 • U1513: METER CAN CIRC 3 • U1514: STRG SEN CAN CIRC 3 • U1515: ICC SENSOR CAN CIRC 3 • U1516: CAM CAN CIRC 3 • U1517: APA CAN CIRC 3 • U1518: SIDE RDR L CAN CIRC 3 • U1519: SIDE RDR R CAN CIRC 3 • U1521: SONAR CAN COMMUNICATION 3 • U1522: SONAR CAN COMMUNICATION 3 • U1523: SONAR CAN COMMUNICATION 2 • U1524: AVM CAN COMMUNICATION 1 • U1525: AVM CAN COMMUNICATION 3 • U1530: DR ASSIST BUZZER CAN CIR 1
5	<ul style="list-style-type: none"> • C1A03: VHCL SPEED SE CIRC 	
6	<ul style="list-style-type: none"> • C1A15: GEAR POSITION 	
7	<ul style="list-style-type: none"> • C1A00: CONTROL UNIT 	

DTC Index

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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.

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

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: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- G: Blind Spot Warning (BSW)
- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	55	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	—	—
C1A0A	41	CONFIG UNFINISHED	A, B, C, D, E, F, G, H, I	DAS-63
C1A00	0	CONTROL UNIT	A, B, C, D, E, F, G, H, I	DAS-64
C1A01	1	POWER SUPPLY CIR	A, B, C, D, E, F, G, H, I	DAS-65
C1A02	2	POWER SUPPLY CIR 2	A, B, C, D, E, F, G, H, I	DAS-65
C1A03	3	VHCL SPEED SE CIRC	A, B, C, D, E, F, G, H, I	DAS-66
C1A04	4	ABS/TCS/VDC CIRC	A, B, C, D, E, F, G, H, I	DAS-68
C1A05	5	BRAKE SW/STOP L SW	A, B, C, D, E, F, H, I	DAS-69
C1A06	6	OPERATION SW CIRC	A, B, C, F, H	DAS-74
C1A13	13	STOP LAMP RLY FIX	A, B, C, D, E, I	DAS-77
C1A14	14	ECM CIRCUIT	A, B, C, D, E	DAS-83
C1A15	15	GEAR POSITION	A, B, C, D, E	DAS-85
C1A24	24	NP RANGE	A, B, C, D, E, F, G, H, I	DAS-87
C1A26	26	ECD MODE MALF	A, B, C, D, E	DAS-89
C1A27	27	ECD PWR SUPPLY CIR	A, B, C, D, E	DAS-91
C1A33	33	CAN TRANSMISSION ERR	A, B, C, D, E	DAS-93
C1A34	34	COMMAND ERROR	A, B, C, D, E	DAS-94
C1A35	35	APA CIR	A, C, D, E	DAS-95
C1A36	36	APA CAN COMM CIR	A, C, D, E	DAS-96
C1A37	133	APA CAN CIR 2	A, C, D, E	DAS-97
C1A38	132	APA CAN CIR 1	A, C, D, E	DAS-98
C1A39	39	STRG SEN CIR	A, B, C, D, E, G, I	DAS-99
C1B00	81	CAMERA UNIT MALF	F, H	DAS-100
C1B01	82	CAM AIMING INCOMP	F, H	DAS-101
C1B03	83	ABNRML TMP DETCT	F, H	DAS-102
C1B5D	198	FEB OPE COUNT LIMIT	C, D, E	DAS-103
C1B53	84	SIDE RDR R MALF	G, H, I	DAS-104
C1B54	85	SIDE RDR L MALF	G, H, I	DAS-105
C1B56	86	SONAR CIRCUIT	I	DAS-106
C1B57	87	AVM CIRCUIT	I	DAS-107
C1A58	182	DR ASSIST BUZZER CIRCUIT		DAS-108
C1B82	12	RADAR OFF-CENTER	A, C, D, E	DAS-109

DAS

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
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- G: Blind Spot Warning (BSW)
- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
C1B83	16	RADAR BLOCKED	A, C, D, E	DAS-110
C1B84	17	DIST SEN MALFUNCTION	A, C, D, E	DAS-111
C1B85	21	DIST SEN ABNORMAL TEMP	A, C, D, E	DAS-112
C1B86	80	DIST SEN PWR SUP CIR	A, C, D, E	DAS-113
C1F01	91	APA MOTOR MALF	A, C, D, E, I	DAS-115
C1F02	92	APA C/U MALF	A, C, D, E, I	DAS-116
C1F05	95	APA PWR SUPPLY CIR	A, C, D, E, I	DAS-117
U0121	127	VDC CAN CIR 2	A, B, C, D, E, F, G, H, I	DAS-118
U0126	130	STRG SEN CAN CIR 1	A, B, C, D, E, G, I	DAS-119
U0235	144	ICC SENSOR CAN CIRC 1	A, C, D, E	DAS-120
U0401	120	ECM CAN CIR 1	A, B, C, D, E, G, I	DAS-121
U0402	122	TCM CAN CIR 1	A, B, C, D, E, F, G, H, I	DAS-122
U0415	126	VDC CAN CIR 1	A, B, C, D, E, F, G, H, I	DAS-123
U0424	156	HACV CAN CIR 1		DAS-124
U0428	131	STRG SEN CAN CIR 2	A, B, C, D, E, G, I	DAS-125
U1000 ^{NOTE}	100	CAN COMM CIRCUIT	A, B, C, D, E, F, G, H, I	DAS-126
U1010	110	CONTROL UNIT (CAN)	A, B, C, D, E, F, G, H, I	DAS-128
U150B	157	ECM CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-129
U150C	158	VDC CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-131
U150D	159	TCM CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-132
U150E	160	BCM CAN CIRC 3	A, B, C, F, G, H, I	DAS-133
U150F	161	AV CAN CIRC 3		DAS-134
U1500	145	CAM CAN CIR2	F, H	DAS-135
U1501	146	CAM CAN CIR 1	F, H	DAS-136
U1502	147	ICC SEN CAN COMM CIR	A, C, D, E	DAS-137
U1503	150	SIDE RDR L CAN CIR 2	G, H, I	DAS-138
U1504	151	SIDE RDR L CAN CIR 1	G, H, I	DAS-139
U1505	152	SIDE RDR R CAN CIR 2	G, H, I	DAS-140
U1506	153	SIDE RDR R CAN CIR 1	G, H, I	DAS-141
U1507	154	LOST COMM (SIDE RDR R)	G, H, I	DAS-142
U1508	155	LOST COMM (SIDE RDR L)	G, H, I	DAS-143
U1512	162	HVAC CAN CIRC3	F, H	DAS-144
U1513	163	METER CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-145
U1514	164	STRG SEN CAN CIRC 3	A, B, C, D, E, G, I	DAS-146
U1515	165	ICC SENSOR CAN CIRC 3	A, C, D, E	DAS-147

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[ADAS CONTROL UNIT]

Systems for fail-safe

- A: Vehicle-to-vehicle distance control mode
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- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)

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DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
U1516	166	CAM CAN CIRC 3	F, G, H	DAS-148
U1517	167	APA CAN CIRC 3	A, C, D, E	DAS-149
U1518	168	SIDE RDR L CAN CIRC 3	G, H, I	DAS-150
U1519	169	SIDE RDR R CAN CIRC 3	G, H, I	DAS-151
U1521	177	SONAR CAN COMMUNICATION 2	I	DAS-152
U1522	178	SONAR CAN COMMUNICATION 1	I	DAS-153
U1523	179	SONAR CAN COMMUNICATION 3	I	DAS-154
U1524	180	AVM CAN COMMUNICATION 1	I	DAS-155
U1525	181	AVM CAN COMMUNICATION 3	I	DAS-156
U1530	183	DR ASSIST BUZZER CAN CIR1		DAS-157

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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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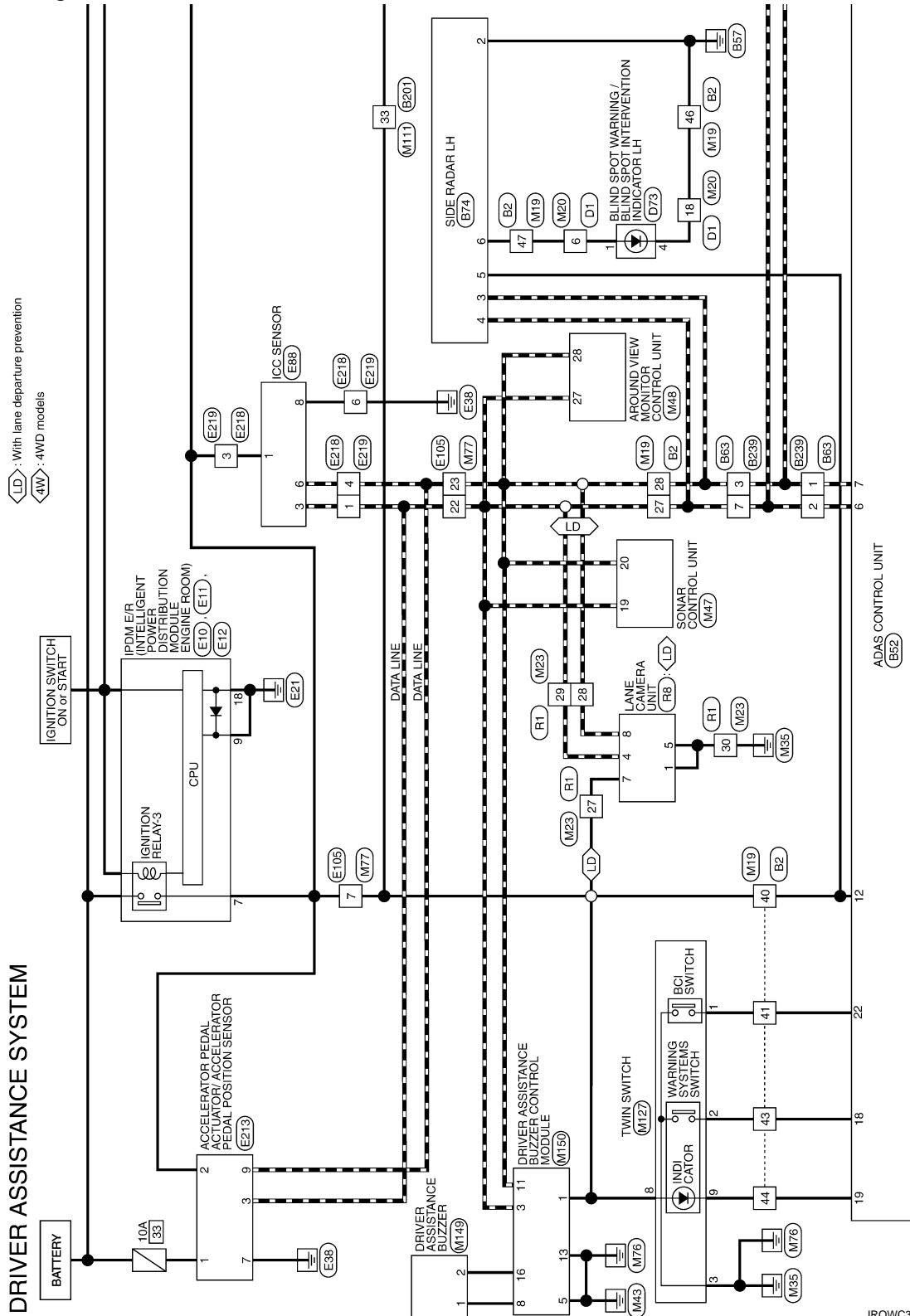
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WIRING DIAGRAM

DRIVER ASSISTANCE SYSTEMS

Wiring Diagram

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LD : With lane departure prevention
 4W : 4WD models

*: This connector is not shown in "Harness Layout".

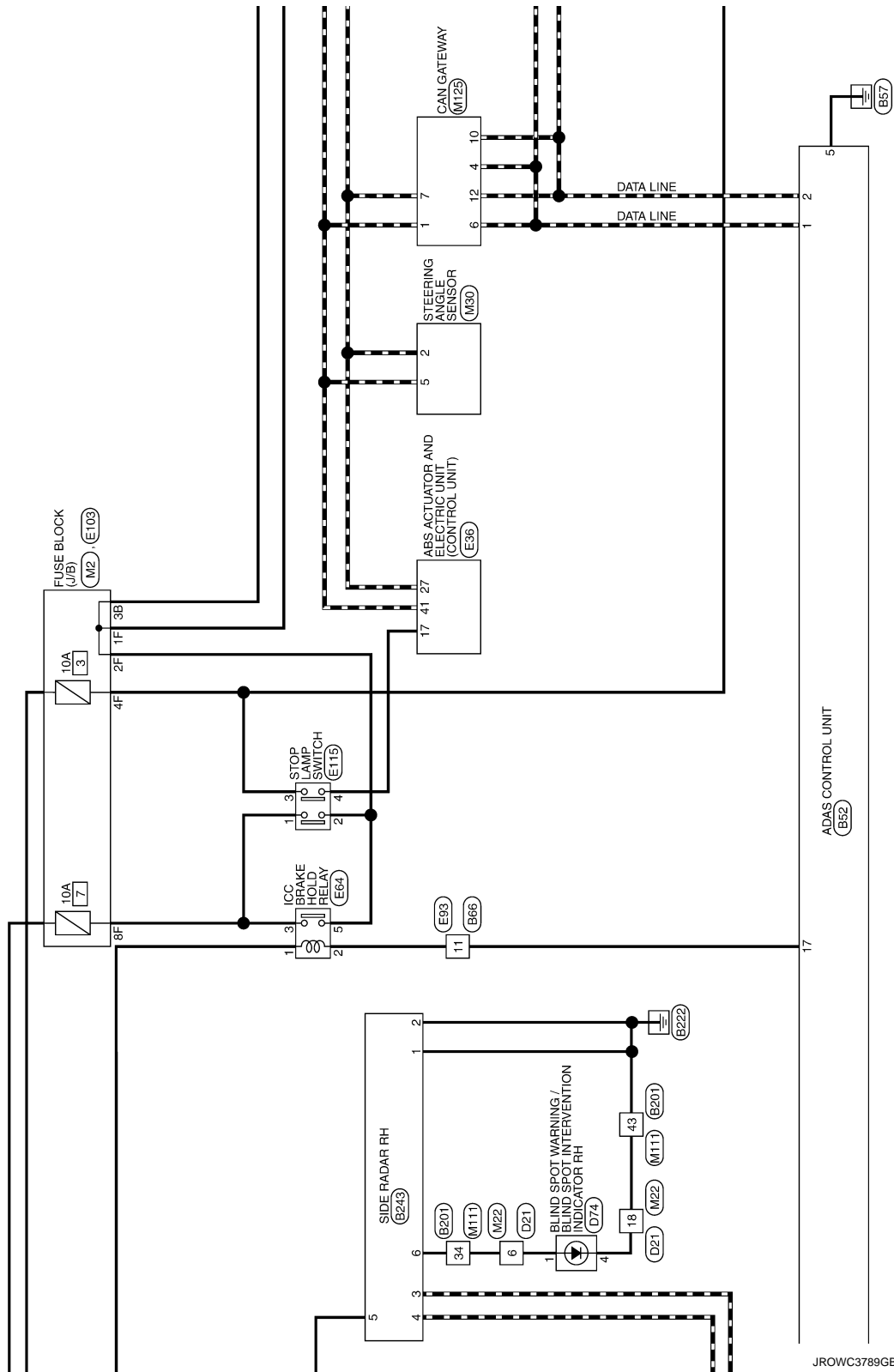
2014/07/11

JROWC3788GB

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]



JROWC3789GB

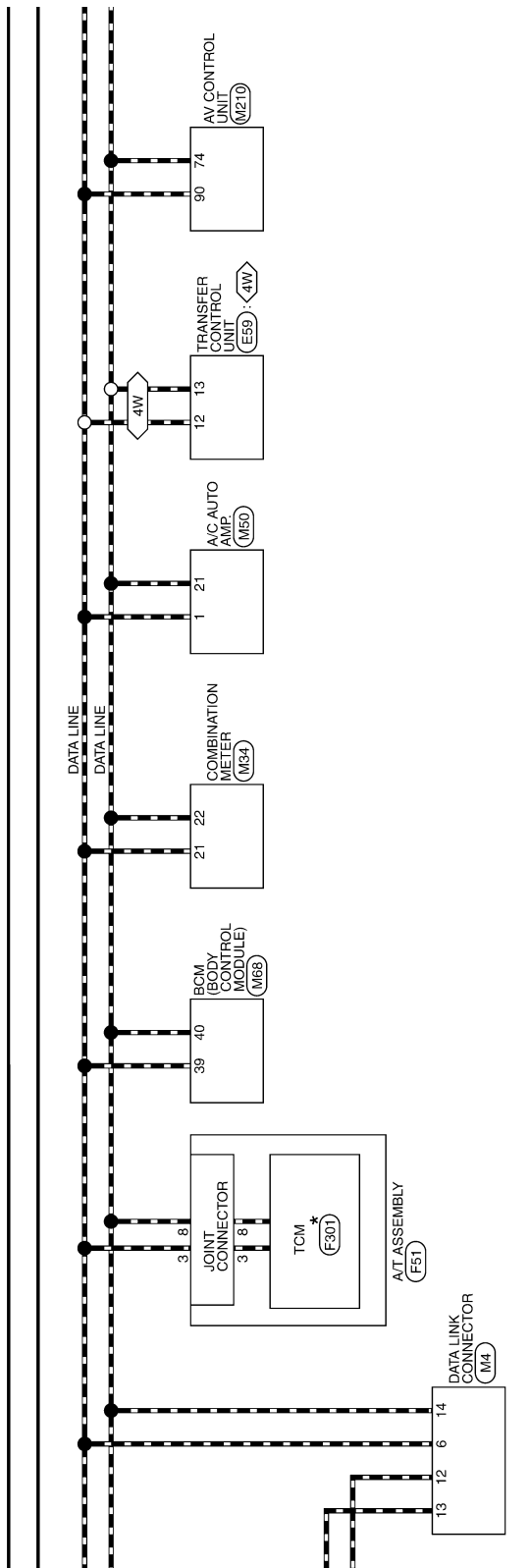
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DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

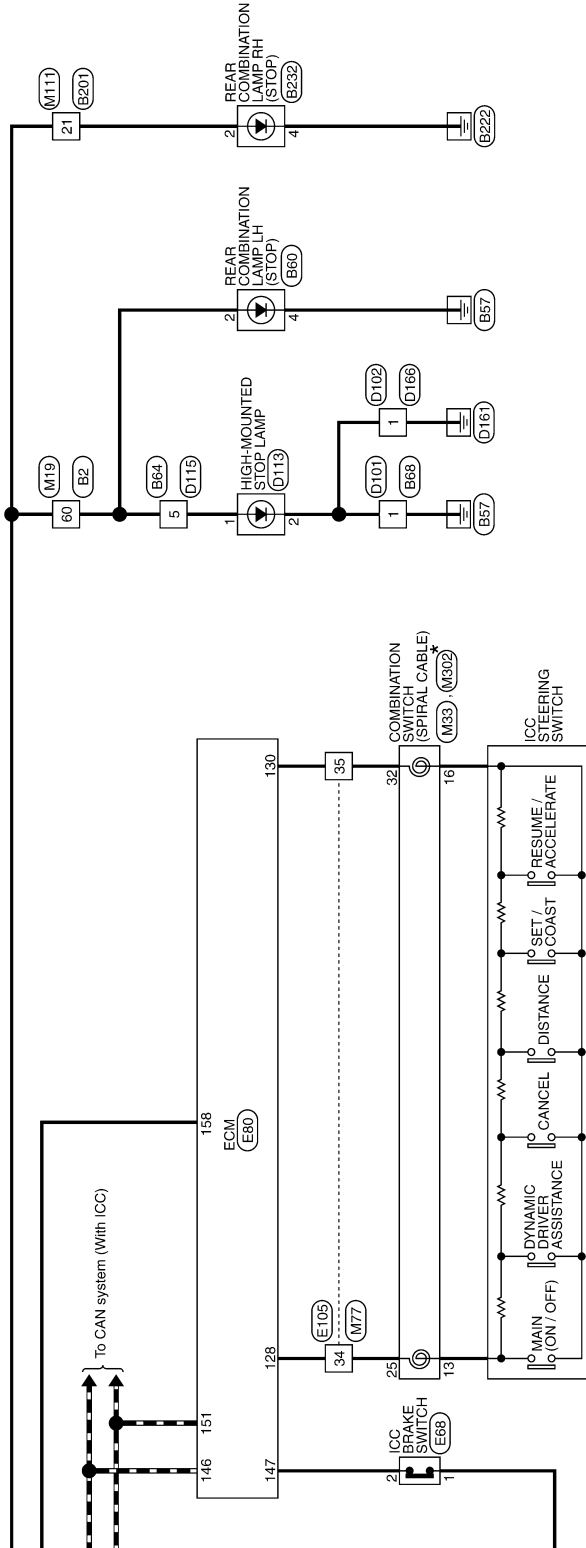


JROWC3790GB

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]



JROWC3791GB

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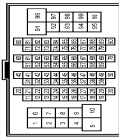
DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM

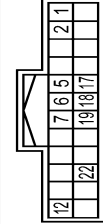
Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
3	BR	-
5	R/W	-
6	L	-
7	V	-
9	G	-
11	W/B	-
12	BR	-
13	G/R	-
14	B/Y	-
15	W/R	-
16	GR/R	-
18	G/W	-
19	V	-
20	W/G	-
21	B/W	-
22	V	-
24	G	-
25	O	-
26	Y	-
27	L/O	-
28	Y/R	-
29	L	-
30	R	-
31	G/Y	-
32	B/SB	-
33	LG/R	-
34	BR/W	-
35	GR/R	-
36	SB	-
37	LG	-
38	L	-
39	P	-
40	W/G	-
41	O	-

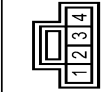
43	V/W	-
44	LG/B	-
46	B	-
47	BR	-
49	GR	-
50	R/B	-
51	W/R	-
52	BR/Y	-
53	O/B	-
54	G/O	-
55	R/B	-
56	LG/B	-
57	GR/R	-
58	Y/G	-
59	V/W	-
60	R	-
63	B	-
64	R	-
65	W	-
66	G	-
67	SHIELD	-
69	LG/B	-
70	P/L	-
71	L	-
72	R	-
77	Y/B	-
78	Y/L	-
79	Y	-
80	W/R	-
81	Y/L	-
84	L/O	-
86	O	-
87	W/R	-
88	O	-
89	W/L	-
90	GR/L	-
91	W	-
92	G	-
94	W/R	-
96	L/W	-
97	R	-
98	V	-
99	L/W	-
100	P/B	-

Connector No.	B52
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-NH



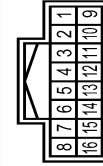
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
5	B	GROUND
6	L	ITS COMM-H
7	Y	ITS COMM-L
12	W/G	IGNITION
17	R	BRAKE HOLD RLY DRIVE SIGNAL
18	V/W	WARNING SYSTEMS SW
19	LG/B	WARNING SYSTEMS ON IND
22	O	BCI SW

Connector No.	B60
Connector Name	REAR COMBINATION LAMP LH
Connector Type	NS04FW-CS



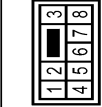
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L/W	-
2	R	-
3	G	-
4	B	-

Connector No.	B63
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	L	-
3	Y/R	-
4	SB	-
5	LG	-
6	Y	-
7	L/O	-
8	G	-
13	R/L	-
14	G	-
16	W	-

Connector No.	B64
Connector Name	WIRE TO WIRE
Connector Type	NS09MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	R/Y	-
3	G/W	-
4	R	-
5	R	-
7	L/W	-
8	V	-

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DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM

Connector No.	B86
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-
3	G	-
4	W	-
5	SHIELD	-
7	GR	-
8	R/W	-
11	R	-
12	V	-
13	P/L	-
15	R/Y	-
16	L/W	-

Connector No.	B88
Connector Name	WIRE TO WIRE
Connector Type	M02MW-LC



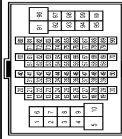
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	R	-

Connector No.	B74
Connector Name	SIDE RADAR LH
Connector Type	AAC08FB-WP-8P



Terminal No.	Color Of Wire	Signal Name [Specification]
2	B	GROUND
3	Y	ITS COMM-L
4	L	ITS COMM-H
5	W/G	IGNITION
6	BR	BLIND SPOT WARNING BLIND SPOT INTERVENTION INDICATOR

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R/B	-
2	G	-
3	W/B	-
6	L/Y	-
7	R	-
8	G/R	-
9	GR/R	-
11	W	-
12	V	-
13	Y	-
16	L/O	-
17	GR/L	-
18	R/G	-
19	L/Y	-

Terminal No.	Color Of Wire	Signal Name [Specification]
20	G/Y	-
21	R	-
22	GR	-
27	L/W	-
29	W	-
30	R/L	-
31	V/L	-
32	W/R	-
33	W/G	-
34	L/R	-
37	G	-
38	SHIELD	-
39	P/B	-
40	W/R	-
41	R	-
42	L	-
43	B/W	-
44	L	-
45	P	-
46	SHIELD	-
47	R	-
48	W	-
49	SHIELD	-
50	V	-
51	L/B	-
52	L/R	-
53	SB	-
54	V/W	-
59	L	-
60	GR	-
61	P/L	-
62	R/SB	-
63	R/Y	-
64	BR	-
70	O	-
71	W	-
72	SHIELD	-
73	B	-
74	R	-
75	G	-
76	Y	-
77	SB	-
78	LG	-
79	R/B	-
90	W/B	-
93	Y	-
94	L	-
95	L/R	-
96	R	-

Terminal No.	97	W	-
Terminal No.	98	V	-
Terminal No.	99	L/W	-
Terminal No.	100	W	-

Connector No.	B232
Connector Name	REAR COMBINATION LAMP RH
Connector Type	NS04FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L/W	-
2	R	-
3	G/Y	-
4	B	-

Connector No.	B239
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	L	-
3	Y	-
4	SB	-
5	LG	-
6	Y	-
7	L	-
8	G	-
13	R/L	-
14	G	-

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DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM

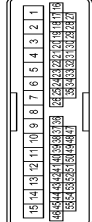
16	W	-
17	R	-
18	B	-
19	GR/R	-
20	R/W	-
21	B	-
22	R	-
23	P	-
24	SHIELD	-
25	Y	-
26	P/B	-
27	L/O	-
28	BR/W	-
29	W/R	-
30	V	-
31	W/G	-
32	Y/G	-
33	O/L	-
34	GR/B	-
35	BR	-
36	V/W	-
37	R	-
38	W	-
39	G/O	-
40	BR/Y	-
41	SB	-
42	W/L	-
43	L/W	-
44	Y/G	-
45	P/L	-
46	P/A	-
47	LG	-
48	GR/L	-
49	SHIELD	-
50	W	-
51	LG/B	-
52	G	-
53	B	-
54	R	-
55	R	-

Connector No.	B243
Connector Name	SIDE RADAR RH
Connector Type	AAC09FB-WP



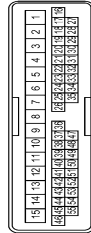
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B/Y	RIGHT/LEFT SWITCHING SIGNAL
2	B	GROUND
3	Y	ITS COMM-L
4	L	ITS COMM-H
5	W/G	IGNITION
6	L/R	BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	W	-
3	V	-
4	Y	-
5	LG/R	-
6	BR/W	-
8	V	-
9	G	-
10	L	-
12	B/Y	-
13	Y	-

Connector No.	D21
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	W	-
3	V	-
5	P/L	-
6	L/R	-
8	L/W	-
9	G/Y	-
10	L	-
12	B/Y	-
13	L	-
14	R	-
15	B	-
16	Y/G	-
17	Y/L	-
18	B/W	-
19	R	-
20	P	-
22	Y/R	-
23	LG/B	-
24	L/O	-
25	R/W	-
26	W/R	-
27	SHIELD	-
36	G/O	-
37	Y/B	-
38	V	-
39	W/L	-
40	L/O	-
44	GR/L	-
45	G	-
46	W	-
47	LG	-
48	G/W	-
49	Y	-
50	L/Y	-
51	GR/B	-
52	LG/B	-
53	G	-
54	B	-
55	R	-

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	W	-
3	V	-
5	P/L	-
6	L/R	-
8	L/W	-
9	G/Y	-
10	L	-
12	B/Y	-
13	L	-
14	R	-
15	B	-
16	Y/G	-
17	Y/L	-
18	B/W	-
19	R	-
20	P	-
22	Y/R	-
23	LG/B	-
24	L/O	-
25	R/W	-
26	W/R	-
27	SHIELD	-
36	G/O	-
37	Y/B	-
38	V	-
39	W/L	-
40	L/O	-
44	GR/L	-
45	G	-
46	W	-
47	LG	-
48	G/W	-
49	Y	-
50	L/Y	-
51	GR/B	-
52	LG/B	-
53	G	-
54	B	-
55	R	-

54	B	-
55	R	-

Connector No.	D73
Connector Name	BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR
Connector Type	TH84MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR/W	-
4	B	-

Connector No.	D74
Connector Name	BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR
Connector Type	TH84MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L/R	-
4	B/W	-

DRIVER ASSISTANCE SYSTEM

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Type	M02FW-LC



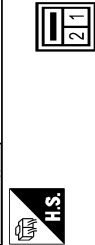
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	
2	L	

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Type	M01FBR-S-LC



Terminal No.	1	Color Of Wire	B	Signal Name [Specification]	
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Connector No.	D113
Connector Name	HIGH-MOUNTED STOP LAMP
Connector Type	TK02MBR-P



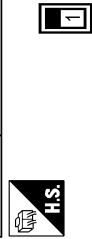
Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	
2	B	

Connector No.	D115
Connector Name	WIRE TO WIRE
Connector Type	NS09FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	
2	R/Y	
3	G/W	
4	R	
5	R	
7	L/W	
8	V	

Connector No.	D168
Connector Name	WIRE TO WIRE
Connector Type	M01MBR-PS-LC



Terminal No.	1	Color Of Wire	B	Signal Name [Specification]	
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Connector No.	E10
Connector Name	IPW/E/R INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	M06FW-LC



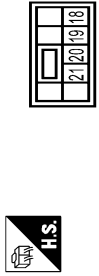
Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	
4	L	
5	P/L	
7	W/G	
8	W	

Connector No.	E11
Connector Name	IPW/E/R INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	M06FB-LC



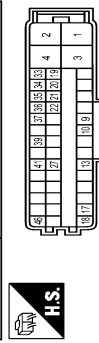
Terminal No.	9	Color Of Wire	B	Signal Name [Specification]	
14	L				

Connector No.	E12
Connector Name	IPW/E/R INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	NS108FBR-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
18	B	
19	V	
20	W	
21	L	

Connector No.	E35
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT CONTROL UNIT
Connector Type	SAZ42FB-SJZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	BAT
2	B	END
3	B	GND
4	W	MOTOR SUPPLY
9	R/B	VAN RATE / SBE / DIESEL G SENSOR COMMUNICATION-L
10	P/B	VAN RATE / SBE / DIESEL G SENSOR COMMUNICATION-R
13	GR	BRAKE FLUID LEVEL SW
17	L/R	STP2
18	W/B	IGN
19	O	DS FR
20	SB	DP FL
21	R/O	DS RR
22	V	DP RL
27	P	CAN-L
33	LG	DP FR
34	G	DS FL

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DRIVER ASSISTANCE SYSTEMS

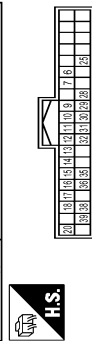
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[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM

35	BR	DP RR
36	P	DS RL
37	R	STP
39	L/W	VDC OFF SW
41	L	CAN-H
46	W	STOP LAMP SW ON

Connector No.	E59
Connector Name	TRANSFER CONTROL UNIT
Connector Type	TH4QFW-NH



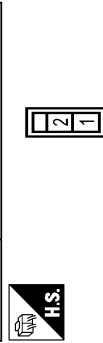
Terminal No.	Color Of Wire	Signal Name [Specification]
6	BR	HI-LO POSITION SEN 1
7	Y	TRANSFER FLUID TEMP SEN PWR SUPPLY
9	G	INTERNAL SPEED SEN GND
10	Y/G	INTERNAL SPEED SEN IMP
11	V	4L SW
12	L	CAN-H
13	P	CAN-L
14	W/R	AUTO SW
15	P/B	ROTALY POSITION SEN PWM
16	LG	ROTALY POSITION SEN GND
17	W/L	LOCK POSITION SEN PWR SUPPLY
18	BR/Y	ROTAY POSITION SEN PWR SUPPLY
20	GR	TRANSFER C/L PWR SUPPLY
25	P/L	HI-LO POSITION SEN 3
28	W	MOTOR TEMP SEN PWR SUPPLY
29	LG/B	HI-LO POSITION SEN 2
30	P/B	LOCK POSITION SEN GND
31	L/O	INTERNAL SPEED SEN DIR
32	BR/R	IGN
35	R	4H SW
36	L/R	TRANSFER FLUID TEMP SEN GND
38	G/O	LOCK POSITION SEN SIGNAL
39	R/W	INTERNAL SPEED SEN PWR SUPPLY

Connector No.	E64
Connector Name	ICC BRAKE HOLD RELAY
Connector Type	MS02FL-W2-LC



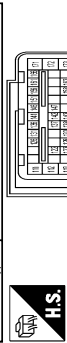
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W/G	-
2	R	-
3	L/B	-
5	R	-

Connector No.	E68
Connector Name	ICC BRAKE SWITCH
Connector Type	MD2FBR-LG



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

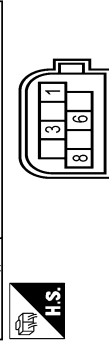
Connector No.	E60
Connector Name	ECM
Connector Type	MAB5FB-MEB10-LH



Terminal No.	Color Of Wire	Signal Name [Specification]
111	R	FUEL INJECTOR DRIVER POWER SUPPLY
112	SB	FUEL INJECTOR DRIVER POWER SUPPLY
113	G	-
114	B	ECM GROUND
115	B	ECM GROUND
120	Y	EVAP CANISTER VENT CONTROL VALVE
122	BR/W	LEVEL DETECTOR MOTOR RELAY (SHORT SIGNAL LEVEL CONTROL MODULE)
123	V/R	THROTTLE CONTROL MOTOR RELAY
125	GR	FUEL PUMP CONTROL MODULE (FPOM)
126	O	ACCELERATOR PEDAL POSITION SENSOR 2
128	Y	ASC/D/ICC STEERING SWITCH
129	P/L	SENSOR GROUND
130	R	SENSOR GROUND
131	L/W	SENSOR POWER SUPPLY
133	SB	SENSOR POWER SUPPLY
134	V/W	FUEL TEMPERATURE SENSOR
136	W/R	ACCELERATOR PEDAL POSITION SENSOR 1
137	W/G	SENSOR POWER SUPPLY
138	V	BATTERY CURRENT SENSOR
139	G	BATTERY TEMPERATURE SENSOR
140	R/Y	SENSOR GROUND
141	SB	IGNITION SWITCH
142	P/W	FUEL PUMP CONTROL MODULE (FPOM) CHECK
143	L/Y	EVAP CONTROL SYSTEM PRESSURE SENSOR
144	O/B	REFRIGERANT PRESSURE SENSOR
146	G/Y	CAN COMMUNICATION LINE
147	G/Y	ASC/D/ICC BRAKE SWITCH
150	R	SENSOR GROUND
151	P	CAN COMMUNICATION LINE
156	L	POWER SUPPLY FOR ECM (BACK-UP)
158	W/B	STOP LAMP SWITCH
161	R/W	ENG COMMUNICATION LINE
163	L/G	ECM RELAY (SELF SHUT-OFF)
165	GR/R	-
166	W	ENG COMMUNICATION LINE
169	G/B	ENGINE SPEED SIGNAL OUTPUT

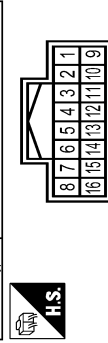
171	W	POWER SUPPLY FOR ECM
172	W	POWER SUPPLY FOR ECM
173	O	THROTTLE CONTROL MOTOR POWER SUPPLY
174	B	ECM GROUND
175	B	ECM GROUND

Connector No.	E68
Connector Name	ICC SENSOR
Connector Type	AAZ08FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W/G	IGN
3	L	ITS COMM-H
6	Y	ITS COMM-L
8	B	GND

Connector No.	E63
Connector Name	WIPE TO WIPE
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-
3	G	-
4	W	-
5	SHIELD	-
7	GR	-
8	R/W	-
11	R	-
12	V	-

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DRIVER ASSISTANCE SYSTEMS

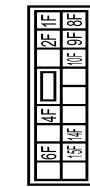
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[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM

13	P/L	-
15	R/Y	-
16	L/W	-

Connector No.	E103
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
10F	G	-
14F	Y	-
15F	G	-
1F	W/B	-
2F	R	-
4F	G	-
6F	Y/G	-
8F	L/B	-
9F	Y	-

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS10-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L/W	-
3	R/B	-
4	L	-
5	Y	-
7	W/G	-

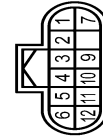
8	P/B	-
9	W/B	-
10	G	-
11	L	-
12	P	-
13	P/B	-
14	BR	-
15	L/B	-
16	SB	-
18	BR	-
19	Y/G	-
20	BR/Y	-
21	Y/V	-
22	L	-
23	Y	-
24	L/W	-
28	O	-
29	R/W	-
30	L/B	-
31	Y	-
32	GR/R	-
34	Y	-
35	R	-
36	B/R	-
37	G/Y	-
38	G	-
40	SB	-
41	W/R	-
42	R	-
43	V	-
54	GR/L	-
91	BR	-
92	L/W	-
94	Y/B	-
95	G/R	-
97	R	-
98	C/B	-
100	W/R	-

Connector No.	E115
Connector Name	STOP LAMP SWITCH
Connector Type	MA4FW-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L/B	-
2	R	-
3	G	-
4	L/R	-

Connector No.	E113
Connector Name	ACCELERATOR PEDAL ACTUATOR/ACCELERATOR POSITION SENSOR
Connector Type	RH1ZFB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B/O	BATTERY
2	W/G	IGNITION
3	L	ITS COMM-H
4	W/G	SENSOR POWER SUPPLY
5	R/Y	SENSOR GROUND
6	W/R	ACCELERATOR PEDAL POSITION SENSOR 1
7	B	GROUND
9	Y	ITS COMM-L
10	L/W	SENSOR POWER SUPPLY
11	P/L	SENSOR GROUND
12	O	ACCELERATOR PEDAL POSITION SENSOR 2

Connector No.	EZ18
Connector Name	WIRE TO WIRE
Connector Type	RS06MB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
3	W/G	-
4	Y	-
6	B	-

Connector No.	EZ19
Connector Name	WIRE TO WIRE
Connector Type	RS06FB-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
3	W/G	-
4	Y	-
6	B	-

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DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM

Connector No.	F51
Connector Name	A/T ASSEMBLY
Connector Type	RK1DFG



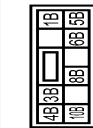
Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	IGNITION POWER SUPPLY
2	P	BATTERY POWER SUPPLY
3	L	CAN-H
4	SB	K-LINE
5	B	GROUND
6	V	IGNITION POWER SUPPLY
7	R	BACK-UP LAMP RELAY
8	P	CAN-L
9	BR	STARTER RELAY
10	B	GROUND

Connector No.	F301
Connector Name	TSM
Connector Type	SPTDFG



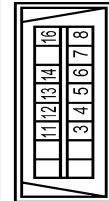
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	IGNITION POWER SUPPLY
2	-	BATTERY POWER SUPPLY
3	-	CAN-H
4	-	K-LINE
5	-	GROUND
6	-	IGNITION POWER SUPPLY
7	-	BACK-UP LAMP RELAY
8	-	CAN-L
9	-	STARTER RELAY
10	-	GROUND

Connector No.	M2
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS



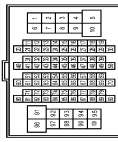
Terminal No.	Color Of Wire	Signal Name [Specification]
10B	W/B	-
11B	R	-
12B	R	-
13B	R	-
14B	B	-
15B	BR	-
16B	Y	-
17B	L/O	-

Connector No.	M4
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	-
4	B	-
5	B	-
6	B	-
7	SB	-
8	GR	-
9	SB	-
10	SB	-
11	SB	-
12	R	-
13	L	-
14	P	-
15	Y	-
16	Y	-

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
3	BR	-
4	R	-
5	R/W	-
6	L	-
7	V	-
8	G	-
9	W/B	-
10	BR	-
11	G/R	-
12	BR	-
13	G/Y	-
14	B/Y	-
15	W/R	-
16	GR/R	-
17	G/W	-
18	G/W	-
19	V	-
20	W/G	-
21	B/W	-
22	G	-
23	V	-
24	G	-
25	O	-
26	Y	-
27	L	-
28	Y	-
29	L	-
30	R	-
31	G/Y	-
32	B/SB	-
33	LG/R	-
34	BR/W	-
35	GR/R	-
36	SB	-
37	LG	-
38	L	-
39	P	-
40	W/G	-
41	O	-
42	V/W	-
43	V/W	-

44	LG/B	-
45	B	-
46	BR/W	-
47	GR	-
48	GR	-
49	GR	-
50	R/B	-
51	W/R	-
52	BR/Y	-
53	G/B	-
54	G/O	-
55	R/O	-
56	LG/R	-
57	GR/R	-
58	Y/G	-
59	V/W	-
60	R	-
61	B	-
62	B	-
63	R	-
64	R	-
65	W	-
66	G	-
67	SHIELD	-
68	LG/B	-
69	P/L	-
70	P/L	-
71	L	-
72	R	-
73	Y/B	-
74	Y/L	-
75	Y	-
76	W/R	-
77	Y/L	-
78	Y/L	-
79	Y	-
80	W/R	-
81	Y/L	-
82	L/O	-
83	O	-
84	W/R	-
85	O	-
86	O	-
87	W/R	-
88	O	-
89	W/L	-
90	GR/L	-
91	W	-
92	G	-
93	G	-
94	W/R	-
95	L/W	-
96	Y	-
97	Y	-
98	L/W	-
99	L/W	-
100	P/B	-

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM

Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	
2	W	
3	V	
4	Y	
5	LG/R	
6	BR/W	
8	V	
9	G	
10	L	
12	B/Y	
13	Y	
14	R	
15	B	
16	GR/R	
17	V/W	
18	B	
19	R	
20	P	
21	SHIELD	
22	V	
23	P/B	
24	L/O	
25	BR/W	
26	BR/W	
27	W/R	
28	W/G	
29	Y/G	
30	O/L	
31	GR/B	
32	BR	
33	V/W	
34	R	
35	W	
36	G/O	
37	BR/Y	
38	SB	

39	W/L	-
40	L/W	-
41	Y/G	-
42	P/L	-
43	LG	-
44	GR	-
45	SHIELD	-
46	W	-
47	LG	-
48	O/W	-
49	L/O	-
50	L/Y	-
51	GR/R	-
52	LG/B	-
53	G	-
54	B	-
55	R	-

Connector No.	M22
Connector Name	WIRE TO WIRE
Connector Type	TH40MY-CS15

Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	
2	W	
3	Y	
5	P/L	
8	L/R	
8	L/W	
9	G/Y	
10	L	
12	B/Y	
13	L	
14	R	
15	B	
16	Y/G	
17	Y/L	
18	B/W	
19	R	
20	P	

22	Y/R	-
23	LG/B	-
24	L/W	-
25	W/R	-
26	W/R	-
27	SHIELD	-
36	O/O	-
37	Y/B	-
38	Y	-
39	W/L	-
40	L/O	-
44	GR	-
45	G	-
46	W	-
47	LG	-
48	L/R	-
49	Y	-
50	R/B	-
53	SHIELD	-
54	B	-
55	R	-

Connector No.	M23
Connector Name	WIRE TO WIRE
Connector Type	TH32MY-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	
2	V	
3	B	
4	Y	
5	GR	
6	B/Y	
7	B	
8	Y/L	
9	G	
10	B	
11	R	
14	Y	
15	W/R	

16	L/O	-
17	Y	-
18	L/O	-
20	W	-
21	O	-
22	SB	-
23	P	-
24	SHIELD	-
56	Y/G	-
57	W/G	-
58	Y	-
28	Y	-
29	L	-
30	B/SB	-
31	BR	-
32	GR/L	-

Connector No.	M30
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH

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

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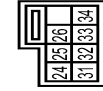
DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

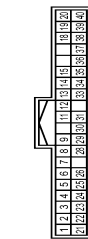
DRIVER ASSISTANCE SYSTEM

Connector No.	M33
Connector Name	COMBINATION SWITCH (SERIAL CABLE)
Connector Type	TK0BF0Y-1V



Terminal No.	Color Of Wire	Signal Name [Specification]
24	Y/G	-
25	Y	-
26	B	-
31	Y/L	-
32	R	-
33	B	-
34	P/B	-

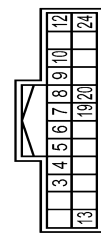
Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	TH4QFW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BATTERY POWER SUPPLY
2	GR	IGNITION SIGNAL
3	B	GROUND
4	B	ILL GND
5	B	ILL CONTROL OUTPUT
6	GR	LED HEADLAMP (RH) WARNING SIGNAL
7	R	LOW MODE SIGNAL
8	P/L	TRIP RESET SWITCH SIGNAL
9	O	LED HEADLAMP (LH) WARNING SIGNAL
11	G	ENTER SWITCH SIGNAL
12	O	SELECT SWITCH SIGNAL
13	W/R	ILLUMINATION CONTROL SWITCH SIGNAL (+)
14	R	ILLUMINATION CONTROL SWITCH SIGNAL (-)

15	R/W	AIR BAG SIGNAL
18	W/R	AMBIENT SENSOR SIGNAL
19	V/W	A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL
20	B	AMBIENT SENSOR GROUND
21	L	CAN-H
22	P	CAN-L
23	B	GROUND
24	V	FUEL LEVEL SENSOR GROUND
25	O/L	FUEL LEVEL SENSOR SIGNAL
26	W	ALTERNATOR SIGNAL
28	GR/R	PARKING BRAKE SWITCH SIGNAL
29	BR	SECURITY SIGNAL
29	BR	WASHER LEVEL SWITCH SIGNAL
30	SB	VEHICLE SPEED SIGNAL (2-PULSE)
31	BR/W	VEHICLE SPEED SIGNAL (3-PULSE)
33	W	SHOW MODE SIGNAL
34	BR/Y	FUEL LEVEL SENSOR SIGNAL
35	O/B	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
36	G/Y	PASSENGER SEAT BELT WARNING SIGNAL
37	R/Y	NON-MANUAL MODE SIGNAL
38	L/W	MANUAL MODE SHIFT DOWN SIGNAL
39	Y/B	MANUAL MODE SHIFT UP SIGNAL
40	G/W	MANUAL MODE SIGNAL

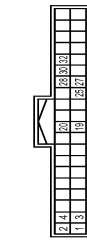
Connector No.	M47
Connector Name	SONAR CONTROL UNIT
Connector Type	TH2ZFW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	CORNER SENSOR FRONT LH
3	R	CORNER SENSOR FRONT RH
4	W	CORNER SENSOR REAR LH
5	W	CORNER SENSOR REAR RH
6	R	CORNER SENSOR REAR LH
7	G	CORNER SENSOR REAR RH
8	Y	CENTER SENSOR FRONT LH
9	G	CENTER SENSOR FRONT RH
10	Y	CENTER SENSOR FRONT LH SENSOR GND
12	B	IGN
13	GR/L	CAN-H
19	L	CAN-L
20	R	CAN-L (Without ADAS)

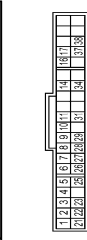
20	Y	ITS-CAN L [With ADAS]
24	B	GND

Connector No.	M48
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH4QFW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	Y/G	BATTERY POWER SUPPLY
3	GR/L	IGNITION SIGNAL
4	V	ACC POWER SUPPLY
19	SB	AV COMM (H)
20	LG	AV COMM (L)
25	P	REVERSE
27	L	CAN-H
28	R	CAN-L [Without ADAS]
28	Y	CAN-L [With ADAS]
30	LG	RETRACT MOTOR OPERATION SIGNAL (OPEN)
32	G/O	RETRACT MOTOR OPERATION SIGNAL (CLOSE)

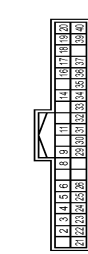
Connector No.	M50
Connector Name	A/C AUTO AMP.
Connector Type	SAB4QFW



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	B	GROUND
3	Y/G	BATTERY POWER SUPPLY
4	V	ACC POWER SUPPLY

5	W	IONIZER CONTROL SIGNAL
6	V/W	A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL
7	W/R	AMBIENT SENSOR SIGNAL
8	GR/L	RR IN-VEHICLE SENSOR SIGNAL
9	BR	SUNLOAD SENSOR (DR) SIGNAL
10	V/W	Evap gas - outside model detecting sensor signal
11	W	COMM (A/C AUTO AMP.-RR A/C CONT)
14	O/L	FR BLOWER MOTOR CONTROL SIGNAL
16	R/G	EACH DOOR MOTOR (L) SIGNAL
17	L/Y	EACH DOOR MOTOR POWER SUPPLY
21	P	CAN-L
22	B	GROUND
23	GR/L	IGNITION POWER SUPPLY
25	R	SENSOR GROUND
26	B	SENSOR GROUND
27	GR	FR IN-VEHICLE SENSOR SIGNAL
28	R	INTAKE SENSOR SIGNAL
29	O	SUNLOAD SENSOR (PASS) SIGNAL
31	O/L	COMM (RR A/C CONT-A/C AUTO AMP.)
34	L/O	RR BLOWER MOTOR CONTROL SIGNAL
37	B	GROUND
38	G/W	RR A/C RELAY CONTROL SIGNAL

Connector No.	M68
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH4QFB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	BR/Y	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	L	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	V	COMBI SW INPUT 1
8	V	POWER WINDOW SW COMM
9	R	STOP LAMP SW 1
11	R	RAIN SENSOR SERIAL LINK
14	P/B	OPTICAL SENSOR
16	L/O	DIMMER SIGNAL
17	Y/G	SENSOR PWR SPLY
18	B/Y	RECEIVER/SENSOR GND

DRIVER ASSISTANCE SYSTEMS

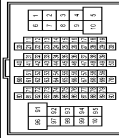
< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM

19	G/Y	TURN SIG RH OUTPUT (FRONT)
20	G	TURN SIG LH OUTPUT (FRONT)
21	P	NATS ANT AMP
22	W/B	KYLS ENT RECEIVER RSSI
23	GR/R	SECURITY IND.CONT
24	SB	DONGLE LINK
25	LG/R	NATS ANT AMP
26	O	INTELLIGENT KEY IDENTIFICATION
28	W	HAZARD SW
30	W/L	BR DOOR GRAB SW
31	W/G	DR DOOR UNLOCK SENSOR
32	LG	COMBI SW OUTPUT 5
33	Y	COMBI SW OUTPUT 4
34	W	COMBI SW OUTPUT 3
35	R/W	COMBI SW OUTPUT 2
36	SB	COMBI SW OUTPUT 1
37	G/Y	SHIFT P
39	L	CAN-H
40	P	CAN-L

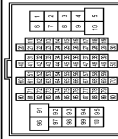
Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	L/W	-
3	R/B	-
4	Y	-
5	Y	-
7	W/G	-
8	P/B	-
9	W/B	-
10	G	-
11	L	-
12	P	-
13	P/B	-
14	BR	-
15	O/L	-
16	SB	-

18	BR	-
19	Y/G	-
20	BR/Y	-
21	V	-
22	L	-
23	Y	-
24	L/W	-
28	O	-
29	B/W	-
30	O/L	-
31	GR/R	-
32	Y	-
34	R	-
35	B/O	-
36	G/Y	-
37	G	-
38	SB	-
40	W/R	-
41	R	-
42	GR/L	-
43	V	-
54	GR/L	-
91	BR	-
92	L/W	-
94	Y/B	-
95	L/R	-
97	R	-
98	O/L	-
100	W/B	-

Connector No.	M111
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

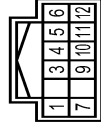


Terminal No.	Color Of Wire	Signal Name [Specification]
1	R/B	-
2	G	-
3	W/R	-
5	W/B	-
6	L/Y	-

7	R	-
8	GR/R	-
9	SB	-
11	W	-
12	V	-
13	Y	-
16	L/O	-
17	GR/L	-
18	V/O	-
19	G/Y	-
20	G/Y	-
21	R	-
22	GR	-
27	L/O	-
29	SB	-
30	R/L	-
31	Y/L	-
32	W/R	-
33	W/G	-
34	L/R	-
36	G	-
37	V	-
38	SHIELD	-
39	P/B	-
40	W/R	-
41	R	-
42	L/W	-
43	B/W	-
44	L	-
45	P	-
46	SHIELD	-
47	R	-
48	W	-
49	SHIELD	-
50	V	-
51	O/L	-
52	L/R	-
53	SB	-
54	V/W	-
59	L	-
60	GR	-
61	P/L	-
62	B/SB	-
63	R/Y	-
64	BR	-
70	O	-
71	W	-
72	SHIELD	-
73	B	-
74	R	-

75	G	-
76	Y	-
77	SB	-
78	LG	-
79	R/B	-
80	W/B	-
83	Y	-
84	L	-
85	L/R	-
86	R	-
87	W	-
88	V	-
89	L/W	-
100	W	-

Connector No.	M75
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
3	Y	BATTERY
4	L	CAN-H
5	B	GND
6	L	CAN-H
7	P	CAN-L
9	GR	IGNITION
10	R	CAN-L
11	B	GND
12	R	CAN-L

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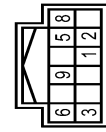
DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[ADAS CONTROL UNIT]

DRIVER ASSISTANCE SYSTEM

Connector No.	M127
Connector Name	TWIN SWITCH
Connector Type	TH12FCY-NH



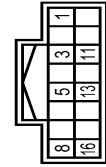
Terminal No.	Color Of Wire	Signal Name [Specification]
1	O	-
2	V/W	-
3	B	-
5	L/O	-
6	B/O	-
8	W/G	-
9	LG/B	-

Connector No.	M149
Connector Name	DRIVER ASSISTANCE BUZZER
Connector Type	NS02FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	SPEAKER (IN+)
2	Y	SPEAKER (IN-)

Connector No.	M150
Connector Name	DRIVER ASSISTANCE BUZZER CONTROL MODULE
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W/G	IGN
3	L	ITS COMM-H
5	B	GROUND
8	BR	SPEAKER OUT(+)
11	Y	ITS COMM-L
13	B	GROUND
16	Y	SPEAKER OUT(-)

Connector No.	M210
Connector Name	AV CONTROL UNIT
Connector Type	TH32FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
65	W	PARKING BRAKE SIGNAL
67	W	COMPOSITE IMAGE SIGNAL GND
68	R	COMPOSITE IMAGE SIGNAL
69	O	INTELLIGENT KEY IDENTIFICATION SIGNAL
70	BR	-
71	SHIELD	-
72	Y	MICROPHONE SHIELD
73	Y/G	MICROPHONE VCC (With DCM)
74	Y/G	MICROPHONE VCC (Without DCM)
75	P	COMM (CONT-DISP)
76	LG	GAN-L
77	LG	AV COMM (L)
78	LG	AV COMM (R)
79	L/O	DIMMER SIGNAL

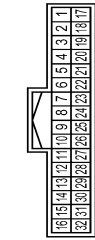
80	GR/L	IGNITION SIGNAL
81	R/Y	REVERSE SIGNAL
82	BR/W	VEHICLE SPEED SIGNAL (8-PULSE)
83	SHIELD	SHIELD
84	W/B	COMPOSITE IMAGE SYNC SIGNAL
87	BR	MICROPHONE SIGNAL (With DCM)
88	Y/L	MICROPHONE SIGNAL (Without DCM)
89	SHIELD	SHIELD
90	Y/L	COMM (RSP-COMT)
91	SH	CAN-H
92	SB	AV COMM (H)
	SB	AV COMM (H)

Connector No.	M302
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FY



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

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Type	TH82FW-NH




Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	V	-
3	B	-
4	Y	-
5	B/R	-
6	B/Y	-
7	B	-
8	Y/L	-
9	G	-
10	B	-
11	R	-
14	B/Y	-
15	W/R	-
16	L/O	-
17	Y	-
18	L/O	-
20	W	-
21	O	-
22	SB	-
23	B	-
24	SHIELD	-
25	Y/G	-
26	B/SB	-
27	W/G	-
28	Y	-
29	L	-
30	B/SB	-
31	BR	-
32	B/R	-

JROWC3802GB


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DRIVER ASSISTANCE SYSTEM

Connector No.	R8
Connector Name	LANE CAMERA UNIT
Connector Type	TH08FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
4	L	ITS COMM-H
5	B	GND
7	W/G	IGNITION
8	Y	ITS COMM-L



DAS

JROWC3803GB

BASIC INSPECTION

ADDITIONAL SERVICE WHEN REPLACING ADAS CONTROL UNIT

Description

INFOID:0000000011449763

Always perform the ADAS control unit configuration after replacing the ADAS control unit.

Work Procedure

INFOID:0000000011449764

1. ADAS CONTROL UNIT CONFIGURATION

Perform the ADAS control unit configuration with CONSULT. Refer to [DAS-61. "Description"](#).

>> GO TO 2.

2. PERFORM SELF-DIAGNOSIS

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

Is any DTC detected?

- YES >> Perform the trouble diagnosis for the detected DTC. Refer to [DAS-40. "DTC Index"](#).
NO >> INSPECTION END

CONFIGURATION (ADAS CONTROL UNIT)

< BASIC INSPECTION >

[ADAS CONTROL UNIT]

CONFIGURATION (ADAS CONTROL UNIT)

Description

INFOID:000000011449765

- Since vehicle specifications are not included in the ADAS control unit after replacement, it is required to write vehicle specifications with CONSULT.
- Configuration has three functions as follows.

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

Work Procedure

INFOID:000000011449766

1. SAVING VEHICLE SPECIFICATION

ⓐ WITH CONSULT

Perform "READ CONFIGURATION" to save or print current vehicle specification.

Is vehicle specification saved normally?

YES >> GO TO 2.

NO >> GO TO 4.

2. REPLACE ADAS CONTROL UNIT

Replace ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

ⓐ WITH CONSULT

Perform "WRITE CONFIGURATION - Config file" to write vehicle specification.

>> GO TO 6.

4. REPLACE ADAS CONTROL UNIT

Replace ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

>> GO TO 5.

5. WRITING VEHICLE SPECIFICATION

ⓐ WITH CONSULT

Select "WRITE CONFIGURATION - Manual selection" and write in the following list at a ADAS control unit depending on a vehicle specification.

NOTE:

- The items shown in this list depend on vehicle specifications.
- The config list may not be displayed depending on vehicle specifications. This is not a malfunction.
- If selection items are not displayed on the CONSULT screen, touch "OK".

Setting item		
Items	Setting value	Description
CAMERA CONTROL UNIT	WITHOUT	Without LDW/LDP system
	WITH	With LDP/LDW system

CONFIGURATION (ADAS CONTROL UNIT)

< BASIC INSPECTION >

[ADAS CONTROL UNIT]

Setting item		
Items	Setting value	Description
2WD/4WD	2WD	2WD models
	4WD	4WD models

>> GO TO 6.

6. OPERATION CHECK

Confirm that each function controlled by ADAS control unit operates normally.

>> WORK END

DTC/CIRCUIT DIAGNOSIS

C1A0A CONFIG UNFINISHED

DTC Logic

INFOID:0000000011449767

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A0A (41)	CONFIG UNFINISH (Configuration unfinished)	The vehicle specifications of ADAS control unit is incomplete.

POSSIBLE CAUSE

Vehicle specifications for ADAS control unit is incomplete.

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

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" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A01" detected as the current malfunction?

- YES >> Refer to [DAS-63, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000011449768

1.PERFORM CONFIGURATION OF ADAS CONTROL UNIT

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

>> Perform configuration of ADAS control unit. Refer to [DAS-61, "Description"](#).

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C1A00 CONTROL UNIT

DTC Logic

INFOID:000000011449769

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A00 (0)	CONTROL UNIT (Control unit)	ADAS control unit internal malfunction

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1A00" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A00" detected as the current malfunction?

- YES >> Refer to [DAS-64, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449770

1. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC other than "C1A00" 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 [DAS-40, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A01 POWER SUPPLY CIRCUIT 1, C1A02 POWER SUPPLY CIRCUIT 2

DTC Logic

INFOID:000000011449771

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A01 (1)	POWER SUPPLY CIR (Power supply circuit)	The battery voltage sent to ADAS control unit remains less than 7.9 V for 5 seconds
C1A02 (2)	POWER SUPPLY CIR 2 (Power supply circuit 2)	The battery voltage sent to ADAS control unit remains more than 19.3 V for 5 seconds

POSSIBLE CAUSE

- Connector, harness, fuse
- ADAS control unit

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

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 "ICC/ADAS".

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

YES >> Refer to [DAS-65, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449772

1. CHECK ADAS CONTROL UNIT POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit of ADAS control unit. Refer to [DAS-158, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

NO >> Repair or replace the malfunctioning parts.

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DAS

C1A03 VEHICLE SPEED SENSOR

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

C1A03 VEHICLE SPEED SENSOR

DTC Logic

INFOID:000000011449773

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A03 (3)	VHCL SPEED SE CIRC (Vehicle speed sensor circuit)	If the vehicle speed signal (wheel speed) from ABS actuator and electric unit (control unit) and the A/T vehicle speed sensor signal (output shaft revolution signal) from TCM, received by the ADAS control unit via CAN communication, are inconsistent

POSSIBLE CAUSE

- Wheel speed sensor
- ABS actuator and electric unit (control unit)
- Vehicle speed sensor A/T (output speed sensor)
- TCM
- 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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - C1A04: Refer to [DAS-68, "DTC Logic"](#)

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A03" detected as the current malfunction?

- YES >> Refer to [DAS-66, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449774

1. CHECK DTC PRIORITY

C1A03 VEHICLE SPEED SENSOR

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - C1A04: Refer to [DAS-68, "DTC Logic"](#)

NO >> GO TO 2.

2. CHECK DATA MONITOR

1. Start the engine.
2. Drive the vehicle.
3. Check that the value of "VHCL SPD AT" is almost the same as the value of "VHCL SPEED SE" in "DATA MONITOR" of "ICC/ADAS".

CAUTION:

Be careful of the vehicle speed.

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

NO >> GO TO 3.

3. CHECK TCM SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-81, "DTC Index"](#).

NO >> GO TO 4.

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

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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DAS

C1A04 ABS/TCS/VDC SYSTEM

DTC Logic

INFOID:000000011449775

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A04 (4)	ABS/TCS/VDC CIRC (ABS/TCS/VDC circuit)	If a malfunction occurs in the VDC/TCS/ABS system

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “C1A04” detected as the current malfunction?

- YES >> Refer to [DAS-68, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449776

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

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

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

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

C1A05 BRAKE SW/STOP LAMP SW

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A05 BRAKE SW/STOP LAMP SW

DTC Logic

INFOID:000000011449777

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A05 (5)	BRAKE SW/STOP L SW (Brake switch/Stop lamp switch)	A mismatch between a stop lamp switch signal and a ICC brake switch signal received from ECM and a stop lamp signal received from the ABS actuator and electric unit (control unit) continues for 10 seconds or more with vehicle speeds at approximately 40 km/h (25 MPH) or more

POSSIBLE CAUSE

- Stop lamp switch circuit
- ICC brake switch circuit
- Stop lamp switch
- ICC brake switch
- Incorrect stop lamp switch installation
- Incorrect ICC brake switch installation
- ECM
- 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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A05" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A05" detected as the current malfunction?

- YES >> Refer to [DAS-69, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449778

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

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DAS

C1A05 BRAKE SW/STOP LAMP SW

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 2.

2.CHECK STOP LAMP SWITCH AND ICC BRAKE SWITCH

Check that "STOP LAMP SW" and "BRAKE SW" operate normally in "DATA MONITOR" of "ICC/ADAS".

Is the inspection result normal?

YES >> GO TO 3.

NO-1 >> When "BRAKE SW" operation is malfunctioning: GO TO 4.

NO-2 >> When "STOP LAMP SW" operation is malfunctioning: GO TO 8.

3.CHECK STOP LAMP SWITCH

Check that "STOP LAMP SW" operate normally in "DATA MONITOR" of "ABS".

Is the inspection result normal?

YES >> GO TO 14.

NO >> GO TO 9.

4.CHECK ICC SWITCH INSTALLATION

1. Turn ignition switch OFF.

2. Check ICC brake switch for correct installation. Refer to [BR-9, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 5.

NO >> Adjust ICC brake switch installation. Refer to [BR-9, "Inspection and Adjustment"](#).

5.ICC BRAKE SWITCH INSPECTION

1. Disconnect ICC brake switch connector.

2. Check ICC brake switch. Refer to [DAS-72, "Component Inspection \(ICC Brake Switch\)"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace ICC brake switch.

6.CHECK ICC BRAKE SWITCH POWER SUPPLY CIRCUIT

1. Turn the ignition switch ON.

2. Check voltage between ICC brake switch harness connector and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
ICC brake switch		Ground Battery voltage
Connector	Terminal	
E68	1	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair the harnesses or connectors.

7.CHECK HARNESS BETWEEN ICC BRAKE SWITCH AND ECM

1. Turn ignition switch OFF

2. Disconnect ECM connector.

3. Check for continuity between ICC brake switch harness connector and ECM harness connector.

ICC brake switch		ECM		Continuity
Connector	Terminal	Connector	Terminal	
E68	2	E80	147	Existed

4. Check for continuity between ICC brake switch harness connector and ground.

C1A05 BRAKE SW/STOP LAMP SW

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

ICC brake switch		Ground	Continuity
Connector	Terminal		
E68	2		Not existed

Is the inspection result normal?

- YES >> GO TO 8.
- NO >> Repair the harnesses or connectors.

8.PERFORM SELF-DIAGNOSIS OF ECM

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE". Refer to [EC-108, "DTC Index"](#) (For USA and Canada), or [EC-671, "DTC Index"](#) (For Mexico).

Is any DTC detected?

- YES >> Repair or replace the malfunctioning parts identified by the self-diagnosis result.
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

9.CHECK STOP LAMP SWITCH INSTALLATION

1. Turn ignition switch OFF.
2. Check stop lamp switch for correct installation. Refer to [BR-9, "Inspection and Adjustment"](#).

Is the inspection result normal?

- YES >> GO TO 10.
- NO >> Adjust stop lamp switch installation. Refer to [BR-9, "Inspection and Adjustment"](#).

10.STOP LAMP SWITCH INSPECTION

1. Disconnect stop lamp switch connector.
2. Check stop lamp switch. Refer to [DAS-73, "Component Inspection \(Stop Lamp Switch\)"](#).

Is the inspection result normal?

- YES >> GO TO 11.
- NO >> Replace stop lamp switch.

11.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

1. Turn the ignition switch ON.
2. Check voltage between stop lamp switch harness connector and ground.

Terminals		Ground	Voltage (Approx.)
(+)	(-)		
Stop lamp switch		Ground	Battery voltage
Connector	Terminal		
E115	1 3		

Is the inspection result normal?

- YES >> GO TO 12.
- NO >> Repair the harnesses or connectors.

12.CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ECM

1. Turn ignition switch OFF
2. Disconnect ECM, rear combination lamp and high-mounted stop lamp connectors.
3. Check for continuity between stop lamp switch harness connector and ECM harness connector.

Stop lamp switch		ECM		Continuity
Connector	Terminal	Connector	Terminal	
E115	2	E80	158	Existed

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DAS

C1A05 BRAKE SW/STOP LAMP SW

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

4. Check for continuity between stop lamp switch harness connector and ground.

Stop lamp switch		Ground	Continuity
Connector	Terminal		
E115	2		Not existed

Is the inspection result normal?

YES >> GO TO 13.

NO >> Repair the harnesses or connectors.

13.CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

1. Disconnect ABS actuator and electric unit (control unit) connector and resistor.
2. Check for continuity between stop lamp switch harness connector and ABS actuator and electric unit (control unit) harness connector.

Stop lamp switch		ABS actuator and electric unit (control unit)		Continuity
Connector	Terminal	Connector	Terminal	
E115	4	E36	17	Existed

3. Check for continuity between stop lamp switch harness connector and ground.

Stop lamp switch		Ground	Continuity
Connector	Terminal		
E115	4		Not existed

Is the inspection result normal?

YES >> GO TO 14.

NO >> Repair the harnesses or connectors.

14.PERFORM SELF-DIAGNOSIS OF ECM

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE". Refer to [EC-108, "DTC Index"](#) (For USA and Canada), or [EC-671, "DTC Index"](#) (For Mexico).

Is any DTC detected?

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

NO >> GO TO 15.

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

Check if any DTC is detected in "Self Diagnostic Result" of "ABS". Refer to [BRC-50, "DTC Index"](#).

Is any DTC detected?

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

NO >> Repair the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

Component Inspection (ICC Brake Switch)

INFOID:000000011449779

1.CHECK ICC BRAKE SWITCH

Check for continuity between ICC brake switch terminals.

Terminal	Condition	Continuity
1	2 When brake pedal is depressed	Not existed
	2 When brake pedal is released	Existed

C1A05 BRAKE SW/STOP LAMP SW

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Replace ICC brake switch.

Component Inspection (Stop Lamp Switch)

INFOID:0000000011449780

1. CHECK STOP LAMP SWITCH

Check for continuity between stop lamp switch terminals.

With ICC system

Terminal		Condition	Continuity
1	2	When brake pedal is depressed	Existed
		When brake pedal is released	Not existed
3	4	When brake pedal is depressed	Existed
		When brake pedal is released	Not existed

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Replace stop lamp switch.

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DAS

C1A06 OPERATION SW

DTC Logic

INFOID:000000011449781

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A06 (6)	OPERATION SW CIRC (Operation switch circuit)	<ul style="list-style-type: none"> Any switch of the ICC steering switch is detected as "ON" continuously for 60 seconds An ON/OFF state judgment of the ICC differs between ECM and ADAS control unit, and the state continues for 2 seconds or more

POSSIBLE CAUSE

- ICC steering switch circuit
- ICC steering switch
- ADAS control unit
- ECM

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1A06" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A06" detected as the current malfunction?

- YES >> Refer to [DAS-74, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449782

1.CHECK DTC PRIORITY

If DTC "C1A06" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ICC STEERING SWITCH

1. Turn the ignition switch OFF.
2. Disconnect the ICC steering switch connector.
3. Check the ICC steering switch. Refer to [DAS-75, "Component Inspection"](#).

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

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

3.CHECK HARNESS BETWEEN SPIRAL CABLE AND ECM

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

Spiral cable		ECM		Continuity
Connector	Terminal	Connector	Terminal	
M33	25	E80	128	Existed
	32		130	

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

Spiral cable		Ground	Continuity
Connector	Terminal		
M33	25		Not existed
	32		

Is the inspection result normal?

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

4.CHECK SPIRAL CABLE

Check for continuity between spiral cable terminals.

Spiral cable		Continuity
Terminal		
13	25	Existed
16	32	

Is the inspection result normal?

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

5.PERFORM SELF-DIAGNOSIS OF ECM

1. Connect the connectors of ICC steering switch and ECM connector.
2. Turn the ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE".

Is any DTC detected?

- YES >> Perform self-diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [EC-108. "DTC Index"](#) (For USA and Canada), or [EC-671. "DTC Index"](#) (For Mexico).
- NO >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

Component Inspection

INFOID:000000011449783



1.CHECK ICC STEERING SWITCH

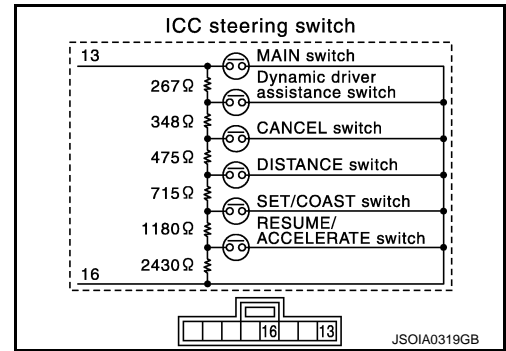
C1A06 OPERATION SW

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

Check resistance between ICC steering switch terminals.

Terminal	Switch operation	Resistance [Ω]
13 16	When pressing MAIN switch	Approx. 0
	When pressing dynamic driver assistance switch	Approx. 267
	When pressing CANCEL switch	Approx. 615
	When pressing DISTANCE switch	Approx. 1090
	When pressing SET/COAST switch	Approx. 1805
	When pressing RESUME/ACCELERATE switch	Approx. 2985
	When all switches are not pressed	Approx. 5415



Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Replace the ICC steering switch.

C1A13 STOP LAMP RELAY

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A13 STOP LAMP RELAY

DTC Logic

INFOID:000000011449784

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A13 (13)	STOP LAMP RLY FIX (Stop lamp relay fix)	<ul style="list-style-type: none">• Stop lamp inactive state continues for 0.3 seconds or more despite the outputting of an ICC sensor ICC brake hold relay drive signal• The stop lamp remains ON for 60 seconds or more under the following conditions:<ul style="list-style-type: none">- Driving at 40 km/h (25 MPH) or more- No stop lamp drive signal output from ICC sensor- No brake operation

POSSIBLE CAUSE

- Stop lamp switch circuit
- ICC brake switch circuit
- ICC brake hold relay circuit
- Stop lamp switch
- ICC brake switch
- ICC brake hold relay
- Incorrect stop lamp switch installation
- Incorrect ICC brake switch installation
- ECM
- 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)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "C1A13" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE (1)

1. Start the engine.
2. Perform the active test item "STOP LAMP" with CONSULT.
3. Perform "All DTC Reading".
4. Check if the "C1A13" is detected as the current malfunction in the "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A13" detected as the current malfunction?

- YES >> Refer to [DAS-78. "Diagnosis Procedure"](#).
NO >> GO TO 3.

3. PERFORM DTC CONFIRMATION PROCEDURE (2)

1. Drive at the vehicle speed of 40 km/h (25 MPH) or more for approximately 20 seconds or more without the brake pedal depressed.

CAUTION:
Always drive safely.

C1A13 STOP LAMP RELAY

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

NOTE:

- If it is outside the above condition, repeat step 1.
 - 2. Perform "All DTC Reading".
 - 3. Check if the "C1A13" is detected as the current malfunction in the "Self Diagnostic Result" of "ICC/ADAS".
- Is "C1A13" detected as the current malfunction?

- YES >> Refer to [DAS-78, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449785

1.CHECK DTC PRIORITY

If DTC "C1A13" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK STOP LAMP SWITCH

Check that "STOP LAMP SW" operate normally in "DATA MONITOR" of "ICC/ADAS".

Is the inspection result normal?

- YES >> GO TO 10.
- NO >> GO TO 3.

3.CHECK STOP LAMP SWITCH INSTALLATION

- 1. Turn ignition switch OFF.
- 2. Check stop lamp switch for correct installation. Refer to [BR-9, "Inspection and Adjustment"](#).

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Adjust stop lamp switch installation. Refer to [BR-9, "Inspection and Adjustment"](#).

4.CHECK STOP LAMP SWITCH

- 1. Disconnect stop lamp switch connector.
- 2. Check stop lamp switch. Refer to [DAS-73, "Component Inspection \(Stop Lamp Switch\)"](#).

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Replace stop lamp switch.

5.CHECK STOP LAMP FOR ILLUMINATION

- 1. Connect stop lamp switch connector.
- 2. Remove ICC brake hold relay.
- 3. Check that the stop lamp is illuminated by depressing the brake pedal to turn the stop lamp ON.

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Check the stop lamp circuit, and repair or replace the malfunctioning parts.

6.CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ECM

- 1. Turn the ignition switch OFF.
- 2. Disconnect stop lamp switch, ECM, rear combination lamp, and high-mounted stop lamp connectors.
- 3. Check for continuity between the stop lamp switch harness connector and the ECM harness connector.

Stop lamp switch		ECM		Continuity
Connector	Terminal	Connector	Terminal	
E115	2	E80	158	Existed

- 4. Check for continuity between stop lamp switch harness connector and ground.

C1A13 STOP LAMP RELAY

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

Stop lamp switch		Ground	Continuity
Connector	Terminal		
E115	2		Not existed

Is the inspection result normal?

- YES >> GO TO 7.
- NO >> Repair the harnesses or connectors.

7. CHECK ICC BRAKE HOLD RELAY CIRCUIT

1. Connect ICC brake hold relay, ECM, rear combination lamp, and high-mounted stop lamp connectors.
2. Check that the stop lamp does not illuminate when brake pedal is not depressed.

Is the inspection result normal?

- YES >> GO TO 9.
- NO >> GO TO 8.

8. CHECK ICC BRAKE HOLD RELAY

1. Remove ICC brake hold relay.
2. Check ICC brake hold relay. Refer to [DAS-82, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 9.
- NO >> Replace ICC brake hold relay.

9. PERFORM SELF-DIAGNOSIS OF ECM

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE". Refer to [EC-108, "DTC Index"](#) (For USA and Canada), or [EC-671, "DTC Index"](#) (For Mexico).

Is any DTC detected?

- YES >> Repair or replace the malfunctioning parts identified by the self-diagnosis result.
- NO >> Replace ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

10. CHECK ICC BRAKE HOLD RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Remove ICC brake hold relay.
3. Check the voltage between ICC brake hold relay harness connector and ground.

Terminal		Ground	Voltage (Approx.)
(+)	(-)		
ICC brake hold relay		Ground	Voltage (Approx.)
Connector	Terminal		
E64	3		Battery voltage

Is the inspection result normal?

- YES >> GO TO 11.
- NO >> Repair or replace ICC brake hold relay power supply circuit.

11. CHECK HARNESS BETWEEN AND ICC BRAKE HOLD RELAY AND ADAS CONTROL UNIT

1. Disconnect ADAS control unit connectors.
2. Check for continuity between ICC brake hold relay harness connector and ADAS control unit harness connector.

C1A13 STOP LAMP RELAY

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

ICC brake hold relay		ADAS control unit		Continuity
Connector	Terminal	Connector	Terminal	
E64	2	B52	17	Existed

3. Check for continuity between ADAS control unit harness connector and ground.

ICC brake hold relay		Ground	Continuity
Connector	Terminal		
E64	2		Not existed

Is the inspection result normal?

YES >> GO TO 12.

NO >> Repair the harnesses or connectors.

12. CHECK ADAS CONTROL UNIT STANDARD VOLTAGE

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "STOP LAMP" on "Active Test" of "ICC/ADAS", and then check the voltage between ADAS control unit harness connector and ground.

Terminal		Condition	Voltage (Approx.)
(+)	(-)		
ADAS control unit		Ground	Active Test item "STOP LAMP"
Connector	Terminal		
B52	17		
		Off	Battery voltage
		On	0 V

Is the inspection result normal?

YES >> GO TO 13.

NO >> Replace ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

13. CHECK ICC BRAKE HOLD RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Check the voltage between ICC brake hold relay harness connector and ground.

Terminal		Ground	Voltage (Approx.)
(+)	(-)		
ICC brake hold relay		Ground	Battery voltage
Connector	Terminal		
E64	3		

Is the inspection result normal?

YES >> GO TO 14.

NO >> Repair or replace ICC brake hold relay power supply circuit.

14. CHECK HARNESS BETWEEN ICC BRAKE HOLD RELAY AND ECM

1. Disconnect ECM, rear combination lamp, and high-mounted stop lamp connectors and remove ICC brake hold relay.
2. Check for continuity between ICC brake hold relay harness connector and ECM harness connector.

C1A13 STOP LAMP RELAY

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

ICC brake hold relay		ECM		Continuity
Connector	Terminal	Connector	Terminal	
E64	5	E80	158	Existed

3. Check for continuity between ICC brake hold relay harness connector and ground.

ICC brake hold relay		Ground	Continuity
Connector	Terminal		
E64	5		Not existed

Is the inspection result normal?

YES >> GO TO 15.

NO >> Repair the harnesses or connectors.

15.CHECK ICC BRAKE HOLD RELAY

1. Remove ICC brake hold relay.
2. Check ICC brake hold relay. Refer to [DAS-82, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 16.

NO >> Replace ICC brake hold relay.

16.CHECK STOP LAMP SWITCH

Check that "STOP LAMP SW" operate normally in "DATA MONITOR" of "ABS".

Is the inspection result normal?

YES >> GO TO 21.

NO >> GO TO 17.

17.CHECK STOP LAMP SWITCH INSTALLATION

1. Turn ignition switch OFF.
2. Check stop lamp switch for correct installation. Refer to [BR-9, "Inspection and Adjustment"](#).

Is the inspection result normal?

YES >> GO TO 18.

NO >> Adjust stop lamp switch installation. Refer to [BR-9, "Inspection and Adjustment"](#).

18.CHECK STOP LAMP SWITCH

1. Disconnect stop lamp switch connector.
2. Check stop lamp switch. Refer to [DAS-73, "Component Inspection \(Stop Lamp Switch\)"](#).

Is the inspection result normal?

YES >> GO TO 19.

NO >> Replace stop lamp switch.

19.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

1. Connect stop lamp switch connector.
2. Check the voltage between stop lamp switch harness connector and ground.

Terminal		Voltage (Approx.)
(+)	(-)	
Stop lamp switch		Ground
Connector	Terminal	
E115	1	
	3	
		Battery voltage

Is the inspection result normal?

YES >> GO TO 20.

NO >> Repair or replace stop lamp switch power supply circuit.

C1A13 STOP LAMP RELAY

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

20. CHECK HARNESS BETWEEN STOP LAMP SWITCH AND ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)

1. Turn the ignition switch OFF.
2. Disconnect stop lamp switch, ABS actuator and electric unit (control unit), and resistor connectors.
3. Check for continuity between the stop lamp switch harness connector and the ABS actuator and electric unit (control unit) harness connector.

Stop lamp switch		ABS actuator and electric unit (control unit)		Continuity
Connector	Terminal	Connector	Terminal	
E115	4	E36	17	Existed

4. Check for continuity between stop lamp switch harness connector and ground.

Stop lamp switch		Ground	Continuity
Connector	Terminal		
E115	4		Not existed

Is the inspection result normal?

- YES >> GO TO 21.
 NO >> Repair the harnesses or connectors.

21. PERFORM SELF-DIAGNOSIS OF ECM

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE". Refer to [EC-108, "DTC Index"](#) (For USA and Canada), or [EC-671, "DTC Index"](#) (For Mexico).

Is any DTC detected?

- YES >> Repair or replace the malfunctioning parts identified by the self-diagnosis result.
 NO >> GO TO 22.

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

1. Connect all connectors again if the connectors are disconnected.
2. Turn ignition switch ON.
3. Perform "All DTC Reading".
4. Check if any DTC is detected in "Self Diagnostic Result" of "ABS". Refer to [BRC-50, "DTC Index"](#).

Is any DTC detected?

- YES >> Repair or replace the malfunctioning parts identified by the self-diagnosis result.
 NO >> Replace ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

Component Inspection

INFOID:000000011449786

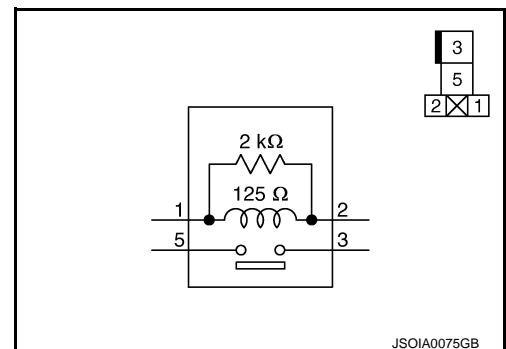
1. CHECK ICC BRAKE HOLD RELAY

Apply battery voltage to ICC brake hold relay terminals 1 and 2, and then check for continuity under the following conditions.

Terminal	Condition	Continuity
3	When the battery voltage is applied	Existed
	When the battery voltage is not applied	Not existed

Is the inspection result normal?

- YES >> INSPECTION END
 NO >> Replace ICC brake hold relay.



C1A14 ECM

DTC Logic

INFOID:000000011449787

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A14 (14)	ECM CIRCUIT (ECM circuit)	If ECM is malfunctioning

POSSIBLE CAUSE

- Accelerator pedal position sensor
- ECM
- 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 “C1A14” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “C1A14” detected as the current malfunction?

- YES >> Refer to [DAS-83. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449788

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM SELF-DIAGNOSIS OF ECM

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

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [EC-108. "DTC Index"](#) (For USA and Canada), or [EC-671. "DTC Index"](#) (For Mexico).

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NO >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

C1A15 GEAR POSITION

Description

INFOID:000000011449789

ADAS control unit judges the gear position based on the following signals.

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

DTC Logic

INFOID:000000011449790

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A15 (15)	GEAR POSITION (Gear position)	A mismatch between an current gear position signal transmitted from TCM and a gear position calculated by the ADAS control unit continues for approximately 11 minutes or more

POSSIBLE CAUSE

- Input speed sensor
- Vehicle speed sensor A/T (output speed sensor)
- TCM

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 "C1A15" is displayed with DTC "U1000", "C1A03" or "C1A04" first diagnose the DTC "U1000", "C1A03" or "C1A04"

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - C1A03: Refer to [DAS-68, "DTC Logic"](#)
 - C1A04: Refer to [DAS-68, "DTC Logic"](#)

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A15" detected as the current malfunction?

- YES >> Refer to [DAS-86, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - C1A03: Refer to [DAS-68, "DTC Logic"](#)
 - C1A04: Refer to [DAS-68, "DTC Logic"](#)
- NO >> GO TO 2.

2. CHECK VEHICLE SPEED SIGNAL

Check that "VHCL SPEED SE" operates normally in "DATA MONITOR" of "ICC/ADAS".

CAUTION:

Be careful of the vehicle speed.

Is the inspection result normal?

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

3. CHECK GEAR POSITION

Check that "GEAR" operates normally in "DATA MONITOR" of "ICC/ADAS".

CAUTION:

Be careful of the vehicle speed.

Is the inspection result normal?

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

4. CHECK GEAR POSITION SIGNAL

Check that "GEAR" operates normally in "DATA MONITOR" of "TRANSMISSION".

Is the inspection result normal?

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

5. CHECK INPUT SPEED SENSOR SIGNAL

Check that "INPUT SPEED" operates normally in "DATA MONITOR" of "TRANSMISSION".

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
NO >> GO TO 6.

6. CHECK TCM SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-81, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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

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

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

C1A24 NP RANGE

DTC Logic

INFOID:000000011449792

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A24 (24)	NP RANGE (NP range)	A mismatch between a shift position signal transmitted from TCM via CAN communication and an current gear position signal continues for 60 seconds or more

POSSIBLE CAUSE

- TCM
- Transmission range switch

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK DTC REPRODUCE (1)

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Wait for approximately 5 minutes or more after shifting the selector lever to "P" position.
4. Perform "All DTC Reading" with CONSULT.
5. Check if the "C1A24" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A24" detected as the current malfunction?

- YES >> Refer to [DAS-87. "Diagnosis Procedure"](#).
- NO >> GO TO 3.

3.CHECK DTC REPRODUCE (2)

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

Is "C1A24" detected as the current malfunction?

- YES >> Refer to [DAS-87. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449793

1.CHECK DTC PRIORITY

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

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DAS

< DTC/CIRCUIT DIAGNOSIS >

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.CHECK TCM DATA MONITOR

Check that "SLCT LVR POSI" operates normally in "DATA MONITOR" of "TRANSMISSION".

Is the inspection result normal?

YES >> GO TO 3.

NO >> Perform diagnosis for transmission range switch circuit and repair or replace the malfunctioning parts. Refer to [TM-107, "Diagnosis Procedure"](#).

3.PERFORM TCM SELF-DIAGNOSIS

1. Perform "All DTC Reading".

2. Check if any DTC is detected in "Self Diagnostic Result" of "TRANSMISSION".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-81, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

C1A26 ECD MODE MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A26 ECD MODE MALFUNCTION

DTC Logic

INFOID:000000011449794

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A26 (26)	ECD MODE MALF (ECD mode malfunction)	If an abnormal condition occurs with ECD system

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 "C1A26" is displayed with DTC "U1000", "U0415" or "U0121" first diagnose the DTC "U1000", "C1A03" or "C1A04"

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126. "DTC Logic"](#)
 - U0415: Refer to [DAS-123. "Diagnosis Procedure"](#)
 - U0121: Refer to [DAS-118. "Diagnosis Procedure"](#)

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Wait for approximately 1 minute after turning the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A26" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A26" detected as the current malfunction?

- YES >> Refer to [DAS-89. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449795

1. CHECK DTC PRIORITY

If DTC "C1A26" is displayed with DTC "U1000", "U0415" or first diagnose the DTC "U1000", "C1A03" or "C1A04"

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126. "DTC Logic"](#)
 - U0415: Refer to [DAS-123. "DTC Logic"](#)
 - U0121: Refer to [DAS-118. "DTC Logic"](#)

NO >> GO TO 2.

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

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

C1A26 ECD MODE MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).
- NO >> Replace ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

C1A27 ECD POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A27 ECD POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000011449796

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A27 (27)	ECD PWR SUPPLY CIR (ECD power supply circuit)	ECD system power supply voltage is excessively low

POSSIBLE CAUSE

- ABS actuator and electric unit (control unit) power supply circuit
- 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 "C1A27" is displayed with DTC "U1000", "U0415" or first diagnose the DTC "U1000", "U0415" or "U0121"

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126. "DTC Logic"](#)
 - U0415: Refer to [DAS-123. "DTC Logic"](#)
 - U0121: Refer to [DAS-118. "DTC Logic"](#)

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A27" detected as the current malfunction?

- YES >> Refer to [DAS-91. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449797

1. CHECK DTC PRIORITY

If DTC "C1A27" is displayed with DTC "U1000", "U0415" or first diagnose the DTC "U1000", "U0415" or "U0121"

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126. "DTC Logic"](#)
 - U0415: Refer to [DAS-123. "DTC Logic"](#)
 - U0121: Refer to [DAS-118. "DTC Logic"](#)

NO >> GO TO 2.

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

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C1A27 ECD POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

Check power supply circuit of ABS actuator and electric unit (control unit). Refer to [BRC-122. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Perform self-diagnosis of ABS actuator and electric unit (control unit). Refer to [BRC-50. "DTC Index"](#).

NO >> Repair the harnesses or connectors.

C1A33 CAN TRANSMISSION ERROR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A33 CAN TRANSMISSION ERROR

DTC Logic

INFOID:000000011449798

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A33 (33)	CAN TRANSMISSION ERR (CAN transmission error)	If an error occurs in the CAN communication signal that ADAS control unit transmits to ECM

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 "C1A33" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A33" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1A33" detected as the current malfunction?

- YES >> Refer to [DAS-93, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449799

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2. CHECK SELF-DIAGNOSIS RESULTS

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

Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.
Refer to [DAS-126, "DTC Logic"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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DAS

C1A34 COMMAND ERROR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A34 COMMAND ERROR

DTC Logic

INFOID:000000011449800

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A34 (34)	COMMAND ERROR (Command error)	If an error occurs in the command signal that ADAS control unit transmits to ECM via CAN 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 "C1A34" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A34" detected as the current malfunction?

- YES >> Refer to [DAS-94. "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449801

1. CHECK SELF-DIAGNOSIS RESULTS

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

Is "U1000" detected?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.
Refer to [DAS-126. "DTC Logic"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

C1A35 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A35 ACCELERATOR PEDAL ACTUATOR

DTC Logic

INFOID:000000011449802

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A35 (35)	APA CIR (Accelerator pedal actuator circuit)	If the accelerator pedal actuator is malfunctioning

POSSIBLE CAUSE

Accelerator pedal actuator

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.CHECK DTC PRIORITY

If DTC "C1A35" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A35" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

Is "C1A35" detected as the current malfunction?

- YES >> Refer to [DAS-95, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449803

1.CHECK DTC PRIORITY

If DTC "C1A35" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if the DTC is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-250, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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C1A36 ACCELERATOR PEDAL ACTUATOR CAN COMM

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A36 ACCELERATOR PEDAL ACTUATOR CAN COMM

DTC Logic

INFOID:000000011449804

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A36 (36)	APA CAN COMM CIR (Accelerator pedal actuator CAN circuit)	If an error occurs in the signal that the accelerator pedal actuator transmits via ITS communication

POSSIBLE CAUSE

- ADAS control unit
- Accelerator pedal actuator
- ITS communication system

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.CHECK DTC PRIORITY

If DTC "C1A36" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A36" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

Is "C1A36" detected as the current malfunction?

- YES >> Refer to [DAS-96, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449805

1.CHECK DTC PRIORITY

If DTC "C1A36" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if the DTC is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-250, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

C1A37 ACCELERATOR PEDAL ACTUATOR CAN 2

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A37 ACCELERATOR PEDAL ACTUATOR CAN 2

DTC Logic

INFOID:000000011449806

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A37 (133)	APA CAN CIR2 (Accelerator pedal actuator CAN circuit2)	If ADAS control unit detects an error signal that is received from accelerator pedal actuator via ITS communication

POSSIBLE CAUSE

Accelerator pedal actuator malfunction

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.CHECK DTC PRIORITY

If DTC "C1A37" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A37" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

Is "C1A37" detected as the current malfunction?

- YES >> Refer to [DAS-97, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449807

1.CHECK DTC PRIORITY

If DTC "C1A37" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.REPLACE ACCELERATOR PEDAL ASSEMBLY

1. Turn the ignition switch OFF.
2. Replace the accelerator pedal assembly.
3. Turn the ignition switch ON.
4. Erases All self-diagnosis results.
5. Perform "All DTC Reading" again.
6. Check if the DTC "C1A37" is detected in self-diagnosis results of "ICC/ADAS".

Is "C1A37" detected?

- YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
NO >> INSPECTION END

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C1A38 ACCELERATOR PEDAL ACTUATOR CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A38 ACCELERATOR PEDAL ACTUATOR CAN 1

DTC Logic

INFOID:000000011449808

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A38 (132)	APA CAN CIR1 (Accelerator pedal actuator CAN circuit1)	If ADAS control unit detects an error signal that is received from accelerator pedal actuator via ITS communication

POSSIBLE CAUSE

Accelerator pedal actuator malfunction

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.CHECK DTC PRIORITY

If DTC "C1A38" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1A38" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

Is "C1A38" detected as the current malfunction?

- YES >> Refer to [DAS-98. "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449809

1.CHECK DTC PRIORITY

If DTC "C1A38" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
NO >> GO TO 2.

2.REPLACE ACCELERATOR PEDAL ASSEMBLY

1. Turn the ignition switch OFF.
2. Replace the accelerator pedal assembly.
3. Erases All self-diagnosis results.
4. Perform "All DTC Reading" again.
5. Check if the "C1A38" is detected in self-diagnosis results of "ICC/ADAS".

Is "C1A38" detected?

- YES >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).
NO >> INSPECTION END

C1A39 STEERING ANGLE SENSOR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1A39 STEERING ANGLE SENSOR

DTC Logic

INFOID:000000011449810

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1A39 (39)	STRG SEN CIR (Steering angle sensor circuit)	If the steering angle sensor is malfunction

POSSIBLE CAUSE

Steering angle sensor

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Forward Collision Warning (FCW)
- Blind Spot Warning (BSW)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1A39" detected as the current malfunction?

- YES >> Refer to [DAS-99, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449811

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

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

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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C1B00 CAMERA UNIT MALF

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

C1B00 CAMERA UNIT MALF

DTC Logic

INFOID:000000011449812

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B00 (81)	CAMERA UNIT MALF (Camera unit malfunction)	If lane camera unit is malfunctioning

POSSIBLE CAUSE

Lane camera unit

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B00" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B00" detected as the current malfunction?

- YES >> Refer to [DAS-100. "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#)
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449813

1. CHECK SELF-DIAGNOSIS RESULTS

Check if "C1B00" is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is "C1B00" detected?

- YES >> Refer to [DAS-126. "DTC Logic"](#)
NO >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

C1B01 CAM AIMING INCMP

DTC Logic

INFOID:000000011449814

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B01 (82)	CAM AIMING INCMP (Camera aiming incomplete)	Camera aiming is not completed

POSSIBLE CAUSE

- Lane camera aiming is not adjusted
- Lane camera aiming adjustment has been interrupted

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Operate the LDP system and drive.
CAUTION:
Always drive safely.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1B01" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B01" detected as the current malfunction?

- YES >> Refer to [DAS-101, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449815

1. CHECK SELF-DIAGNOSIS RESULTS

Check if "C1B01" is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is "C1B01" detected?

- YES >> Refer to [DAS-253, "DTC Index"](#)
- NO >> GO TO 2.

2. CHECK DATA MONITOR

1. Start the engine.
2. Check that "OK" is indicated for the value of "AIMING RESULT" in "DATA MONITOR" of "LANE CAMERA".

Is "OK" indicated?

- YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
- NO >> Replace the lane camera unit. Refer to [DAS-383, "Removal and Installation"](#).

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C1B03 ABNRML TEMP DETECT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1B03 ABNRML TEMP DETECT

DTC Logic

INFOID:000000011449816

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B03 (83)	CAM ABNRML TMP DETCT (Camera abnormal temperature detect)	Temperature around lane camera unit is excessively high

POSSIBLE CAUSE

Interior room temperature is excessively high

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1B03" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

Is "C1A39" detected as the current malfunction?

- YES >> Refer to [DAS-102, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449817

1. CHECK LANE CAMERA UNIT SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the "C1B03" is detected in "Self Diagnostic Result" of "LANE CAMERA"

Is "C1B03" detected?

- YES >> Refer to [DAS-253, "DTC Index"](#)
NO >> GO TO 2.

2. CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

1. Erase all self-diagnosis results with CONSULT.
2. Perform "All DTC Reading".
3. Check if the "C1B03" is detected in "Self Diagnostic Result" of "ICC/ADAS"

Is "C1B03" detected?

- YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
NO >> INSPECTION END

C1B5D FEB OPE COUNT LIMIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1B5D FEB OPE COUNT LIMIT

DTC Logic

INFOID:000000011449818

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B5D (198)	FEB OPE COUNT LIMIT (Forward Emergency Braking operation count limit)	FEB system operated 3 times within ignition switch ON.

NOTE:

If "C1B5D" detected, perform the ICC system action test and check ICC system operates normally.

POSSIBLE CAUSE

FEB system operated 3 times within ignition switch ON.

FAIL-SAFE

The following systems are canceled.

- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Predictive Forward Collision Warning (PFCW)

DTC CONFIRMATION PROCEDURE

1. PERFORM ICC SYSTEM ACTION TEST

Perform the ICC system action test.

Is there any malfunction symptom?

- YES >> Refer to [DAS-103, "Diagnosis Procedure"](#).
NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000011449819

1. DTC CHECK SELF-DIAGNOSIS RESULTS

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1B5D" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is C1B5D detected as current malfunction?

- YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
NO >> Perform ICC system action test. Refer to [CCS-93, "Description"](#).

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DAS

C1B53 SIDE RADAR RIGHT MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1B53 SIDE RADAR RIGHT MALFUNCTION

DTC Logic

INFOID:000000011449820

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B53 (84)	SIDE RDR R MALF (Side radar right malfunction)	ADAS control unit detects that side radar RH has a malfunction.

POSSIBLE CAUSE

Side radar RH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1B53" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B53" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B53" detected as the current malfunction?

YES >> Refer to [DAS-104. "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449821

1.CHECK DTC PRIORITY

If DTC "C1B53" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).

NO >> GO TO 2.

2.CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-256. "DTC Index"](#) (SIDE RADAR LH), [DAS-259. "DTC Index"](#) (SIDE RADAR RH).

NO >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

C1B54 SIDE RADAR LEFT MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1B54 SIDE RADAR LEFT MALFUNCTION

DTC Logic

INFOID:000000011449822

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B54 (85)	SIDE RDR L MALF (Side radar left malfunction)	ADAS control unit detects that side radar LH has a malfunction.

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1B54" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B54" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B54" detected as the current malfunction?

- YES >> Refer to [DAS-105. "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449823

1.CHECK DTC PRIORITY

If DTC "C1B54" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
NO >> GO TO 2.

2.CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-256. "DTC Index"](#) (SIDE RADAR LH), [DAS-259. "DTC Index"](#) (SIDE RADAR RH).
NO >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

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DAS

C1B56 SONAR CIRCUIT

DTC Logic

INFOID:000000011449824

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B56 (87)	SONAR CIRCUIT MALF (Sonar controller circuit)	ADAS control unit detects that rear sonar circuit has a malfunction.

POSSIBLE CAUSE

Sonar control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "C1B56" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
 NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B56" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B56" detected as the current malfunction?

- YES >> Refer to [DAS-106, "Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449825

1. CHECK DTC PRIORITY

If DTC "C1B56" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
 NO >> GO TO 2.

2. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SONAR".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-99, "DTC Index"](#).
 NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

C1B57 AVM CIRCUIT

DTC Logic

INFOID:000000011449826

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B57 (88)	AVM CIRCUIT MALF (Around view monitor circuit)	ADAS control unit detects that around view monitor control unit has a malfunction.

POSSIBLE CAUSE

Around view monitor control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "C1B57" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B57" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B57" detected as the current malfunction?

- YES >> Refer to [DAS-107, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449827

1. CHECK DTC PRIORITY

If DTC "C1B57" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "AVM".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-93, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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DAS

C1B58 DRIVER ASSISTANCE BUZZER

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1B58 DRIVER ASSISTANCE BUZZER

DTC Logic

INFOID:000000011449828

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B58 (14)	DR ASSIST BUZZER CIRCUIT (Driver assistance buzzer circuit)	ADAS control unit detects that driver assistance buzzer has a malfunction.

POSSIBLE CAUSE

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

FAIL-SAFE

None

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1B58" detected as the current malfunction?

- YES >> Refer to [DAS-108, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449829

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "BSW/BUZZER".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-263, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

C1B82 DISTANCE SENSOR OFF-CENTER

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1B82 DISTANCE SENSOR OFF-CENTER

DTC Logic

INFOID:000000011449830

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B82 (12)	DIS SEN OFF-CENTER (Distance sensor off-center)	ICC sensor is off the alignment point

POSSIBLE CAUSE

Radar alignment is off the aiming point

FAIL-SAFE

The following systems are canceled.

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

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "C1B82" detected as the current malfunction?

- YES >> Refer to [DAS-109, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449831

1. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the "C1B82" is detected as the current malfunction in "Self Diagnostic Result" of "LASER/RADAR".

Is "C1A12" detected?

- YES >> Refer to [CCS-60, "DTC Index"](#).
- NO >> GO TO 2.

2. CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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

Is "C1B82" detected?

- YES >> Replace ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
- NO >> INSPECTION END

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C1B83 DISTANCE SENSOR BLOCKED

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1B83 DISTANCE SENSOR BLOCKED

DTC Logic

INFOID:000000011449832

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B84 (17)	DIST SEN MALFUNCTION (Distance sensor malfunction)	If ICC sensor is malfunctioning

POSSIBLE CAUSE

ICC sensor

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. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B84" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B84" detected as the current malfunction?

- YES >> Refer to [DAS-110, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449833

1. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.
2. Check if "U1000" is detected other than "C1B84" in "Self Diagnostic Result" of "LASER/RADAR".

Is "" detected?

- YES >> Perform the CAN communication system inspection. Refer to [CCS-60, "DTC Index"](#).
NO >> GO TO 2.

2. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

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

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-40, "DTC Index"](#).
NO >> Replace ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

C1B84 DISTANCE SENSOR

DTC Logic

INFOID:000000011449834

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B84 (17)	DIST SEN MALFUNCTION (Distance sensor malfunction)	If ICC sensor is malfunctioning

POSSIBLE CAUSE

ICC sensor

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. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B84" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B84" detected as the current malfunction?

- YES >> Refer to [DAS-111, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449835

1. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.
2. Check if "U1000" is detected other than "C1B84" in "Self Diagnostic Result" of "LASER/RADAR".

Is "C1B84" detected?

- YES >> Perform the CAN communication system inspection. Refer to [CCS-60, "DTC Index"](#).
- NO >> GO TO 2.

2. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

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

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-40, "DTC Index"](#).
- NO >> Replace ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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C1B85 DISTANCE SENSOR ABNORMAL TEMP

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1B85 DISTANCE SENSOR ABNORMAL TEMP

DTC Logic

INFOID:000000011449836

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B85 (21)	DIST SEN ABNORMAL TEMP (Distance sensor abnormal temperature)	ICC sensor judges high temperature abnormality

POSSIBLE CAUSE

Temperature around the ICC sensor becomes high

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. Turn the ignition switch OFF.
2. Wait for 10 minutes or more to cool the ICC sensor.
3. Start the engine.
4. Turn the ICC system ON.
5. Perform "All DTC Reading" with CONSULT.
6. Check if the "C1B85" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B85" detected as the current malfunction?

YES >> Refer to [DAS-112, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449837

1. CHECK SELF-DIAGNOSIS RESULTS

Check if "C1B85" is detected in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B85" detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-40, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

C1B86 DISTANCE SENSOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1B86 DISTANCE SENSOR POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000011449838

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1B86 (80)	DIST SEN PWR SUP CIR (Distance sensor power supply circuit)	ICC sensor power supply voltage is malfunction

POSSIBLE CAUSE

- Harness, connector, fuse
- ICC sensor

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. CHECK DTC PRIORITY

If DTC "C1B86" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1B86" is detected as the current malfunction in self-diagnosis results of "ICC/ADAS".

Is "C1A86" detected as the current malfunction?

- YES >> Refer to [DAS-113. "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449839

1. CHECK DTC PRIORITY

If DTC "C1B86" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
NO >> GO TO 2.

2. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the "C1A01" or "C1A02" is detected as the current malfunction in "Self Diagnostic Result" of "LASER/RADAR".

Is "C1A01" or "C1A02" detected?

- YES >> Refer to [CCS-100. "DTC Logic"](#).
NO >> GO TO 3.

3. CHECK ADAS CONTROL UNIT SELF-DIAGNOSIS RESULTS

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C1B86 DISTANCE SENSOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

Check if the "C1B86" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "C1B86" detected?

- YES >> Replace ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).
- NO >> INSPECTION END

C1F01 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1F01 ACCELERATOR PEDAL ACTUATOR

DTC Logic

INFOID:000000011449842

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1F01 (91)	APA MOTOR MALF (Accelerator pedal actuator malfunction)	If the accelerator pedal actuator motor error is detected

POSSIBLE CAUSE

Accelerator pedal actuator integrated motor malfunction

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)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1F01" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON.
3. Slowly depress the accelerator pedal completely, and then release it.
4. Repeat step 3 several times.
5. Perform "All DTC Reading" with CONSULT.
6. Check if the DTC "C1F01" is detected as the current malfunction on the self-diagnosis results of "ICC/ADAS".

Is "C1F01" detected as the current malfunction?

- YES >> Refer to [DAS-115, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449843

1.CHECK DTC PRIORITY

If DTC "C1F01" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if "C1F01" is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is "C1F01" detected?

- YES >> Refer to [DAS-250, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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C1F02 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1F02 ACCELERATOR PEDAL ACTUATOR

DTC Logic

INFOID:000000011449844

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1F02 (92)	APA C/U MALF (Accelerator pedal actuator internal malfunction)	If the accelerator pedal actuator integrated control unit error is detected

POSSIBLE CAUSE

Accelerator pedal actuator integrated control unit malfunction

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)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1F02" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F02" is detected as the current malfunction on the self-diagnosis results of "ICC/ADAS".

Is "C1F02" detected as the current malfunction?

- YES >> Refer to [DAS-116, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449845

1.CHECK DTC PRIORITY

If DTC "C1F02" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if "C1F02" is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is "C1F02" detected?

- YES >> Refer to [DAS-250, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

C1F05 ACCELERATOR PEDAL ACTUATOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

C1F05 ACCELERATOR PEDAL ACTUATOR POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000011449846

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
C1F05 (95)	APA PWR SUPPLY CIR (Accelerator pedal actuator power supply circuit)	The battery voltage sent to accelerator pedal actuator remains less than 7.9 V or more than 19.3 V for 5 seconds

POSSIBLE CAUSE

- Harness, connector, or fuse
- Accelerator pedal actuator

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)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1F05" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F05" is detected as the current malfunction on the self-diagnosis results of "ICC/ADAS".

Is "C1F05" detected as the current malfunction?

YES >> Refer to [DAS-117, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449847

1.CHECK DTC PRIORITY

If DTC "C1F05" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if "C1F05" is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is "C1F05" detected?

YES >> Refer to [DAS-250, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U0121 VDC CAN 2

DTC Logic

INFOID:000000011449848

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U0121 (127)	VDC CAN CIR2 (VDC CAN circuit2)	If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

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 [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “U0121” detected as the current malfunction?

- YES >> Refer to [DAS-118, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449849

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 [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

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

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

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U0126 STRG SEN CAN 1

DTC Logic

INFOID:000000011449850

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U0126 (130)	STRG SEN CAN CIR1 (Steering sensor CAN circuit1)	If ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication

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)
- Blind Spot Warning (BSW)
- Back-up Collision Intervention (BCI)

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 [DAS-126. "DTC Logic"](#).
 NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U0126" detected as the current malfunction?

- YES >> Refer to [DAS-119. "Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449851

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 [DAS-126. "DTC Logic"](#).
 NO >> GO TO 2.

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

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).
 NO >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).



U0235 ICC SENSOR CAN 1

DTC Logic

INFOID:000000011449852

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U0235 (144)	ICC SENSOR CAN CIR1 (ICC sensor CAN circuit1)	If ADAS control unit detects an error signal that is received from ICC sensor via ITS communication

POSSIBLE CAUSE

ICC sensor

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. CHECK DTC PRIORITY

If DTC "U0235" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U0235" detected as the current malfunction?

YES >> Refer to [DAS-120, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449853

1. CHECK DTC PRIORITY

If DTC "U0235" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2. CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if any DTC 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-60, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U0401 ECM CAN 1

DTC Logic

INFOID:000000011449854

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U0401 (120)	ECM CAN CIR1 (ECM CAN circuit1)	If ADAS control unit detects an error signal that is received from ECM via CAN communication

POSSIBLE CAUSE

ECM

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)
- Blind Spot Warning (BSW)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0401" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U0401" detected as the current malfunction?

- YES >> Refer to [DAS-121, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449855

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ECM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to the following. Refer to [EC-108, "DTC Index"](#) (For USA and Canada), [EC-671, "DTC Index"](#) (For Mexico).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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DAS

U0402 TCM CAN 1

DTC Logic

INFOID:000000011449856

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U0402 (122)	TCM CAN CIRC1 (TCM CAN circuit1)	If ADAS control unit detects an error signal that is received from TCM via CAN communication

POSSIBLE CAUSE

TCM

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0402” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U0402” detected as the current malfunction?

- YES >> Refer to [DAS-122, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449857

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK TCM SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-81, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U0415 VDC CAN 1

DTC Logic

INFOID:000000011449858

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U0415 (126)	VDC CAN CIR1 (VDC CAN circuit1)	If ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “U0415” detected as the current malfunction?

- YES >> Refer to [DAS-123, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449859

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

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

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

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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U0424 HVAC CAN CIRCUIT 1

Description

INFOID:000000011449860

ADAS control unit reads status of signal that is transmitted from A/C auto AMP. to ADAS control unit.

DTC Logic

INFOID:000000011449861

DTC DETECTION LOGIC

DTC (On board display)	Display Item	Malfunction detected condition
U0424 (156)	HVAC CAN CIR 1 (HVAC CAN circuit 1)	When signal that is transmitted from A/C auto amp. is not the latest information

POSSIBLE CAUSE

A/C auto amp.

FAIL-SAFE

None

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U0424” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U0424” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U0424” detected as the current malfunction?

YES >> Refer to [DAS-124, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449862

1.CHECK DTC PRIORITY

If DTC “U0424” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.CHECK A/C AUTO AMP. SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [HAC-48, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U0428 STRG SEN CAN 2

DTC Logic

INFOID:000000011449863

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U0428 (131)	STRG SEN CAN CIR2 (Steering sensor CAN circuit2)	If ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication

POSSIBEL 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)
- Blind Spot Warning (BSW)
- Back-up Collision Intervention (BCI)

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 [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U0428" detected as the current malfunction?

- YES >> Refer to [DAS-125, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449864

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 [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

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

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).



U1000 CAN COMM CIRCUIT

Description

INFOID:000000011449865

CAN COMMUNICATION

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

CAN communication signal chart. Refer to [LAN-31, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

ITS COMMUNICATION

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

DTC Logic

INFOID:000000011449866

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1000 (100)	CAN COMM CIRCUIT (CAN communication circuit)	If ADAS control unit is not transmitting or receiving CAN communication signal or ITS communication signal for 2 seconds or more

POSSIBLE CAUSE

- CAN communication system
- 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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1000" detected as the current malfunction?

YES >> Refer to [DAS-126, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449867

1. PERFORM THE SELF-DIAGNOSIS

U1000 CAN COMM CIRCUIT

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

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

Is "U1000" detected as the current malfunction?

YES >> Refer to [LAN-21, "Trouble Diagnosis Flow Chart"](#).

NO >> INSPECTION END

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U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

U1010 CONTROL UNIT (CAN)

Description

INFOID:000000011449868

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

DTC Logic

INFOID:000000011449869

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1010 (110)	CONTROL UNIT (CAN) [Control unit (CAN)]	If ADAS control unit detects malfunction by CAN controller initial diagnosis

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1010" detected as the current malfunction?

- YES >> Refer to [DAS-128, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449870

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1010" detected as the current malfunction?

- YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

U150B ECM CAN 3

DTC Logic

INFOID:000000011449871

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U150B (157)	ECM CAN CIRC 3 (ECM CAN circuit 3)	ADAS control unit detects an error signal that is received from ECM via CAN communication

POSSIBLE CAUSE

ECM

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U150B" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U150B" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U150B" detected as the current malfunction?

- YES >> Refer to [DAS-129, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449872

1.CHECK DTC PRIORITY

If DTC "U150B" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ECM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ENGINE".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to the following. Refer to [EC-108, "DTC Index"](#) (For USA and Canada), [EC-671, "DTC Index"](#) (For Mexico).

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U150B ECM CAN 3

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

NO >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

U150C VDC CAN 3

DTC Logic

INFOID:000000011449873

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U150C (158)	VDC CAN CIRC 3 (VDC CAN circuit 3)	ADAS control unit detects an error signal that is received from ABS actuator and electric unit (control unit) via CAN communication

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 Brake (FEB)
- Predictive Forward Collision Warning (PFCW)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U150C" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U150C" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U150C" detected as the current malfunction?

- YES >> Refer to [DAS-131, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449874

1.CHECK DTC PRIORITY

If DTC "U150C" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

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

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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< DTC/CIRCUIT DIAGNOSIS >

U150D TCM CAN 3

DTC Logic

INFOID:000000011449875

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U150D (159)	TCM CAN CIRC 3 (TCM CAN circuit 3)	ADAS control unit detects an error signal that is received from TCM via CAN communication

POSSIBLE CAUSE

TCM

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "U150D" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U150D" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U150D" detected as the current malfunction?YES >> Refer to [DAS-132, "Diagnosis Procedure"](#).NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449876

1. CHECK DTC PRIORITY

If DTC "U150D" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2. CHECK TCM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "TRANSMISSION".

Is any DTC detected?YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [TM-81, "DTC Index"](#).NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U150E BCM CAN 3

DTC Logic

INFOID:000000011449877

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U150E (160)	BCM CAN CIRC 3 (BCM CAN circuit 3)	ADAS control unit detects an error signal that is received from BCM via CAN communication

POSSIBLE CAUSE

BCM

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Conventional (fixed speed) cruise control mode
- Distance Control Assist (DCA)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U150E" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U150E" detected as the current malfunction?

- YES >> Refer to [DAS-133, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449878

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK BCM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "BCM".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BCS-58, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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DAS

U150F AV CAN 3

DTC Logic

INFOID:000000011449879

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U150F (161)	AV CAN CIRC 3 (AV CAN circuit 3)	ADAS control unit detects an error signal that is received from AV control unit via CAN communication

POSSIBLE CAUSE

AV control unit

FAIL-SAFE

None

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U150F” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA, LDP, or Blind Spot Intervention system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U150F” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U150F” detected as the current malfunction?

- YES >> Refer to [DAS-134, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449880

1.CHECK DTC PRIORITY

If DTC “U150F” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK AV CONTROL UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “MULTI AV”.

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-69, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1500 CAM CAN 2

DTC Logic

INFOID:000000011449881

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1500 (145)	CAM CAN CIRC 2 (Camera can circuit 2)	ADAS control unit detects an error signal that is received from lane camera via ITS communication

POSSIBLE CAUSE

Lane camera unit

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1500" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1500" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1500" detected as the current malfunction?

- YES >> Refer to [DAS-135, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449882

1.CHECK DTC PRIORITY

If DTC "U1500" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK LANE CAMERA UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-253, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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U1501 CAM CAN 1

DTC Logic

INFOID:000000011449883

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1501 (145)	CAM CAN CIRC 1 (Camera can circuit 1)	ADAS control unit detects an error signal that is received from lane camera via ITS communication

POSSIBLE CAUSE

Lane camera unit

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U1501” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U1501” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U1501” detected as the current malfunction?

- YES >> Refer to [DAS-136, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449884

1.CHECK DTC PRIORITY

If DTC “U1501” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK LANE CAMERA UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in “Self Diagnostic Result” of “LANE CAMERA”.

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-253, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1502 ICC SENSOR CAN COMM CIRC

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

U1502 ICC SENSOR CAN COMM CIRC

DTC Logic

INFOID:000000011449885

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1502 (147)	ICC SEN CAN COMM CIR (ICC sensor CAN communication circuit)	ADAS control unit detects an error signal that is received from ICC sensor via CAN communication

POSSIBLE CAUSE

ICC sensor

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.CHECK DTC PRIORITY

If DTC "U1502" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1502" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1502" detected as the current malfunction?

- YES >> Refer to [DAS-137, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449886

1.CHECK DTC PRIORITY

If DTC "U1502" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if any DTC 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-60, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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DAS

U1503 SIDE RDR L CAN 2

DTC Logic

INFOID:000000011449887

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1503 (150)	SIDE RDR L CAN CIR 2 (Side radar left CAN circuit 2)	ADAS control unit detects an error signal that is received from side radar LH via ITS communication

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1503" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1508: Refer to [DAS-143, "DTC Logic"](#)
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1503" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1503" detected as the current malfunction?

- YES >> Refer to [DAS-138, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449888

1.CHECK DTC PRIORITY

If DTC "U1503" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1508: Refer to [DAS-143, "DTC Logic"](#)
- NO >> GO TO 2.

2.CHECK SIDE RADAR LH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-256, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1504 SIDE RDR L CAN 1

DTC Logic

INFOID:000000011449889

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1504 (151)	SIDE RDR L CAN CIR 1 (Side radar left CAN circuit 1)	ADAS control unit detects an error signal that is received from side radar LH via ITS communication

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1504" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1508: Refer to [DAS-143, "DTC Logic"](#)
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1504" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1504" detected as the current malfunction?

- YES >> Refer to [DAS-139, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449890

1.CHECK DTC PRIORITY

If DTC "U1504" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1508: Refer to [DAS-143, "DTC Logic"](#)
- NO >> GO TO 2.

2.CHECK SIDE RADAR LH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-256, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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U1505 SIDE RDR R CAN 2

DTC Logic

INFOID:000000011449891

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1505 (152)	SIDE RDR R CAN CIR 2 (Side radar right CAN circuit 2)	ADAS control unit detects an error signal that is received from side radar RH via ITS communication

POSSIBLE CAUSE

Side radar RH

FAIL- SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1505" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1507: Refer to [DAS-142, "DTC Logic"](#)
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1505" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1505" detected as the current malfunction?

- YES >> Refer to [DAS-140, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449892

1.CHECK DTC PRIORITY

If DTC "U1505" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1507: Refer to [DAS-142, "DTC Logic"](#)
- NO >> GO TO 2.

2.CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-256, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1506 SIDE RDR R CAN 1

DTC Logic

INFOID:000000011449893

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1506 (153)	SIDE RDR R CAN CIR 1 (Side radar right CAN circuit 1)	ADAS control unit detects an error signal that is received from side radar RH via ITS communication

POSSIBLE CAUSE

Side radar RH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1506" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1507: Refer to [DAS-142, "DTC Logic"](#)
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1506" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1506" detected as the current malfunction?

- YES >> Refer to [DAS-141, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449894

1.CHECK DTC PRIORITY

If DTC "U1506" is displayed with DTC "U1000" or "U1507", first diagnose the DTC "U1000" or "U1507".

Is applicable DTC detected?

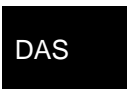
- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1507: Refer to [DAS-142, "DTC Logic"](#)
- NO >> GO TO 2.

2.CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-256, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).



U1507 LOST COMM(SIDE RDR R)

[ADAS CONTROL UNIT]

< DTC/CIRCUIT DIAGNOSIS >

U1507 LOST COMM(SIDE RDR R)

DTC Logic

INFOID:000000011449895

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1507 (154)	LOST COMM(SIDE RDR R) [Lost communication (Side radar right)]	ADAS control unit cannot receive ITS communication signal from side radar RH for 2 seconds or more

POSSIBLE CAUSE

- Side radar RH right/left switching signal circuit
- ITS communication system
- Side radar RH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1507" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1507" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1507" detected as the current malfunction?

YES >> Refer to [DAS-142, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449896

1.CHECK DTC PRIORITY

If DTC "U1507" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.CHECK RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Check right/left switching signal circuit. Refer to [DAS-341, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.
Refer to [LAN-21, "Trouble Diagnosis Flow Chart"](#).

NO >> Repair right/left switching signal circuit.

U1508 LOST COMM(SIDE RDR L)

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

U1508 LOST COMM(SIDE RDR L)

DTC Logic

INFOID:000000011449897

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1508 (155)	LOST COMM(SIDE RDR L) [Lost communication (Side radar left)]	ADAS control unit cannot receive ITS communication signal from side radar LH for 2 seconds or more

POSSIBLE CAUSE

- Side radar LH harness connector
- ITS communication system
- Side radar LH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1508" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
 NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1508" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1508" detected as the current malfunction?

- YES >> Refer to [DAS-143. "Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449898

1.CHECK DTC PRIORITY

If DTC "U1508" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
 NO >> GO TO 2.

2.CHECK SIDE RADAR HARNESS CONNECTOR

1. Turn the ignition switch OFF.
2. Check the terminals and connectors of the side radar LH for damage, bend and short (unit side and connector side).

Is the inspection result normal?

- YES >> Perform the CAN communication system inspection. Repair or replace the malfunctioning parts.
 Refer to [LAN-21. "Trouble Diagnosis Flow Chart"](#).
 NO >> Repair the terminal or connector.

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DAS

U1512 HVAC CAN 3

DTC Logic

INFOID:000000011449899

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1512 (162)	HVAC CAN CIRC 3 (HVAC CAN circuit 3)	ADAS control unit detects an error signal that is received from A/C auto amp. via CAN communication

POSSIBLE CAUSE

A/C auto amp.

FAIL- SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1512" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1512" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1512" detected as the current malfunction?

- YES >> Refer to [DAS-144, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449900

1.CHECK DTC PRIORITY

If DTC "U1512" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK A/C AUTO AMP. SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "HVAC".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [HAC-48, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1513 METER CAN 3

DTC Logic

INFOID:000000011449901

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1513 (163)	METER CAN CIRC 3 (Meter CAN circuit 3)	ADAS control unit detects an error signal that is received from combination meter via CAN communication

POSSIBLE CAUSE

Combination meter

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)
- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1513" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1513" detected as the current malfunction?

- YES >> Refer to [DAS-145, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449902

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

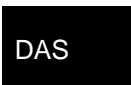
2.CHECK COMBINATION METER SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [MWI-45, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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U1514 STRG SEN CAN 3

DTC Logic

INFOID:000000011449903

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1514 (164)	STRG SEN CAN CIRC 3 (Steering sensor CAN circuit 3)	ADAS control unit detects an error signal that is received from steering angle sensor via CAN communication

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)
- Blind Spot Warning (BSW)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
 NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1514" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1514" detected as the current malfunction?

- YES >> Refer to [DAS-146. "Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449904

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
 NO >> GO TO 2.

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

Check if any DTC is detected in "Self Diagnostic Result" of "ABS".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [BRC-50. "DTC Index"](#).
 NO >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

U1515 ICC SENSOR CAN 3

DTC Logic

INFOID:000000011449905

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1515 (165)	ICC SENSOR CAN CIRC 3 (ICC sensor CAN circuit 3)	ADAS control unit detects an error signal that is received from ICC sensor via ITS communication

POSSIBLE CAUSE

ICC sensor

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.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is “U1515” detected as the current malfunction?

- YES >> Refer to [DAS-147. "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449906

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126. "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK ICC SENSOR SELF-DIAGNOSIS RESULTS

Check if any DTC 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-60. "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

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U1516 CAM CAN 3

DTC Logic

INFOID:000000011449907

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1516 (166)	CAM CAN CIRC 3 (Camera CAN circuit 3)	ADAS control unit detects an error signal that is received from lane camera unit via CAN communication

POSSIBLE CAUSE

Lane camera unit

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1516" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1516" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1516" detected as the current malfunction?

- YES >> Refer to [DAS-148, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449908

1.CHECK DTC PRIORITY

If DTC "U1516" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
- NO >> GO TO 2.

2.CHECK LANE CAMERA UNIT SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-253, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1517 ACCELERATOR PEDAL ACTUATOR CAN 3

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

U1517 ACCELERATOR PEDAL ACTUATOR CAN 3

DTC Logic

INFOID:000000011449909

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1517 (167)	APA CAN CIRC 3 (Accelerator pedal actuator CAN circuit 3)	ADAS control unit detects an error signal that is received from accelerator pedal actuator via CAN communication

POSSIBLE CAUSE

Accelerator pedal actuator

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.CHECK DTC PRIORITY

If DTC "U1517" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the MAIN switch of ICC system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1517" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1517" detected as the current malfunction?

- YES >> Refer to [DAS-149, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449910

1.CHECK DTC PRIORITY

If DTC "U1517" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.CHECK ACCELERATOR PEDAL ACTUATOR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "ACCELE PEDAL ACT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-250, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1518 SIDE RDR L CAN 3

DTC Logic

INFOID:000000011449911

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1518 (168)	SIDE RDR L CAN CIRC 3 (Side radar left CAN circuit 3)	ADAS control unit detects an error signal that is received from side radar LH via ITS communication

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1518" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1508: Refer to [DAS-143, "DTC Logic"](#)
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1518" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1518" detected as the current malfunction?

- YES >> Refer to [DAS-150, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449912

1.CHECK DTC PRIORITY

If DTC "U1518" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1508: Refer to [DAS-143, "DTC Logic"](#)
- NO >> GO TO 2.

2.CHECK SIDE RADAR LH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-256, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1519 SIDE RDR R CAN 3

DTC Logic

INFOID:000000011449913

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1519 (169)	SIDE RDR R CAN CIRC 3 (Side radar right CAN circuit 3)	ADAS control unit detects an error signal that is received from side radar RH via ITS communication

POSSIBLE CAUSE

Side radar RH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Warning (BSW)/Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1519" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1508: Refer to [DAS-143, "DTC Logic"](#)
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1519" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1519" detected as the current malfunction?

- YES >> Refer to [DAS-151, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449914

1.CHECK DTC PRIORITY

If DTC "U1519" is displayed with DTC "U1000" or "U1508", first diagnose the DTC "U1000" or "U1508".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable.
- U1000: Refer to [DAS-126, "DTC Logic"](#)
 - U1508: Refer to [DAS-143, "DTC Logic"](#)
- NO >> GO TO 2.

2.CHECK SIDE RADAR RH SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-259, "DTC Index"](#).
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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U1521 SONAR CAN 2

DTC Logic

INFOID:000000011449915

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1521 (177)	SONAR CAN COMMUNICATION 2 (Sonar CAN communication 2)	ADAS control unit detects an error signal that is received from sonar control unit via CAN communication

POSSIBLE CAUSE

Sonar control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "U1521" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Backup Collision Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1521" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1521" detected as the current malfunction?

YES >> Refer to [DAS-152, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449916

1. CHECK DTC PRIORITY

If DTC "U1521" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2. CHECK SONAR SYSTEM SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SONAR".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-99, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1522 SONAR CAN 1

DTC Logic

INFOID:000000011449917

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1522 (178)	SONAR CAN COMMUNICATION 1 (Sonar CAN communication 1)	ADAS control unit detects an error signal that is received from sonar control unit via CAN communication

POSSIBLE CAUSE

Sonar control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC “U1522” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Backup Collision Intervention system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “U1522” is detected as the current malfunction in “Self Diagnostic Result” of “ICC/ADAS”.

Is “U1522” detected as the current malfunction?

YES >> Refer to [DAS-153, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449918

1.CHECK DTC PRIORITY

If DTC “U1522” is displayed with DTC “U1000”, first diagnose the DTC “U1000”.

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.CHECK SONAR SELF-DIAGNOSIS RESULTS

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

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-99, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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DAS

U1523 SONAR CAN 3

DTC Logic

INFOID:000000011449919

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1523 (179)	SONAR CAN COMMUNICATION 3 (Sonar CAN communication 3)	ADAS control unit detects an error signal that is received from sonar control unit via CAN communication

POSSIBLE CAUSE

Sonar control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "U1523" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Backup Collision Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1523" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1523" detected as the current malfunction?

YES >> Refer to [DAS-154, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449920

1. CHECK DTC PRIORITY

If DTC "U1523" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2. CHECK SONAR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "SONAR".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-99, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1524 AVM CAN 1

DTC Logic

INFOID:000000011449921

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1524 (180)	AVM CAN COMMUNICATION 1 (Around view monitor CAN communication 1)	ADAS control unit detects an error signal that is received from around view monitor control unit via CAN communication

POSSIBLE CAUSE

Around view monitor control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1524" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind Spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1524" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1524" detected as the current malfunction?

YES >> Refer to [DAS-155, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449922

1.CHECK DTC PRIORITY

If DTC "U1524" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2.CHECK SONAR SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "AVM".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-69, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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DAS

U1525 AVM CAN 3

DTC Logic

INFOID:000000011449923

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1525 (181)	AVM CAN COMMUNICATION 3 (Around view monitor CAN communication 3)	ADAS control unit detects an error signal that is received from around view monitor control unit via CAN communication

POSSIBLE CAUSE

Around view monitor control unit

FAIL-SAFE

The following systems are canceled.

- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

If DTC "U1525" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Back-up Collision Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1525" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1525" detected as the current malfunction?

YES >> Refer to [DAS-156, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449924

1. CHECK DTC PRIORITY

If DTC "U1525" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).

NO >> GO TO 2.

2. CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "AVM".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [AV-93, "DTC Index"](#).

NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

U1530 DR ASSIST BUZZER CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

U1530 DR ASSIST BUZZER CAN 1

DTC Logic

INFOID:000000011449925

DTC DETECTION LOGIC

DTC (On board display)	Trouble diagnosis name	DTC detecting condition
U1530 (183)	DR ASSIST BUZZER CAN CIR 1 (Driver assistance buzzer CAN circuit 1)	ADAS control unit detects an error signal that is received from driver assistance buzzer control module via ITS communication

POSSIBLE CAUSE

Driver assistance buzzer control module

FAIL-SAFE

None

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "U1530" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1530" is detected as the current malfunction in "Self Diagnostic Result" of "ICC/ADAS".

Is "U1530" detected as the current malfunction?

- YES >> Refer to [DAS-157, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011449926

1.CHECK DTC PRIORITY

If DTC "U1530" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-126, "DTC Logic"](#).
NO >> GO TO 2.

2.CHECK DRIVER ASSISTANCE BUZZER CONTROL MODULE SELF-DIAGNOSIS RESULTS

Check if any DTC is detected in "Self Diagnostic Result" of "BSW/BUZZER".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-263, "DTC Index"](#).
NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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DAS

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[ADAS CONTROL UNIT]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000011449927

1. CHECK ADAS CONTROL UNIT POWER SUPPLY CIRCUIT

Check voltage between ADAS control unit harness connector and ground.

Terminal		Condition	Voltage (Approx.)
(+)	(-)		
ADAS control unit		Ignition switch	0 V
Connector	Terminal		
B52	12	OFF	0 V
		ON	Battery volt- age

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the ADAS control unit power supply circuit.

2. CHECK ADAS CONTROL UNIT GROUND CIRCUIT

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

ADAS control unit		Ground	Continuity
Connector	Terminal		
B52	5		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the ADAS control unit ground circuit.

REMOVAL AND INSTALLATION

ADAS CONTROL UNIT

Removal and Installation

INFOID:000000011449928

REMOVAL

CAUTION:

Before replacing ADAS control unit, perform “Read/Write Configuration” to save or print current vehicle specification. For details, refer to [DAS-60, "Work Procedure"](#).

1. Remove the luggage side lower finisher (LH). Refer to [INT-36, "LUGGAGE SIDE LOWER FINISHER : Removal and Installation"](#).
2. Disconnect ADAS control unit connector.
3. Remove mounting bolts from ADAS control unit.
4. Remove ADAS control unit.

INSTALLATION

CAUTION:

Be sure to perform “Read/Write Configuration” when replacing ADAS control unit. For details, refer to [DAS-61, "Work Procedure"](#).

Install in the reverse order of removal.

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< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000011509925

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

Always observe the following items for preventing accidental activation.

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

Precautions for Removing Battery Terminal

INFOID:000000011509926

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.

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.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

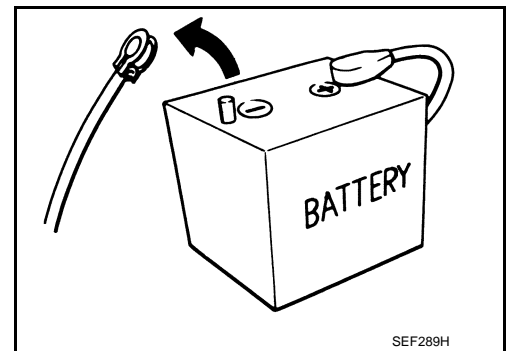
NOTE:

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

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

NOTE:

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



SEF289H

Precautions For Harness Repair

INFOID:000000011449931

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

PRECAUTIONS

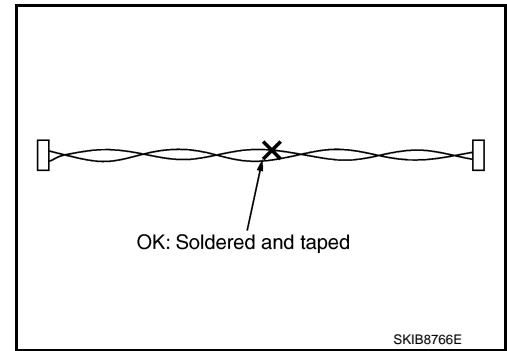
[DRIVER ASSISTANCE SYSTEM]

< PRECAUTION >

- Solder the repaired area and wrap tape around the soldered area.

NOTE:

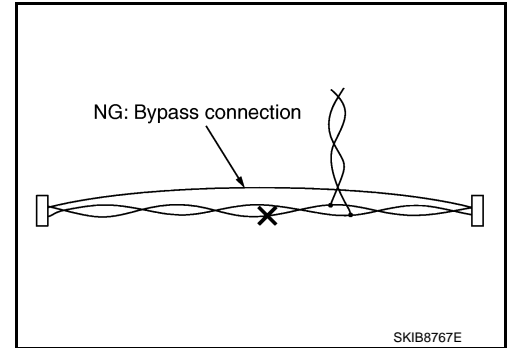
A fray of twisted lines must be within 110 mm (4.33 in).



- 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.



DCA System Service

INFOID:0000000011449932

CAUTION:

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

PFCW System Service

INFOID:0000000011449933

CAUTION:

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

LDW/LDP System Service

INFOID:0000000011449934

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

- Never use the LDP system when driving with free rollers or a chassis dynamometer.
- Never perform the active test while driving.
- Never disassemble and remodel the lane camera unit.
- Do not use the lane camera unit that is removed from the vehicle.

Blind Spot Warning/Blind Spot Intervention System Service

INFOID:0000000011449935

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

- Never use the Blind Spot Intervention system when driving with free rollers or a chassis dynamometer.
- Never perform the active test while driving.

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DAS

PRECAUTIONS

[DRIVER ASSISTANCE SYSTEM]

< PRECAUTION >

- **Never disassemble and remodel the lane camera unit.**
- **Do not use the lane camera unit that is removed from the vehicle.**
- **Never change BSW initial state ON ⇒ OFF without the consent of the customer.**

TO KEEP THE BLIND SPOT WARNING/BLIND SPOT INTERVENTION SYSTEM OPERATING PROPERLY, BE SURE TO OBSERVE THE FOLLOWING ITEMS:

Lane Camera Unit Maintenance

The lane camera unit for the LDW/LDP system is located above the inside mirror. To keep the proper operation of the LDW/LDP systems and prevent a system malfunction, be sure to observe the following:

- Always keep the windshield clean.
- Do not attach a sticker (including transparent material) or install an accessory near the camera unit.
- Do not place reflective materials, such as white paper or a mirror, on the instrument panel. The reflection of sunlight may adversely affect the camera unit capability of detecting the lane markers.
- Do not strike or damage the areas around the camera unit.
- Do not touch the camera lens or remove the screw located on the camera unit.

System Maintenance

The two side radar for the Blind Spot Warning and Blind Spot Intervention systems are located near the rear bumper.

- Always keep the area near the side radar clean.
- Do not attach stickers (including transparent material), install accessories or apply additional paint near the side radar.
- Do not strike or damage the area around the side radar.

BCI system service

INFOID:000000011449936

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

- **Never use the BCI system when driving with free rollers or a chassis dynamometer.**
- **Never perform the active test while driving.**
- **Never change BCI initial state ON ⇒ OFF without the consent of the customer.**

TO KEEP THE BCI SYSTEM OPERATING PROPERLY, BE SURE TO OBSERVE THE FOLLOWING ITEMS:

System Maintenance

The two side radars for the BCI system are located near the rear bumper.

- Always keep the area near the side radars clean.
- Do not attach stickers (including transparent material), install accessories or apply additional paint near the side radars.
- Do not strike or damage the area around the side radars.

System Maintenance

The four rear sonars for the BCI system are located in the rear bumper.

- Always keep the area near the rear sonars clean.
- Do not attach stickers (including transparent material), install accessories or apply additional paint near the rear sonars.
- Do not strike or damage the area around the rear sonars.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

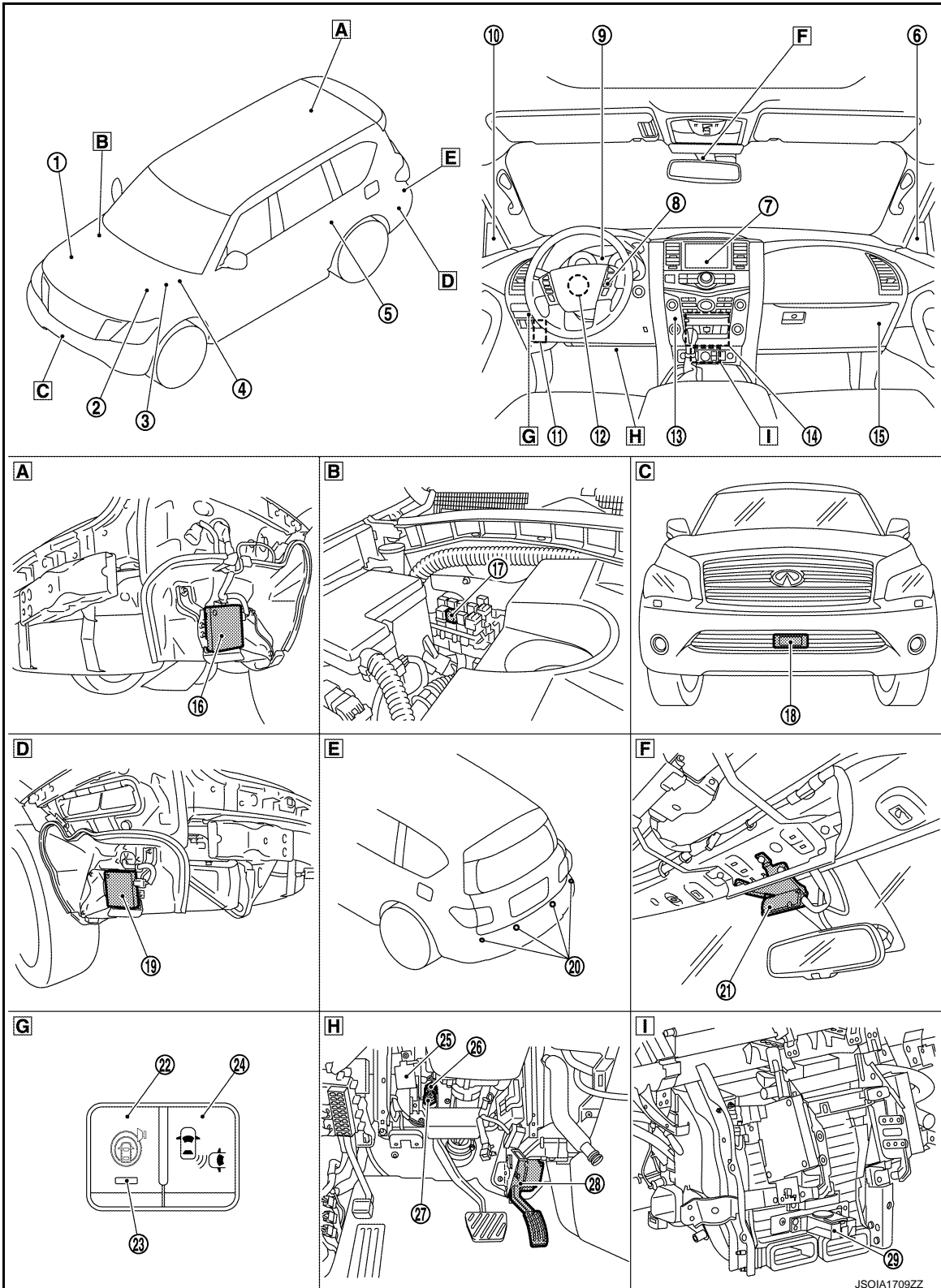
[DRIVER ASSISTANCE SYSTEM]

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000011449937



COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- | | | |
|---|---|-------------------------------------|
| A Rear bumper removed condition (RH) | B Engine room (RH) | C Front bumper (center) |
| D Rear bumper removed condition (LH) | E Rear side of vehicle | F Front of the map lamp |
| G Instrument lower panel (LH) | H Behind the instrument lower panel (LH) | I Behind the AV control unit |

No.	Component	Description
①	ECM	<ul style="list-style-type: none"> ECM transmits the accelerator pedal position signal, ICC brake switch signal, stop lamp switch signal, ICC steering switch signal, etc. to ADAS control unit via CAN communication Refer to EC-23, "Component Parts Location" (For USA and Canada), or EC-592, "Component Parts Location" (For Mexico) for detailed installation location.
②	TCM	<ul style="list-style-type: none"> TCM transmits the signal related to A/T control to ADAS control unit via CAN communication Refer to TM-11, "A/T CONTROL SYSTEM : Component Parts Location" for detailed installation location.
③	ABS actuator and electric unit (control unit)	<ul style="list-style-type: none"> ABS actuator and electric unit (control unit) transmits the vehicle speed signal (wheel speed), stop lamp signal and VDC/TCS/ABS system operation condition to ADAS control unit via CAN communication ABS actuator and electric unit (control unit) controls the brake, based on a brake fluid pressure control signal received from ADAS control unit via CAN communication Refer to BRC-9, "Component Parts Location" for detailed installation location.
④	BCM	<ul style="list-style-type: none"> Transmits the turn indicator signal to ADAS control unit via CAN communication Refer to BCS-4, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
⑤	ADAS control unit	<ul style="list-style-type: none"> ADAS control unit calculates a target distance between vehicles and a target speed, based on signals received from each sensor and switch to transmit a brake fluid pressure control signal to ABS actuator and electric unit (control unit) via CAN communication ADAS control unit transmits the buzzer output signal to the combination meter via CAN communication ADAS control unit transmits an accelerator pedal feedback force control signal to the accelerator pedal actuator via ITS communication Refer to DAS-12, "Component Parts Location" for detailed installation location.
⑥	Blind Spot Warning/Blind Spot Intervention indicator RH	Refer to DAS-166, "Blind Spot Warning/Blind Spot Intervention Indicator LH/RH"
⑦	Front display unit	<ul style="list-style-type: none"> Displays the various system screen signals according to the priority level received If an approaching vehicle or object behind the vehicle is detected when own vehicle is backing up, a red frame will appear on the display Refer to AV-12, "Component Parts Location" for detailed installation location.
⑧	Dynamic driver assistance switch (On the ICC steering switch)	ECM receives an ICC steering switch (dynamic driver assistance switch) signal and transmits the signal to ADAS control unit via CAN communication
⑨	Combination meter	<p>Performs the following operations using the signals received from the ADAS control unit via the CAN communication</p> <ul style="list-style-type: none"> Displays the DCA system operation status using the meter display signal Displays the PFCW system operation status using the meter display signal Illuminates the lane departure warning lamp using the lane departure warning lamp signal Illuminates the LDP ON indicator lamp using the LDP ON indicator lamp signal Illuminates the Blind Spot Warning/Blind Spot Intervention warning lamp using the Blind Spot Warning/Blind Spot Intervention warning lamp signal Illuminates the Blind Spot Intervention ON indicator lamp using the Blind Spot Intervention ON indicator lamp signal Displays the BCI system operation status using the meter display signal Displays the FEB system operation status using the meter display signal Illuminates the ICC system warning lamp using the ICC warning lamp signal Refer to MWI-6, "METER SYSTEM : Component Parts Location" for detailed installation location.

COMPONENT PARTS

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

No.	Component	Description
⑩	Blind Spot Warning/Blind Spot Intervention indicator LH	Refer to DAS-166, "Blind Spot Warning/Blind Spot Intervention Indicator LH/RH"
⑪	Sonar control unit	<ul style="list-style-type: none"> The warning buzzer outputs by inputting the sensor signal from sonar sensors (BCI system) Sensor signal that corresponds to the detected distance to an obstacle is transmitted to around view monitor control unit via can communication Refer to AV-12, "Component Parts Location" for detailed installation location.
⑫	Steering angle sensor	<ul style="list-style-type: none"> Measures the rotation amount, rotation speed, and rotation direction of steering wheel, and then transmits them to ADAS control unit via CAN communication Refer to BRC-9, "Component Parts Location" for detailed installation location.
⑬	Around view monitor control unit	<ul style="list-style-type: none"> Receives the BCI warning signal via ITS CAN communication, and indicate the yellow/red frame on the front display Refer to AV-12, "Component Parts Location" for detailed installation location.
⑭	AV control unit	<ul style="list-style-type: none"> AV control unit transmits the system selection signal to the ADAS control unit via CAN communication Refer to AV-12, "Component Parts Location" for detailed installation location.
⑮	Transfer control unit	<ul style="list-style-type: none"> Transfer control unit transmits a mode selection state of 4WD shift switch to the ADAS control unit via CAN communication Refer to DLN-11, "Component Parts Location" for detailed installation location.
⑯	Side radar RH	Refer to DAS-166, "Side Radar LH/RH"
⑰	ICC brake hold relay	Refer to DAS-166, "ICC Brake Hold Relay"
⑱	ICC sensor	Refer to DAS-165, "ICC Sensor"
⑲	Side radar LH	Refer to DAS-166, "Side Radar LH/RH"
⑳	Sonar sensor (rear)	<ul style="list-style-type: none"> When a distance from an obstacle is detected, a distance signal is transmitted to the sonar control unit. Refer to AV-12, "Component Parts Location" for detailed installation location.
㉑	Lane camera unit	Refer to DAS-166, "Lane Camera Unit"
㉒	Warning systems switch	Refer to DAS-167, "Warning Systems Switch / Warning Systems ON indicator"
㉓	Warning systems ON indicator	Refer to DAS-167, "Warning Systems Switch / Warning Systems ON indicator"
㉔	BCI switch	Refer to DAS-167, "BCI Switch"
㉕	Driver assistance buzzer control module	Refer to DAS-166, "Driver Assistance Buzzer Control Module"
㉖	Stop lamp switch	Refer to DAS-166, "ICC Brake Switch / Stop Lamp Switch"
㉗	ICC brake switch	Refer to DAS-166, "ICC Brake Switch / Stop Lamp Switch"
㉘	Accelerator pedal actuator	Refer to DAS-166, "Accelerator Pedal Actuator"
㉙	Driver assistance buzzer	Refer to DAS-166, "Driver Assistance Buzzer"

ICC Sensor

INFOID:000000011449938

- 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.

ICC Steering Switch

INFOID:000000011449939

- 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.

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- ICC steering switch signal is transmitted to ECM. ECM transmits the signal to the ADAS control unit via CAN communication.

ICC Brake Switch / Stop Lamp Switch

INFOID:0000000011449940

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

ICC Brake Hold Relay

INFOID:0000000011449941

- ICC brake hold relay is installed in the engine room (right side).
- When the brake is activated by the ICC 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.

Accelerator Pedal Actuator

INFOID:0000000011449943

- Installed to the upper portion of the accelerator pedal, this consists of the accelerator pedal actuator together with the accelerator pedal position sensor, and is linked with the accelerator pedal.
- If accelerator pedal feedback force control signal is received from ADAS control unit via ITS communication, it operates the integrated motor for applying control to move the accelerator pedal upward.

Driver Assistance Buzzer Control Module

INFOID:0000000011449944

- Driver assistance buzzer control module is installed at the behind of instrument lower panel (LH).
- 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

INFOID:0000000011449945

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

Lane Camera Unit

INFOID:0000000011449946

- Lane camera unit detects the lane marker in travel lane and located above the front of map lamp.
- Transmits lane marker signal to ADAS control unit via ITS communication.

Side Radar LH/RH

INFOID:0000000011449947

- Installed near the rear bumper, the side radar detects other vehicles beside own vehicle in an adjacent lane.
- Connected with the ADAS control unit via ITS communication, the side radar transmits a vehicle detection signal.
- Receives a Blind Spot Warning/Blind Spot Intervention indicator signal and a Blind Spot Warning/Blind Spot Intervention indicator dimmer signal from the ADAS control unit and transmits an indicator operation signal to the Blind Spot Warning/Blind Spot Intervention indicator LH/RH.
- Since side radar RH and side radar LH have the same specifications, side radar RH has the right/left switching signal circuit for identification.

Blind Spot Warning/Blind Spot Intervention Indicator LH/RH

INFOID:0000000011449948

- Installed on the front door corner cover, the Blind Spot Warning/Blind Spot Intervention indicator warns the driver by lighting/blinking.
- Receives a Blind Spot Warning/Blind Spot Intervention indicator operation signal from the side radar LH/RH and blinks or turns ON/OFF the Blind Spot Warning/Blind Spot Intervention indicator.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Dynamic Driver Assistance Switch

INFOID:000000011449949

- Dynamic driver assistance switch is integrated in ICC steering switch.
- ICC steering switch is input to ECM.

NOTE:

Dynamic driver assistance switch is shared with following systems.

- Distance Control Assist (DCA)
- Lane Departure Prevention (LDP)
- Blind Spot Intervention

Warning Systems Switch / Warning Systems ON indicator

INFOID:000000011449950

- Warning systems switch and warning systems ON indicator are integrated at the instrument lower panel (LH).
- Warning systems switch (ON/OFF) input to ADAS control unit.
- Warning systems ON indicator turn ON when PFCW system, LDW system and/or BSW system are ON.
- Warning systems ON indicator blinks when PFCW system, LDW system and/or BSW system are OFF and the warning systems switch is pressed.

NOTE:

Warning systems switch is shared with following systems (ON/OFF).

- Predictive Forward Collision Warning (PFCW)
- Lane departure Warning (LDW)
- Blind Spot Warning (BSW)

BCI Switch

INFOID:000000011449951

- BCI switch is integrated at the instrument lower panel (LH).
- BCI switch (ON/OFF) input to ADAS control unit.

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SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

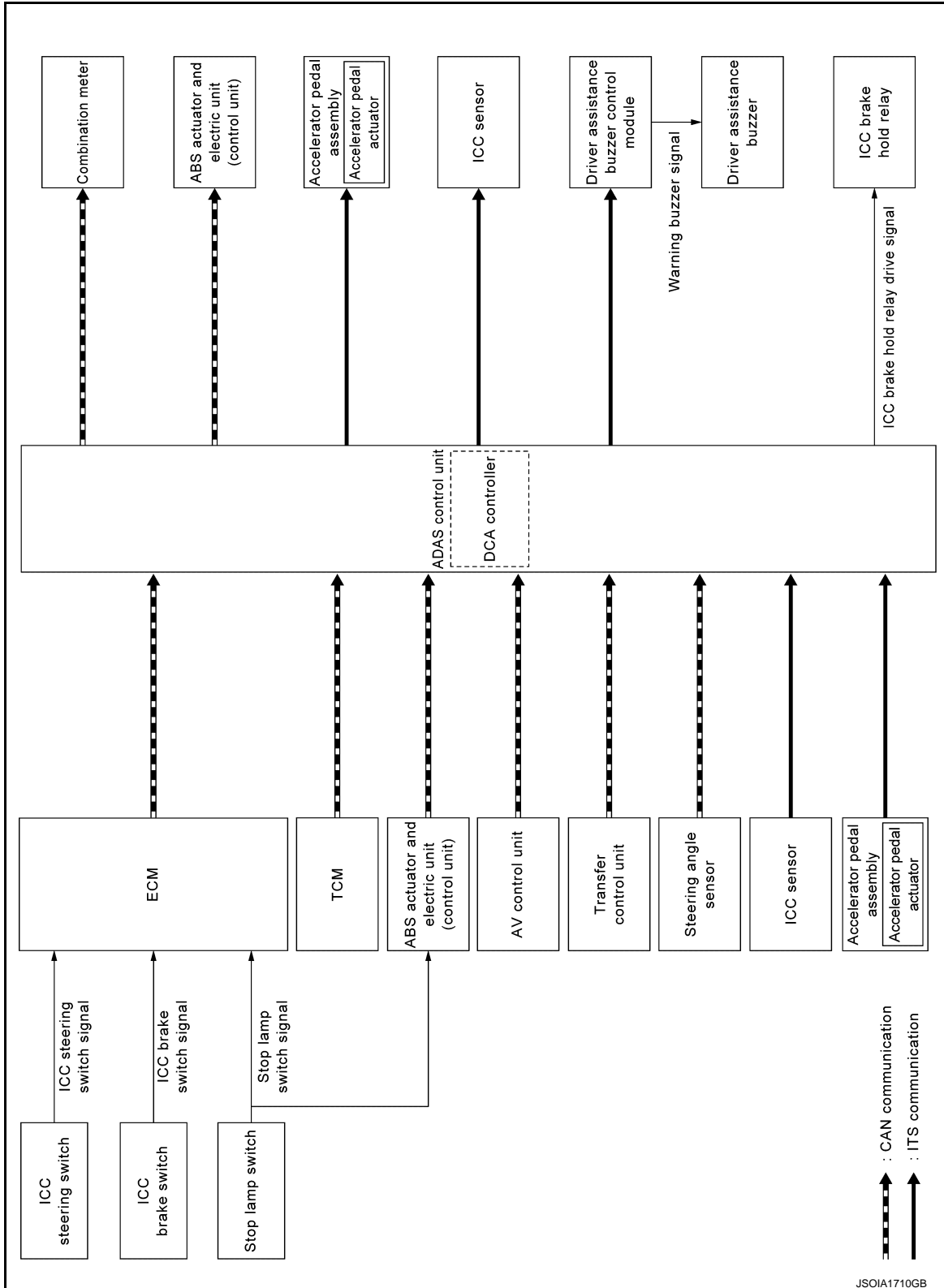
SYSTEM

DCA

DCA : System Description

INFOID:000000011449952

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Input Signal Item

Transmit unit	Signal name		Description
ECM	CAN communication	Closed throttle position signal	Receives idle position state (ON/OFF)
		Accelerator pedal position signal	Receives accelerator pedal position (angle)
		Engine speed signal	Receives engine speed
		Stop lamp switch signal	Receives an operational state of the brake pedal
		ICC brake switch signal	Receives an operational state of the brake pedal
		Snow mode switch signal	Receives an operational state of the snow mode
		ICC steering switch signal	Dynamic driver assistance switch signal
TCM	CAN communication	Input speed signal	Receives the number of revolutions of input shaft
		Current gear position signal	Receives a current gear position
		Shift position signal	Receives a selector lever position
		Output shaft revolution signal	Receives the number of revolutions of output shaft
ABS actuator and electric unit (control unit)	CAN communication	ABS malfunction signal	Receives a malfunction state of ABS
		ABS operation signal	Receives an operational state of ABS
		ABS warning lamp signal	Receives an ON/OFF state of ABS warning lamp
		TCS malfunction signal	Receives a malfunction state of TCS
		TCS operation signal	Receives an operational state of TCS
		VDC OFF switch signal	Receives an ON/OFF state of VDC
		VDC malfunction signal	Receives a malfunction state of VDC
		VDC operation signal	Receives an operational state of VDC
		Vehicle speed signal	Receives wheel speeds of four wheels
		Yaw rate signal	Receives yaw rate acting on the vehicle
Steering angle sensor	CAN communication	Steering angle sensor malfunction signal	Receives a malfunction state of steering angle sensor
		Steering angle sensor signal	Receives the number of revolutions, turning direction of the steering wheel
		Steering angle speed signal	Receives the turning angle speed of the steering wheel
AV control unit	CAN communication	System selection signal	Receives a selection state of each item in "Driver Assistance" selected with the navigation screen
Transfer control unit	CAN communication	Current 4WD mode signal	Receives a mode selection state of the 4WD shift mode
ICC sensor	ITS communication	ICC sensor signal	Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle
Accelerator pedal actuator	ITS communication	Accelerator pedal actuator operation status signal	Receives an operational state of accelerator pedal actuator

Output Signal Item

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SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Reception unit	Signal name		Description
ABS actuator and electric unit (control unit)	CAN communication	Brake fluid pressure control signal	Transmits a brake fluid pressure control signal to activates the brake
Combination meter	CAN communication	Meter display signal	Transmits a signal to display a state of the system on the information display
		Vehicle ahead detection indicator signal DCA system display signal	
ICC sensor	ITS communication	Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit
		Steering angle sensor signal	Transmits a steering angle sensor signal received from the steering angle sensor
Accelerator pedal actuator	ITS communication	Accelerator pedal position signal	Transmits an accelerator pedal angle calculated by the ADAS control unit
		Accelerator pedal feedback force control signal	Transmits a target actuation force value calculated by the ADAS control unit
Driver assistance buzzer control module	ITS communication	Driver assistance buzzer signal	Transmits a driver assistance buzzer signal to active the buzzer
ICC brake hold relay	ICC brake hold relay drive signal		Activates the brake hold relay and turns ON the stop lamp

FUNCTION DESCRIPTION

When a vehicle is detected ahead

- The vehicle ahead detection indicator comes ON.

When vehicle approaches a vehicle ahead

- If the driver is not depressing the accelerator pedal, the system activates the brakes to decelerate smoothly as necessary. If the vehicle ahead comes to a stop, the vehicle decelerates to a standstill within the limitations of the system.
- If the driver is depressing the accelerator pedal, the system moves the accelerator pedal upward to assist the driver to release the accelerator pedal.

When brake operation by driver is required

- The system alerts the driver by a warning chime and blinking the vehicle ahead detection indicator. If the driver is depressing the accelerator pedal after the warning, the system moves the accelerator pedal upward to assist the driver to switch to the brake pedal.

CAUTION:

If the vehicle ahead comes to a standstill, the vehicle decelerates to a standstill within the limitations of the system. The system will release brake control with a warning chime once it judges the vehicle is at a standstill. To prevent the vehicle from moving, the driver must depress the brake pedal. [The system will resume control automatically once the system reaches 5 km/h (3 MPH)].

NOTE:

- Depending on the position of the accelerator pedal, the system may not be able to assist the driver to release the accelerator pedal appropriately.
- When the driver depresses the accelerator pedal even further while the system is moving the accelerator pedal upward, the accelerator pedal control will be canceled.
- When the driver is depressing the accelerator pedal, the brake control by the system is not operated.
- When the driver is depressing the brake pedal, neither the brake control nor the alert by the system operates.
- When the ICC system is set, the DCA system will be canceled.

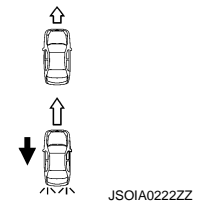
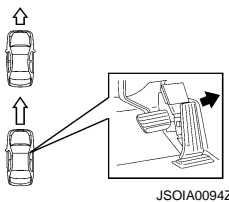
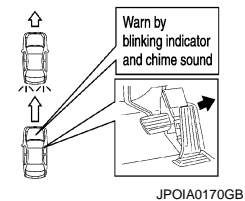
OPERATION DESCRIPTION

ICC sensor calculates a distance from a vehicle ahead and a relative speed to transmit the ICC sensor signal to the ADAS control unit via ITS communication. Based on the received signal, the ADAS control unit transmits a control signal to the accelerator pedal actuator via ITS communication and to the ABS actuator control unit (control unit) via CAN communication.

SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

When vehicle approaches a vehicle ahead	If the driver is not depressing the accelerator pedal, the system activates the brakes to decelerate smoothly as necessary		A B C
	If the driver is depressing the accelerator pedal, the system moves the accelerator pedal upward to assist the driver to release the accelerator pedal		D E
When brake operation by driver is required	The system alerts the driver by a warning chime and blinking the vehicle ahead detection indicator. If the driver is depressing the accelerator pedal after the warning, the system moves the accelerator pedal upward to assist the driver to switch to the brake pedal		F G H
Deceleration control	It transmits the brake fluid pressure control signal to the ABS actuator and electric unit (control unit) via CAN communication and performs the brake control		I
Accelerator pedal actuation control	It transmits the accelerator pedal feedback force control signal to the accelerator pedal actuator via ITS communication and controls the accelerator pedal in the upward direction		J

Operation Condition

ADAS control unit performs the control when the following conditions are satisfied.

- When the DCA system setting on the navigation screen is ON.
- When the dynamic driver assistance switch is turned to ON.
- When the brake pedal is not depressed.
- When the vehicle speed is above approximately 5 km/h (3 MPH).
- When the vehicle ahead is detected.
- When the ICC system is not set.

No Operation Condition

The ADAS control unit is not operate when the system is under any conditions of the no operation condition.

- When the brake pedal depressed.
- When the ICC system is set.
- When the system judges that the vehicle comes to a standstill by the system control.
- When the vehicle ahead is not detected.

Operation Cancellation Condition

The ADAS control unit cancels the operation when the system is under any conditions of the operation cancellation condition.

- When the dynamic driver assistance switch is turned to OFF.
- When the system malfunction occurs.
- When ABS or VDC (including the TCS) operates.
- When the VDC is turned OFF.
- When the SNOW mode switch is turned ON.
- When the 4WD shift switch is turned to not AUTO position.
- When the front bumper grille near the ICC sensor is dirty and the measurement of the distance between the vehicles becomes difficult.

Operation At The Driver Operation

Give priority to the driver operation in the following situation.

- When the accelerator pedal is depressed again.

< SYSTEM DESCRIPTION >

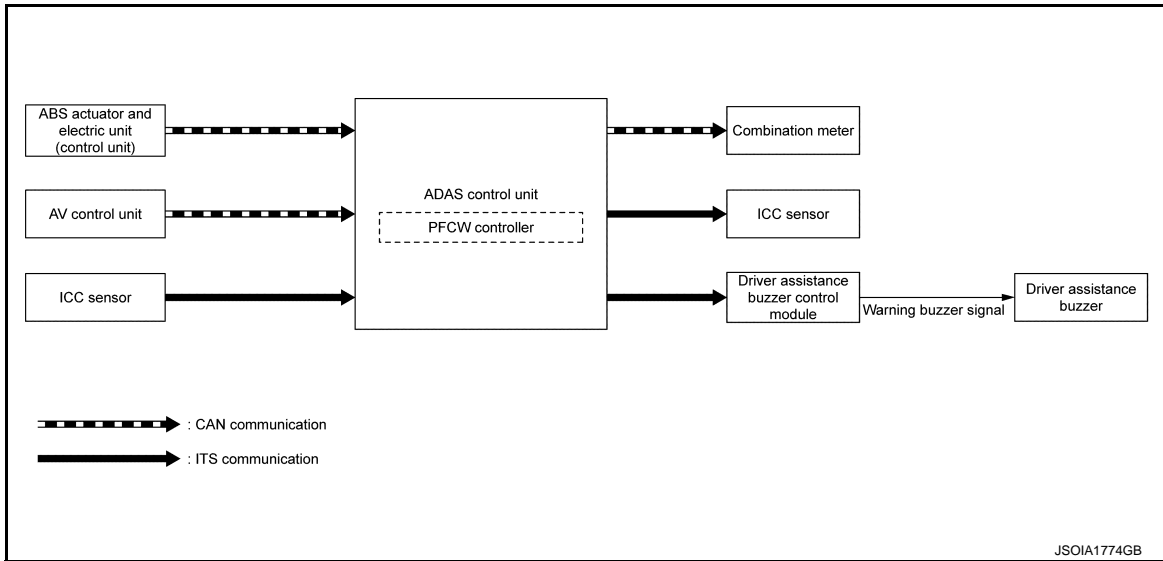
- When the brake pedal is depressed.

PFCW

PFCW : System Description

INFOID:0000000011449953

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name		Description
ABS actuator and electric unit (control unit)	CAN communication	Vehicle speed signal	Receives wheel speeds of four wheels
AV control unit	CAN communication	System selection signal	Receives a selection state each item in "Driver Assistance" selected with the navigation screen
ICC sensor	ITS communication	ICC sensor signal	Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle

Output Signal Item

Reception unit	Signal name		Description
Combination meter	CAN communication	Meter display signal Vehicle ahead detection indicator signal	Transmits a signal to display a state of the system on the information display
ICC sensor	ITS communication	Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit
Driver assistance buzzer control module	ITS communication	Driver assistance buzzer signal	Transmits a driver assistance buzzer signal to activate the buzzer

DESCRIPTION

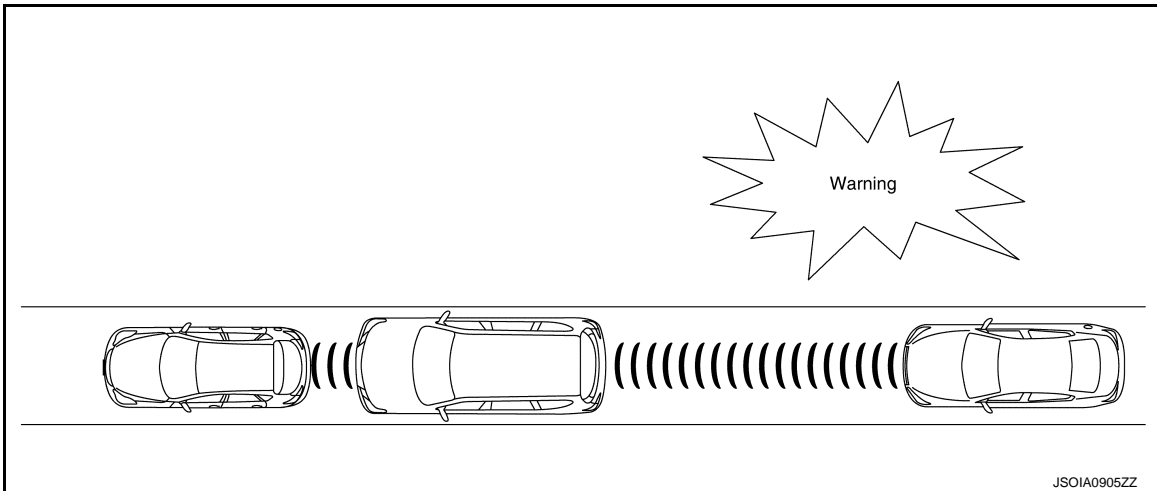
- The PFCW system will function when own vehicle is driven at speeds of approximately 5 km/h (3 MPH) and above.

SYSTEM

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

- The Predictive Forward Collision Warning (PFCW) System alerts the driver by the vehicle ahead detection indicator and chime when the distance between own vehicle and a vehicle in front of the vehicle ahead becomes closer.



NOTE:

The PFCW/FEB system shares the diagnosis function with ICC/DCA system.

FUNCTION DESCRIPTION

The distance from the vehicle in front of the vehicle ahead and a relative speed are calculated by using the ICC sensor and an ICC sensor signal is transmitted to the ADAS control unit via ITS communication. When judging the necessity of warning according to the received ICC sensor signal, the ADAS control unit transmits a driver assistance buzzer signal to the driver assistance buzzer control module via ITS communication and meter display signal to the combination meter via CAN communication.

PFCW Operating Condition

- Warning systems ON indicator: ON
- Vehicle speed: Approximately 5 km/h (3 MPH) and above.
- Vehicle in front of the vehicle ahead: Detected.

NOTE:

ON/OFF of PFCW/FEB system is performed with the navigation screen.

LDW

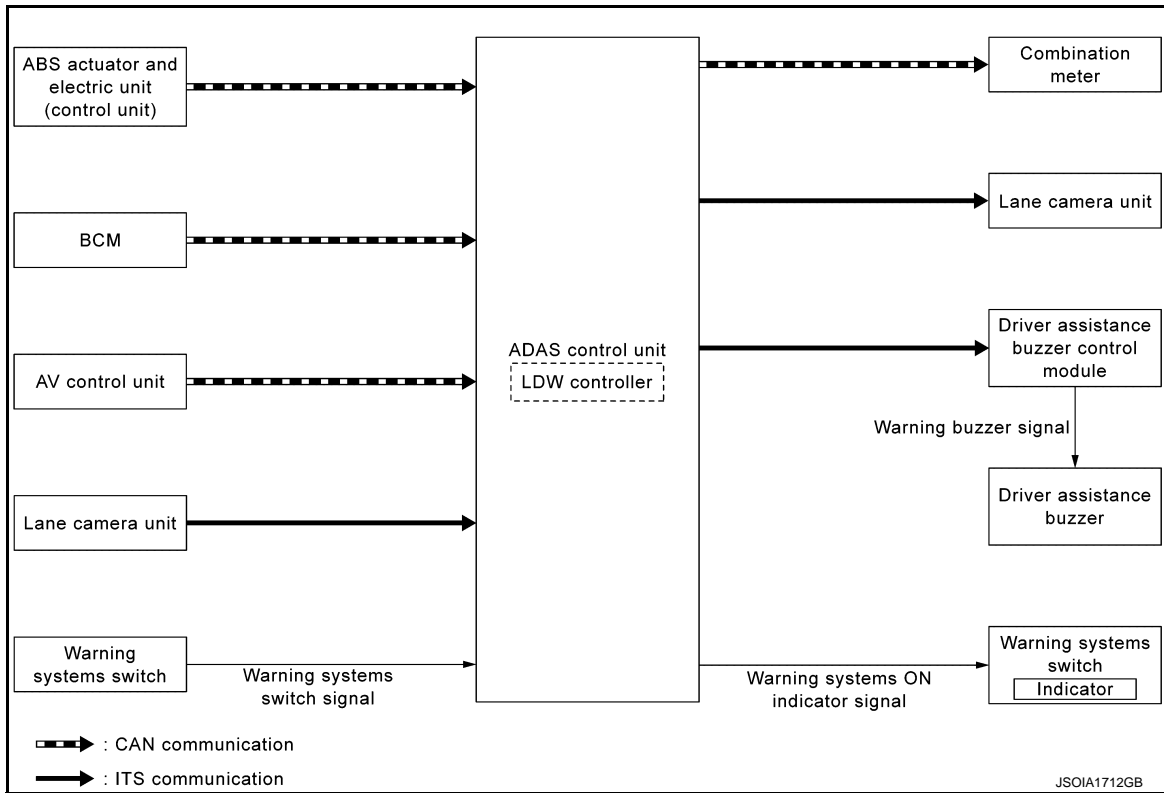
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DAS

LDW : System Description

INFOID:000000011449954

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name		Description
ABS actuator and electric unit (control unit)	CAN communication	Vehicle speed signal	Receives wheel speeds of four wheels
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp
AV control unit	CAN communication	System selection signal	Receives a selection state of each item in "Driver Assistance" selected with the navigation screen
Lane camera unit	ITS communication	Detected lane condition signal	Receives detection results of lane marker
Warning systems switch	Warning systems switch signal		Receives an ON/OFF state of the warning systems switch

Output Signal Item

Reception unit	Signal name		Description
Combination meter	CAN communication	Lane departure warning lamp signal	Transmits a lane departure warning lamp signal to turn ON the lane departure warning lamp
Lane camera unit	ITS communication	Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit
		Turn indicator signal	Transmits a turn indicator signal received from BCM

SYSTEM

< SYSTEM DESCRIPTION >

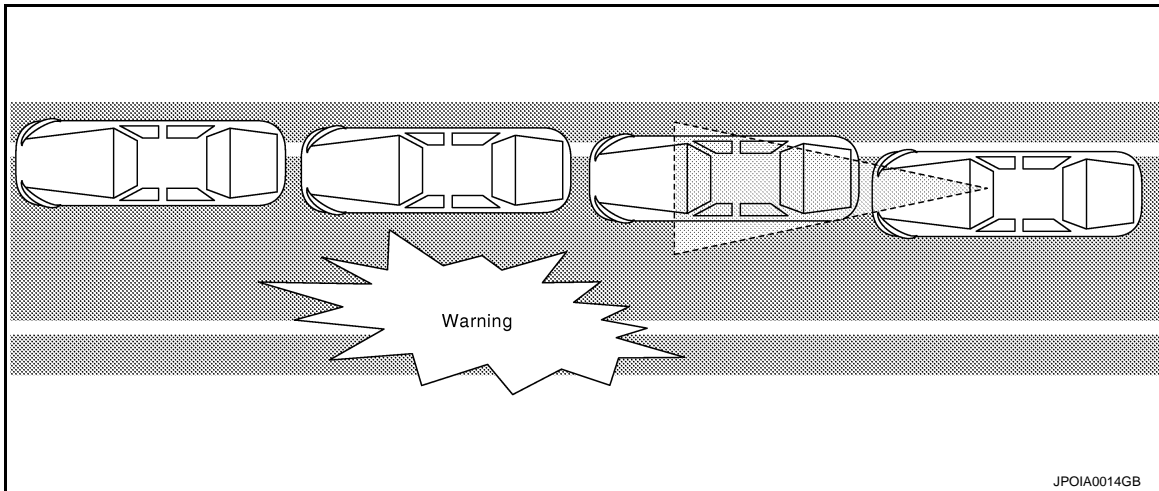
[DRIVER ASSISTANCE SYSTEM]

Reception unit	Signal name	Description
Driver assistance buzzer	Driver assistance buzzer signal	Transmits a warning buzzer signal to activates the buzzer
Warning systems ON indicator	Warning systems ON indicator signal	Turns ON the warning systems ON indicator

FUNCTION DESCRIPTION

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

EXAMPLE



When the vehicle approaches the right lane marker, the driver is alerted by the buzzer and the blinking of LDW warning display (yellow).

OPERATION DESCRIPTION

- When the system is turned ON by operating the warning systems switch, ADAS control unit turns ON the warning systems ON indicator.
- Lane camera unit monitors lane markers of the traveling lane. It transmits the detected lane condition signal to ADAS control unit via ITS communication.
- When judging from a lane marker detection signal that the vehicle is approaching the lane marker, the ADAS control unit controls the following item to alert the driver.
 - Activates warning buzzer by driver assistance buzzer control module.
 - ADAS control unit transmits a lane departure warning lamp signal to combination meter via CAN communication and turns ON/OFF the lane departure warning lamp (yellow).

OPERATING CONDITION

- Warning systems ON indicator: ON
- Vehicle speed: approximately 70 km/h (45 MPH) or more
- Turn indicator signal: After 2 seconds or more from turned OFF

NOTE:

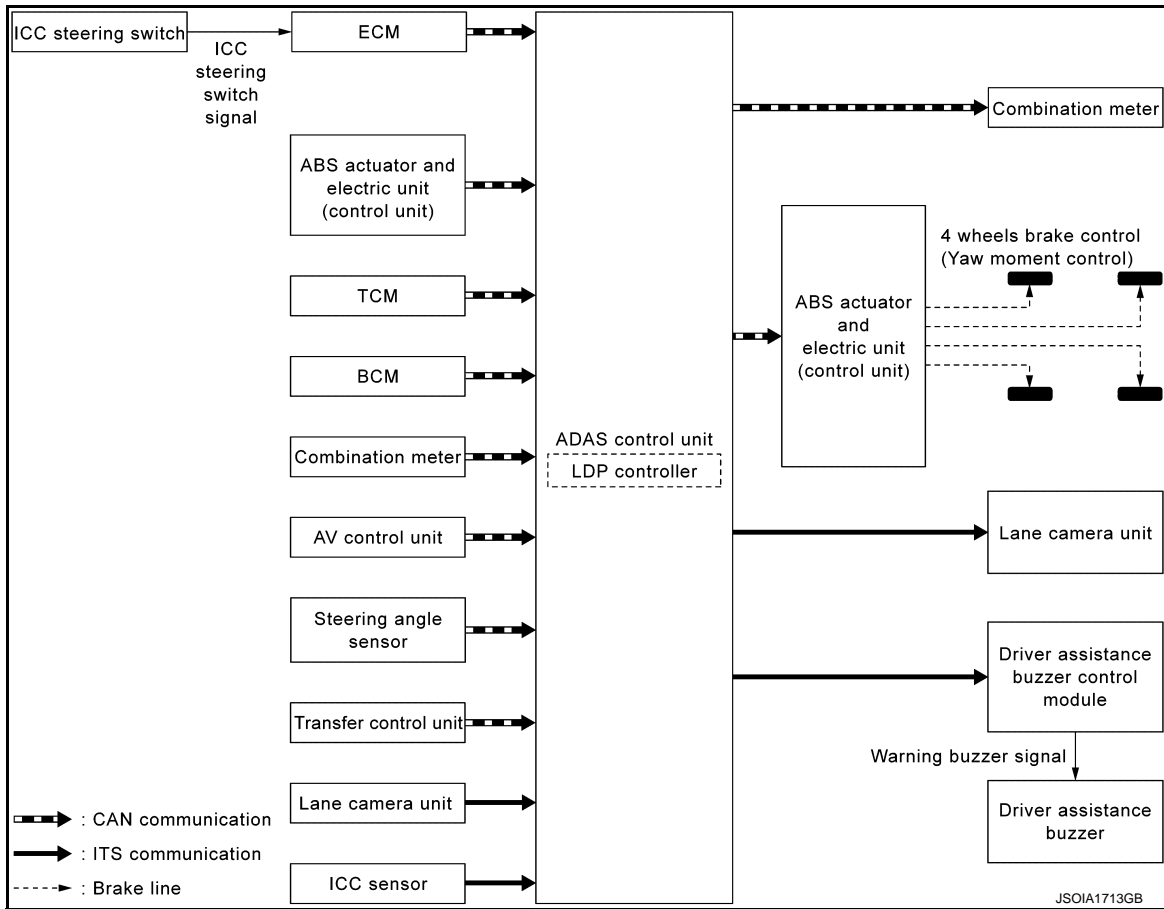
- LDW system ON/OFF can be set on the navigation screen.
- After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (40 MPH)
- LDP ON indicator lamp is OFF.
- The LDW system may not function properly, depending on the situation. Refer to [DAS-205. "Precautions for Lane Departure Warning/Lane Departure Prevention"](#)

LDP

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SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name		Description
ECM	CAN communication	Accelerator pedal position signal	Receives accelerator pedal position (angle)
		Engine speed signal	Receives engine speed
		Snow mode switch signal	Receives an operational state of the snow mode
		ICC steering switch signal	Dynamic driver assistance switch signal
TCM	CAN communication	Input speed signal	Receives the number of revolutions of input shaft
		Current gear position signal	Receives a current gear position
		Shift position signal	Receives a selector lever position
		Output shaft revolution signal	Receives the number of revolutions of output shaft

SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Transmit unit	Signal name		Description
ABS actuator and electric unit (control unit)	CAN communication	ABS malfunction signal	Receives a malfunction state of ABS
		ABS operation signal	Receives an operational state of ABS
		TCS malfunction signal	Receives a malfunction state of TCS
		TCS operation signal	Receives an operational state of TCS
		VDC OFF switch signal	Receives an ON/OFF state of VDC
		VDC malfunction signal	Receives a malfunction state of VDC
		VDC operation signal	Receives an operational state of VDC
		Vehicle speed signal	Receives wheel speeds of four wheels
		Yaw rate signal	Receives yaw rate acting on the vehicle
		Side G sensor signal	Receives lateral G acting on the vehicle
Combination meter	CAN communication	Parking brake switch signal	Receives an operational state of the parking brake
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp
Steering angle sensor	CAN communication	Steering angle sensor malfunction signal	Receives a malfunction state of steering angle sensor
		Steering angle sensor signal	Receives the number of revolutions, turning direction of the steering wheel
		Steering angle speed signal	Receives the turning angle speed of the steering wheel
AV control unit	CAN communication	System selection signal	Receives a selection state of each item in "Driver Assistance" selected with the navigation screen
Transfer control unit	CAN communication	Current 4WD mode signal	Receives a mode selection state of the 4WD shift switch
ICC sensor	ITS communication	ICC sensor signal	Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle
Lane camera unit	ITS communication	Detected lane condition signal	Receives detection results of lane marker

Output Signal Item

Reception unit	Signal name		Description
ABS actuator and electric unit (control unit)	CAN communication	Target yaw moment signal	Transmits a target yaw moment signal to generate yaw moment to the vehicle
Combination meter	CAN communication	LDP ON indicator lamp signal	Transmits an LDP ON indicator lamp signal to turn ON the LDP ON indicator lamp
		Lane departure warning lamp signal	Transmits an lane departure warning lamp signal to turn ON the lane departure warning lamp
Lane camera unit	ITS communication	Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit
		Turn indicator signal	Transmits a turn indicator signal received from BCM
Driver assistance buzzer control module	ITS communication	Driver assistance buzzer signal	Transmits a driver assistance buzzer signal to activates the buzzer

FUNCTION DESCRIPTION

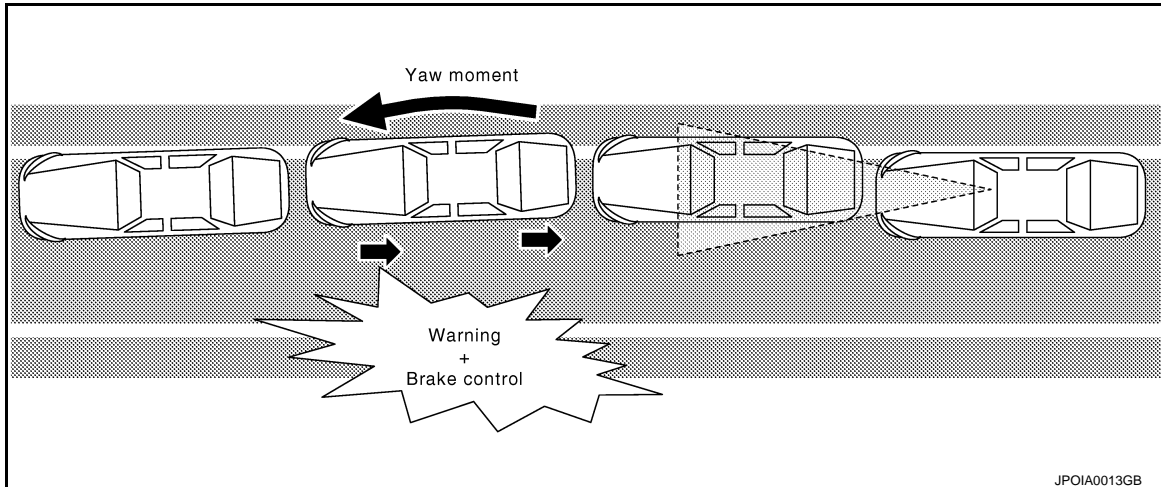
SYSTEM

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

- Lane Departure Prevention (LDP) system provides a lane departure warning and brake control assistance when the vehicle is driven at speeds of approximately 70 km/h (45 MPH) or more.
- When the vehicle approaches either the left or the right side of the traveling lane, a warning sounds and the LDP warning display (Yellow) on the combination meter blinks to alert the driver. Then, the LDP system automatically applies the brakes for a short period of time to help assist the driver to return the vehicle to the center of the traveling lane.
- Warning and brake control are not performed during turn signal operation (lane change side).
- The warning and assist functions stop when the vehicle returns to a position inside of the lane marker.

EXAMPLE



When the vehicle approaches the right lane marker, the driver is alerted by the buzzer and the blinking of lane departure warning lamp (yellow). Simultaneously, the left brake is controlled independently to generate force toward the direction to recover the vehicle from the lane departure.

OPERATION DESCRIPTION

- When the system is turned ON by dynamic driver assistance switch, ADAS control unit transmits LDP ON indicator lamp signal to combination meter via CAN communication.
- Lane camera unit monitors lane markers of the traveling lane. It transmits the detected lane condition signal to ADAS control unit via ITS communication.
- When judging from a lane marker detection signal that the vehicle is approaching the lane marker, ADAS control unit controls the following items.
 - Activates warning buzzer by driver assistance buzzer control module.
 - Transmits a lane departure warning lamp signal to combination meter via CAN communication.
 - Calculates necessary yaw moment to transmit a target yaw moment signal to ABS actuator and electric unit (control unit) via CAN communication.
- When receiving the target yaw moment signal, ABS actuator and electric unit (control unit) controls brake pressure of four wheels, respectively.
- When receiving the signal from ADAS control unit, combination meter turns ON/OFF the lane departure warning lamp (yellow) and the LDP ON indicator lamp (green).

OPERATING CONDITION

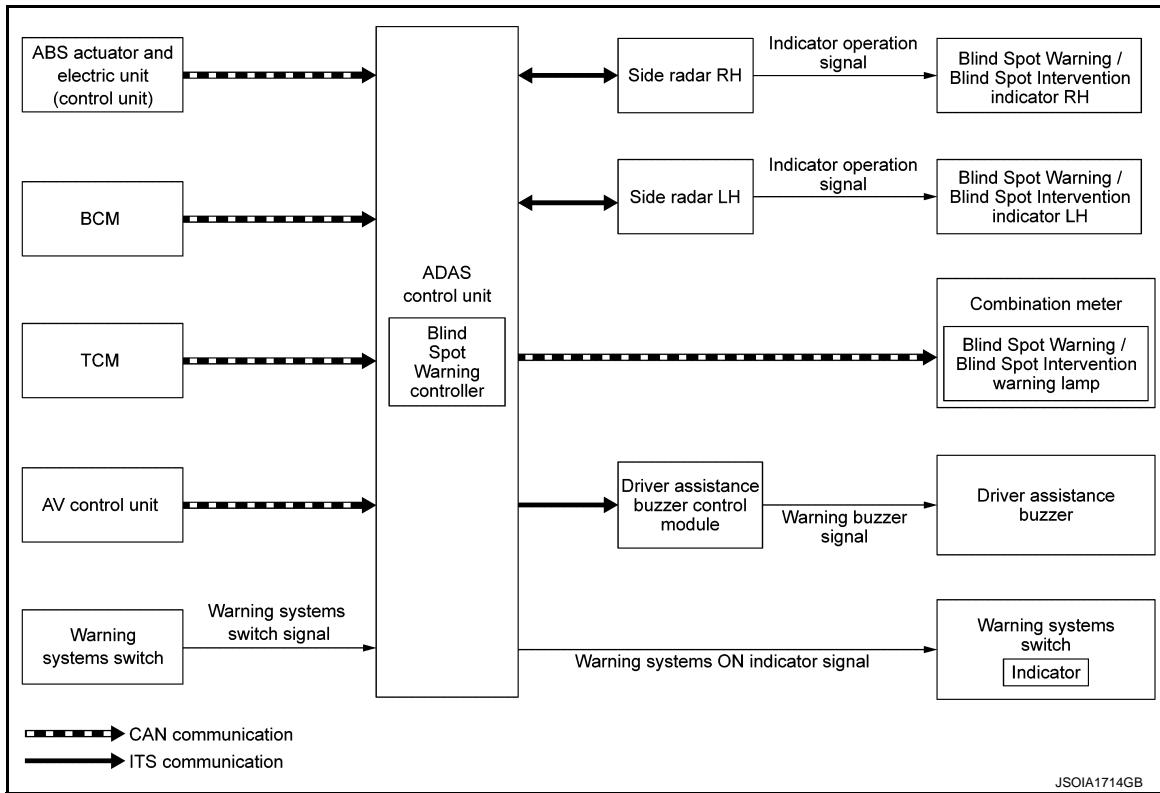
- LDP ON indicator (green): ON
- Vehicle speed: approximately 70 km/h (45 MPH) or more
- Turn indicator signal: After 2 seconds or more from turned OFF

NOTE:

- When the LDP system setting on the navigation screen is ON.
- After the operating conditions are satisfied, the control continues until the vehicle speed reaches approximately 60 km/h (40 MPH).
- The LDP system may not function properly, depending on the situation. Refer to [DAS-205, "Precautions for Lane Departure Warning/Lane Departure Prevention"](#).

BSW

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

ADAS control unit receives signals via CAN communication. It also detects vehicle conditions that are necessary for Blind Spot Warning control.

Input Signal Item

Transmit unit	Signal name	Description
TCM	CAN communication Shift position signal	Receives a selector lever position
ABS actuator and electric unit (control unit)	CAN communication Vehicle speed signal	Receives wheel speeds of four wheels
BCM	CAN communication Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp
	Dimmer signal	Receives ON/OFF state of dimmer signal
AV control unit	CAN communication System selection signal	Receives a selection state of each item in "Driver Assistance" selected with the navigation screen
Side radar LH, RH	ITS communication Vehicle detection signal	Receives vehicle detection condition of detection zone.
Warning systems switch	Warning systems switch signal	Receives an ON/OFF state of the warning systems switch

Output Signal Item

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SYSTEM

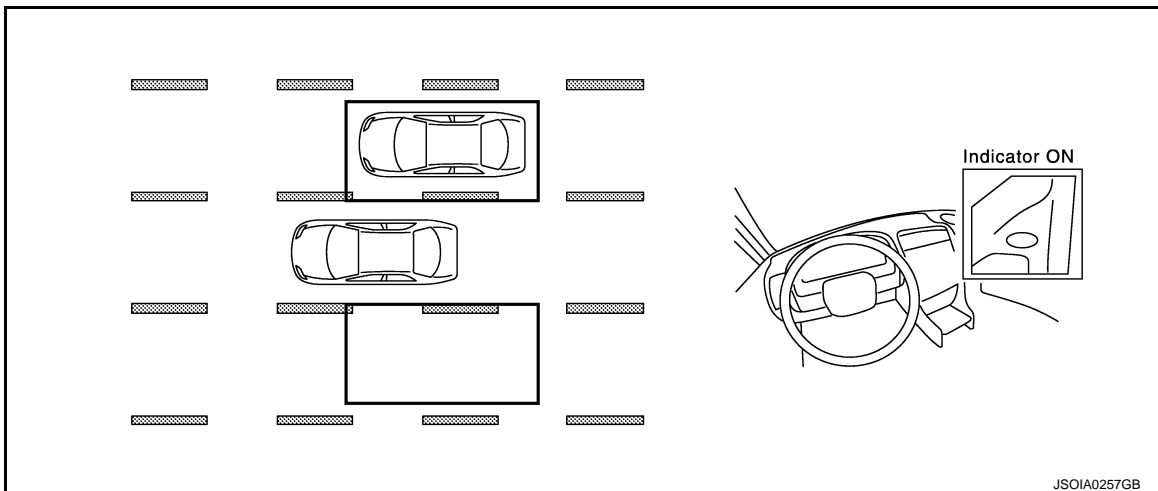
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Reception unit	Signal name		Description
Combination meter	CAN communication	Blind Spot Warning/Blind Spot Intervention warning lamp signal	Transmits a Blind Spot Warning/Blind Spot Intervention warning lamp signal to turn ON the Blind Spot Warning/Blind Spot Intervention warning lamp
		Blind Spot Intervention ON indicator signal	Transmits a Blind Spot Intervention ON indicator lamp signal to turn ON the Blind Spot Intervention ON indicator lamp
Side radar LH, RH	ITS communication	Blind Spot Warning/Blind Spot Intervention indicator signal	Transmits a Blind Spot Warning/Blind Spot Intervention indicator signal to turn ON the Blind Spot Warning/Blind Spot Intervention indicator
		Blind Spot Warning/Blind Spot Intervention indicator dimmer signal	Transmits a Blind Spot Warning/Blind Spot Intervention indicator dimmer signal to dimmer Blind Spot Warning/Blind Spot Intervention indicator
		Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit
Driver assistance buzzer control module	ITS communication	Driver assistance buzzer signal	Transmits a driver assistance buzzer signal to activates the buzzer
Warning systems ON indicator	Warning systems ON indicator signal		Turns ON the warning systems ON indicator

FUNCTION DESCRIPTION

- The BSW system can help alert the driver of other vehicles in adjacent lanes when changing lanes.
- The BSW system uses side radar installed near the rear bumper to detect vehicles in an adjacent lane.
- The side radar can detect vehicles on either side of vehicle within the detection zone shown as illustrated.
- This detection zone starts from the outside mirror of vehicle and extends approximately 10 ft (3.0 m) behind the rear bumper, and approximately 10 ft (3.0 m) sideways.
- The BSW system operates above approximately 32 km/h (20 MPH).
- If the side radar detects vehicles in the detection zone, the Blind Spot Warning/Blind Spot Intervention indicator illuminates.



- If the driver then activates the turn signal, a buzzer will sound twice and the Blind Spot Warning/Blind Spot Intervention indicator will blink.

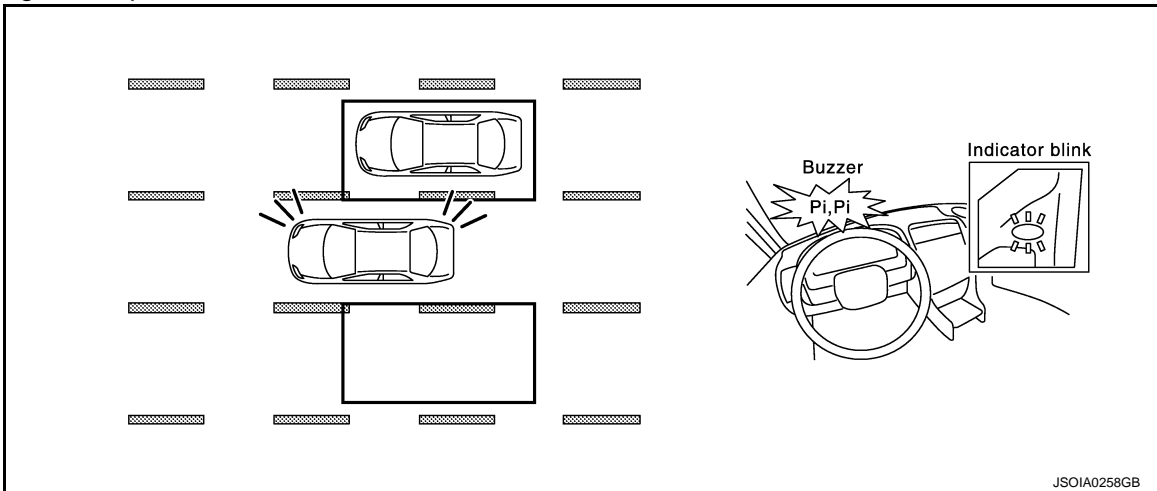
NOTE:

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< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

A buzzer sounds if the side radar have already detected vehicles when the driver activates the turn signal. If a vehicle comes into the detection zone after the driver activates the turn signal, then only the Blind Spot Warning/Blind Spot Intervention indicator blinks and no buzzer sounds.



BLIND SPOT WARNING SYSTEM OPERATION DESCRIPTION

- ADAS control unit enables BSW system.
- The ADAS control unit turns on the BSW system when the warning systems switch is turned ON.
- Side radar detects a vehicle in the adjacent lane, and transmits the vehicle detection signal to ADAS control unit via ITS communication.
- ADAS control unit starts the control as follows, based on a vehicle detection signal, turn signal and dimmer signal transmitted from BCM via CAN communication:
 - Blind Spot Warning/Blind Spot Intervention indicator signal and Blind Spot Warning/Blind Spot Intervention indicator dimmer signal transmission to side radar.
 - Activates warning buzzer by driver assistance buzzer control module.
- Side radar transmits an indicator operation signal to the Blind Spot Warning/Blind Spot Intervention indicator according to Blind Spot Warning/Blind Spot Intervention indicator signal and Blind Spot Warning/Blind Spot Intervention indicator dimmer signal.

OPERATING CONDITION

ADAS control unit performs the control when the following conditions are satisfied.

- Warning systems ON indicator: ON
- Vehicle speed: Approximately 32 km/h (20 MPH) or more.

NOTE:

ON/OFF of Blind Spot Warning system is performed with the navigation screen.

- After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 29 km/h (18 MPH)
- The Blind Spot Warning system may not function properly, depending on the situation. Refer to [DAS-206. "Precautions for Blind Spot Warning/Blind Spot Intervention"](#).

BLIND SPOT INTERVENTION

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SYSTEM

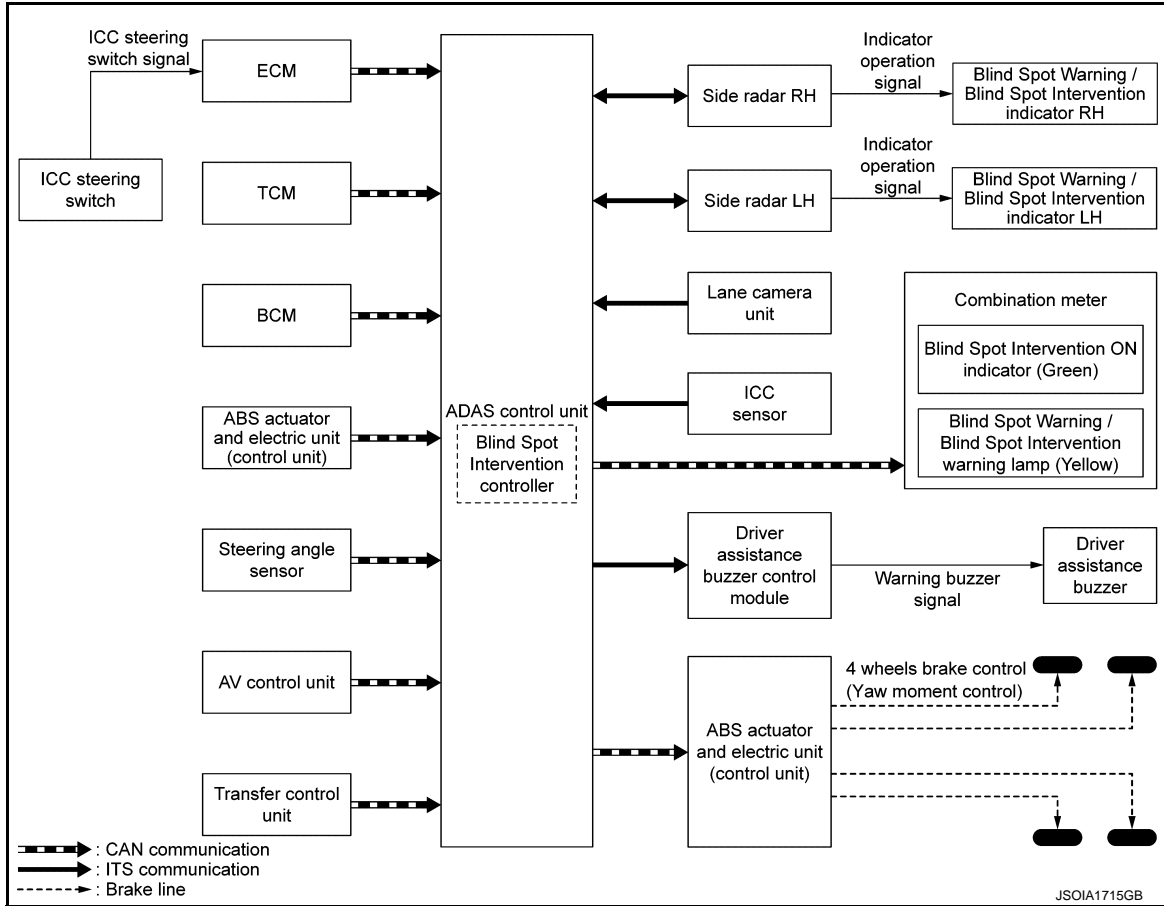
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[DRIVER ASSISTANCE SYSTEM]

BLIND SPOT INTERVENTION : System Description

INFOID:000000011449957

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name		Description
ECM	CAN communication	Accelerator pedal position signal	Receives accelerator pedal position (angle)
		Engine speed signal	Receives engine speed
		ICC steering switch signal	Dynamic driver assistance switch signal
TCM	CAN communication	Input speed signal	Receives the number of revolutions of input shaft
		Current gear position signal	Receives a current gear position
		Shift position signal	Receives a select lever position
		Output shaft revolution signal	Receives the number of revolutions of output shaft

SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Transmit unit	Signal name		Description
ABS actuator and electric unit (control unit)	CAN communication	ABS malfunction signal	Receives a malfunction state of ABS
		ABS operation signal	Receives an operational state of ABS
		TCS malfunction signal	Receives a malfunction state of TCS
		TCS operation signal	Receives an operational state of TCS
		VDC OFF switch signal	Receives an ON/OFF state of VDC
		VDC malfunction signal	Receives a malfunction state of VDC
		VDC operation signal	Receives an operational state of VDC
		Vehicle speed signal	Receives wheel speeds of four wheels
		Yaw rate signal	Receives yaw rate acting on the vehicle
		Side G sensor signal	Receives lateral G acting on the vehicle
Combination meter	CAN communication	Parking brake switch signal	Receives an operational state of the parking brake
BCM	CAN communication	Turn indicator signal	Receives an operational state of the turn signal lamp and the hazard lamp
		Dimmer signal	Receives ON/OFF state of dimmer signal
Steering angle sensor	CAN communication	Steering angle sensor malfunction signal	Receives a malfunction state of steering angle sensor
		Steering angle sensor signal	Receives the number of revolutions, turning direction of the steering wheel
		Steering angle speed signal	Receives the turning angle speed of the steering wheel
AV control unit	CAN communication	System selection signal	Receives a selection state of each item in "Driver Assistance" selected with the navigation screen
Transfer control unit	CAN communication	Current 4WD mode signal	Receives a mode selection state of the 4WD shift switch
ICC sensor	ITS communication	ICC sensor signal	Receives detection results, such as the presence or absence of a leading vehicle and distance from the vehicle
Lane camera unit	ITS communication	Detection lane condition signal	Receives detection results of lane marker
Side radar LH, RH	ITS communication	Vehicle detection signal	Receives vehicle detection condition of detection zone.

Output Signal Item

Reception unit	Signal name		Description
ABS actuator and electric unit (control unit)	CAN communication	Target yaw moment signal	Transmits a target yaw moment signal to generate yaw moment to the vehicle
Combination meter	CAN communication	Blind Spot Warning/Blind Spot Intervention warning lamp signal	Transmits a Blind Spot Warning/Blind Spot Intervention warning lamp signal to turn ON the Blind Spot Warning/Blind Spot Intervention warning lamp
		Blind Spot Intervention ON indicator lamp signal	Transmits a Blind Spot Intervention ON indicator lamp signal to turn ON the Blind Spot Intervention ON indicator lamp
Lane camera unit	ITS communication	Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit
		Turn indicator signal	Transmits a turn indicator signal received from BCM

SYSTEM

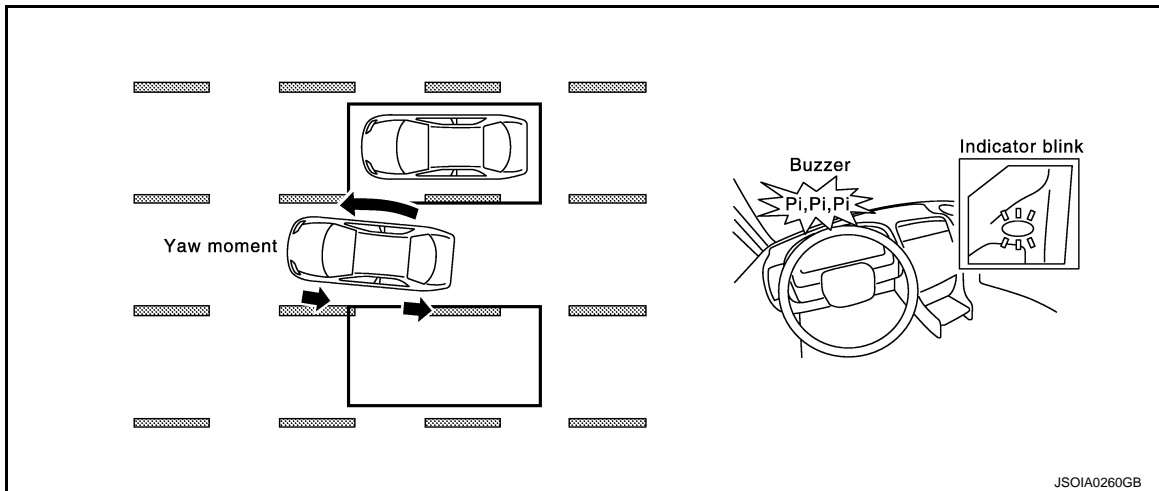
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Reception unit	Signal name	Description	
Side radar LH, RH	Blind Spot Warning/Blind Spot Intervention indicator signal	Transmits a Blind Spot Warning/Blind Spot Intervention indicator signal to turn ON the Blind Spot Warning/Blind Spot Intervention indicator	
	Blind Spot Warning/Blind Spot Intervention indicator dimmer signal	Transmits a Blind Spot Warning/Blind Spot Intervention indicator dimmer signal to dimmer Blind Spot Warning/Blind Spot Intervention indicator	
	Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit	
Driver assistance buzzer control module	ITS communication	Driver assistance buzzer signal	Transmits a driver assistance buzzer signal to activates the buzzer

FUNCTION DESCRIPTION

- The Blind Spot Intervention system can help alert the driver of other vehicles in adjacent lanes when changing lanes. Blind Spot Intervention always operates together with Blind Spot Warning.
- The Blind Spot Intervention system operates above approximately 60 km/h (37 MPH).
- The Blind Spot Intervention system uses side radar installed near the rear bumper to detect other vehicles beside vehicle in an adjacent lane.
- The side radar can detect vehicles on either side of vehicle within the detection zone shown as illustrated.
- This detection zone starts from the outside mirror of vehicle and extends approximately 10 ft (3.0 m) behind the rear bumper, and approximately 10 ft (3.0 m) sideways.
- If the Blind Spot Warning/Blind Spot Intervention indicator is illuminated while vehicle is approaching a lane marker, the Blind Spot Warning/Blind Spot Intervention indicator blinks and an audible warning will sound three times. Then the system applies the brakes on one side of the vehicle for a short period of time to help return the vehicle back to the center of the lane.



- Blind Spot Intervention operates regardless of turn signal usage.
- The brightness of Blind Spot Warning/Blind Spot Intervention indicator lights is adjusted automatically depending on the brightness of the ambient light.

NOTE:

- Blind Spot Intervention is typically activated earlier than LDP when getting closer to the lane marker.
- Warning and brake control will only be activated if the Blind Spot Warning/Blind Spot Intervention indicator is already illuminated when vehicle approaches a lane marker.
- If another vehicle comes into the detection zone after vehicle has crossed a lane marker, no warning or brake control will be activated.

BLIND SPOT INTERVENTION SYSTEM OPERATION DESCRIPTION

- ADAS control unit enables Blind Spot Intervention system.
- Turn ON the dynamic driver assistance switch, and Blind Spot Intervention system setting on the navigation screen. Then Blind Spot Intervention ON indicator comes on.
- Combination meter turns Blind Spot Intervention ON indicator lamp ON/OFF according to the signals from ADAS control unit via CAN communication.
- Side radar detects a vehicle in the adjacent lane, and transmits the vehicle detection signal to ADAS control unit via ITS communication.
- Side radar receives vehicle speed signal from ADAS control unit and changes its detecting function.

SYSTEM

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

- Lane camera unit monitors lane markers of the traveling lane and transmits the detected lane condition signal to ADAS control unit via ITS communication. A
- ADAS control unit starts the control as follows, based on a vehicle detection signal, lane condition signal, turn signal and dimmer signal transmitted from BCM via CAN communication:
 - Blind Spot Warning/Blind Spot Intervention indicator signal and Blind Spot Warning/Blind Spot Intervention indicator dimmer signal transmission to side radar. B
 - Driver assistance buzzer signal transmission to driver assistance buzzer control module via ITS communication. C
 - Calculation of necessary yaw moment and transmission of the target yaw moment signal to ABS actuator and electric unit (control unit). D
- Side radar transmits an indicator operation signal to the Blind Spot Warning/Blind Spot Intervention indicator according to Blind Spot Warning/Blind Spot Intervention indicator operation signal and Blind Spot Warning/Blind Spot Intervention indicator dimmer signal. E
- ABS actuator and electric unit (control unit) controls brake pressure of four wheels respectively according to the target yaw moment signal. F

Operation Condition of Blind Spot Intervention System

ADAS control unit performs the control when the following conditions are satisfied.

- Blind Spot Intervention ON indicator: ON
- Vehicle speed: Approximately 60 km/h (37 MPH) or more

NOTE:

- When the Blind Spot Intervention system setting on the navigation screen is ON. G
- The Blind Spot Intervention system may not function properly, depending on the situation. Refer to [DAS-206, "Precautions for Blind Spot Warning/Blind Spot Intervention"](#). H
- Blind Spot Intervention braking will not operate or will stop operating and only a warning chime will sound under the following conditions. I
 - When the brake pedal is depressed. J
 - When the accelerator pedal is depressed while brake control assist is provided. K
 - When steering quickly. L
 - When the ICC, DCA, PFCW or FEB warnings sound. M
 - When the hazard warning flashers are operated. N
 - When driving on a curve at a high speed. O
- Under the following conditions, the Blind Spot Intervention system will be turned off automatically, a beep will sound and the Blind Spot Intervention ON indicator will blink. The BSW system is still available, but the Blind Spot Intervention system will not be available until the conditions no longer exist. P
 - When the VDC system (except TCS function) or ABS operates.
 - When the VDC system is turned OFF.
 - When the 4WD shift switch is not AUTO position.
 - When the SNOW mode switch is turned ON.

BCI

DAS

SYSTEM

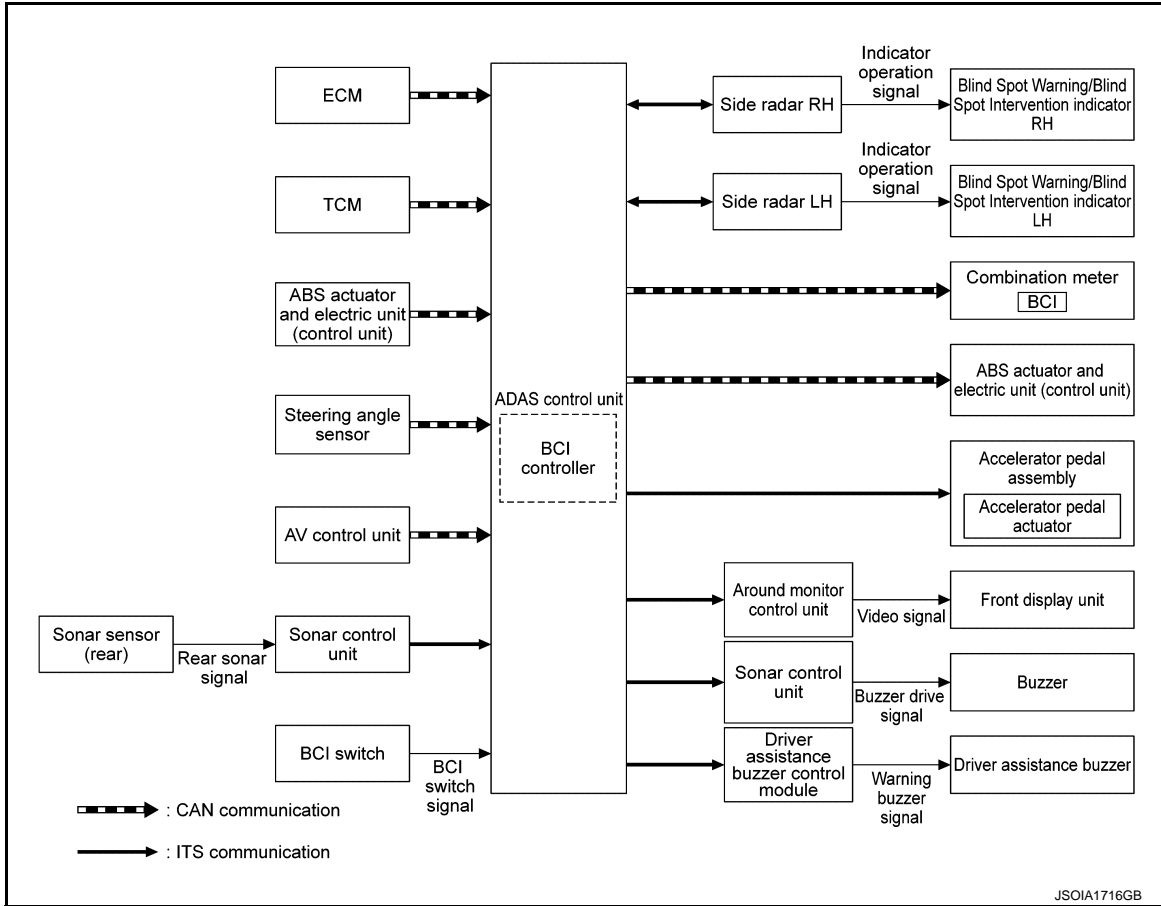
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

BCI : System Description

INFOID:000000011449958

SYSTEM DIAGRAM



ADAS CONTROL UNIT INPUT/OUTPUT SIGNAL ITEM

Input Signal Item

Transmit unit	Signal name	Description
ECM	CAN communication	Accelerator pedal position signal
	CAN communication	Engine speed signal
TCM	CAN communication	Current gear position signal
	CAN communication	Shift position signal
ABS actuator and electric unit (control unit)	CAN communication	ABS malfunction signal
	CAN communication	VDC malfunction signal
	CAN communication	Vehicle speed signal
Sonar control unit	ITS communication	Rear object detection signal
Side radar LH, RH	ITS communication	Vehicle detection signal
BCI switch	BCI switch signal	

Output Signal Item

SYSTEM

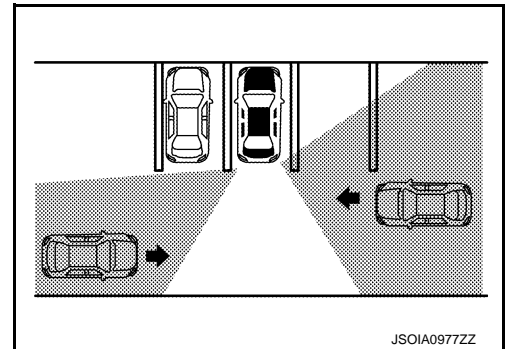
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[DRIVER ASSISTANCE SYSTEM]

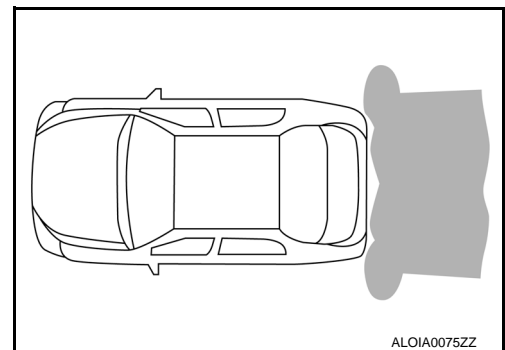
Reception unit	Signal name		Description	
ABS actuator and electric unit (control unit)	CAN communication	Brake fluid pressure control signal.	Transmits a brake fluid pressure control signal to activate the brake.	
Combination meter	CAN communication	Meter display signal	BCI system display signal	Turns the BCI ON/OFF display and BCI system indicator to display a state of the system on the information display.
Sonar control unit	ITS communication	Buzzer drive signal	Transmits a buzzer drive signal to activate buzzer	
Around view monitor control unit	ITS communication	BCI warning signal	Transmits a BCI warning signal to indicate the yellow/red frame on the upper display	
Accelerator pedal actuator	ITS communication	Accelerator pedal feedback force control signal	Transmits an accelerator pedal feedback force control signal to activate the accelerator pedal actuator	
Side radar LH, RH	ITS communication	Blind Spot Warning/Blind Spot Intervention indicator signal	Transmits a Blind Spot Warning/Blind Spot Intervention indicator signal to turn ON the Blind Spot Warning/Blind Spot Intervention indicator	
		Blind Spot Warning/Blind Spot Intervention indicator dimmer signal	Transmits a Blind Spot Warning/Blind Spot Intervention indicator dimmer signal to dimmer Blind Spot Warning/Blind Spot Intervention indicator	
		Vehicle speed signal	Transmits a vehicle speed calculated by the ADAS control unit	

FUNCTION DESCRIPTION

- The Back-up Collision Intervention system can help alert the driver of approaching vehicles or rear objects when the driver is backing out of a parking space.
- The BCI system comprise of to main detection systems. The side radar LH/RH, and the four sonar sensors mounted on the rear bumper.
- The BCI system operates at speeds below 8 km/h (5 MPH) whenever the vehicle is in reverse.
- The BCI system uses the side radar LH/RH installed near the rear bumper to detect approaching vehicles and rear obstacles.
- The side radar can detect vehicles on either side of vehicle within the detection zone shown as illustrated.
- The radar sensors detect the approaching vehicle from up to approximately 15 m (49 ft) away.



- The sonar sensors can detect rear obstacles of up to approximately 1.5 m (4.9 ft).



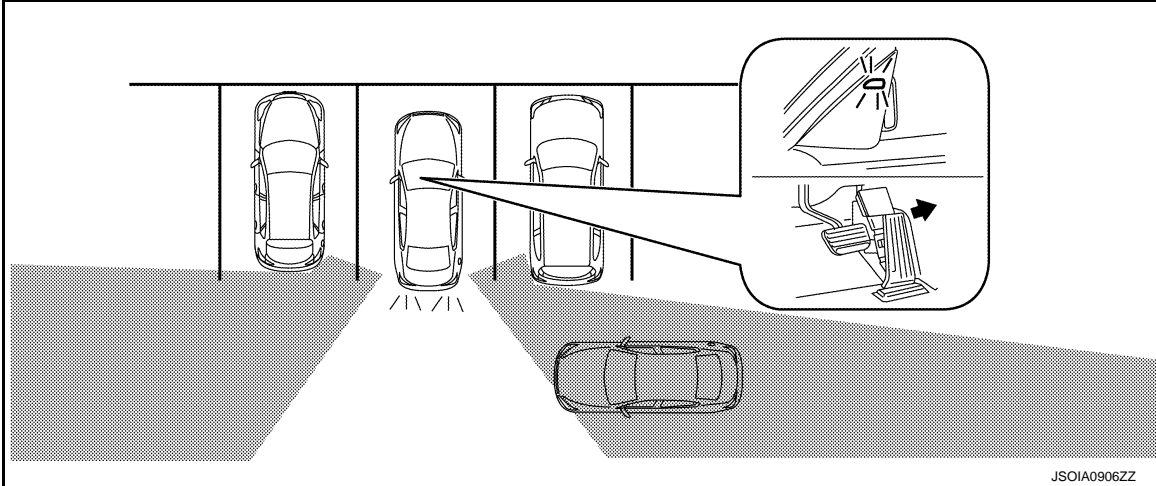
- If the radar detects a vehicle approaching from the side or the sonar detects close objects in the rear, the system gives visual and audible warnings, and applies the brake for a moment when the vehicle is moving

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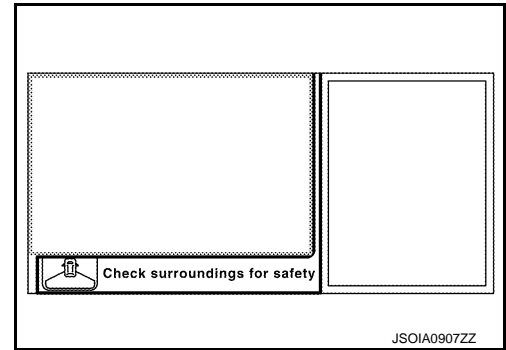
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

backwards. If the driver's foot is on the accelerator pedal, the system pushes the accelerator upward before applying the brake. If the driver continues to press the accelerator, the system will not engage the brake.



- If the side radar detects an approaching vehicle from the side, the BCI system sounds a beep (single beep), the Blind spot warning indicator on the side of the approaching vehicle flashes and the frame of the around view monitor screen is shown in yellow. If the detected vehicle approaches closer and own vehicle is backing up toward the detected vehicle, the system sounds a beep (three times) and the frame of the around view monitor screen is shown in red.



BACK-UP COLLISION INTERVENTION SYSTEM OPERATION DESCRIPTION

- ADAS control unit enables Back-up Collision Intervention system.
- The BCI system is automatically turned ON every time the engine is started.
- Combination meter turns Back-up Collision Intervention ON indicator ON/OFF according to the signals from ADAS control unit via CAN communication.
- Side radar detects a vehicle approaching, and transmits the vehicle detection signal to ADAS control unit via ITS communication.
- Side radar receives vehicle speed signal from ADAS control unit and changes its detecting function.
- ADAS control unit starts the control as follows, based on a vehicle detection signal.

Operation Condition of Back-up Collision Intervention System

ADAS control unit performs the control when the following conditions are satisfied.

- Back-up Collision Intervention: ON (Selected by BCI switch)
- When the vehicle is moving in reverse at 8 km/h (5 MPH) or less.

NOTE:

When the Back-up Collision Intervention system setting is ON in the BCI switch.

Fail-safe (ADAS Control Unit)

INFOID:000000011509940

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/Indicator lamp	Description
Vehicle-to-vehicle distance control mode	High-pitched tone	ICC system warning lamp	Cancel
Conventional (fixed speed) cruise control mode	High-pitched tone	ICC system warning lamp	Cancel

SYSTEM

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

System	Buzzer	Warning lamp/Indicator lamp	Description
Forward Emergency Braking (FEB)	High-pitched tone	FEB warning lamp	Cancel
Predictive Forward Collision Warning (PFCW)	High-pitched tone	FEB warning lamp	Cancel
Distance Control Assist (DCA)	High-pitched tone	ICC system warning lamp	Cancel
Lane Departure Warning (LDW)	—	Lane departure warning lamp	Cancel
Lane Departure Prevention (LDP)	Low-pitched tone	Lane departure warning lamp	Cancel
Blind Spot Warning (BSW)	—	Blind Spot Warning/Blind spot Intervention warning lamp	Cancel
Blind Spot Intervention	Low-pitched tone	Blind Spot Warning/Blind spot Intervention warning lamp	Cancel
Back-up Collision Intervention (BCI)	High-pitched tone	BCI malfunction indicator	Cancel

Fail-safe (ICC Sensor)

INFOID:000000011509941

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

Fail-safe (Lane Camera Unit)

INFOID:000000011509942

FAIL-SAFE CONTROL BY DTC

Lane Departure Warning (LDW)

If a malfunction occurs in the lane camera unit, ADAS control unit cancels control, and turns ON the lane departure warning lamp in the combination meter.

Lane Departure Prevention (LDP)

If a malfunction occurs in the lane camera unit, ADAS control unit cancels control, sounds a beep, and turns ON the lane departure warning lamp in the combination meter.

TEMPORARY DISABLED STATUS AT HIGH TEMPERATURE

Lane Departure Warning (LDW)

- If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the lane departure warning lamp (yellow) in the combination meter will blink.
- When interior temperature is reduced, the system will resume operation automatically and the lane departure warning lamp (yellow) in the combination meter will stop blinking.

Lane Departure Prevention (LDP)

- If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the buzzer sounds and lane departure warning lamp (yellow) in the combination meter will blink.
- When interior temperature is reduced, the system will resume when dynamic driver assistance switch is turned OFF and turned ON and the lane departure warning lamp (yellow) in the combination meter will stop blinking.

Fail-safe (Side Radar)

INFOID:000000011509943

FAIL-SAFE CONTROL BY DTC

Blind Spot Warning (BSW)

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If a malfunction occurs in the side radar, ADAS control unit cancels control, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

Blind Spot Intervention

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

Back-up Collision Intervention (BCI)

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the BCI malfunction indicator in the combination meter (information display).

TEMPORARY DISABLED STATUS AT BLOCKAGE

Blind Spot Warning (BSW)

When the side radar is blocked, the operation is temporarily cancelled. Then the Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

Blind Spot Intervention

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

Back-up Collision Intervention (BCI)

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and BCI not available indicator in combination meter indicates (information display). Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

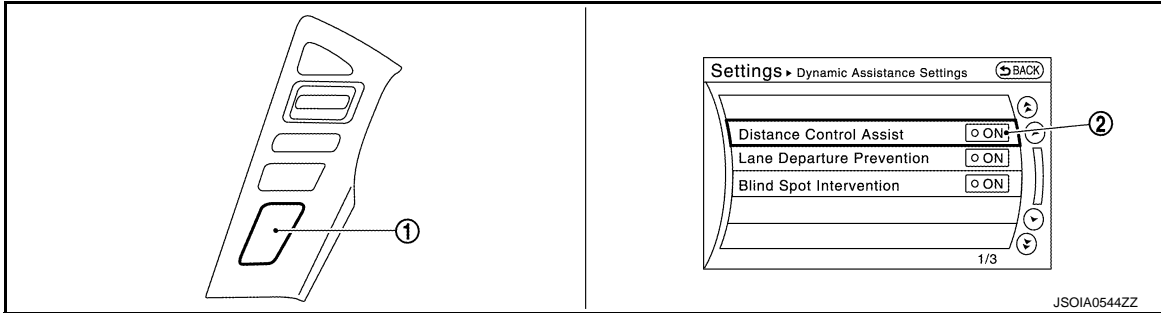
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OPERATION

DCA

DCA : Switch Name and Function

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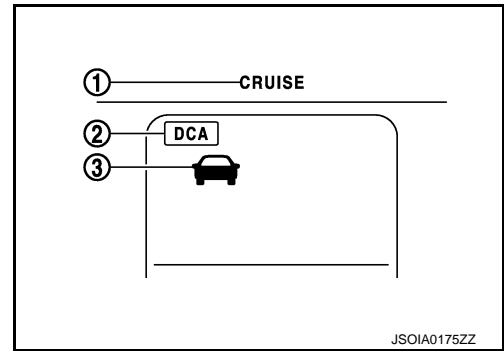


No.	Switch name	Description
①	Dynamic driver assistance switch	Turns DCA system ON/OFF (When the setting of DCA system on the navigation system setting screen is ON)
②	DCA system setting screen (Navigation system setting screen)	The setting of DCA system can be switched between ON and OFF

DCA : Menu Displayed by Pressing Each Switch

INFOID:000000011449964

SYSTEM DISPLAY



No.	Switch name	Description
①	ICC system warning lamp	Indicates that an abnormal condition is present in DCA system
②	DCA system switch indicator	Indicates that DCA system is ON
③	Vehicle ahead detection indicator	Indicates whether it detect a vehicle ahead NOTE: The vehicle ahead detection indicator turns OFF when the no operation condition is satisfied

DISPLAY AND WARNING LAMP

System Control Condition Display

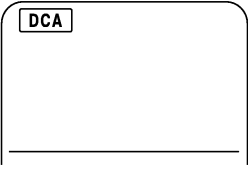
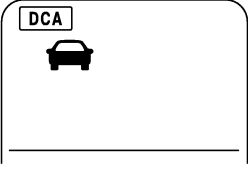
The DCA system switch indicator illuminates and the system is turned ON by pressing the dynamic driver assistance switch at the system OFF.

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OPERATION

< SYSTEM DESCRIPTION >

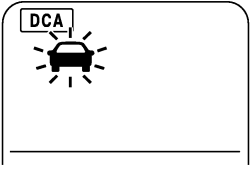
[DRIVER ASSISTANCE SYSTEM]

	Condition	Display on combination meter
Operation status	Vehicle ahead not detected	 <small>JSOIA0207ZZ</small>
	Vehicle ahead detected	 <small>JSOIA0208ZZ</small>

Warning Operation

Approach Warning

- If own vehicle comes closer to the vehicle ahead due to rapid deceleration of that vehicle or if another vehicle cuts in, the system warns the driver with the chime and DCA system display. Decelerate by depressing the brake pedal to maintain a safe vehicle distance if:
 - The chime sounds.
 - The vehicle ahead detection indicator blinks.
- 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 near own vehicle
- The warning chime will not sound when own vehicle approaches vehicles that are parked or moving slowly.


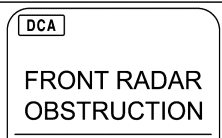

Condition	Display on combination meter
When the system judges that the brake operation by the driver is necessary	 <small>JSOIA0209ZZ</small>

Warning Lamp Display

OPERATION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

	Condition	Description	Display on combination meter
Warning display	When the dynamic driver assistance switch is turned ON with settings of DCA system, LDP system and Blind Spot Intervention system OFF	The DCA system is not activated. The DCA system switch indicator blinks.	 <small>JSOIA0210ZZ</small>
	<ul style="list-style-type: none"> When the VDC or ABS (including the TCS) operates When the VDC is turned OFF When the SNOW mode switch is turned ON When the 4WD shift switch is turned to not AUTO 	The DCA system is automatically canceled. The chime will sound and the DCA system switch indicator will blink. NOTE: The system operates if the dynamic driver assistance switch is turned OFF⇒ON after the condition improves.	
	When the sensor window is dirty, making it impossible to detect a vehicle ahead	The DCA system is automatically canceled. The chime sounds and the ICC system warning lamp will come on and the "FRONT RADAR OBSTRUCTION" indicator will appear. NOTE: Stop the vehicle in a safe location and turn the ignition switch OFF. Clean the dirty area with soft cloth. The system returns to normal condition when turning the ignition switch ON again.	<small>CRUISE</small>  <small>JSOIA1775ZZ</small>
When the DCA system is not operating properly	The chime sounds and the ICC system warning lamp will come on. NOTE: Turn the ignition switch OFF, and then turn the ignition switch ON again. If there is no malfunction, the system returns to the normal condition.	<small>CRUISE</small>  <small>JSOIA0212ZZ</small>	

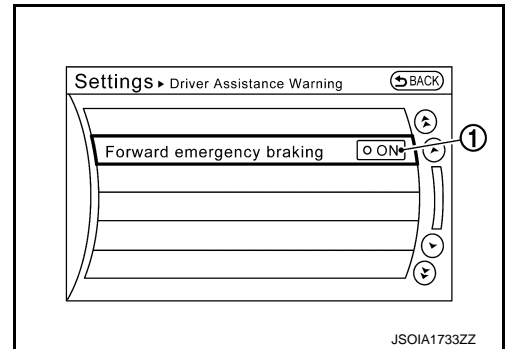
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NOTE:
When the DCA system is automatically canceled, the cancellation condition can be displayed on "WORK SUPPORT" of CONSULT (ICC/ADAS).

PFCW

PFCW : Switch Name and Function

INFOID:000000011449965



No.	Switch name	Description
①	PFCW/FEB system setting screen (Navigation system setting screen)	The setting of PFCW/FEB system can be switched between ON and OFF

DAS

OPERATION

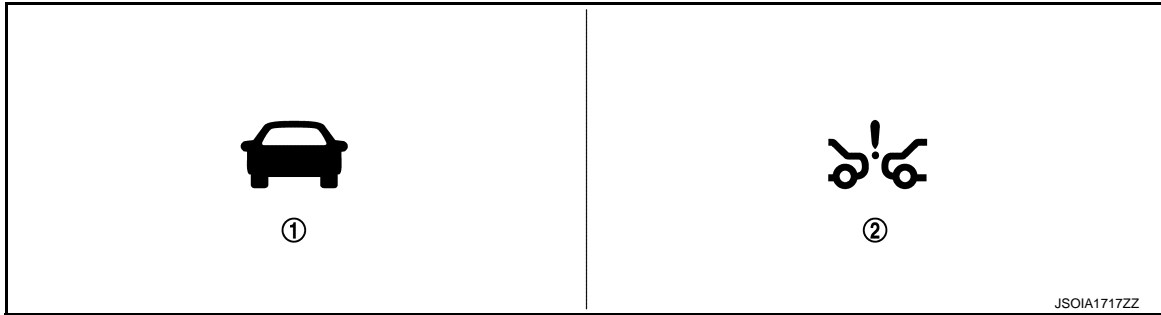
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

PFCW : Menu Displayed by Pressing Each Switch

INFOID:000000011449966

INDICATOR AND WARNING LAMP



No.	Switch name	Description
①	Vehicle ahead detection indicator	Vehicle ahead detection indicator blinks when the PFCW system is activated.
②	FEB warning lamp	<ul style="list-style-type: none"> FEB warning lamp turns ON when: <ul style="list-style-type: none"> PFCW system has a malfunction When the ICC sensor area is covered with dirt or is obstructed FEB warning lamp blinks when 4WD shift switch is set in a position other than AUTO <p>NOTE: Shared with FEB system</p>

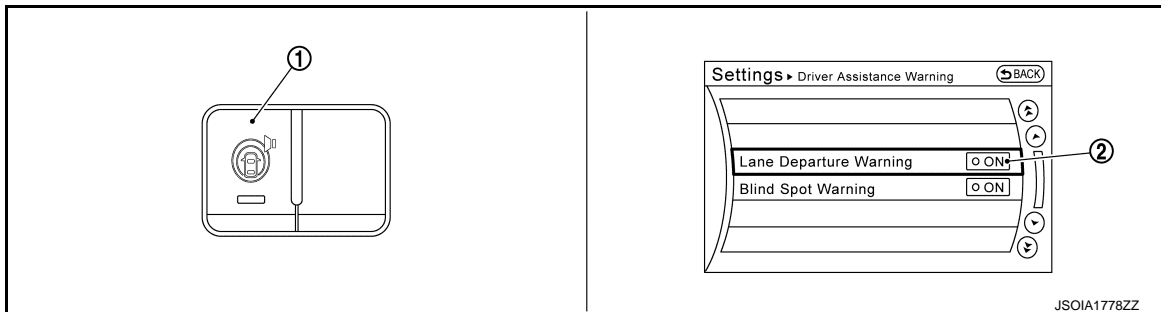
SYSTEM CONTROL CONDITION DISPLAY

Condition	Vehicle ahead detection indicator (In the combination meter)	Buzzer
Set condition	OFF	—
When own vehicle comes closer to the vehicle ahead and it is judged that the distance between the vehicles is not sufficient	<p>JSOIA0134ZZ</p>	Beep

LDW

LDW : Switch Name and Function

INFOID:000000011449967



No.	Switch name	Description
①	Warning systems switch	Turns LDW system ON/OFF (When the setting of LDW system on the navigation system screen is ON)
②	LDW system setting screen (Navigation system settings screen)	The setting of LDW system can be switched between ON and OFF

OPERATION

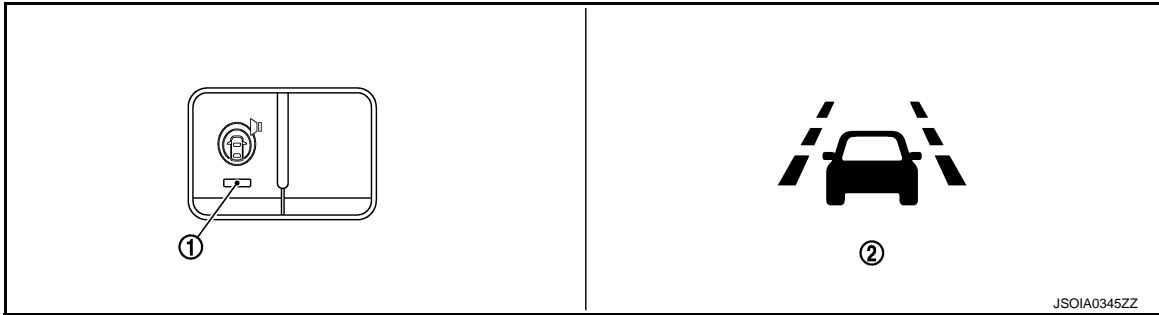
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

LDW : Menu Displayed by Pressing Each Switch

INFOID:000000011449968

INDICATOR AND WARNING LAMP



No.	Switch name	Description
①	Warning systems ON indicator	<ul style="list-style-type: none"> Indicates that LDW system and BSW system are ON Blinks when that the setting of LDW system and BSW system are "OFF" and the warning systems switch is pressed
②	Lane departure warning lamp	<ul style="list-style-type: none"> Blinks when LDW system is activated Turns ON when LDW system has a malfunction Blinks when the temperature of the lane camera unit becomes high

DISPLAY AND WARNING

Vehicle condition / Driver's operation	Action	Warning systems ON indicator	Indication on the combination meter	buzzer	
Less than approx. 60 km/h (40 MPH)	Close to lane marker	No action	ON	OFF	—
Approx. 70 km/h (45 MPH) or more	Close to lane marker	Warning <ul style="list-style-type: none"> Buzzer sounds Warning lamp blinks 	ON	(Yellow) Blink <small>JPOIA0018GB</small>	Short continuous beeps
	<ul style="list-style-type: none"> Close to lane marker Turn signal ON (Deviate side) 	No action	ON	OFF	—

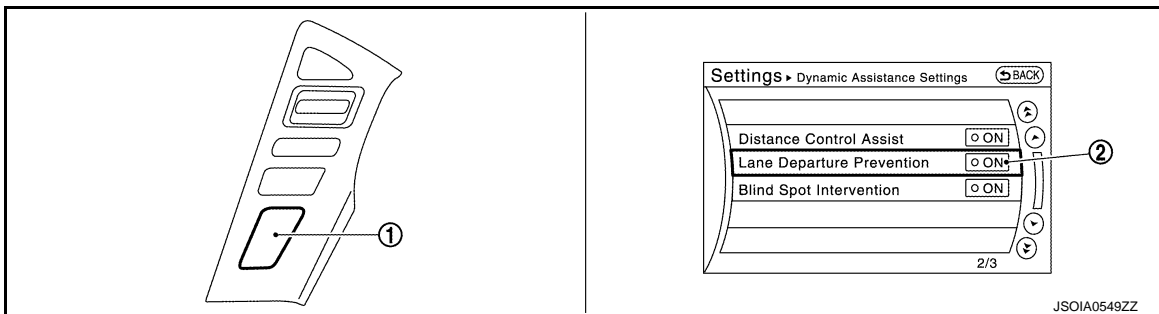
NOTE:

After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (40 MPH). Refer to [DAS-174. "LDW : System Description"](#).

LDP

LDP : Switch Name and Function

INFOID:000000011449969



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OPERATION

[DRIVER ASSISTANCE SYSTEM]

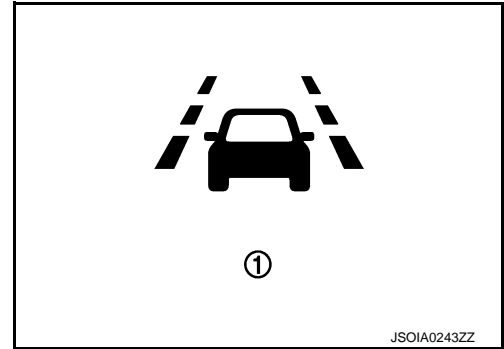
< SYSTEM DESCRIPTION >

No.	Switch name	Description
①	Dynamic driver assistance switch	Turns LDP system ON/OFF (When the setting of LDP system on the navigation system setting screen is ON)
②	LDP system setting screen (Navigation system setting screen)	The setting of LDP system can be switched between ON and OFF

LDP : Menu Displayed by Pressing Each Switch


INFOID:000000011449970

INDICATOR AND WARNING LAMP



No.	Switch name	Description
①	LDP ON indicator (green)	<ul style="list-style-type: none"> Indicates that LDP system is ON Blinks when dynamic driver assistance switch is pressed (When the setting of LDP system and DCA system are "OFF")
	Lane departure warning lamp (yellow)	<ul style="list-style-type: none"> Blinks when the warning of LDP system occurs Turns ON when LDP system has a malfunction Blinks when the temperature of lane camera unit becomes high




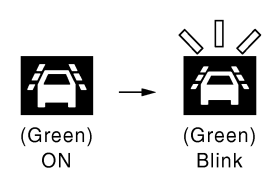
DISPLAY AND WARNING

Vehicle condition / Driver's operation		Action	Indication on the combination meter	Buzzer
Less than approx. 60 km/h (40 MPH)	Close to lane marker	No action	 (Green) ON <small>JPOIA0021GB</small>	—

OPERATION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Vehicle condition / Driver's operation	Action	Indication on the combination meter	Buzzer	
Approx. 70 km/h (45 MPH) or more	Close to lane marker	 <p style="text-align: center;">(Green) ON (Yellow) Blink (Green) ON</p> <p style="text-align: center; font-size: small;">JPOIA0022GB</p>	Short continuous beeps	
	<ul style="list-style-type: none"> Close to lane marker Turn signal ON (Deviate side) 	No action	 <p style="text-align: center;">(Green) ON</p> <p style="text-align: center; font-size: small;">JPOIA0021GB</p>	—
	Close to lane with soft braking	Warning <ul style="list-style-type: none"> Buzzer sounds Warning lamp blinks 	 <p style="text-align: center;">(Green) ON (Yellow) Blink (Green) ON</p> <p style="text-align: center; font-size: small;">JPOIA0022GB</p>	Short continuous beeps
	<ul style="list-style-type: none"> VDC OFF switch OFF ⇒ ON (VDC system ON ⇒ OFF) SNOW mode switch OFF ⇒ ON 4WD shift switch is in the 4H or 4L 	Cancellation <ul style="list-style-type: none"> Buzzer sounds Indicator lamp blinks NOTE: When dynamic driver assistance switch is ON ⇒ OFF, indicator lamp is turned OFF	 <p style="text-align: center;">(Green) ON (Green) Blink</p> <p style="text-align: center; font-size: small;">JPOIA0023GB</p>	Beep

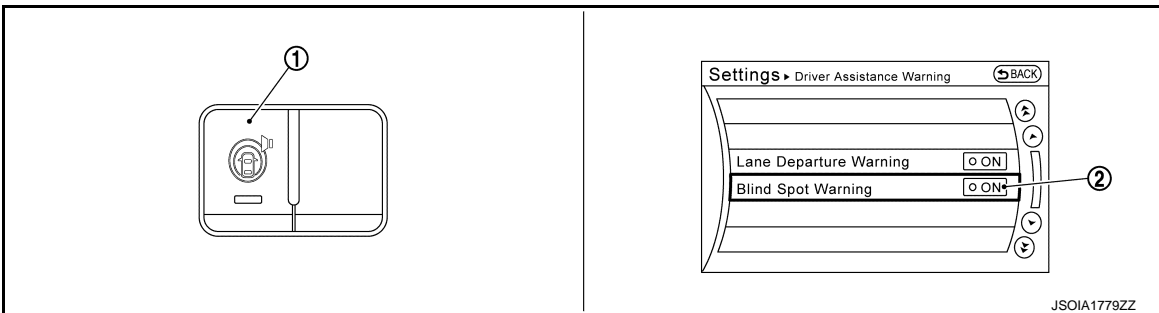
NOTE:

After the operating conditions are satisfied, the control continues until the vehicle speed reaches approximately 60 km/h (40 MPH). Refer to [DAS-176, "LDP : System Description"](#).

BSW

BSW : Switch Name and Function

INFOID:000000011449971



No.	Switch name	Description
①	Warning systems switch	Turns BSW systems ON/OFF (When the setting of BSW system on the navigation system setting screen is ON)
②	BSW system setting screen (Navigation system settings screen)	The setting of BSW system can be switched between ON and OFF

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OPERATION

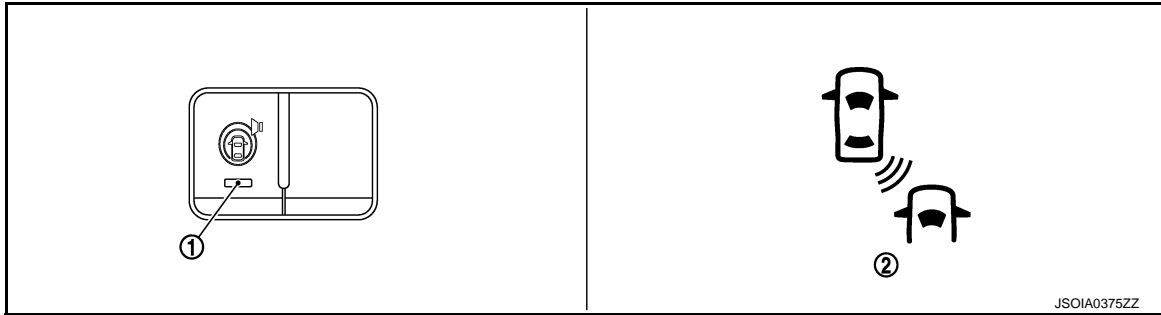
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

BSW : Menu Displayed by Pressing Each Switch

INFOID:000000011449972

INDICATOR AND WARNING LAMP



No.	Switch name	Description
①	Warning systems ON indicator	<ul style="list-style-type: none"> Indicates that PFCW system, LDW system, and/or BSW system is ON Blinks when the setting of LDW system, PFCW system and BSW system is "OFF" and the warning systems switch is pressed
②	Blind Spot Warning/Blind Spot Intervention warning lamp (yellow)	<ul style="list-style-type: none"> Turns ON when Blind Spot Warning/Blind Spot Intervention system is malfunctioning Blinks when the following conditions: <ul style="list-style-type: none"> When the camera detects that interior temperature is high When radar blockage is detected

DISPLAY AND WARNING OPERATION

Vehicle condition / Driver's operation				Action	
Warning systems ON indicator	Vehicle speed	Turn signal condition	Status of vehicle detection within detection area	Indication on the Blind Spot Warning/Blind spot Intervention indicator	Buzzer
OFF	—	—	—	OFF	OFF
ON	Less than approx. 29 km/h (18 MPH)	—	Vehicle is absent	OFF	OFF
		OFF	Vehicle is absent	ON	OFF
	Approx. 32 km/h (20 MPH) or more	ON (Vehicle detected direction)	Before turn signal operates Vehicle is detected	Blink <p>J50IA0251GB</p>	Short continuous beep <p>J50IA0252GB</p>
Vehicle is detected after turn signal operates			Blink <p>J50IA0251GB</p>	OFF	

NOTE:

OPERATION

[DRIVER ASSISTANCE SYSTEM]

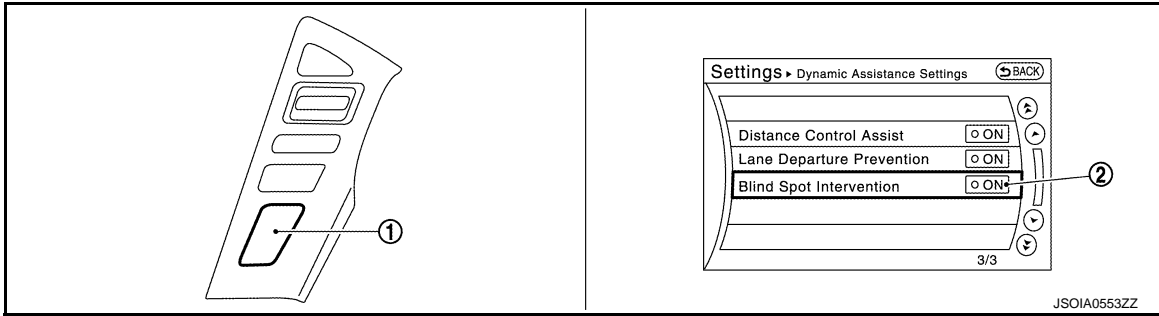
< SYSTEM DESCRIPTION >

- If vehicle speed exceeds approximately 32 km/h (20MPH), BSW function operates until the vehicle speed becomes lower than approximately 29km/h (18MPH).
- Time shown in the figure is approximate time.
- Always Blind Spot Intervention system operates together with BSW system. Whenever Blind Spot Intervention system is turned on by pushing the dynamic driver assistance switch, BSW system also be turned on even if the BSW system is turned off. However, at this time the warning systems ON indicator remains OFF.

BLIND SPOT INTERVENTION

BLIND SPOT INTERVENTION : Switch Name and Function

INFOID:000000011449973

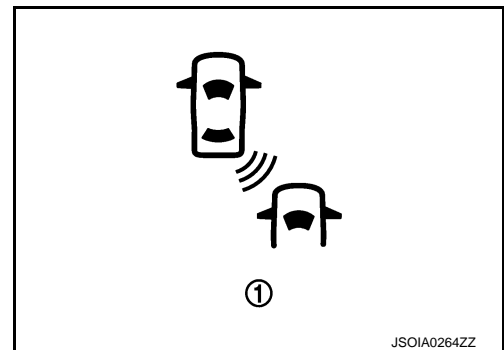


No.	Switch name	Description
①	Dynamic driver assistance switch	Turns Blind Spot Intervention system ON/OFF
②	Blind Spot Intervention system setting screen (Navigation system setting screen)	The setting of Blind Spot Intervention system can be switched between ON and OFF

BLIND SPOT INTERVENTION : Menu Displayed by Pressing Each Switch

INFOID:000000011449974

INDICATOR AND WARNING LAP



No.	Switch name	Description
①	Blind Spot Intervention ON indicator (green)	<ul style="list-style-type: none"> • Turns ON while Blind Spot Intervention system is ON • Blinks when dynamic driver assistance switch is pressed while setting of Blind Spot Intervention is OFF • Under the following conditions, the Blind Spot Intervention ON indicator (green) will blink <ul style="list-style-type: none"> - When the VDC system (except TCS function) or ABS operates - When the VDC system is turned OFF - When the 4WD shift switch is turned to not AUTO position - When the SNOW mode switch is turned ON
	Blind Spot Warning/Blind Spot Intervention warning lamp (yellow)	<ul style="list-style-type: none"> • Turns ON when Blind Spot Warning/Blind Spot Intervention system is malfunctioning • Blinks when the following conditions: <ul style="list-style-type: none"> - When the camera detects that interior temperature is high - When radar blockage is detected.

DISPLAY AND WARNING OPERATION

Whenever the Blind Spot Intervention system is turned on, the BSW system will also be on.

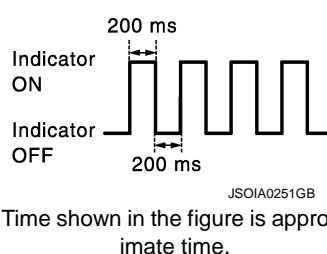
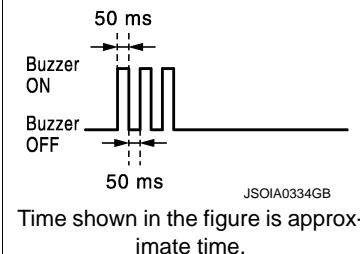
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OPERATION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Vehicle condition / Driver's operation				Action		
Blind Spot Intervention ON indicator	Vehicle speed	Status of vehicle detection within detection area	Status of approach to adjacent lane	Indication on the Blind Spot Warning/Blind spot Intervention indicator	Brake control	Buzzer
OFF	—	—	—	OFF	OFF	OFF
ON	Less than approx. 60 km/h (37 MPH)	—	—	OFF	OFF	OFF
	Approx. 60 km/h (37 MPH) or more	Vehicle is absent	—	OFF	OFF	OFF
		Vehicle is detected	Not approaching	ON	OFF	OFF
	Approx. 60 km/h (37 MPH) or more	Vehicle is detected	Approaching	<p style="text-align: center;">Blink</p> 	ON	

Under the following conditions, the Blind Spot Intervention system will be turned off automatically, a beep will sound and the Blind Spot Intervention ON indicator (green) will blink. The BSW system is still available, but the Blind Spot Intervention system will not be available until the conditions no longer exist.

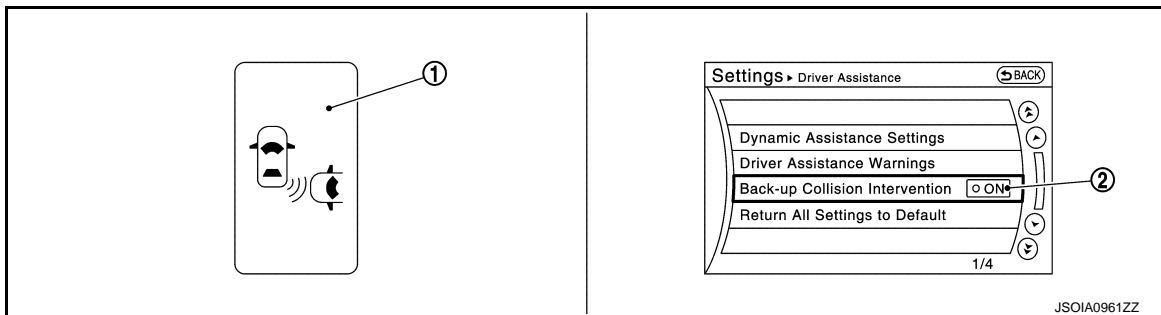
- When the VDC system (except TCS function) or ABS operates.
- When the VDC system is turned OFF.
- When the 4WD shift switch is turned to not AUTO position.
- When the SNOW mode switch is turned ON.

BCI

BCI : Switch Name and Function

INFOID:000000011449975

BCI



No.	Switch name	Description
①	BCI switch	Turns BCI systems ON/OFF (When the setting of BCI system on the navigation system setting screen is ON)
②	BCI setting screen (Navigation system setting screen)	The setting of BCI system can be switched between ON and OFF

OPERATION

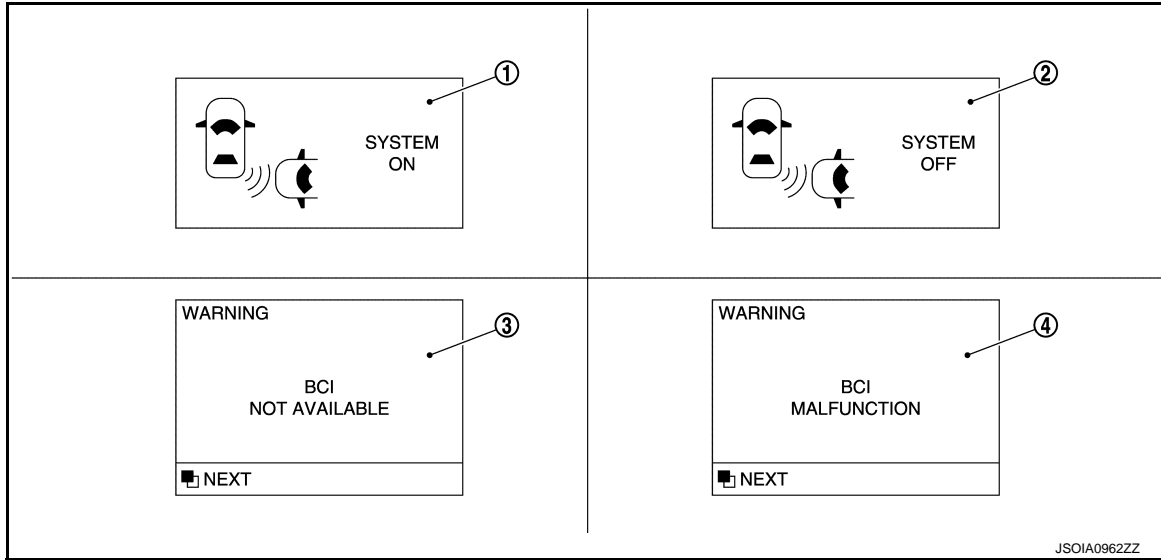
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

BCI : Menu Displayed by Pressing Each Switch

INFOID:000000011449976

SYSTEM DISPLAY



No.	Name	Description
①	BCI ON indicator	Turns ON when the selector lever is placed in "R" position.
②	BCI OFF indicator	Turns ON when the BCI system is turned off temporarily by pushing the BCI switch.
③	BCI not available indicator	Turns ON when the following conditions are satisfied: <ul style="list-style-type: none"> • When the accelerator pedal actuator detects that the internal motor temperature is high [over approximately 100°C (212°F)]. • When radar blockage is detected.
④	BCI malfunction indicator	Turns ON when BCI system is malfunctioning.

DISPLAY AND WARNING OPERATION

Vehicle condition / Driver's operation						Action		
Selector lever position	BCI system	BCI ON indicator	BCI OFF indicator	Vehicle speed	Status of vehicle detection within detection area	Accelerator pedal position	Brake control	Buzzer
Other than "R" position	—	OFF	OFF	—	—	OFF	OFF	OFF
"R" position	OFF	OFF	ON	—	—	OFF	OFF	ON
	ON	ON	OFF	0 km/h (0 MPH)	Vehicle is detected	OFF	OFF	ON
				8 km/h (5 MPH) or less	Vehicle is detected	ON	ON	ON
				More than 8km/h (5 MPH)	Vehicle is detected	OFF	OFF	OFF

NOTE:

When the following conditions are satisfied, the Back-up Collision Intervention system will be turned off automatically, a beep will sound. The Back-up Collision Intervention system will not be available until the conditions no longer exist.

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DAS

OPERATION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- When the accelerator pedal actuator detects that the internal motor temperature is high [over approximately 100°C (212°F)].
- When side radar blockage is detected.

HANDLING PRECAUTION

Precautions for Distance Control Assist

INFOID:000000011449977

- 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 with a warning chime. To prevent the vehicle from moving, the driver must depress the brake pedal.
- The DCA system will not apply brake control while the driver's foot is on the accelerator pedal.
- This 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.
- This system will not adapt automatically to road conditions. Do not use the system on roads with sharp curves, or on icy roads, in heavy rain or in fog.
- The distance sensor will not detect the following object.
 - Stationary and slow moving vehicles
 - Pedestrians or objects in the roadway
 - Oncoming vehicles in the same lane
 - Motorcycles traveling offset in the travel lane
- As there is a performance limit to the distance control function, never rely solely on the DCA 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.
- The system may not detect the vehicle in front of own vehicle in certain road or weather conditions. To avoid accidents, never use the DCA system under the following conditions.
 - On roads with sharp curves
 - On slippery road surfaces such as on ice or snow, etc.
 - On off-road surfaces such as on sand or rock, etc.
 - During bad weather (rain, fog, snow, etc.)
 - When rain, snow or dirt adhere to the system sensor
 - On steep downhill roads (frequent braking may result in overheating the brakes)
 - On repeated uphill and downhill roads
 - When towing a trailer or other vehicle
- In some road or traffic conditions, a vehicle or object can unexpectedly come into the sensor detection zone and cause automatic braking. Driver may need to control the distance from other vehicles using the accelerator pedal. Always stay alert and avoid using the DCA system when it is not recommended in this section.
- The following are some conditions in which the sensor cannot detect the signals.
 - When the snow or road spray from traveling vehicles reduces the sensor's visibility
 - When excessively heavy baggage is loaded in the rear seat or the luggage room of own vehicle
- The DCA system is designed to automatically check the sensor's operation. When the sensor area 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 DCA system may not detect them. In these instances, the DCA system may not be able to decelerate the vehicle properly. Be sure to check and clean the sensor regularly.
- The DCA system is designed to help assist the driver to maintain a following distance from the vehicle ahead. The system will decelerate as necessary and if the vehicle ahead comes to a stop, the vehicle decelerates to standstill. However, the DCA system can only apply up to approximately 40% of the vehicles total braking power. If a vehicle moves into the traveling lane ahead or if a vehicle traveling ahead rapidly decelerates, the distance between vehicles may become closer because the DCA system cannot decelerate the vehicle quickly enough. If this occurs, the DCA system will sound a warning chime and blink the system display to notify the driver to take necessary action.
- The DCA system does not control vehicle speed or warn when driver approach stationary and slow moving vehicles. Driver must pay attention to vehicle operation to maintain proper distance from vehicles ahead.

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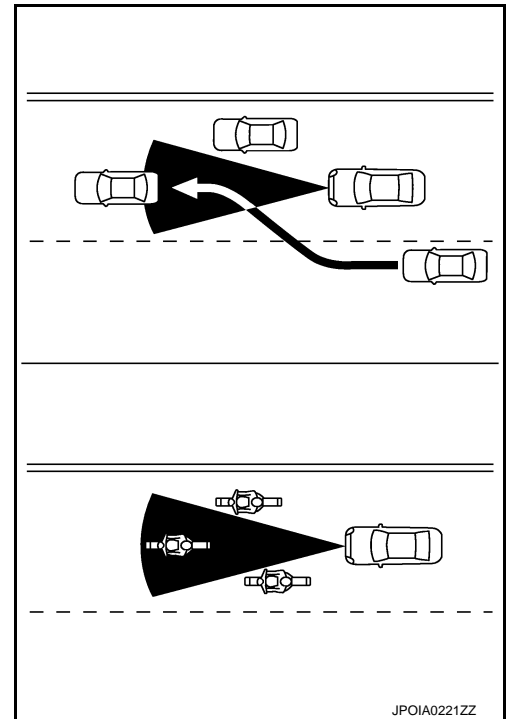
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HANDLING PRECAUTION

< SYSTEM DESCRIPTION >

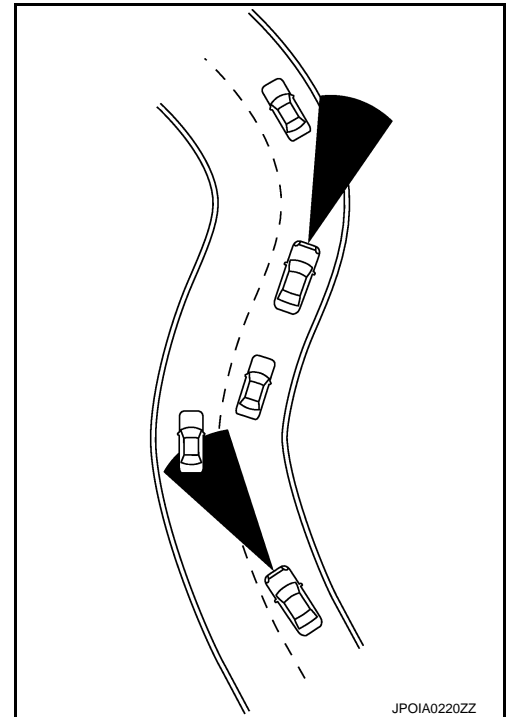
[DRIVER ASSISTANCE SYSTEM]

- The detection zone of the sensor is limited. A vehicle ahead must be in the detection zone for the system to operate.
- 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 system may warn 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.



JPOIA0221ZZ

- When driving on some roads, such as winding, hilly, curved, narrow roads, or roads which are under construction, the sensor may detect vehicles in a different lane, or may temporarily not detect a vehicle traveling ahead. This may cause the system to work inappropriately. 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 system may warn 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.
- The approach warning chime may sound and the system display may blink when the radar sensor detects objects on the side of the vehicle or on the side of the road. This may cause the DCA system to decelerate or accelerate the vehicle. The radar sensor may detect these objects when the vehicle is driven on winding roads, narrow roads, hilly roads or when entering or exiting a curve. 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).



JPOIA0220ZZ

- The DCA system automatically decelerates own vehicle to help assist the driver to maintain a following distance from the vehicle ahead. Manually brake when deceleration is required to maintain a safe distance upon sudden braking by the vehicle ahead or when a vehicle suddenly appears in front of own vehicle. Always stay alert when using the DCA system.
- When the vehicle ahead detection indicator lamp is not illuminated, system will not control or warn the driver.
- Never place a foot under the brake pedal. A foot may be caught when the system controls the brake.
- Depending on the position of the accelerator pedal, the system may not be able to assist the driver to release the accelerator pedal appropriately.
- If the vehicle ahead comes to a standstill, the vehicle decelerates to a standstill within the limitations of the system. The system will release brake control with a warning chime once it judges the vehicle is at a standstill. To prevent the vehicle from moving, the driver must depress the brake pedal. [The system will resume control automatically once the system reaches 5 km/h (3 MPH)].

Precautions for Predictive Forward Collision Warning

INFOID:000000011449978

- The predictive forward collision warning system is designed to warn driver before a collision but will not avoid a collision. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times.
- The radar sensor does not detect the following objects.
 - Pedestrians, animals, or obstacles in the roadway.
 - Oncoming vehicles
 - Crossing vehicles
- The predictive forward collision warning system does not function when a vehicle ahead is a narrow vehicle, such as a motorcycle.
- The radar sensor may not detect a second vehicle ahead in the following conditions:
 - Snow or heavy rain
 - Dirt, ice, snow or other material covering the radar sensor
 - Interference by other radar sources
 - Snow or road spray from traveling vehicles is splashed
 - Driving in a tunnel
 - Towing a trailer or other vehicle
- The radar sensor may not detect a second vehicle when the vehicle ahead is being towed.
- When the distance to the vehicle ahead is too close, the beam of the radar sensor is obstructed.
- The radar sensor may not detect a second vehicle when driving on a steep downhill slope or on roads with sharp curves.
- Excessive noise will interfere with the warning tone sound, and it may not be heard.

Precautions for Lane Departure Warning/Lane Departure Prevention

INFOID:000000011449979

LANE CAMERA UNIT HANDLING

To keep the proper operation of the LDW/LDP systems and prevent a system malfunction, be sure to observe the following:

- Always keep the windshield clean.
- Do not attach a sticker (including transparent material) or install an accessory near the lane camera unit.
- Do not place reflective materials, such as white paper or a mirror, on the instrument panel. The reflection of sunlight may adversely affect the lane camera unit capability of detecting the lane markers.
- Do not strike or damage the areas around the camera unit. Do not touch the camera lens or remove the screw located on the camera unit. If the camera unit is damaged due to an accident.

LANE DEPARTURE WARNING (LDW)

- LDW system is only a warning device to inform the driver of a potential unintended lane departure. It will not steer the vehicle or prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of the vehicle at all times.
- LDW system will not operate at speeds below approximately 70 km/h (45 MPH) or if it cannot detect lane markers.
- Excessive noise will interfere with the warning chime sound, and the chime may not be heard.
- LDW system may not function properly under the following conditions:
 - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; non-standard lane markers; or lane markers covered with water, dirt or snow, etc.
 - On roads where the discontinued lane markers are still detectable.
 - On roads where there are sharp curves.
 - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs. (The LDW system could detect these items as lane markers.)
 - On roads where the traveling lane merges or separates.
 - When the vehicle's traveling direction does not align with the lane marker.
 - When traveling close to the vehicle in front of driver, which obstructs the lane camera unit detection range.
 - When rain, snow or dirt adheres to the windshield in front of the lane camera unit.
 - When the headlights are not bright due to dirt on the lens or if the aiming is not adjusted properly.
 - When strong light enters the lane camera unit. (For example, the light directly shines on the front of the vehicle at sunrise or sunset.)
 - When a sudden change in brightness occurs. (For example, when the vehicle enters or exits a tunnel or under a bridge.)

LANE DEPARTURE PREVENTION (LDP)

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DAS

HANDLING PRECAUTION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- The LDP system will not always steer the vehicle to keep it in the lane. It is not designed to prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of vehicle at all times.
- LDP system is primarily intended for use on well-developed freeways or highways. It may not detect the lane markers in certain roads, weather or driving conditions.
- Using the LDP system under some conditions of road, lane marker or weather, or when driver change lanes without using the turn signal could lead to an unexpected system operation. In such conditions, driver needs to correct the vehicle's direction with driver's steering operation to avoid accidents.
- When the LDP system is operating, avoid excessive or sudden steering maneuvers. Otherwise, driver could lose control of the vehicle.
- The LDP system will not operate at speeds below approximately 70 km/h (45 MPH) or if it cannot detect lane markers.
- Do not use the LDP system under the following conditions as it may not function properly:
 - During bad weather (rain, fog, snow, wind, etc.).
 - When driving on slippery roads, such as on ice or snow, etc.
 - When driving off-road such as on sand or rock, etc.
 - When driving on winding or uneven roads.
 - When there is a lane closure due to road repairs.
 - When driving in a makeshift or temporary lane.
 - When driving on roads where the lane width is too narrow.
 - When driving with a tire that is not within normal tire conditions (for example, tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
 - When the vehicle is equipped with non-original brake or steering parts or suspension parts.
 - When driver is towing a trailer or other vehicle.
- Excessive noise will interfere with the warning chime sound, and the chime may not be heard.
- The functions of the LDP system (warning and, system application of the steering or brakes) may or may not operate properly under the following conditions:
 - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; non-standard lane markers or lane markers covered with water, dirt or snow, etc.
 - On roads where discontinued lane markers are still detectable.
 - On roads where there are sharp curves.
 - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs (The LDP system could detect these items as lane markers.).
 - On roads where the traveling lane merges or separates.
 - When the vehicle's traveling direction does not align with the lane marker.
 - When traveling close to the vehicle in front of driver, which obstructs the lane camera unit detection range.
 - When rain, snow or dirt adheres to the windshield in front of the lane camera unit.
 - When the headlights are not bright due to dirt on the lens or if the aiming is not adjusted properly.
 - When strong light enters the lane camera unit (For example, the light directly shines on the front of the vehicle at sunrise or sunset.)
 - When a sudden change in brightness occurs (For example, when the vehicle enters or exits a tunnel or under a bridge.)

Precautions for Blind Spot Warning/Blind Spot Intervention

INFOID:000000011449980

LANE CAMERA UNIT HANDLING

Refer to [DAS-205, "Precautions for Lane Departure Warning/Lane Departure Prevention"](#).

SIDE RADAR HANDLING

- Side radar for Blind Spot Warning/Blind Spot Intervention system is located inside the rear bumper.
- Always keep the rear bumper near the side radar clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work near the side radar.
- Do not strike or damage the areas around the side radar.
- Do not strike, damage, and scratch the side radar, especially the vent seal (gray circular) area, under repair.

BLIND SPOT WARNING & BLIND SPOT INTERVENTION

- The Blind Spot Warning and Blind Spot Intervention systems are not a replacement for proper driving procedure and are not designed to prevent contact with vehicles or objects. When changing lanes, always use the side and rear mirrors and turn and look in the direction driver will move to ensure it is safe to change lanes. Never rely solely on the Blind Spot Warning or Blind Spot Intervention system.

HANDLING PRECAUTION

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

- Using the Blind Spot Intervention system under some road, lane marker or weather conditions could lead to improper system operation. Always rely on driver's own steering and braking operation to avoid accidents. A
- The Blind Spot Warning and Blind Spot Intervention systems may not provide the warning or the control for vehicles that pass through the detection zone quickly.
- Do not use the Blind Spot Warning or Blind Spot Intervention systems when towing a trailer. B
- Excessive noise (for example, audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- The side radar may not be able to detect and activate Blind Spot Warning/Blind Spot Intervention when certain objects are present such as: C
 - Pedestrians, bicycles, animals.
 - Vehicle such as motorcycles, low height vehicle, or high ground clearance vehicle.
 - Oncoming vehicles.
 - Vehicles remaining in the detection zone when driver accelerate from a stop. D
 - A vehicle merging into an adjacent lane at a speed approximately the same as vehicle.
 - A vehicle approaching rapidly from behind.
 - A vehicle which vehicle overtakes rapidly. E
- Severe weather or road spray conditions may reduce the ability of the radar to detect other vehicles.
- The side radar detection zone is designed based on a standard lane width. When driving in a wider lane, the side radar may not detect vehicles in an adjacent lane. When driving in a narrow lane, the side radar may detect vehicles driving two lanes away. F
- The side radar are designed to ignore most stationary objects, however objects such as guardrails, walls, foliage and parked vehicles may occasionally be detected. This is a normal operating condition. G

BLIND SPOT INTERVENTION

- Do not use the Blind Spot Intervention system under the following conditions because the system may not function properly. H
 - During bad weather (for example. rain, fog, snow, wind, etc.)
 - When driving on slippery roads, such as on ice or snow, etc.
 - When driving on winding or uneven roads.
 - When there is a lane closure due to road repairs.
 - When driving in a makeshift or temporary lane.
 - When driving on roads where the lane width is too narrow.
 - When driving with a tire that is not within normal tire conditions (for example, tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
 - When the vehicle is equipped with non-original steering parts, brake parts or suspension parts.
 - When driver is towing a trailer or other vehicle.
- The camera may not detect lane markers in the following situations and the Blind Spot Intervention system may not operate properly. K
 - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; nonstandard lane markers; lane markers covered with water, dirt, snow, etc. L
 - On roads where discontinued lane markers are still detectable.
 - On roads where there are sharp curves.
 - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs. M
 - On roads where the traveling lane merges or separates.
 - When the vehicle is traveling direction does not align with the lane markers.
 - When traveling close to the vehicle in front of driver, which obstructs the lane camera unit detection range.
 - When rain, snow or dirt adheres to the windshield in front of a lane camera unit.
 - When the headlights are not bright due to dirt on the lens or if aiming is not adjusted properly.
 - When strong light enters a lane camera unit. (for example, light directly shines on the front of the vehicle at sunrise or sunset.)
 - When a sudden change in brightness occurs. (for example, when the vehicle enters or exits a tunnel or under a bridge.)
- The Blind Spot Intervention system will not operate if own vehicle is on a lane marker when another vehicle enters the detection zone. In this case only the BSW system operates. P
- Blind Spot Intervention assist will not operate or will stop operating and only a warning chime will sound under the following conditions.
 - When the brake pedal is depressed.
 - When the vehicle is accelerated during Blind Spot Intervention operation.
 - When steering quickly.
 - When the ICC, DCA, predictive forward collision warning or forward emergency braking warnings sound.
 - When the hazard warning flashers are operated.

DAS

< SYSTEM DESCRIPTION >

- When driving on a curve at a high speed.

Precautions for Back-up Collision Intervention

INFOID:000000011449981

SONAR HANDLING

- Always keep the sonar sensors clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work over any of the sonar sensors.
- Do not strike or scratch any of the sonar sensors causing physical damage. to a sensor or the surrounding area

SIDE RADAR HANDLING

- Always keep the rear bumper near the side radar clean.
- Do not attach a sticker (including transparent material), install an accessory or paint work near the side radar.
- Do not strike or damage the areas around the side radar.

BACK-UP COLLISION INTERVENTION

- The Back-up Collision Intervention system is not a replacement for proper driving procedure and is not designed to prevent contact with vehicles or objects. When backing out of parking space, always use the inside and outside rear view mirrors and turn and look in the direction own vehicle will move. Never rely solely on the Back-up Collision Intervention system.
- There is a limitation to the detection capability of the radar and the sonar. Using the BCI system under some road, ground, lane marker, traffic or weather conditions could lead to improper system operation. Always rely on driver operation to avoid accidents.
- In the case of several vehicles approaching in a row or in the opposite direction, a chime may not be issued to the BCI system after the first vehicle passes the sensors.
- When the sonar sounds a tone, the BCI system does not chime a sound (single beep).
- The BCI system does not operate if the object is very close to the bumper.
- The radar sensor may not be able to detect certain objects are present such as:
 - Pedestrians, bicycles or animals.
 - A vehicle that is passing at a speed greater than approximately 24 km/h (15 MPH).
- The radar sensor may not detect approaching vehicles in certain situations:
 - When the vehicle parked next to own vehicle obstructs the beam of the radar sensor.
 - When the vehicle is parked in an angled parking space.
 - When the vehicle is parked on inclined ground.
 - When the vehicle turns around into own vehicle's aisle.
 - When the angle formed by own vehicle and approaching vehicle is small.
- Severe weather or road spray conditions may reduce the ability of the radar to detect other vehicles.
- The sonar sensor system may not detect:
 - Small or moving object.
 - Wedge-shaped objects.
 - Object closer to the bumper [less than approximately 30 cm (10 in)].
 - Thin objects such as rope, wire, chain, etc.
- The brakes engaged by the BCI system is not as effective on a slope as it is on flat ground. When on a steep slope, the system may not function properly.
- Do not use the BCI system under the following conditions because the system may not function properly:
 - When driving with a tire that is not the within normal tire condition (example: tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
 - When the vehicle is equipped with non-original brake parts or suspension parts.
 - When towing a trailer or other vehicle.
- Excessive noise (for example, audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

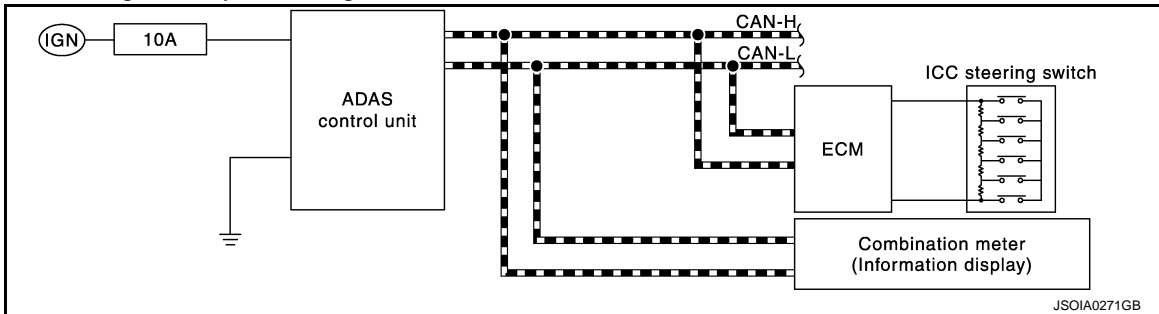
On Board Diagnosis Function

INFOID:000000011509944

DESCRIPTION

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

On Board Self-diagnosis System Diagram



METHOD OF STARTING

CAUTION:

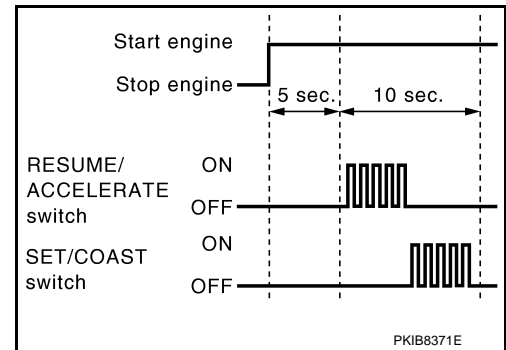
Start condition of on board self-diagnosis

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

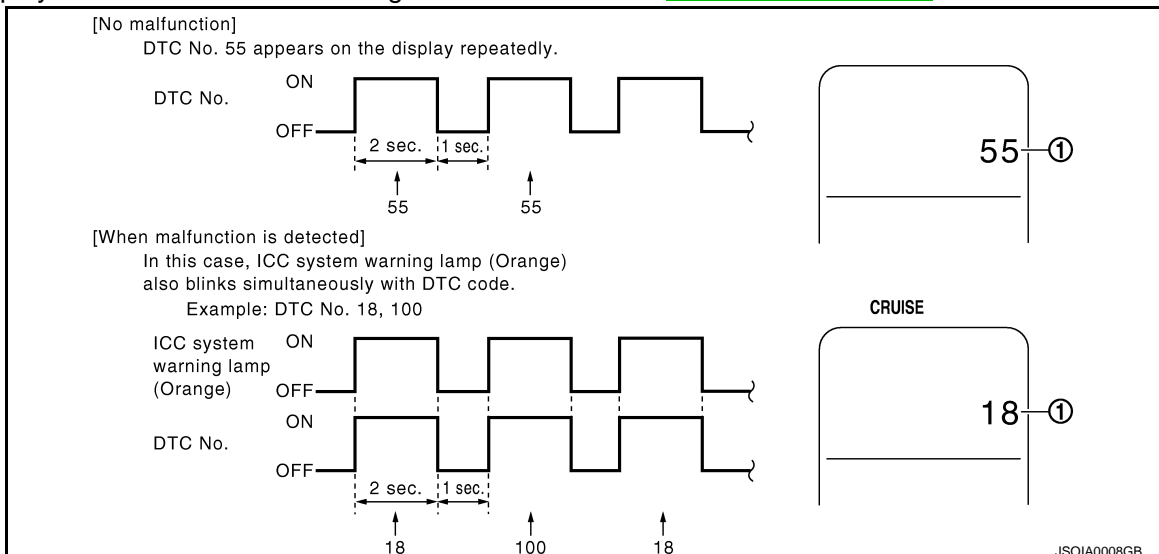
1. Turn the ignition switch OFF.
2. Start the engine.
3. Wait for 5 seconds after starting the engine. Push up the RESUME/ACCELERATE switch 5 times and push down the SET/COAST switch 5 times within 10 seconds.

NOTE:

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



4. The DTC is displayed on the set vehicle speed indicator ① on the ICC system display on the information display when the on board self-diagnosis starts. Refer to [DAS-40. "DTC Index"](#).



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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

- 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-30, "On Board Diagnosis Function" .
ICC steering switch malfunction		Perform the inspection for DTC "C1A06". Refer to DAS-74, "DTC Logic" .
Harness malfunction between ICC steering switch and ADAS control unit		
ADAS control unit malfunction		
Harness malfunction between ICC steering switch and ECM		
ECM control unit malfunction		
ADAS control unit malfunction		<ul style="list-style-type: none"> • Check power supply and ground circuit of ADAS control unit. Refer to DAS-158, "Diagnosis Procedure". • Perform SELF-DIAGNOSIS for "ICC/ADAS" with CONSULT, and then check the malfunctioning parts. Refer to DAS-40, "DTC Index".

HOW TO ERASE ON BOARD SELF-DIAGNOSIS

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

NOTE:

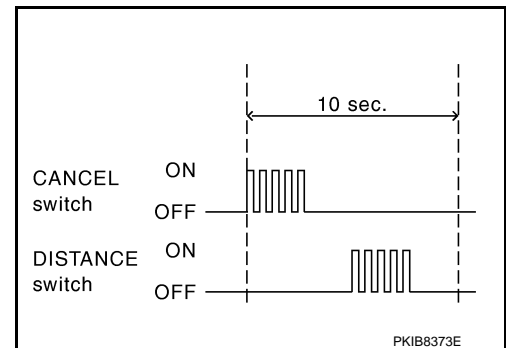
- Complete the operation within 10 seconds after pressing the CANCEL switch first.
- If the operation is not completed within 10 seconds, repeat the procedure from step 1.

4. DTC 55 is displayed after erasing.

NOTE:

DTCs for existing malfunction can not be erased.

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



CONSULT Function (ICC/ADAS)

INFOID:000000011509945

APPLICATION ITEMS

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

Diagnosis mode	Description
Configuration	<ul style="list-style-type: none"> • The vehicle specification that is written in ADAS control unit can be displayed or stored • The vehicle specification can be written when ADAS control unit is replaced
Work Support	Displays causes of automatic system cancellation occurred during system control
Self Diagnostic Result	Displays the name of a malfunctioning system stored in the ADAS control unit
Data Monitor	Displays ADAS control unit input/output data in real time
Active Test	Enables an operational check of a load by transmitting a driving signal from the ADAS control unit to the load
ECU Identification	Displays ADAS control unit part number
CAN Diag Support Monitor	Displays a reception/transmission state of CAN communication and ITS communication

CONFIGURATION

Configuration includes functions as follows.

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

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

WORK SUPPORT

Work support items	Description
CAUSE OF AUTO-CANCEL 1	Displays causes of automatic system cancellation occurred during control of the following systems <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Lane Departure Prevention (LDP) • Blind Spot Intervention
CAUSE OF AUTO-CANCEL 3	Displays causes of automatic system cancellation occurred during control of the Back-up Collision Intervention (BCI)

NOTE:

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

Display Items for The Cause of Automatic Cancellation 1

Cause of cancellation	Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Distance Control Assist	Forward Emergency Braking	Description
OPERATING WIPER	×				The wiper operates at HI (it includes when the wiper is operated at HI with the wiper switch AUTO position)
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	×		×		SNOW mode switch was pressed
OP SW DOUBLE TOUCH	×	×			ICC steering switches were pressed at the same time

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

VHCL SPD DOWN	×	×	×		Vehicle speed lower than the speed as follows <ul style="list-style-type: none"> • 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
4WD LOCK MODE	×	×	×	×	Shifting of the 4WD shift switch to 4H or 4L
ABS WARNING LAMP	×		×		ABS warning lamp ON
FR RADAR BLOCKED	×		×	×	Inclusion of dirt or stains on the ICC sensor area of the front bumper
FEB) CURVATURE				×	Road curve was more than the specified value
FEB) YAW RATE				×	Detected yawing speed was more than the specified value
FEB) LTRL ACCELERATION				×	Detected lateral speed is the specified value or more
RADAR INTERFERENCE	×		×	×	ICC sensor receives electromagnetic interference
NO RECORD	×	×	×		—

Display Items for The Cause of Automatic Cancellation 2

Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
OPE VDC/TCS/ABS 1	×		The activation of VDC, TCS, or ABS during LDP system control
Vehicle dynamics	×		Vehicle behavior exceeds specified value
Steering speed	×		Steering speed was more than the specified value in evasive direction
End by yaw angle	×		Yaw angle was the end of LDP control
Departure yaw large	×		Detected more than the specified value of yaw angle in departure direction

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
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
4WD LOCK MODE	×		Shifting of the 4WD shift switch to 4H or 4L
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
BSI) End by yaw angle		×	Yaw angle was the end of Blind Spot Intervention control
BSI) Departure yaw large		×	Detected more than the specified value of yaw angle in departure direction
BSI) ICC WARNING		×	Target approach warning of ICC system, FEB system or PFCW system was activated
BSI) CURVATURE		×	Road curve was more than the specified value
BSI) Steering angle large		×	Steering angle was more than the specified value
BSI) Brake is operated		×	Brake pedal was operated
BSI) IGN LOW VOLT		×	Decrease in ADAS control unit IGN voltage
BSI) Lateral offset		×	Distance of vehicle and lane was detached in lateral direction more than the specified
BSI) Lane marker lost		×	Lane camera unit lost the trace of lane marker
BSI) Lane marker unclear		×	Detected lane marker was unclear

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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Cause of cancellation	Lane departure prevention	Blind spot intervention	Description
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		×	SNOW mode switch was pressed
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.)
BSI) 4WD LOCK MODE		×	Shifting of the 4WD shift switch to 4H or 4L
Side Radar Lost		×	Unrecognized side radar LH or RH by the ADAS control unit
NO RECORD	×	×	—

Display Items for The Cause of Automatic Cancellation 3

Cause of cancellation	Back-up Collision Intervention	Description
CAN COMM ERROR (CAN)	×	ADAS control unit received an abnormal signal with CAN communication
CAN COMM ERROR (ECD)	×	ADAS control unit received an abnormal signal with CAN communication
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-40. "DTC Index"](#).

DATA MONITOR

NOTE:

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

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 (ECM transmits ICC steering switch signal through CAN communication)
SET/COAST SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)
CANCEL SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)
RESUME/ACC SW [On/Off]	×	×				Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)
DISTANCE SW [On/Off]	×					Indicates [On/Off] status as judged from ICC steering switch (ECM transmits ICC steering switch signal through CAN communication)
CRUISE OPE [On/Off]	×	×				Indicates whether controlling or not (ON means "controlling")
ON ROOT GUID- ANCE [On/Off]	×					NOTE: The item is displayed, but not used
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)
CLUTCH SW SIG [On/Off]	×	×	×	×		NOTE: The item is displayed, but not used
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]	×					Indicates [On/Off] status of own vehicle indicator output
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 not used
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)

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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
NAVI-ICC DISP [On/Off]	×					NOTE: The item is displayed, but not used
YAW RATE [deg/s]	×					NOTE: The item is displayed, but not used
BA WARNING [On/Off]	×					Indicates [On/Off] status of FEB warning 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)
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)
NP SW SIG [On/Off]	×					NOTE: The item is displayed, but not used
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
DYNA ASIST SW [On/Off]	×	×		×		Indicates [On/Off] status as judged from ICC steering switch signal
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 not used
FCW SYSTEM ON [On/Off]	×	×				Indicates [On/Off] status of PFCW system

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
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)
LDW SYSTEM ON [On/Off]			×			Indicates [On/Off] status of LDW system
LDW ON LAMP [On/Off]			×			Indicates [On/Off] status of LDW system ON 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
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)
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 [FUNC 3]	×	×	×	×		Indicates systems which can be set to ON/OFF by selecting "Driver Assistance" ⇒ "Dynamic Assistance Setting" of the navigation screen FUNC3: Distance Control Assist (DCA), Lane Departure Prevention (LDP), Blind spot Intervention
FUNC ITEM (NV-ICC) [Off]	×	×	×	×		NOTE: The item is displayed, but not used

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DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Monitored item [Unit]	ALL SIG (ICC)	MAIN SIG (ICC)	MAIN SIG (LDW/LDP)	MAIN SIG (BSW/BSI)	MAIN SIG (BCI)	Description
FUNC ITEM (NV-DCA) [Off]	×	×	×	×		NOTE: The item is displayed, but not used
DCA SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the DCA system. The DCA system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen
LDP SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of LDP system. LDP system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen
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 “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen
BSW SELECT [On/Off]	×	×	×	×		Indicates an ON/OFF state of the BSW system. The BSW system can be set to ON/OFF by selecting “Driver Assistance” ⇒ “Dynamic Assistance Setting” of the navigation screen
NAVI ICC SELECT [Off]	×	×	×	×		NOTE: The item is displayed, but not used
NAVI DCA SELECT [Off]	×	×	×	×		NOTE: The item is displayed, but not used
SYS SELECTABILITY [On/Off]	×	×	×	×		Indicates the availability of ON/OFF switching for “Driver Assistance” items received from the AV control unit via CAN communication
4WD SW [AUTO/4H/4L]	×	×	×	×		Indicates [On/Off] status as judged from current 4WD mode signal (Transfer control unit transmits current 4WD mode signal through CAN communication)
WARN SYS SW [On/Off]	×	×	×	×		Indicates [On/Off] status of warning systems switch
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
BCI SYSTEM ON [On/Off]					×	Indicates [On/Off] status of BCI system
BCI SWITCH [On/Off]					×	Indicates [On/Off] status of BCI switch
BCI ON IND [On/Off]					×	Indicates [On/Off] status of BCI ON indicator
BCI OFF IND [On/Off]					×	Indicates [On/Off] status of BCI OFF indicator
BCI WARNING IND [On/Off]					×	Indicates [On/Off] status of BCI malfunction indicator
BCI HI TEMP WARN IND [On/Off]					×	Indicates [On/Off] status of BCI not available indicator

ACTIVE TEST

CAUTION:

- Never perform “Active Test” while driving the vehicle.
- The “Active Test” cannot be performed when the following systems malfunction is displayed.

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

- ICC system
- DCA
- LDW
- LDP
- Blind Spot Warning
- Blind Spot Intervention
- BCI
- The “Active Test” cannot be performed when the FEB warning lamp is illuminated.
- Shift the selector lever to “P” position, and then perform the test.

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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 <ul style="list-style-type: none"> • Intelligent Cruise Control (ICC) • Distance Control Assist (DCA) • Predictive Forward Collision Warning (PFCW) • Forward Emergency Braking (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 switch display can be illuminated by ON/OFF operations as necessary
LDP BUZZER	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> • Lane Departure Warning (LDW) • Lane Departure Prevention (LDP) • Blind Spot Warning (BSW) • Blind Spot Intervention
WARNING SYSTEMS IND	The warning systems ON indicator (on warning systems switch) can be illuminated by ON/OFF operations as necessary
LDP ON IND	The LDP ON indicator lamp can be illuminated by ON/OFF operations as necessary
LANE DEPARTURE W/L	The Lane departure warning lamp can be illuminated by ON/OFF operations as necessary
BSW/BSI WARNING LAMP	The Blind Spot warning/Blind Spot Intervention warning lamp can be illuminated by ON/OFF operations as necessary
BSI ON INDICATOR	The Blind Spot Intervention ON indicator can be illuminated by ON/OFF operations as necessary
BCI WARNING LAMP	The BCI malfunction indicator can be illuminated by ON/OFF operations as necessary

METER LAMP

NOTE:

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

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Test item	Operation	Description	
METER LAMP	Off	Stops sending the following signals to exit from the test <ul style="list-style-type: none"> • Meter display signal • FEB warning lamp signal 	OFF
	On	Transmits the following signals to the combination meter via CAN communication <ul style="list-style-type: none"> • Meter display signal • FEB warning lamp signal 	ON

STOP LAMP

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

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

ICC BUZZER

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

BRAKE ACTUATOR

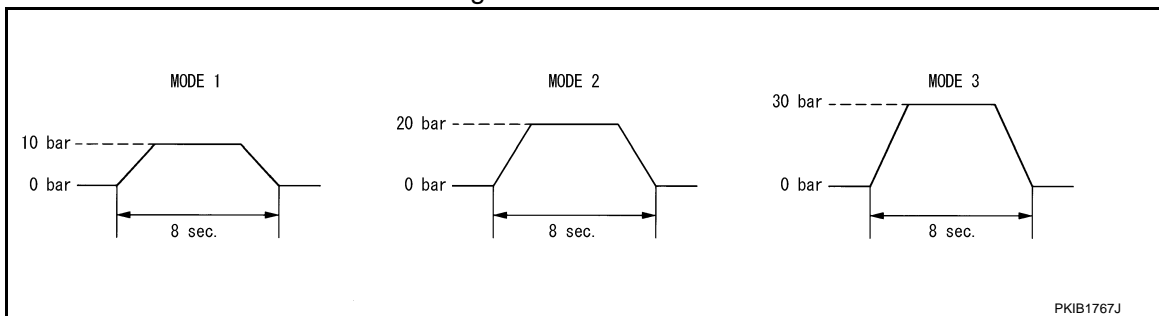
NOTE:

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

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

NOTE:

The test is finished in 10 seconds after starting



Active Pedal

CAUTION:

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

NOTE:

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

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

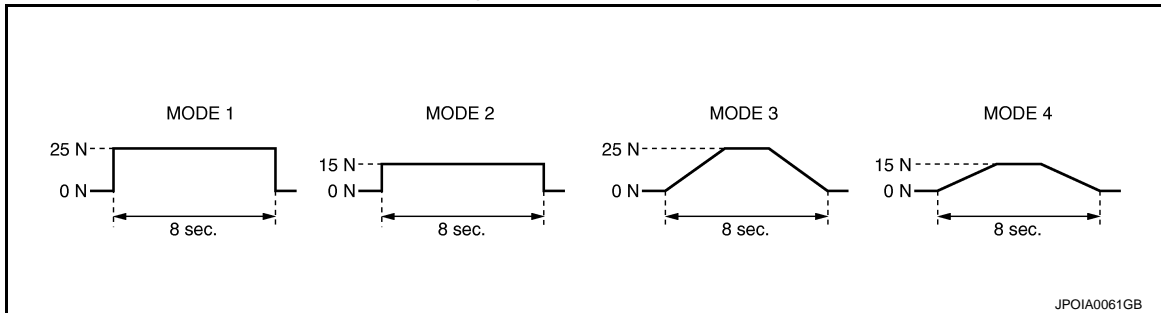
< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

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

NOTE:

The test is finished in 10 seconds after starting



DCA INDICATOR

NOTE:

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

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

LDP BUZZER

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

WARNING SYSTEM IND

Test item	Operation	Description	Warning systems ON indicator
WARNING SYSTEM IND	Off	Stops transmitting the warning systems ON indicator signal below to end the test	—
	On	Transmits the warning systems ON indicator signal to the warning systems ON indicator	ON

LDP ON IND

DAS

DIAGNOSIS SYSTEM (ADAS CONTROL UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

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

LANE DEPARTURE W/L

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

BSW/BSI WARNING LAMP

Test item	Operation	Description	Blind Spot Warning/Blind Spot Intervention warning lamp (Yellow)
BSW/BSI WARNING LAMP	Off	Stops transmitting the Blind Spot Warning/Blind spot Intervention warning lamp signal below to end the test	—
	On	Transmits the Blind Spot Warning/Blind spot Intervention warning lamp signal to the combination meter via CAN communication	ON

BSI ON INDICATOR

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

BCI WARNING LAMP

Test item	Operation	Description	BCI warning indicator
BCI WARNING LAMP	Off	Stops transmitting the BCI warning indicator signal below to end the test	—
	On	Transmits the BCI warning indicator signal to the combination meter via CAN communication	ON

ECU IDENTIFICATION

Displays ADAS control unit parts number.

DIAGNOSIS SYSTEM (ICC SENSOR)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

DIAGNOSIS SYSTEM (ICC SENSOR)

CONSULT Function (LASER/RADAR)

INFOID:000000011509946

APPLICATION ITEMS

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

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

WORK SUPPORT

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

Radar Alignment

Refer to [CCS-81, "Application Notice"](#).

SELF DIAGNOSTIC RESULT

Refer to [CCS-60, "DTC Index"](#).

DATA MONITOR

NOTE:

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

Monitored item [Unit]	Description
VHCL SPEED SE [km/h] or [mph]	Vehicle speed judged from a vehicle speed signal read by the ICC sensor via ITS communication is displayed [ADAS control unit receives a vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication and transmits the calculated vehicle speed to ICC sensor via ITS communication]
YAW RATE [deg/s]	Indicates yaw rate read from ADAS control unit through ITS communication (ADAS control unit receives yaw rate signal from ABS actuator and electric unit (control unit) via CAN communication and transmits yaw rate calculated by the ADAS control unit) Yaw rate judged from a yaw rate signal read by ICC sensor via ITS communication is displayed [ADAS control unit receives a yaw rate signal from ABS actuator and electric unit (control unit) via CAN communication and transmits the calculated yaw rate to ICC sensor via ITS communication]
PWR SUP MONI [V]	Indicates IGN voltage input by ICC sensor
DISTANCE [m]	Indicates the distance from the vehicle ahead
RELATIVE SPD [m/s]	Indicates the relative speed of the vehicle ahead
RADAR OFFSET [m]	NOTE: The item is displayed, but not used
RADAR HEIGHT [m]	NOTE: The item is displayed, but not used
STEERING ANGLE [deg]	The steering angle is displayed

DIAGNOSIS SYSTEM (ICC SENSOR)

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

Monitored item [Unit]	Description
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

ECU IDENTIFICATION

Displays ICC sensor parts number.

DIAGNOSIS SYSTEM (ACCELERATOR PEDAL ACTUATOR)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

DIAGNOSIS SYSTEM (ACCELERATOR PEDAL ACTUATOR)

CONSULT Function (ACCELERATOR PEDAL ACT)

INFOID:000000011449985

DESCRIPTION

CONSULT performs the following functions via CAN communication with ADAS control unit and the communication with accelerator pedal actuator.

Mode	Function
Self Diagnostic Result	<ul style="list-style-type: none">Displays malfunctioning system memorized in accelerator pedal actuatorDisplays the Freeze Frame Data when the malfunction is detected
DATA MONITOR	Displays real-time input/output data of accelerator pedal actuator
ACTIVE TEST	Enables operation check of electrical loads by sending driving signal to them
ECU Identification	Displays accelerator pedal actuator parts number
CAN Diag Support Monitor	The results of transmit/receive diagnosis of ITS communication can be read

SELF DIAGNOSTIC RESULT

Self Diagnostic Result

Refer to [DAS-250, "DTC Index"](#).

FFD (Freeze Frame Data)

The accelerator pedal actuator records the following data when the malfunction is detected.

Freeze Frame Data item [Unit]	Description
TGT FBK FRC [N]	It displays the target accelerator pedal actuation force that the accelerator pedal actuator read out from the accelerator pedal feedback force control signal received via ITS communication at the time when the malfunction is detected
TGT MOT POSI [%]	It displays the target motor position that the accelerator pedal actuator read out from the accelerator pedal feedback force control signal received via ITS communication at the time when the malfunction is detected
ACT MOT POSI [%]	It displays the integrated motor position that the accelerator pedal actuator read out at the time when the malfunction is detected
AP OPEN [%]	It displays the accelerator pedal position signal that the accelerator pedal actuator read out via ITS communication at the time when the malfunction is detected
APA TEMP [°C]	It displays the integrated motor temperature that the accelerator pedal actuator read out at the time when the malfunction is detected
APA CURRENT [A]	It displays the integrated motor consumption current that the accelerator pedal actuator read out at the time when the malfunction is detected
APA PWR [V]	It displays the power supply voltage that the accelerator pedal actuator read out at the time when the malfunction is detected
APA OPE STATS [On/Off]	It displays the activation permission status of accelerator pedal actuator at the time when the malfunction is detected
APA STATS [READY/NG/TP NG/INIT]	It displays the condition of accelerator pedal actuator at the time when the malfunction is detected
IGN Counter ^{Note}	It displays number of ignition switch OFF → ON after the malfunction is detected

NOTE:

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

DATA MONITOR

NOTE:

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

DIAGNOSIS SYSTEM (ACCELERATOR PEDAL ACTUATOR)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Monitor item [Unit]	FUNCTION DESCRIPTION
TGT FBK FRC [N]	It displays the target accelerator pedal actuation force that the accelerator pedal actuator read out from the accelerator pedal feedback force control signal received via ITS communication (The ADAS control unit transmits the accelerator pedal feedback force control signal via ITS communication)
TGT MOT POSI [%]	It displays the target motor position that the accelerator pedal actuator read out from the accelerator pedal feedback force control signal received via ITS communication (The ADAS control unit transmits the accelerator pedal feedback force control signal via ITS communication)
ACT MOT POSI [%]	It displays the integrated motor position that the accelerator pedal actuator read out
AP OPEN [%]	It displays the accelerator pedal position signal that the accelerator pedal actuator read out via ITS communication (The ADAS control unit transmits with ITS communication the accelerator pedal position signal that is received from ECM via CAN communication)
APA TEMP [°C]	It displays the accelerator pedal actuator integrated motor temperature
APA CURRENT [A]	It displays the accelerator pedal actuator integrated motor consumption current
APA PWR [V]	It displays the power supply voltage that the accelerator pedal actuator read out
APA OPE STATS [On/Off]	It displays the activation permission status of accelerator pedal actuator
APA STATS [READY/NG/TP NG/INIT]	It displays the condition of accelerator pedal actuator

ACTIVE TEST

CAUTION:

Never perform ACTIVE TEST while driving the vehicle.

NOTE:

The active test cannot be performed when the ICC system warning lamp is illuminated.

Item list

Active test item	Description
ACCELERATOR PEDAL ACTUATOR TEST1	Drive the accelerator pedal actuator and generate the constant accelerator pedal actuation force
ACCELERATOR PEDAL ACTUATOR TEST2	Drive the accelerator pedal actuator and generate the vibration

ACCELERATOR PEDAL ACTUATOR TEST 1

NOTE:

Check the accelerator pedal by depressing when performing the test.

Active test item	Operation	Description
ACCELERATOR PEDAL AC-TUATOR TEST1	STOP	Finish the test
	START	Generate the constant accelerator pedal actuation force for accelerator pedal

ACCELERATOR PEDAL ACTUATOR TEST 2

NOTE:

Check the accelerator pedal by depressing when performing the test.

Active test item	Operation	Description
ACCELERATOR PEDAL AC-TUATOR TEST 2	STOP	Finish the test
	START	Generate the vibration for accelerator pedal

ECU IDENTIFICATION

Displays accelerator pedal assembly parts number.

DIAGNOSIS SYSTEM (LANE CAMERA UNIT)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

DIAGNOSIS SYSTEM (LANE CAMERA UNIT)

CONSULT Function (LANE CAMERA)

INFOID:000000011449986

APPLICATION ITEMS

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

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

WORK SUPPORT

Work support items	Description
AUTO AIM	Outputs camera unit, calculates dislocation of the camera, and displays adjustment direction.
AIM CHECK	NOTE: The item is displayed, but not used

SELF DIAGNOSTIC RESULT

Refer to [DAS-253. "DTC Index"](#).

DATA MONITOR

NOTE:

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

Monitored item [Unit]	Description
LC INACCURAT [On/Off]	Lane camera unit status
AIMING DONE [OK/NG]	Status that camera aiming is done
AIMING RESULT [OK/NOK]	Result of camera aiming
CAM HIGH TEMP [NORMAL/High]	Status of lane camera unit high temperature judgment
VHCL SPD SE [km/h] or [mph]	Vehicle speed received from ADAS control unit via ITS communication
TURN SIGNAL [Off, LH, RH, LH/RH]	Status of "Turn signal" determined from ADAS control unit via ITS communication
LANE DETCT LH [On/Off]	Left side lane marker detection
LANE DETCT RH [On/Off]	Right side lane marker detection
CROSS LANE LH [On/Off]	Condition that the vehicle is crossing left lane marker
CROSS LANE RH [On/Off]	Condition that the vehicle is crossing right lane marker
WARN LANE LH [On/Off]	Warning for left lane marker
WARN LANE RH [On/Off]	Warning for right lane marker
VALID POS LH [VLD/INVLD]	Lateral position for left lane marker is valid
VALID POS RH [VLD/INVLD]	Lateral position for right lane marker is valid
XOFFSET [pixel]	Lane camera unit installation condition
AIM CHECK YAW [deg]	Check result of camera aiming
AIM CHECK ROLL [deg]	Check result of camera aiming
AIM CHECK PITCH [deg]	Check result of camera aiming

DIAGNOSIS SYSTEM (LANE CAMERA UNIT)

[DRIVER ASSISTANCE SYSTEM]

< SYSTEM DESCRIPTION >

Monitored item [Unit]	Description
FCTRY AIM YAW [deg]	Lane camera unit installation condition
FCTRY AIM ROL [deg]	Lane camera unit installation condition
FCTRY AIM PIT [deg]	Lane camera unit installation condition
ADAS MALF [On/Off]	ADAS control unit status

DIAGNOSIS SYSTEM (SIDE RADAR LH)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

DIAGNOSIS SYSTEM (SIDE RADAR LH)

CONSULT Function (SIDE RADAR LEFT)

INFOID:000000011449987

DESCRIPTION

CONSULT performs the following functions by communicating with the side radar LH.

Mode	Function
Self Diagnostic Result	Displays memorized DTC in the side radar.
Data Monitor	Displays real-time data of side radar.
Active Test	Enables operation check of electrical loads by sending driving signal to them.
ECU Identification	Displays part number of side radar.

SELF DIAGNOSTIC RESULT

Self Diagnostic Result

Displays memorized DTC in side radar LH. Refer to [DAS-256. "DTC Index"](#).

FFD (Freeze Frame Data)

The side radar records the following data when the malfunction is detected.

Freeze Frame Data item	Description
VHCL SP from ADAS	The vehicle speed (from ADAS control unit) at the moment a malfunction is detected is displayed
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed

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
BEAM DISTANCE	—	The item is displayed, but it is not used.
BEAM POSITION	—	The item is displayed, but it is not used.
SIDE RADAR MALF	Off	Side radar is normal.
	On	Side radar is malfunctioning.
BLOCKAGE COND	Off	Side radar is not blocked.
	On	Side radar is blocked.
ACTIVATE OPE	—	The item is displayed, but it is not used.
VEHICLE DETECT	Off	Does not detect a vehicle within detection area.
	On	Detects a vehicle within detection area.

ACTIVE TEST

CAUTION:

- Never perform the active test while driving.
- Active test cannot be started while the Blind Spot Warning/Blind Spot Intervention indicator is illuminated.

Active test item	Operation	Description
BSW/BSI INDICATOR DRIVE	On	Outputs the voltage to illuminate the Blind Spot Warning/Blind Spot Intervention indicator.
	Off	Stops the voltage to illuminate the Blind Spot Warning/Blind Spot Intervention indicator.

ECU IDENTIFICATION

Displays side radar LH parts number.

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DIAGNOSIS SYSTEM (SIDE RADAR RH)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

DIAGNOSIS SYSTEM (SIDE RADAR RH)

CONSULT Function (SIDE RADAR RIGHT)

INFOID:000000011449988

DESCRIPTION

CONSULT performs the following functions by communicating with the side radar RH.

Mode	Function
Self Diagnostic Result	Displays memorized DTC in the side radar.
Data Monitor	Displays real-time data of side radar.
Active Test	Enables operation check of electrical loads by sending driving signal to them.
ECU Identification	Displays part number of side radar.

SELF DIAGNOSTIC RESULT

Self Diagnostic Result

Displays memorized DTC in side radar RH. Refer to [DAS-259. "DTC Index"](#).

FFD (Freeze Frame Data)

The side radar records the following data when the malfunction is detected.

Freeze Frame Data item	Description
VHCL SP from ADAS	The vehicle speed (from ADAS control unit) at the moment a malfunction is detected is displayed
TURN SIG STATUS	Turn signal status at the moment a malfunction is detected is displayed

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
BEAM DISTANCE	— The item is displayed, but it is not used.
BEAM POSITION	— The item is displayed, but it is not used.
SIDE RADAR MALF	Off Side radar is normal.
	On Side radar is malfunctioning.
BLOCKAGE COND	Off Side radar is not blocked.
	On Side radar is blocked.
ACTIVATE OPE	— The item is displayed, but it is not used.
VEHICLE DETECT	Off Does not detect a vehicle within detection area.
	On Detects a vehicle within detection area.

ACTIVE TEST

CAUTION:

- Never perform the active test while driving.
- Active test cannot be started while the Blind Spot Warning/Blind Spot Intervention indicator is illuminated.

Active test item	Operation	Description
BSW/BSI INDICATOR DRIVE	On	Outputs the voltage to illuminate the Blind Spot Warning/Blind Spot Intervention indicator.
	Off	Stops the voltage to illuminate the Blind Spot Warning/Blind Spot Intervention indicator.

ECU IDENTIFICATION

Displays side radar RH parts number.

DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

CONSULT Function (BSW/BUZZER)

INFOID:000000011449989

DESCRIPTION

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

Mode	Function
Self Diagnostic Result	<ul style="list-style-type: none">Displays malfunctioning system memorized in driver assistance buzzer control moduleDisplays 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-263, "DTC Index"](#).

FFD (Freeze Frame Data)

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

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

NOTE:

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

DATA MONITOR

NOTE:

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

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

DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

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]	NOTE: The item is displayed, but not used
Buzzer 1 volume (CCM) [Vol. 1- 16]	NOTE: The item is displayed, but not used
Buzzer 1 stop (CCM) [CYCLE/IMEDIAT]	NOTE: The item is displayed, but not used
Buzzer 2 request (CCM) [Off/TYPE 1 - 3/Cancel]	NOTE: The item is displayed, but not used
Buzzer 2 volume (CCM) [Vol. 1- 16]	NOTE: The item is displayed, but not used
Buzzer 2 stop (CCM) [CYCLE/IMEDIAT]	NOTE: The item is displayed, but not used
Buzzer 3 request (CCM) [Off/TYPE 1/Cancel]	NOTE: The item is displayed, but not used
Buzzer 3 volume (CCM) [Vol. 1- 16]	NOTE: The item is displayed, but not used
Buzzer 3 stop (CCM) [CYCLE/IMEDIAT]	NOTE: The item is displayed, but not used
Buzzer 4 request (CCM) [Off/TYPE 1 - 7/Cancel]	NOTE: The item is displayed, but not used
Buzzer 4 volume (CCM) [Vol. 1- 16]	NOTE: The item is displayed, but not used
Buzzer 4 stop (CCM) [CYCLE/IMEDIAT]	NOTE: The item is displayed, but not used
ADAS MALFUNCTION [Off/On]	Indicates ADAS control unit status
CCM MALFUNCTION [Off/On]	NOTE: The item is displayed, but not used
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

DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Active test item	Description
BUZZER 1 (ADAS)	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Forward Emergency Braking (FEB)
BUZZER 4 (ADAS)	Sounds a buzzer used for following systems by arbitrarily operating ON/OFF <ul style="list-style-type: none"> • Predictive Forward Collision Warning (PFCW)
BUZZER 1 (CCM)	NOTE: The item is displayed, but not used
BUZZER 2 (CCM)	NOTE: The item is displayed, but not used
BUZZER 3 (CCM)	NOTE: The item is displayed, but not used
BUZZER 4 (CCM)	NOTE: The item is displayed, but not used

BUZZER 1 (ADAS)

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

BUZZER 2 (ADAS)

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

BUZZER 3 (ADAS)

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

BUZZER 4 (ADAS)

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

BUZZER 1 (CCM)

Active test item	Operation	Description
BUZZER 1 (CCM)	—	NOTE: The item is displayed, but not used

BUZZER 2 (CCM)

Active test item	Operation	Description
BUZZER 2 (CCM)	—	NOTE: The item is displayed, but not used

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DIAGNOSIS SYSTEM (DRIVER ASSISTANCE BUZZER CONTROL MODULE)

< SYSTEM DESCRIPTION >

[DRIVER ASSISTANCE SYSTEM]

Active test item	Operation	Description
BUZZER 2 (CCM)	—	NOTE: The item is displayed, but not used

BUZZER 3 (CCM)

Active test item	Operation	Description
BUZZER 3 (CCM)	—	NOTE: The item is displayed, but not used

BUZZER 4 (CCM)

Active test item	Operation	Description
BUZZER 4 (CCM)	—	NOTE: The item is displayed, but not used

ECU IDENTIFICATION

Displays driver assistance buzzer control module parts number.

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

ECU DIAGNOSIS INFORMATION

ADAS CONTROL UNIT

Reference Value

INFOID:0000000011509927

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor item	Condition		Value/Status
MAIN SW	Ignition switch ON	When MAIN switch is pressed	On
		When MAIN switch is not pressed	Off
SET/COAST SW	Ignition switch ON	When SET/COAST switch is pressed	On
		When SET/COAST switch is not pressed	Off
CANCEL SW	Ignition switch ON	When CANCEL switch is pressed	On
		When CANCEL switch is not pressed	Off
RESUME/ACC SW	Ignition switch ON	When RESUME/ACCELERATE switch is pressed	On
		When RESUME/ACCELERATE switch is not pressed	Off
DISTANCE SW	Ignition switch ON	When DISTANCE switch is pressed	On
		When DISTANCE switch is not pressed	Off
CRUISE OPE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When ICC system is controlling	On
		When ICC system is not controlling	Off
ON ROOT GUID-ANCE	NOTE: The item is displayed, but not used		Off
BRAKE SW	Ignition switch ON	When brake is depressed	Off
		When brake is not depressed	On
STOP LAMP SW	Ignition switch ON	When brake pedal is depressed	On
		When brake pedal is not depressed	Off
CLUTCH SW SIG	NOTE: The item is displayed, but not used		Off
IDLE SW	Engine running	Idling	On
		Except idling (depress accelerator pedal)	Off
SET DISTANCE	<ul style="list-style-type: none"> • Start the engine and turn the ICC system ON • Press the DISTANCE switch to change the vehicle-to-vehicle distance setting 	When set to "long"	Long
		When set to "middle"	Mid
		When set to "short"	Short
CRUISE LAMP	Start the engine and press MAIN switch	ICC system ON (MAIN switch indicator ON)	On
		ICC system OFF (MAIN switch indicator OFF)	Off
OWN VHCL	Start the engine and press MAIN switch	ICC system ON (Own vehicle indicator ON)	Off
		ICC system OFF (Own vehicle indicator OFF)	Off
VHCL AHEAD	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
		When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off

DAS

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Monitor item	Condition		Value/Status
ICC WARNING	Start the engine and press MAIN switch	When ICC system is malfunctioning	On
		When ICC system is normal	Off
VHCL SPEED SE	While driving		Displays the vehicle speed calculated by ADAS control unit
SET VHCL SPD	While driving	When vehicle speed is set	Displays the set vehicle speed
BUZZER O/P	Engine running	When the buzzer of the following system operates <ul style="list-style-type: none"> • Vehicle-to-vehicle distance control mode • DCA system • PFCW system • FEB system 	On
		When the buzzer of the following system not operates <ul style="list-style-type: none"> • Vehicle-to-vehicle distance control mode • DCA system • PFCW system • FEB system 	Off
THRTL SENSOR	NOTE: The item is displayed, but not used		0.0
ENGINE RPM	Engine running		Equivalent to tachometer reading
WIPER SW	Ignition switch ON	Wiper not operating	Off
		Wiper LO operation	Low
		Wiper HI operation	High
NAVI-ICC DISP	NOTE: The item is displayed, but not used		Off
YAW RATE	NOTE: The item is displayed, but not used		0.0
BA WARNING	Engine running	FEB warning lamp ON <ul style="list-style-type: none"> • When FEB system is malfunctioning • When FEB system is turned to OFF 	On
		FEB warning lamp OFF <ul style="list-style-type: none"> • When FEB system is normal • When FEB system is turned to ON 	Off
STP LMP DRIVE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When ICC brake hold relay is activated	On
		When ICC brake hold relay is not activated	Off
D RANGE SW	Engine running	When the selector lever is in "D" position or manual mode	On
		When the selector lever is in any position other than "D" or manual mode	Off
NP RANGE SW	Engine running	When the selector lever is in "N", "P" position	On
		When the selector lever is in any position other than "N", "P"	Off
PKB SW	Ignition switch ON	When the parking brake is applied	On
		When the parking brake is released	Off
PWR SUP MONI	Engine running		Power supply voltage value of ADAS control unit

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Monitor item	Condition		Value/Status
VHCL SPD AT	While driving		Value of A/T vehicle speed sensor signal
THRTL OPENING	Engine running	Depress accelerator pedal	Displays the throttle position
GEAR	While driving		Displays the gear position
NP SW SIG	NOTE: The item is displayed, but not used		Off
MODE SIG	Start the engine and press MAIN switch	When ICC system is deactivated	Off
		When vehicle-to-vehicle distance control mode is activated	ICC
		When conventional (fixed speed) cruise control mode is activated	ASCD
SET DISP IND	<ul style="list-style-type: none"> • Drive the vehicle and activate the conventional (fixed speed) cruise control mode • Press SET/COAST switch 	SET switch indicator ON	On
		SET switch indicator OFF	Off
DISTANCE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the distance from the preceding vehicle
		When a vehicle ahead is not detected	0.0
RELATIVE SPD	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the relative speed.
		When a vehicle ahead is not detected	0.0
DYNA ASIST SW	Ignition switch ON	When dynamic driver assistance switch is pressed	On
		When dynamic driver assistance switch is not pressed	Off
DCA ON IND	Start the engine and press dynamic driver assistance switch (When DCA setting is ON)	DCA system OFF	Off
		DCA system ON	On
DCA VHL AHED	Drive the vehicle and activate the DCA system	When a vehicle ahead is not detected (vehicle ahead detection indicator OFF)	Off
		When a vehicle ahead is detected (vehicle ahead detection indicator ON)	On
IBA SW	NOTE: The item is displayed, but not used		Off
FCW SYSTEM ON	Ignition switch ON	When the PFCW system is ON	On
		When the PFCW system is OFF	Off
APA TEMP	Engine running		Display the accelerator pedal actuator integrated motor temperature
APA PWR	Ignition switch ON		Power supply voltage value of accelerator pedal actuator
LDW SYSTEM ON	Ignition switch ON	When the LDW system is ON	On
		When the LDW system is OFF	Off
LDW ON LAMP	Ignition switch ON	When the LDW system is ON	On
		When the LDW system is OFF	Off

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ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Monitor item	Condition	Value/Status
LDP ON IND	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDW system is ON On
		When the LDW system is OFF Off
LANE DPRT W/L	Drive the vehicle and activate the LDW system or LDP system	Lane departure warning ON On
		Lane departure warning OFF Off
LDW BUZER OUT-PUT	Drive the vehicle and activate the LDW/LDP system or Blind Spot Warning/Blind Spot Intervention system	When the buzzer of the following system operates • LDW/LDP system • Blind Spot Warning/Blind Spot Intervention system On
		When the buzzer of the following system does not operate • LDW/LDP system • Blind Spot Warning/Blind Spot Intervention system Off
LDP SYSTEM ON	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDP system is ON On
		When the LDP system is OFF Off
WARN REQ	Drive the vehicle and activate the LDP system	Lane departure warning is operating On
		Lane departure warning is not operating Off
READY signal	Start the engine and press dynamic driver assistance switch (When LDP system setting is ON)	When the LDP system is ON On
		When the LDP system is OFF Off
Camera lost	Drive the vehicle and activate the LDW system, LDP system or Blind Spot Intervention system	Both side lane markers are detected Detect
		Deviated side lane marker is lost Deviated
		Both side lane markers are lost Both
Shift position	<ul style="list-style-type: none"> • Engine running • While driving 	Displays the shift position
Turn signal	Turn signal lamps OFF	Off
	Turn signal lamp LH blinking	LH
	Turn signal lamp RH blinking	RH
	Turn signal lamp LH and RH blinking	LH&RH
SIDE G	While driving	Vehicle turning right Negative value
		Vehicle turning left Positive value
STATUS signal	Drive the vehicle and activate the LDP system	When the LDP system is ON Stnby
		When the LDP system is operating Warn
		When the LDP system is canceled Cancl
		When the LDP system is OFF Off
Lane unclear	While driving	Lane marker is unclear On
		Lane marker is clear Off
FUNC ITEM	Ignition switch ON	FUNC 3
FUNC ITEM (NV-ICC)	NOTE: The item is displayed, but not used	Off
FUNC ITEM (NV-DCA)	NOTE: The item is displayed, but not used	Off
DCA SELECT	Ignition switch ON	"Distance Control Assist" set with the navigation screen is ON On
		"Distance Control Assist" set with the navigation screen is OFF Off

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Monitor item	Condition		Value/Status
LDP SELECT	Ignition switch ON	"Lane Departure Prevention" set with the navigation screen is ON	On
		"Lane Departure Prevention" set with the navigation screen is OFF	Off
BSI SELECT	Ignition switch ON	"Blind Spot Intervention" set with the navigation screen is ON	On
		"Blind Spot Intervention" set with the navigation screen is OFF	Off
BSW SELECT	Ignition switch ON	"Blind Spot Warning" set with the navigation screen is ON	On
		"Blind Spot Warning" set with the navigation screen is OFF	Off
NAVI ICC SELECT	NOTE: The item is displayed, but not used		Off
NAVI DCA SELECT	NOTE: The item is displayed, but not used		Off
SYS SELECTABILITY	Ignition switch ON	Items set with the navigation screen can be switched normally	On
		Items set with the navigation screen cannot be switched normally	Off
4WD SW	Engine running	4WD shift switch position is in AUTO	AUTO
		4WD shift switch position is in 4H	4H
		4WD shift switch position is in 4L	4L
WARN SYS SW	Ignition switch ON	When warning systems switch is pressed	On
		When warning systems switch is not pressed	Off
BSW/BSI WARN LMP	Ignition switch ON	When the BSW system is malfunctioning	On
		When the BSW system is normal	Off
BSI ON IND	Ignition switch ON	Blind Spot Intervention warning ON	On
		Blind Spot Intervention warning OFF	Off
BSW SYSTEM ON	Ignition switch ON	When the BSW system is ON	On
		When the BSW system is OFF	Off
BSI SYSTEM ON	Start the engine and press dynamic driver assistance switch (When Blind Spot Intervention system setting is ON)	When the Blind Spot Intervention system is ON	On
		When the Blind Spot Intervention system is OFF	Off
BCI SYSTEM ON	Engine running	When the BCI system is ON	On
		When the BCI system is OFF	Off
BCI SWITCH	Ignition switch ON	When BCI switch is pressed	On
		When BCI switch is not pressed	Off
BCI ON IND	Ignition switch ON	When BCI ON indicator is ON	On
		When BCI ON indicator is OFF	Off
BCI OFF IND	Ignition switch ON	When BCI OFF indicator is ON	On
		When BCI OFF indicator is OFF	Off
BCI WARNING IND	Ignition switch ON	When BCI malfunction indicator is ON	On
		When BCI malfunction indicator is OFF	Off
BCI HI TEMP WARN IND	Ignition switch ON	When BCI not available indicator is ON	On
		When BCI not available indicator is OFF	Off

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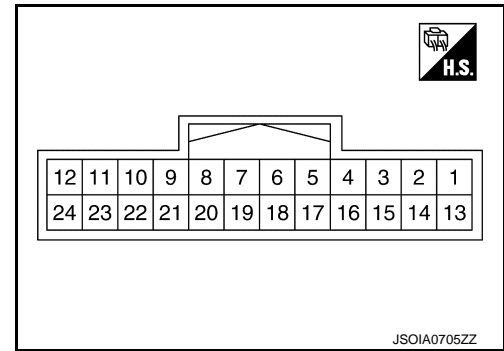
ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

TERMINAL LAYOUT

PHYSICAL VALUES



Terminal No. (Wire color)		Description		Condition		Standard value	Reference value
+	-	Signal name	Input/ Output				
1 (L)	—	CAN -H	—		—	—	—
2 (P)	—	CAN -L	—		—	—	—
5 (B)	Ground	Ground	—		Ignition switch ON	0 - 0.1 V	Approx. 0 V
6 (L)	—	ITS communication-H	—		—	—	—
7 (Y)	—	ITS communication-L	—		—	—	—
12 (WG)	5 (B)	Ignition power supply	Input	Ignition switch ON	—	10 - 16 V	Battery voltage
17 (R)		ICC brake hold relay drive signal	Output	Ignition switch ON	At "STOP LAMP" test of "Active test"	10 - 16 V 0 - 0.1 V	Approx. 12 V Approx. 0 V
18 (V/W)		Warning systems switch	Input	Ignition switch ON	When warning systems switch is not pressed	10 - 16 V	Approx. 12 V
					When warning systems switch is pressed	0 - 0.1 V	Approx. 0 V
19 (LG/B)		Warning systems ON indicator	Output	Ignition switch ON	Warning systems ON indicator ON	10 - 16 V	Approx. 12 V
					Warning systems ON indicator OFF	0 - 0.1 V	Approx. 0 V
22 (O)	BCI switch	Input	Ignition switch ON	When BCI OFF switch is not pressed	10 - 16 V	Approx. 12 V	
				When BCI OFF switch is pressed	0 - 0.1 V	Approx. 0 V	

Fail-safe (ADAS Control Unit)

INFOID:000000011509928

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

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

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

DTC Inspection Priority Chart

INFOID:000000011509929

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

Priority	Detected items (DTC)
1	<ul style="list-style-type: none"> • U1507: LOST COMM (SIDE RDR R) • U1508: LOST COMM (SIDE RDR L)
2	<ul style="list-style-type: none"> • C1A0A: CONFIG UNFINISHED • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	<ul style="list-style-type: none"> • C1B00: CAMERA UNIT MALF • C1F02: APA C/U MALF • C1B53: SIDE RDR R MALF • C1B54: SIDE RDR L MALF • C1B84: DIST SEN MALFUNCTION

DAS

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Priority	Detected items (DTC)	
4	<ul style="list-style-type: none"> • 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 SUPPLY 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 INCOMP • C1B03: CAM ABNORMAL TMP DETCT • C1B5D: FEB OPE COUNT LIMIT • C1B56: SONAR CIRCUIT • C1B57: AVM CIRCUIT • C1B58: DR ASSIST BUZZER CIRCUIT • C1B82: DIST SEN OFF-CENTER • C1B83: DIST SEN BLOCKED • C1B85: DIST SEN ABNORMAL TEMP • C1B86: DIST SEN PWR SUP CIR • C1F01: APA MOTOR MALF • C1F05: APA PWR SUPPLY CIR 	<ul style="list-style-type: none"> • 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 • U150B: ECM CAN CIRC 3 • U150C: VDC CAN CIRC 3 • U150D: TCM CAN CIRC 3 • U150E: BCM CAN CIRC 3 • U150F: AV CAN CIRC 3 • U1500: CAM CAN CIR 2 • U1501: CAM CAN CIR 1 • U1502: ICC SEN CAN COMM CIR • U1503: SIDE RDR L CAN CIR 2 • U1504: SIDE RDR L CAN CIR 1 • U1505: SIDE RDR R CAN CIR 2 • U1506: SIDE RDR R CAN CIR 1 • U1512: HVAC CAN CIRC3 • U1513: METER CAN CIRC 3 • U1514: STRG SEN CAN CIRC 3 • U1515: ICC SENSOR CAN CIRC 3 • U1516: CAM CAN CIRC 3 • U1517: APA CAN CIRC 3 • U1518: SIDE RDR L CAN CIRC 3 • U1519: SIDE RDR R CAN CIRC 3 • U1521: SONAR CAN COMMUNICATION 3 • U1522: SONAR CAN COMMUNICATION 3 • U1523: SONAR CAN COMMUNICATION 2 • U1524: AVM CAN COMMUNICATION 1 • U1525: AVM CAN COMMUNICATION 3 • U1530: DR ASSIST BUZZER CAN CIR 1
5	<ul style="list-style-type: none"> • C1A03: VHCL SPEED SE CIRC 	
6	<ul style="list-style-type: none"> • C1A15: GEAR POSITION 	
7	<ul style="list-style-type: none"> • C1A00: CONTROL UNIT 	

DTC Index

INFOID:000000011509930

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.

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

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: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- G: Blind Spot Warning (BSW)
- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	55	NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	—	—
C1A0A	41	CONFIG UNFINISHED	A, B, C, D, E, F, G, H, I	DAS-63
C1A00	0	CONTROL UNIT	A, B, C, D, E, F, G, H, I	DAS-64
C1A01	1	POWER SUPPLY CIR	A, B, C, D, E, F, G, H, I	DAS-65
C1A02	2	POWER SUPPLY CIR 2	A, B, C, D, E, F, G, H, I	DAS-65
C1A03	3	VHCL SPEED SE CIRC	A, B, C, D, E, F, G, H, I	DAS-66
C1A04	4	ABS/TCS/VDC CIRC	A, B, C, D, E, F, G, H, I	DAS-68
C1A05	5	BRAKE SW/STOP L SW	A, B, C, D, E, F, H, I	DAS-69
C1A06	6	OPERATION SW CIRC	A, B, C, F, H	DAS-74
C1A13	13	STOP LAMP RLY FIX	A, B, C, D, E, I	DAS-77
C1A14	14	ECM CIRCUIT	A, B, C, D, E	DAS-83
C1A15	15	GEAR POSITION	A, B, C, D, E	DAS-85
C1A24	24	NP RANGE	A, B, C, D, E, F, G, H, I	DAS-87
C1A26	26	ECD MODE MALF	A, B, C, D, E	DAS-89
C1A27	27	ECD PWR SUPPLY CIR	A, B, C, D, E	DAS-91
C1A33	33	CAN TRANSMISSION ERR	A, B, C, D, E	DAS-93
C1A34	34	COMMAND ERROR	A, B, C, D, E	DAS-94
C1A35	35	APA CIR	A, C, D, E	DAS-95
C1A36	36	APA CAN COMM CIR	A, C, D, E	DAS-96
C1A37	133	APA CAN CIR 2	A, C, D, E	DAS-97
C1A38	132	APA CAN CIR 1	A, C, D, E	DAS-98
C1A39	39	STRG SEN CIR	A, B, C, D, E, G, I	DAS-99
C1B00	81	CAMERA UNIT MALF	F, H	DAS-100
C1B01	82	CAM AIMING INCOMP	F, H	DAS-101
C1B03	83	ABNRML TMP DETCT	F, H	DAS-102
C1B5D	198	FEB OPE COUNT LIMIT	C, D, E	DAS-103
C1B53	84	SIDE RDR R MALF	G, H, I	DAS-104
C1B54	85	SIDE RDR L MALF	G, H, I	DAS-105
C1B56	86	SONAR CIRCUIT	I	DAS-106
C1B57	87	AVM CIRCUIT	I	DAS-107
C1A58	182	DR ASSIST BUZZER CIRCUIT		DAS-108
C1B82	12	RADAR OFF-CENTER	A, C, D, E	DAS-109

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ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

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: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- G: Blind Spot Warning (BSW)
- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
C1B83	16	RADAR BLOCKED	A, C, D, E	DAS-110
C1B84	17	DIST SEN MALFUNCTION	A, C, D, E	DAS-111
C1B85	21	DIST SEN ABNORMAL TEMP	A, C, D, E	DAS-112
C1B86	80	DIST SEN PWR SUP CIR	A, C, D, E	DAS-113
C1F01	91	APA MOTOR MALF	A, C, D, E, I	DAS-115
C1F02	92	APA C/U MALF	A, C, D, E, I	DAS-116
C1F05	95	APA PWR SUPPLY CIR	A, C, D, E, I	DAS-117
U0121	127	VDC CAN CIR 2	A, B, C, D, E, F, G, H, I	DAS-118
U0126	130	STRG SEN CAN CIR 1	A, B, C, D, E, G, I	DAS-119
U0235	144	ICC SENSOR CAN CIRC 1	A, C, D, E	DAS-120
U0401	120	ECM CAN CIR 1	A, B, C, D, E, G, I	DAS-121
U0402	122	TCM CAN CIR 1	A, B, C, D, E, F, G, H, I	DAS-122
U0415	126	VDC CAN CIR 1	A, B, C, D, E, F, G, H, I	DAS-123
U0424	156	HACV CAN CIR 1		DAS-124
U0428	131	STRG SEN CAN CIR 2	A, B, C, D, E, G, I	DAS-125
U1000 ^{NOTE}	100	CAN COMM CIRCUIT	A, B, C, D, E, F, G, H, I	DAS-126
U1010	110	CONTROL UNIT (CAN)	A, B, C, D, E, F, G, H, I	DAS-128
U150B	157	ECM CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-129
U150C	158	VDC CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-131
U150D	159	TCM CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-132
U150E	160	BCM CAN CIRC 3	A, B, C, F, G, H, I	DAS-133
U150F	161	AV CAN CIRC 3		DAS-134
U1500	145	CAM CAN CIR2	F, H	DAS-135
U1501	146	CAM CAN CIR 1	F, H	DAS-136
U1502	147	ICC SEN CAN COMM CIR	A, C, D, E	DAS-137
U1503	150	SIDE RDR L CAN CIR 2	G, H, I	DAS-138
U1504	151	SIDE RDR L CAN CIR 1	G, H, I	DAS-139
U1505	152	SIDE RDR R CAN CIR 2	G, H, I	DAS-140
U1506	153	SIDE RDR R CAN CIR 1	G, H, I	DAS-141
U1507	154	LOST COMM (SIDE RDR R)	G, H, I	DAS-142
U1508	155	LOST COMM (SIDE RDR L)	G, H, I	DAS-143
U1512	162	HVAC CAN CIRC3	F, H	DAS-144
U1513	163	METER CAN CIRC 3	A, B, C, D, E, F, G, H, I	DAS-145
U1514	164	STRG SEN CAN CIRC 3	A, B, C, D, E, G, I	DAS-146
U1515	165	ICC SENSOR CAN CIRC 3	A, C, D, E	DAS-147

ADAS CONTROL UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

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: Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- G: Blind Spot Warning (BSW)
- H: Blind Spot Warning (BSW)/Blind Spot Intervention (Without Active Lane control)
- I: Back-up Collision Intervention (BCI)

DTC		CONSULT display	Fail-safe	Reference
CONSULT	On board display		System	
U1516	166	CAM CAN CIRC 3	F, G, H	DAS-148
U1517	167	APA CAN CIRC 3	A, C, D, E	DAS-149
U1518	168	SIDE RDR L CAN CIRC 3	G, H, I	DAS-150
U1519	169	SIDE RDR R CAN CIRC 3	G, H, I	DAS-151
U1521	177	SONAR CAN COMMUNICATION 2	I	DAS-152
U1522	178	SONAR CAN COMMUNICATION 1	I	DAS-153
U1523	179	SONAR CAN COMMUNICATION 3	I	DAS-154
U1524	180	AVM CAN COMMUNICATION 1	I	DAS-155
U1525	181	AVM CAN COMMUNICATION 3	I	DAS-156
U1530	183	DR ASSIST BUZZER CAN CIR1		DAS-157

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

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

ICC SENSOR

Reference Value

INFOID:000000011509931

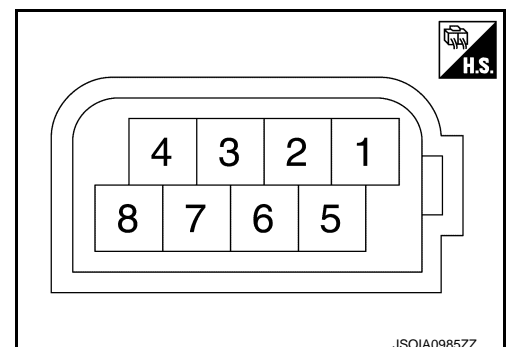
VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

Monitor item	Condition		Value/Status
VHCL SPEED SE	While driving		Value of vehicle speed signal (wheel speed)
YAW RATE	While driving	Vehicle stopped	0.0
		Vehicle turning right	Positive value
		Vehicle turning left	Negative value
PWR SUP MONI	Ignition switch ON		Power supply voltage value of ICC sensor
DISTANCE	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the distance from the preceding vehicle
		When a vehicle ahead is not detected	0.0
RELATIVE SPD	Drive the vehicle and activate the vehicle-to-vehicle distance control mode	When a vehicle ahead is detected	Displays the relative speed
		When a vehicle ahead is not detected	0.0
RADAR OFFSET	NOTE: The item is displayed, but not used		—
RADAR HEIGHT	NOTE: The item is displayed, but not used		—
STEERING ANGLE	Ignition switch ON	When setting the steering wheel in straight-ahead position	0.0
		When turning the steering wheel 90° rightward	+90
		When turning the steering wheel 90° leftward	-90
STRG ANGLE SPEED	Ignition switch ON	At the time of turning the steering wheel	Steering wheel turning speed is displayed
L/R ADJUST	Ignition switch ON	At the completion of radar alignment adjustment	Horizontal correction value is displayed
U/D ADJUST	Ignition switch ON	At the completion of radar alignment adjustment	Vertical correction value is displayed

TERMINAL LAYOUT



PHYSICAL VALUES

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

Fail-safe (ICC Sensor)

INFOID:000000011509932

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

DTC Inspection Priority Chart

INFOID:000000011509933

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

Priority	Detected items (DTC)
1	<ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
2	<ul style="list-style-type: none"> • C1A50: ADAS MALFUNCTION
3	<ul style="list-style-type: none"> • C1A01: POWER SUPPLY CIR • C1A02: POWER SUPPLY CIR 2 • C1A12: RADAR OFF-CENTER • C1A16: RADAR BLOCKED • C1A21: UNIT HIGH TEMP • C1A23: UNIT LOW TEMP • C1A39: STRG SEN CIR • U0104: ADAS CAN CIR1 • U0121: VDC CAN CIR2 • U0126: STRG SEN CAN CIR1 • U0405: ADAS CAN CIR2 • U0415: VDC CAN CIR1 • U0428: STRG SEN CAN CIR2
4	<ul style="list-style-type: none"> • C1A00: CONTROL UNIT

DTC Index

INFOID:000000011509934

NOTE:

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

×: Applicable



ICC SENSOR

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

DTC	CONSULT display	Fail-safe				Reference
		Vehicle-to-vehicle distance control mode	Conventional (fixed speed) cruise control mode	Distance Control Assist (DCA)	Forward Emergency Braking (FEB) / Predictive Forward Collision Warning (PFCW)	
C1A00	CONTROL UNIT	×	×	×	×	CCS-99
C1A01	POWER SUPPLY CIR	×	×	×	×	CCS-100
C1A02	POWER SUPPLY CIR2	×	×	×	×	CCS-100
C1A12	RADAR OFF-CENTER	×		×	×	CCS-101
C1A16	RADAR BLOCKED	×		×	×	CCS-102
C1A21	UNIT HIGH TEMP	×	×	×	×	CCS-104
C1A23	UNIT LOW TEMP	×	×	×	×	CCS-105
C1A39	STRG SEN CIR	×	×	×	×	CCS-106
C1A50	ADAS MALFUNCTION	×	×	×	×	CCS-107
U0104	ADAS CAN CIR1	×	×	×	×	CCS-108
U0121	VDC CAN CIR2	×	×	×	×	CCS-109
U0126	STRG SEN CAN CIR1	×	×	×	×	CCS-110
U0405	ADAS CAN CIR2	×	×	×	×	CCS-111
U0415	VDC CAN CIR1	×	×	×	×	CCS-112
U0428	STRG SEN CAN CIR2	×	×	×	×	CCS-113
U1000	CAN COMM CIRCUIT	×	×	×	×	CCS-114
U1010	CONTROL UNIT (CAN)	×	×	×	×	CCS-115

ACCELERATOR PEDAL ACTUATOR

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

ACCELERATOR PEDAL ACTUATOR

Reference Value

INFOID:000000011449998

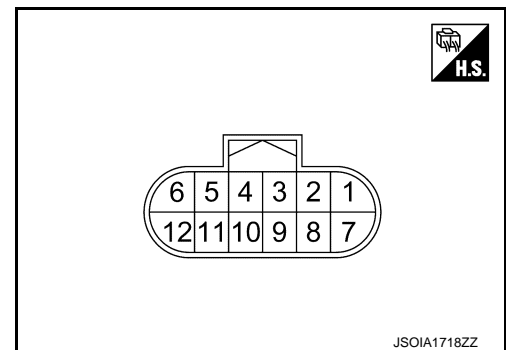
VALUES ON THE DIAGNOSIS TOOL

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
TGT FBK FRC	Drive the vehicle and operate the DCA system	When the ADAS control unit is controlling the accelerator pedal actuator	It changes with the demand from the ADAS control unit
TGT MOT POSI	NOTE: The item is displayed, but not used		—
ACT MOT POSI	Engine running	Depress accelerator pedal	It changes according to the depressed amount of accelerator pedal
AP OPEN	Engine running	Depress accelerator pedal	It changes according to the depressed amount of accelerator pedal
APA TEMP	Engine running		Display the accelerator pedal actuator integrated motor temperature
APA CURRENT	Drive the vehicle and operate the DCA system	When the ADAS control unit is controlling the accelerator pedal actuator	Display the accelerator pedal actuator motor operation consumption current
APA PWR	Ignition switch ON		Battery voltage
APA OPE STATS	Engine running	When the accelerator pedal actuator control is permitted	On
		When the accelerator pedal actuator control is invalid	Off
APA STATS	Engine running	When the accelerator pedal actuator is normal	Ready
		When the accelerator pedal actuator is temporarily malfunctioning	TP NG
		When the accelerator pedal actuator is malfunctioning	NG
		During the accelerator pedal actuator operation preparations	Init

TERMINAL LAYOUT



PHYSICAL VALUES

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ACCELERATOR PEDAL ACTUATOR

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Terminal No. (Wire color)		Description		Condition	Standard value (Approx.)	Reference value
+	-	Signal name	Input/ Output			
1 (B/O)	7 (B)	Battery power supply	Input	Ignition switch OFF	8 - 16 V	Battery voltage
2 (W/G)		Ignition power supply	Input	Ignition switch ON	8 - 16 V	Battery voltage
3 (L)		ITS communication-H	—	—	—	—
7 (B)	Ground	Ground	—	Ignition switch ON	0 - 0.1 V	0 V
9 (Y)	7 (B)	ITS communication-L	—	—	—	—

DTC Inspection Priority Chart

INFOID:000000011449999

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

Priority	Detected items (DTC)
1	<ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
2	<ul style="list-style-type: none"> • C1F02: APA C/U MALF
3	<ul style="list-style-type: none"> • C1F01: APA MOTOR MALF • C1F03: APA HI TEMP • C1F05: APA PWR SUPPLY CIR • C1F06: CAN CIR2 • C1F07: CAN CIR1

DTC Index

INFOID:000000011450000

NOTE:

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

×: Applicable

CONSULT display	ICC system warning lamp	Fail-safe function	Reference
C1F01: APA MOTOR MALF	ON	×	DAS-313
C1F02: APA C/U MALF	ON	×	DAS-314
C1F03: APA HI TEMP	—	—	DAS-315
C1F05: APA PWR SUPPLY CIR	ON	×	DAS-316
C1F06: CAN CIR2	ON	×	DAS-317
C1F07: CAN CIR1	ON	×	DAS-319
U1000: CAN COMM CIRCUIT	ON	×	DAS-328
U1010: CONTROL UNIT (CAN)	ON	×	DAS-333

LANE CAMERA UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

LANE CAMERA UNIT

Reference Value

INFOID:000000011450001

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
LC INACCURAT	Lane camera unit malfunction	On
	Lane camera unit normal	Off
AIMING DONE	Camera aiming is completed	OK
	Camera aiming is not adjusted	NG
AIMING RESULT	Camera aiming is completed	OK
	Camera aiming is not completed	NOK
CAM HIGH TEMP	When the temperature around the lane camera unit is adequate	NORMAL
	When the temperature around the lane camera unit is high	High
VHCL SPD SE	While driving	Approximately equivalent to speedometer reading
TURN SIGNAL	Turn signal lamp LH and RH blinking	LH/RH
	Turn signal lamp LH blinking	LH
	Turn signal lamp RH blinking	RH
	Turn signal lamps OFF	Off
LANE DETCT LH	Left side lane marker is detected	On
	Left side lane marker is not detected	Off
LANE DETCT RH	Right side lane marker is detected	On
	Right side lane marker is not detected	Off
CROSS LANE LH	The vehicle is crossing left side lane marker	On
	The vehicle is not crossing left side lane marker	Off
CROSS LANE RH	The vehicle is crossing right side lane marker	On
	The vehicle is not crossing right side lane marker	Off
WARN LANE LH	Warning for left side lane	On
	Not warning for left side lane	Off
WARN LANE RH	Warning for right side lane	On
	Not warning for right side lane	Off
VALID POS LH	Lateral position for left side lane marker is valid	VLD
	Lateral position for left side lane marker is invalid	INVLD
VALID POS RH	Lateral position for right side lane marker is valid	VLD
	Lateral position for right side lane marker is invalid	INVLD
XOFFSET	Camera aiming is completed	Approx. 180 pixel
AIM CHECK YAW	NOTE: The item is displayed, but not used	—
AIM CHECK ROLL	NOTE: The item is displayed, but not used	—
AIM CHECK PITCH	NOTE: The item is displayed, but not used	—

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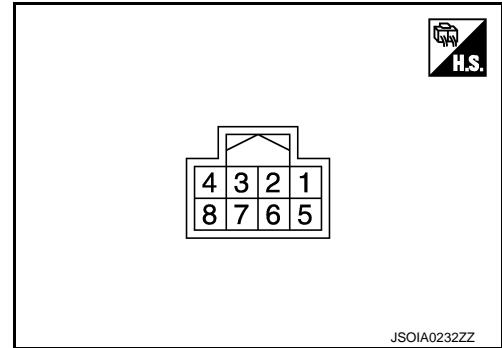
LANE CAMERA UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Monitor Item	Condition	Value/Status
FCTRY AIM YAW	Camera aiming is not completed	0.0 deg
	Camera aiming is completed	0 ± 5.0 deg
FCTRY AIM ROL	Camera aiming is not completed	0.0 deg
	Camera aiming is completed	0 ± 5.0 deg
FCTRY AIM PIT	Camera aiming is not completed	0.0 deg
	Camera aiming is completed	0 ± 5.0 deg
ADAS MALF	ADAS control unit malfunction	On
	ADAS control unit normal	Off

TERMINAL LAYOUT



PHYSICAL VALUES

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

Fail-safe (Lane Camera Unit)

INFOID:000000011450002

FAIL-SAFE CONTROL BY DTC

Lane Departure Warning (LDW)

If a malfunction occurs in the lane camera unit, ADAS control unit cancels control, and turns ON the lane departure warning lamp in the combination meter.

Lane Departure Prevention (LDP)

If a malfunction occurs in the lane camera unit, ADAS control unit cancels control, sounds a beep, and turns ON the lane departure warning lamp in the combination meter.

TEMPORARY DISABLED STATUS AT HIGH TEMPERATURE

Lane Departure Warning (LDW)

- If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the lane departure warning lamp (yellow) in the combination meter will blink.

LANE CAMERA UNIT

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

- When interior temperature is reduced, the system will resume operation automatically and the lane departure warning lamp (yellow) in the combination meter will stop blinking.

Lane Departure Prevention (LDP)

- If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the buzzer sounds and lane departure warning lamp (yellow) in the combination meter will blink.
- When interior temperature is reduced, the system will resume when dynamic driver assistance switch is turned OFF and turned ON and the lane departure warning lamp (yellow) in the combination meter will stop blinking.

DTC Inspection Priority Chart

INFOID:0000000011450003

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

Priority	Detected items (DTC)
1	<ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
2	C1A50: ADAS MALFUNCTION
3	<ul style="list-style-type: none"> • C1B01: CAM AIMING INCOMP • C1B03: ABNRML TEMP DETECT • U0104: ADAS CAN CIR1 • U0126: STRG SEN CAN CIR1 • U0405: ADAS CAN CIR2 • U0428: STRG SEN CAN CIR2
4	C1B00: CAMERA UNIT MALF

DTC Index

INFOID:0000000011450004

×: Applicable

DTC		Lane Departure Warning lamp (yellow)	Fail-safe	Reference
C1A50	ADAS MALFUNCTION	ON	—	DAS-300
C1B00	CAMERA UNIT MALF	ON	×	DAS-301
C1B01	CAM AIMING INCOMP	ON	×	DAS-302
C1B03	ABNRML TEMP DETECT	Blink	×	DAS-303
U0104	ADAS CAN CIR1	ON	×	DAS-321
U0126	STRG SEN CAN CIR1	ON	×	DAS-324
U0405	ADAS CAN CIR2	ON	×	DAS-325
U0428	STRG SEN CAN CIR2	ON	×	DAS-327
U1000	CAN COMM CIRCUIT	ON	×	DAS-329
U1010	CONTROL UNIT (CAN)	ON	×	DAS-333

DAS

SIDE RADAR LH

Reference Value

INFOID:000000011450005

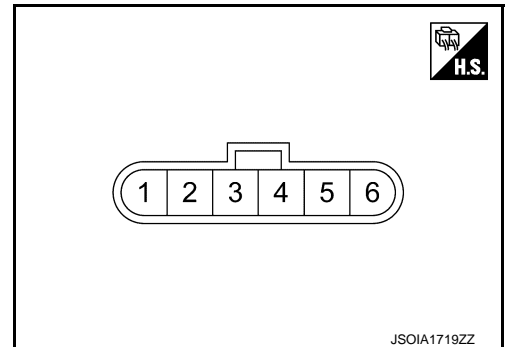
VALUES ON THE DIAGNOSIS TOOL

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
BEAM DISTANCE	NOTE: The item is displayed, but not used.	—
BEAM POSITION	NOTE: The item is displayed, but not used.	—
SIDE RADAR MALF	Side radar is normal.	Off
	Side radar is malfunctioning.	On
BLOCKAGE COND	Side radar is not blocked.	Off
	Side radar is blocked.	On
ACTIVATE OPE	NOTE: The item is displayed, but not used.	—
VEHICLE DETECT	Radar does not detect a vehicle.	Off
	Radar detects a vehicle.	On

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Standard value	Reference value
+	-	Signal name	Input/Output			
2 (B)	Ground	Ground	—	—	0 - 0.1 V	Approx. 0 V
3 (Y)	—	ITS communication-L	—	—	—	—
4 (L)	—	ITS communication-H	—	—	—	—
5 (W/G)	Ground	Ignition power supply	Input	Ignition switch ON	10 - 16 V	Approx. 12 V
6 (BR)	Ground	Blind Spot Warning/Blind Spot Intervention indicator	Output	Approx. 2 sec. after ignition switch OFF ⇒ ON (bulb check)	5.5 - 16 V	Approx. 6 V

Fail-safe (Side Radar)

INFOID:000000011450006

FAIL-SAFE CONTROL BY DTC

Blind Spot Warning (BSW)

If a malfunction occurs in the side radar, ADAS control unit cancels control, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

Blind Spot Intervention

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

Back-up Collision Intervention (BCI)

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the BCI malfunction indicator in the combination meter (information display).

TEMPORARY DISABLED STATUS AT BLOCKAGE

Blind Spot Warning (BSW)

When the side radar is blocked, the operation is temporarily cancelled. Then the Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

Blind Spot Intervention

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

Back-up Collision Intervention (BCI)

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and BCI not available indicator in combination meter indicates (information display). Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

DTC Inspection Priority Chart

INFOID:000000011450007

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

Priority	Detected items (DTC)
1	<ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
2	<ul style="list-style-type: none"> • U0104: ADAS CAN CIR 1 • U0405: ADAS CAN CIR 2
3	C1B50: SIDE RDR MALFUNCTION
4	<ul style="list-style-type: none"> • C1B51: BSW/BSI IND SHORT CIR • C1B52: BSW/BSI IND OPEN CIR • C1B55: RADAR BLOCKAGE

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DAS

SIDE RADAR LH

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

DTC Index

INFOID:000000011450008

×: Applicable

DTC		Blind Spot Warning/Blind Spot Intervention warning lamp	BCI malfunction indicator	BCI not available indicator	Fail-safe		Reference
					Blind Spot Warning/Blind Spot Intervention	BCI	
C1B50	SIDE RDR MALFUNCTION	ON	ON	—	×	×	DAS-306
C1B51	BSW/BSI IND SHORT CIR	ON	ON	—	×	×	DAS-307
C1B52	BSW/BSI IND OPEN CIR	ON	ON	—	×	×	DAS-309
C1B55	RADAR BLOCKAGE	Blink	—	ON	×	×	DAS-311
U1000	CAN COMM CIRCUIT	ON	ON	—	×	×	DAS-330
U1010	CONTROL UNIT (CAN)	ON	ON	—	×	×	DAS-334
U0104	ADAS CAN CIR1	ON	ON	—	×	×	DAS-321
U0405	ADAS CAN CIR2	ON	ON	—	×	×	DAS-325

SIDE RADAR RH

Reference Value

INFOID:000000011450009

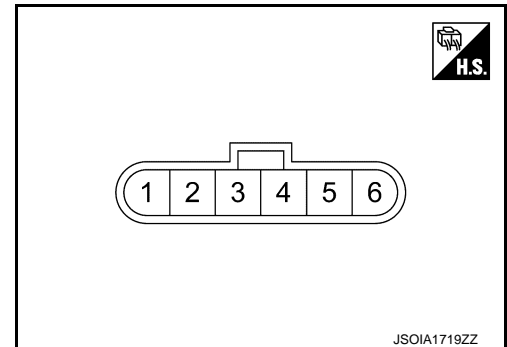
VALUES ON THE DIAGNOSIS TOOL

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
BEAM DISTANCE	NOTE: The item is displayed, but not used.	—
BEAM POSITION	NOTE: The item is displayed, but not used.	—
SIDE RADAR MALF	Side radar is normal.	Off
	Side radar is malfunctioning.	On
BLOCKAGE COND	Side radar is not blocked.	Off
	Side radar is blocked.	On
ACTIVATE OPE	NOTE: The item is displayed, but not used.	—
VEHICLE DETECT	Radar does not detect a vehicle.	Off
	Radar detects a vehicle.	On

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Standard value	Reference value
+	-	Signal name	Input/Output			
1 (B/Y)	Ground	Right/Left switching signal	Input	—	0 - 0.1 V	Approx. 0 V
2 (B)	Ground	Ground	—	—	0 - 0.1 V	Approx. 0 V
3 (Y)	—	ITS communication-L	—	—	—	—
4 (L)	—	ITS communication-H	—	—	—	—
5 (W/G)	Ground	Ignition power supply	Input	Ignition switch ON	10 - 16 V	Approx. 12 V
6 (L/R)	Ground	Blind Spot Warning/Blind Spot Intervention indicator	Output	Approx. 2 sec. after ignition switch OFF ⇒ ON (bulb check)	5.5 - 16 V	Approx. 6 V

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DAS

Fail-safe (Side Radar)

INFOID:000000011509937

FAIL-SAFE CONTROL BY DTC

Blind Spot Warning (BSW)

If a malfunction occurs in the side radar, ADAS control unit cancels control, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

Blind Spot Intervention

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the Blind Spot Warning/Blind Spot Intervention warning lamp in the combination meter.

Back-up Collision Intervention (BCI)

If a malfunction occurs in the side radar, ADAS control unit cancels control, sounds a beep, and turns ON the BCI malfunction indicator in the combination meter (information display).

TEMPORARY DISABLED STATUS AT BLOCKAGE

Blind Spot Warning (BSW)

When the side radar is blocked, the operation is temporarily cancelled. Then the Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

Blind Spot Intervention

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and Blind Spot Warning/Blind Spot Intervention warning lamp (yellow) in combination meter blinks. Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

Back-up Collision Intervention (BCI)

When the side radar is blocked, the operation is temporarily cancelled. Then the buzzer sounds and BCI not available indicator in combination meter indicates (information display). Also, under the following conditions, the operation may be temporarily cancelled.

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.

DTC Inspection Priority Chart

INFOID:000000011509938

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

Priority	Detected items (DTC)
1	<ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
2	<ul style="list-style-type: none"> • U0104: ADAS CAN CIR 1 • U0405: ADAS CAN CIR 2
3	C1B50: SIDE RDR MALFUNCTION
4	<ul style="list-style-type: none"> • C1B51: BSW/BSI IND SHORT CIR • C1B52: BSW/BSI IND OPEN CIR • C1B55: RADAR BLOCKAGE

SIDE RADAR RH

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

DTC Index

INFOID:000000011509939

×: Applicable

DTC	Blind Spot Warning/Blind Spot Intervention warning lamp	BCI malfunction indicator	BCI not available indicator	Fail-safe		Reference	
				Blind Spot Warning/Blind Spot Intervention	BCI		
C1B50	SIDE RDR MALFUNCTION	ON	ON	—	×	×	DAS-306
C1B51	BSW/BSI IND SHORT CIR	ON	ON	—	×	×	DAS-307
C1B52	BSW/BSI IND OPEN CIR	ON	ON	—	×	×	DAS-309
C1B55	RADAR BLOCKAGE	Blink	—	ON	×	×	DAS-311
U1000	CAN COMM CIRCUIT	ON	ON	—	×	×	DAS-331
U1010	CONTROL UNIT (CAN)	ON	ON	—	×	×	DAS-335
U0104	ADAS CAN CIR1	ON	ON	—	×	×	DAS-321
U0405	ADAS CAN CIR2	ON	ON	—	×	×	DAS-325

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DAS

DRIVER ASSISTANCE BUZZER CONTROL MODULE

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE BUZZER CONTROL MODULE

Reference Value

INFOID:000000011450013

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

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

DRIVER ASSISTANCE BUZZER CONTROL MODULE

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

Monitor item	Condition	Value/Status
Buzzer 1 request (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 1 volume (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 1 stop (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 2 request (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 2 volume (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 2 stop (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 3 request (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 3 volume (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 3 stop (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 4 request (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 4 volume (CCM)	—	NOTE: The item is displayed, but not used
Buzzer 4 stop (CCM)	—	NOTE: The item is displayed, but not used
ADAS MALFUNCTION	Ignition switch ON	When the ADAS control unit malfunction
		When the ADAS control unit normal
CCM MALFUNCTION	—	NOTE: The item is displayed, but not used
DR ASSIST BUZZ MALF	Ignition switch ON	When the driver assistance control module malfunction
		When the driver assistance control module normal
DR ASSIST BUZZ STATUS	Drive the vehicle and operate each system	Except for the warning condition
		LDW/LDP/Blind Spot Warning/Blind Spot Intervention system warning in progress
		ICC/PFCW/DCA system warning in progress
		FEB system warning in progress
		LDW/LDP/Blind Spot Warning/Blind Spot Intervention/ICC/PFCW/DCA system warning in progress
		ICC/PFCW/DCA system warning in progress.
		LDW/LDP/Blind Spot Warning/Blind Spot Intervention/PFCW system warning in progress
PFCW system warning in progress		

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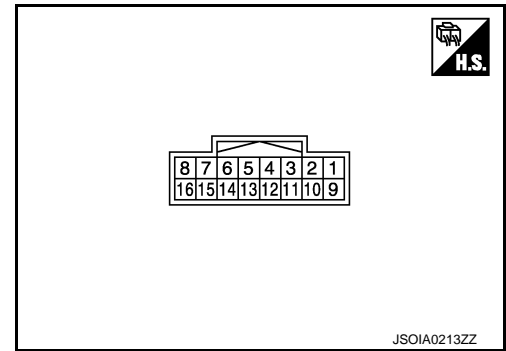
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DRIVER ASSISTANCE BUZZER CONTROL MODULE

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Standard value	Reference value
+	-	Signal name	Input/ Output				
1 (W/G)	5 (B)	Ignition power supply	Input	Ignition switch ON	—	10 - 16V	Battery voltage
3 (L)	—	ITS communication-H	—	—	—	—	—
5 (B)	Ground	Ground	—	Ignition switch ON	—	0 - 0.1 V	Approx. 0 V
8 (BR)	16 (Y)	Warning buzzer signal	Output	Ignition switch ON	Driver assistance buzzer OFF	0 - 0.1 V	Approx. 0 V
					At "BUZZER 1" test of "Active test"	<p style="text-align: right; font-size: small;">JSOIA0949ZZ</p>	
					At "BUZZER 2" test of "Active test"	<p style="text-align: right; font-size: small;">JSOIA0950ZZ</p>	
					At "BUZZER 3" test of "Active test"	<p style="text-align: right; font-size: small;">JSOIA0951ZZ</p>	
11 (Y)	—	ITS communication-L	—	—	—	—	—
13 (B)	Ground	Ground	—	Ignition switch ON	—	0 - 0.1 V	Approx. 0 V
16 (Y)	5 (B)	Warning buzzer signal ground	Output	Ignition switch ON	—	0 - 0.1 V	Approx. 0 V

DRIVER ASSISTANCE BUZZER CONTROL MODULE

< ECU DIAGNOSIS INFORMATION >

[DRIVER ASSISTANCE SYSTEM]

DTC Inspection Priority Chart

INFOID:000000011450014

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

Priority	Detected items (DTC)
1	<ul style="list-style-type: none">U1000: CAN COMM CIRCUITU1010: CONTROL UNIT (CAN)
2	<ul style="list-style-type: none">U0104: ADAS CAN CIR2
3	<ul style="list-style-type: none">C1B20: CONTROL MODULE

DTC Index

INFOID:000000011450015

NOTE:

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

×: Applicable

CONSULT display		Reference
C1B20	CONTROL MODULE	DAS-304
U0104	ADAS CAN CIR2	DAS-322
U1000	CAN COMM CIRCUIT	DAS-331
U1010	CONTROL UNIT (CAN)	DAS-336

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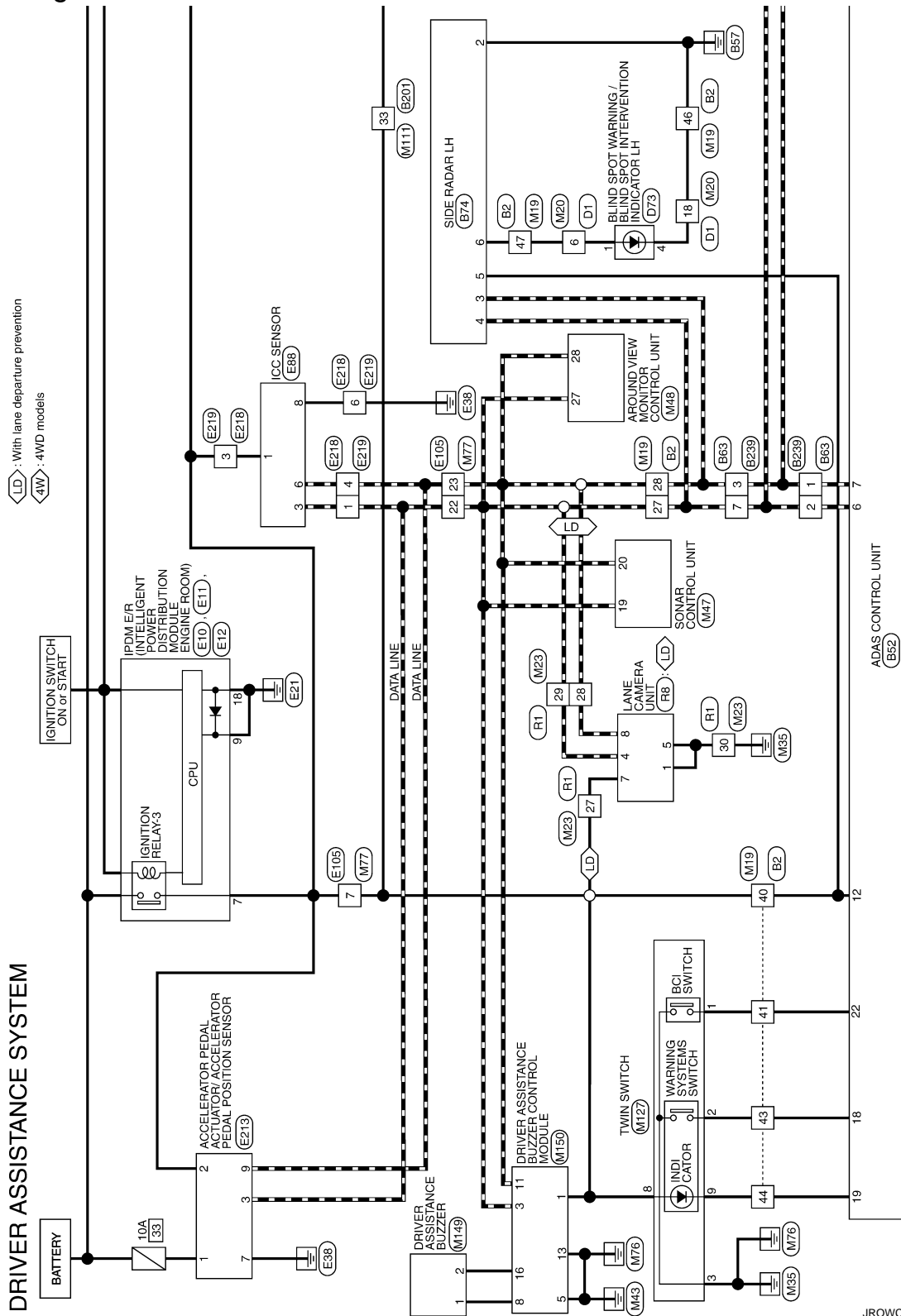
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WIRING DIAGRAM

DRIVER ASSISTANCE SYSTEMS

Wiring Diagram

INFOID:000000011450016



*: This connector is not shown in "Harness Layout".

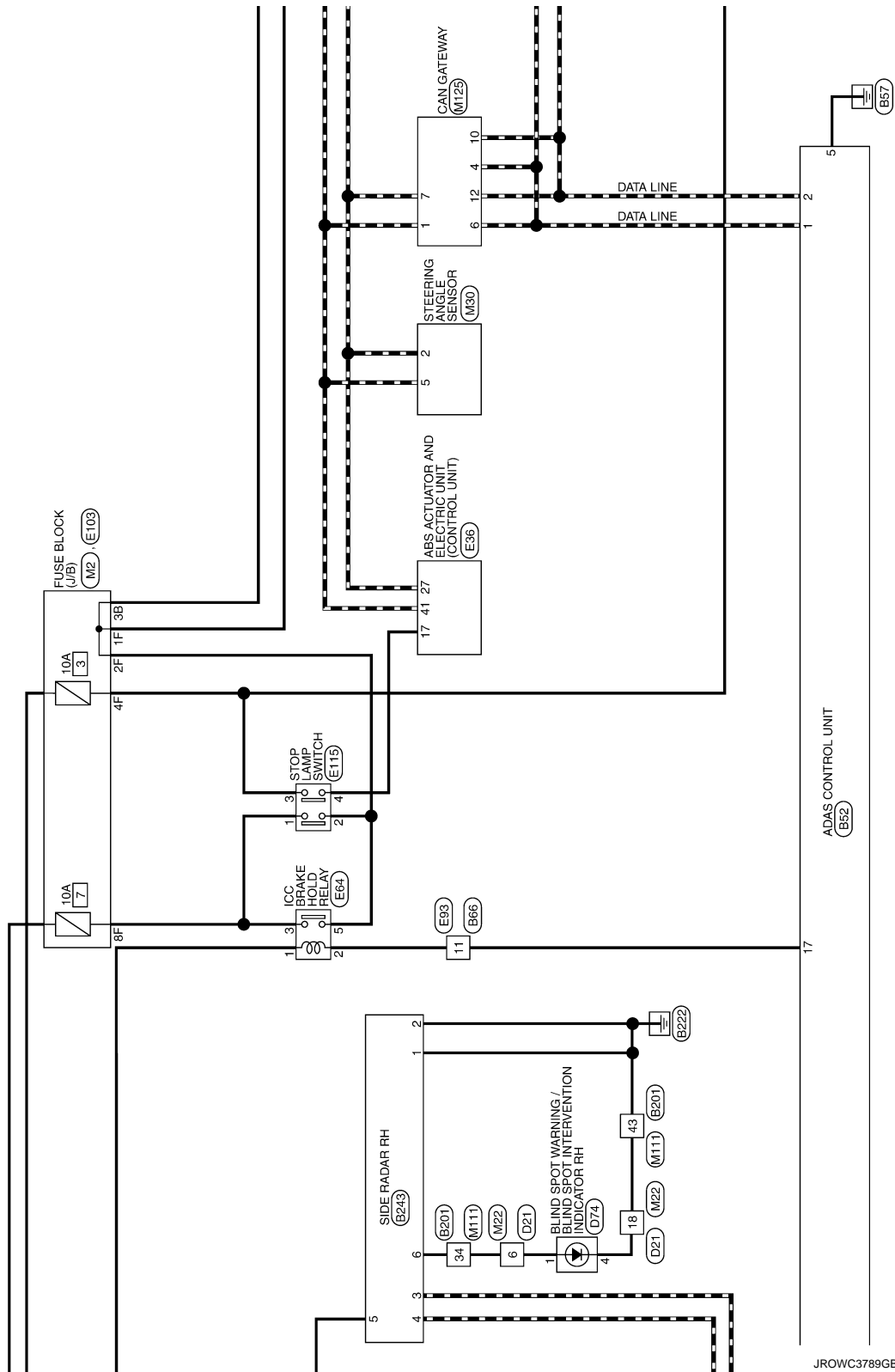
2014/07/11

JROWC3788GB

DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >



JROWC3789GB

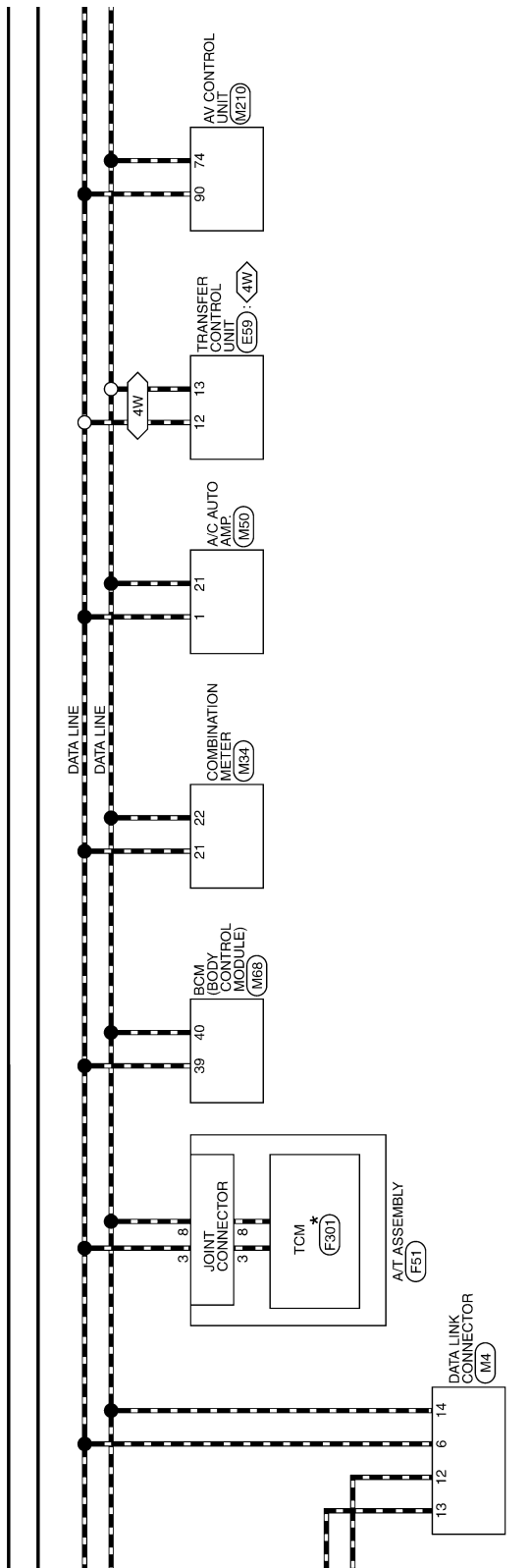
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DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

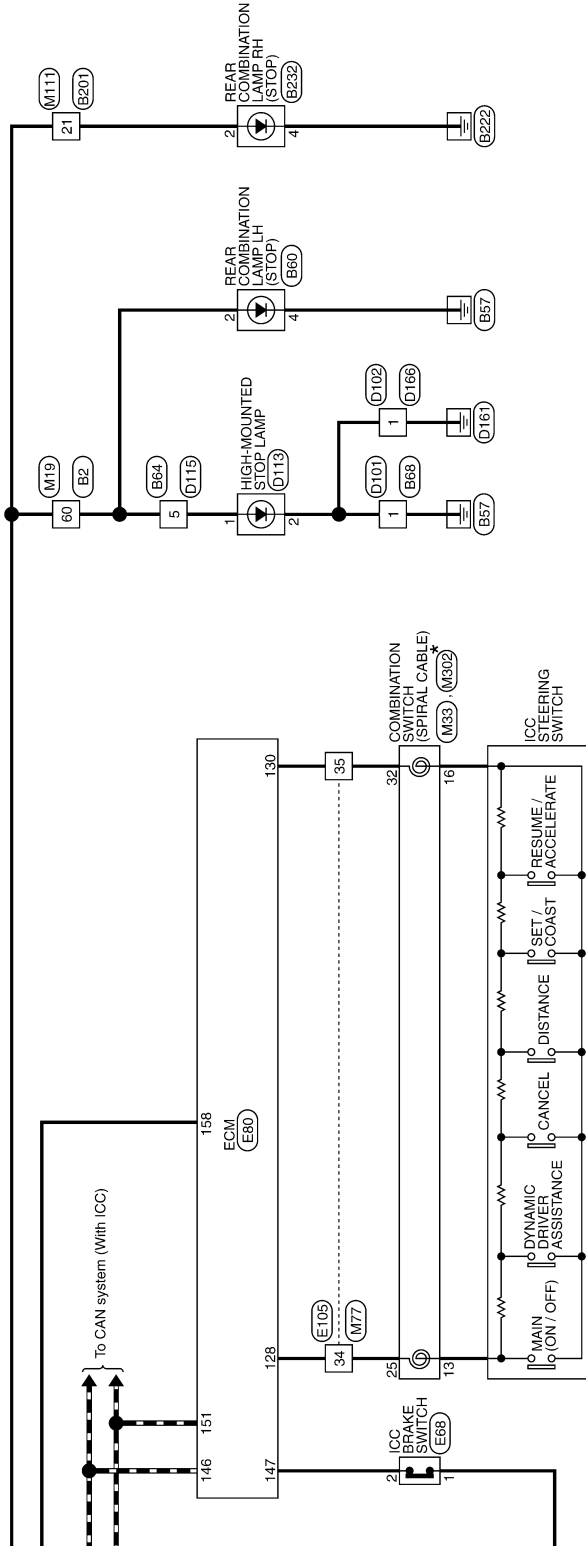


JROWC3790GB

DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >



JROWC3791GB

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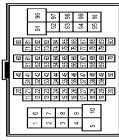
DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE SYSTEM

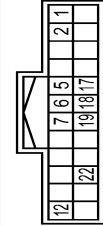
Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
3	BR	-
5	R/W	-
6	L	-
7	V	-
9	G	-
11	W/B	-
12	BR	-
13	G/R	-
14	B/Y	-
15	W/R	-
16	GR/R	-
18	G/W	-
19	V	-
20	W/G	-
21	B/W	-
22	V	-
24	G	-
25	O	-
26	Y	-
27	L/O	-
28	Y/R	-
29	L	-
30	R	-
31	G/Y	-
32	B/SB	-
33	LG/R	-
34	BR/W	-
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36	SB	-
37	LG	-
38	L	-
39	P	-
40	W/G	-
41	O	-

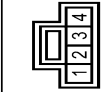
43	V/W	-
44	LG/B	-
46	B	-
47	BR	-
49	GR	-
50	R/B	-
51	W/R	-
52	BR/Y	-
53	O/B	-
54	G/O	-
55	R/B	-
56	LG/R	-
57	GR/R	-
58	Y/G	-
59	V/W	-
60	R	-
63	B	-
64	R	-
65	W	-
66	G	-
67	SHIELD	-
69	LG/B	-
70	P/L	-
71	L	-
72	R	-
77	Y/B	-
78	Y/L	-
79	Y	-
80	W/R	-
81	Y/L	-
84	L/O	-
86	O	-
87	W/R	-
88	O	-
89	W/L	-
90	GR/L	-
91	W	-
92	G	-
94	W/R	-
96	L/W	-
97	R	-
98	V	-
99	L/W	-
100	P/B	-

Connector No.	B52
Connector Name	ADAS CONTROL UNIT
Connector Type	TH24FW-NH



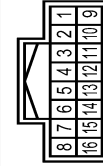
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
5	B	GROUND
6	L	ITS COMM-H
7	Y	ITS COMM-L
12	W/G	IGNITION
17	R	BRAKE HOLD RLY DRIVE SIGNAL
18	V/W	WARNING SYSTEMS SW
19	LG/B	WARNING SYSTEMS ON IND
22	O	BCI SW

Connector No.	B60
Connector Name	REAR COMBINATION LAMP LH
Connector Type	NS04FW-CS



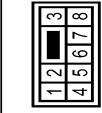
Terminal No.	Color Of Wire	Signal Name [Specification]
1	L/W	-
2	R	-
3	G	-
4	B	-

Connector No.	B63
Connector Name	WIRE TO WIRE
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	L	-
3	Y/R	-
4	SB	-
5	LG	-
6	Y	-
7	L/O	-
8	G	-
13	R/L	-
14	G	-
16	W	-

Connector No.	B64
Connector Name	WIRE TO WIRE
Connector Type	NS09MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	R/Y	-
3	G/W	-
4	R	-
5	R	-
7	L/W	-
8	V	-

DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

DRIVER ASSISTANCE SYSTEM

Connector No.	B86
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH



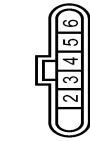
Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	B	-
3	G	-
4	W	-
5	SHIELD	-
7	GR	-
8	R/W	-
11	R	-
12	V	-
13	P/L	-
15	R/Y	-
16	L/W	-

Connector No.	B88
Connector Name	WIRE TO WIRE
Connector Type	M02MW-LC



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

Connector No.	B74
Connector Name	SIDE RADAR LH
Connector Type	AAC08FB-WP-8P



Terminal No.	Color Of Wire	Signal Name [Specification]
2	B	GROUND
3	Y	ITS COMM-L
4	L	ITS COMM-H
5	W/G	IGNITION
6	BR	BLIND SPOT WARNING BEHIND SPOT INTERVENTION INDICATOR

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R/B	-
2	G	-
3	W/B	-
6	L/Y	-
7	R	-
8	G/R	-
9	GR/R	-
11	W	-
12	V	-
13	Y	-
16	L/O	-
17	GR/L	-
18	R/G	-
19	L/Y	-

Terminal No.	Color Of Wire	Signal Name [Specification]
20	G/Y	-
21	R	-
22	GR	-
27	L/W	-
29	W	-
30	R/L	-
31	V/L	-
32	W/R	-
33	W/G	-
34	L/R	-
37	G	-
38	SHIELD	-
39	P/B	-
40	W/R	-
41	R	-
42	L	-
43	B/W	-
44	L	-
45	P	-
46	SHIELD	-
47	R	-
48	W	-
49	SHIELD	-
50	V	-
51	L/B	-
52	L/R	-
53	SB	-
54	V/W	-
59	L	-
60	GR	-
61	P/L	-
62	R/SB	-
63	R/Y	-
64	BR	-
70	O	-
71	W	-
72	SHIELD	-
73	B	-
74	R	-
75	G	-
76	Y	-
77	SB	-
78	LG	-
79	R/B	-
90	W/B	-
93	Y	-
94	L	-
95	L/R	-
96	R	-

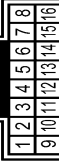
Terminal No.	97	W	-
Terminal No.	98	V	-
Terminal No.	99	L/W	-
Terminal No.	100	W	-

Connector No.	B232
Connector Name	REAR COMBINATION LAMP RH
Connector Type	NS04FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L/W	-
2	R	-
3	G/Y	-
4	B	-

Connector No.	B239
Connector Name	WIRE TO WIRE
Connector Type	TH16MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	L	-
3	Y	-
4	SB	-
5	LG	-
6	Y	-
7	L	-
8	G	-
13	R/L	-
14	G	-

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DRIVER ASSISTANCE SYSTEMS

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[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE SYSTEM

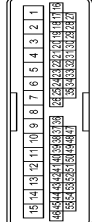
16	W	-
17	R	-
18	B	-
19	GR/R	-
20	R/W	-
21	B	-
22	R	-
23	P	-
24	SHIELD	-
25	Y	-
26	P/B	-
27	L/O	-
28	BR/W	-
29	W/R	-
30	V	-
31	W/G	-
32	Y/G	-
33	O/L	-
34	GR/B	-
35	BR	-
36	V/W	-
37	R	-
38	W	-
39	G/O	-
40	BR/Y	-
41	SB	-
42	W/L	-
43	L/W	-
44	Y/G	-
45	P/L	-
46	P/A	-
47	LG	-
48	GR/L	-
49	SHIELD	-
50	W	-
51	GR/B	-
52	LG/B	-
53	G	-
54	B	-
55	R	-

Connector No.	B243
Connector Name	SIDE RADAR RH
Connector Type	AAC09FB-WP



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B/Y	RIGHT/LEFT SWITCHING SIGNAL
2	B	GROUND
3	Y	ITS COMM-L
4	L	ITS COMM-H
5	W/G	IGNITION
6	L/R	BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR

Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	W	-
3	V	-
4	Y	-
5	LG/R	-
6	BR/W	-
8	V	-
9	G	-
10	L	-
12	B/Y	-
13	Y	-

Connector No.	D21
Connector Name	WIRE TO WIRE
Connector Type	TH40FW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	W	-
3	V	-
4	P/L	-
5	P/L	-
6	L/R	-
8	L/W	-
9	G/Y	-
10	L	-
12	B/Y	-
13	L	-
14	R	-
15	B	-
16	Y/G	-
17	Y/L	-
18	B/W	-
19	R	-
20	P	-
22	Y/R	-
23	LG/B	-
24	L/O	-
25	R/W	-
26	W/R	-
27	SHIELD	-
36	G/O	-
37	Y/B	-
38	V	-
39	W/L	-
40	L/O	-
44	GR/L	-
45	G	-
46	W	-
47	LG	-
48	G/W	-
49	Y	-
50	L/Y	-
51	GR/B	-
52	LG/B	-
53	G	-
54	B	-
55	R	-

Connector No.	D73
Connector Name	BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR
Connector Type	TH84MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR/W	-
4	B	-

Connector No.	D74
Connector Name	BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR
Connector Type	TH84MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L/R	-
4	B/W	-

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DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

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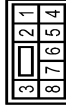
DRIVER ASSISTANCE SYSTEM

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Type	M02FBW-LC



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

Connector No.	D115
Connector Name	WIRE TO WIRE
Connector Type	NS08FBW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	
2	R/Y	
3	G/W	
4	R	
5	R	
7	L/W	
8	V	



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

Connector No.	D113
Connector Name	HIGH-MOUNTED STOP LAMP
Connector Type	TK02MBR-P



Connector No.	E10
Connector Name	IPW/E/R INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	M08FBW-LC



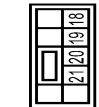
Terminal No.	Color Of Wire	Signal Name [Specification]
3	R	
4	L	
5	P/L	
7	W/G	
8	W	



Connector No.	E11
Connector Name	IPW/E/R INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	M08FBW-LC

Terminal No.	Color Of Wire	Signal Name [Specification]
9	B	
14	L	

Connector No.	E12
Connector Name	IPW/E/R INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	NS108FBR-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
18	B	
19	V	
20	W	
21	L	

Connector No.	E35
Connector Name	ABS-ACTUATOR AND ELECTRIC UNIT CONTROL UNIT
Connector Type	SAZ42FB-SJZA



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	BAT
2	B	GN
3	B	GN
4	W	MOTOR SUPPLY
9	R/B	VAR RATE / SBE / DIESEL G SENSOR COMMUNICATION-L
10	P/B	VAR RATE / SBE / DIESEL G SENSOR COMMUNICATION-R
13	GR	BRAKE FLUID LEVEL SW
17	L/R	STP2
18	W/B	IGN
19	O	DS FR
20	SB	DP FL
21	R/O	DS RR
22	V	DP RL
27	P	CAN-L
33	LG	DP FR
34	G	DS FL

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DRIVER ASSISTANCE SYSTEMS

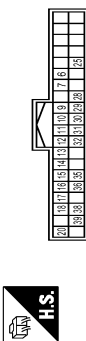
[DRIVER ASSISTANCE SYSTEM]

< WIRING DIAGRAM >

DRIVER ASSISTANCE SYSTEM

35	BR	DP RR
36	P	DS RL
37	R	STP
39	L/W	VDC OFF SW
41	L	CAN-H
46	W	STOP LAMP SW ON

Connector No.	E59
Connector Name	TRANSFER CONTROL UNIT
Connector Type	TH4QFW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
6	BR	HI-LO POSITION SEN 1
7	Y	TRANSFER FLUID TEMP SEN PWR SUPPLY
9	G	INTERNAL SPEED SEN GND
10	Y/G	INTERNAL SPEED SEN IMP
11	V	4L SW
12	L	CAN-H
13	P	CAN-L
14	W/R	AUTO SW
15	P/B	ROTALY POSITION SEN PWM
16	LG	ROTALY POSITION SEN GND
17	W/L	LOCK POSITION SEN PWR SUPPLY
18	BR/Y	ROTAY POSITION SEN PWR SUPPLY
20	GR	TRANSFER C/L PWR SUPPLY
25	P/L	HI-LO POSITION SEN 3
28	W	MOTOR TEMP SEN PWR SUPPLY
29	LG/B	HI-LO POSITION SEN 2
30	P/B	LOCK POSITION SEN GND
31	L/O	INTERNAL SPEED SEN DIR
32	BR/R	IGN
35	R	4H SW
36	L/R	TRANSFER FLUID TEMP SEN GND
38	G/O	LOCK POSITION SEN SIGNAL
39	R/W	INTERNAL SPEED SEN PWR SUPPLY

Connector No.	E64
Connector Name	ICC BRAKE HOLD RELAY
Connector Type	MS02FL-M2-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W/G	
2	R	
3	L/B	
5	R	

Connector No.	E68
Connector Name	ICC BRAKE SWITCH
Connector Type	MD2FBR-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	
2	G/Y	

Connector No.	E60
Connector Name	ECM
Connector Type	MAB5FB-MEB10-LH



Terminal No.	Color Of Wire	Signal Name [Specification]
111	R	FUEL INJECTOR DRIVER POWER SUPPLY
112	SB	FUEL INJECTOR DRIVER POWER SUPPLY
113	G	
114	B	ECM GROUND
115	B	ECM GROUND
120	Y	EVAP CANISTER VENT CONTROL VALVE
122	BR/W	LEVEL DETECTOR MOTOR RELAY (SHORT SIGNAL) CONTROL MODULE
123	V/R	THROTTLE CONTROL MOTOR RELAY
125	GR	FUEL PUMP CONTROL MODULE (FPCM)
126	O	ACCELERATOR PEDAL POSITION SENSOR 2
128	Y	ASC/D/ICC STEERING SWITCH
129	P/L	SENSOR GROUND
130	R	SENSOR GROUND
131	L/W	SENSOR POWER SUPPLY
133	SB	SENSOR POWER SUPPLY
134	V/W	FUEL TEMPERATURE SENSOR
136	W/R	ACCELERATOR PEDAL POSITION SENSOR 1
137	W/G	SENSOR POWER SUPPLY
138	V	BATTERY CURRENT SENSOR
139	G	BATTERY TEMPERATURE SENSOR
140	R/Y	SENSOR GROUND
141	SB	IGNITION SWITCH
142	P/W	FUEL PUMP CONTROL MODULE (FPCM) CHECK
143	L/Y	EVAP CONTROL SYSTEM PRESSURE SENSOR
144	O/B	REFRIGERANT PRESSURE SENSOR
146	G/Y	CAN COMMUNICATION LINE
147	G/Y	ASC/D/ICC BRAKE SWITCH
150	R	SENSOR GROUND
151	P	CAN COMMUNICATION LINE
156	L	POWER SUPPLY FOR ECM (BACK-UP)
158	W/B	STOP LAMP SWITCH
161	R/W	ENG COMMUNICATION LINE
163	L/G	ECM RELAY (SELF SHUT-OFF)
165	GR/R	
166	W	ENG COMMUNICATION LINE
169	G/B	ENGINE SPEED SIGNAL OUTPUT

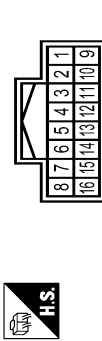
171	W	POWER SUPPLY FOR ECM
172	W	POWER SUPPLY FOR ECM
173	O	THROTTLE CONTROL MOTOR POWER SUPPLY
174	B	ECM GROUND
175	B	ECM GROUND

Connector No.	E68
Connector Name	ICC SENSOR
Connector Type	AAZ08FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W/G	IGN
3	L	ITS COMM-H
6	Y	ITS COMM-L
8	B	GND

Connector No.	E63
Connector Name	WIPE TO WIPE
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	
2	B	
3	G	
4	W	
5	SHIELD	
7	GR	
8	R/W	
11	R	
12	V	

DRIVER ASSISTANCE SYSTEMS

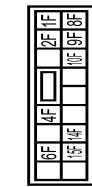
[DRIVER ASSISTANCE SYSTEM]

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DRIVER ASSISTANCE SYSTEM

13	P/L	-
15	R/Y	-
16	L/W	-

Connector No.	E103
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
10F	G	-
14F	Y	-
15F	G	-
1F	W/B	-
2F	R	-
4F	G	-
6F	Y/G	-
8F	L/B	-
9F	Y	-

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS10-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	L/W	-
3	R/B	-
4	L	-
5	Y	-
7	W/G	-

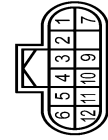
8	P/B	-
9	W/B	-
10	G	-
11	L	-
12	P	-
13	P/B	-
14	BR	-
15	L/B	-
16	SB	-
18	BR	-
19	Y/G	-
20	BR/Y	-
21	Y/V	-
22	L	-
23	Y	-
24	L/W	-
28	O	-
29	R/W	-
30	L/B	-
31	Y	-
32	GR/R	-
34	Y	-
35	R	-
36	B/R	-
37	G/Y	-
38	G	-
40	SB	-
41	W/R	-
42	R	-
43	V	-
54	GR/L	-
91	BR	-
92	L/W	-
94	Y/B	-
95	G/R	-
97	R	-
98	C/B	-
100	W/R	-

Connector No.	E115
Connector Name	STOP LAMP SWITCH
Connector Type	MA4FW-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L/B	-
2	R	-
3	G	-
4	L/R	-

Connector No.	E113
Connector Name	ACCELERATOR PEDAL ACTUATOR/ACCELERATOR POSITION SENSOR
Connector Type	RH1ZFB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B/O	BATTERY
2	W/G	IGNITION
3	L	ITS COMA-H
4	W/G	SENSOR POWER SUPPLY
5	R/Y	SENSOR GROUND
6	W/R	ACCELERATOR PEDAL POSITION SENSOR 1
7	B	GROUND
9	Y	ITS COMA-L
10	L/W	SENSOR POWER SUPPLY
11	P/L	SENSOR GROUND
12	O	ACCELERATOR PEDAL POSITION SENSOR 2

Connector No.	EZ18
Connector Name	WIRE TO WIRE
Connector Type	RS06MB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
3	W/G	-
4	Y	-
6	B	-

Connector No.	EZ19
Connector Name	WIRE TO WIRE
Connector Type	RS06FB-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
3	W/G	-
4	Y	-
6	B	-

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DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

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DRIVER ASSISTANCE SYSTEM

Connector No.	F51
Connector Name	A/T ASSEMBLY
Connector Type	RK1DFG



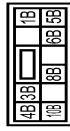
Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	IGNITION POWER SUPPLY
2	P	BATTERY POWER SUPPLY
3	L	CAN-H
4	SB	K-LINE
5	B	GROUND
6	V	IGNITION POWER SUPPLY
7	R	BACK-UP LAMP RELAY
8	P	STARTER RELAY
9	BR	CAN-L
10	B	GROUND

Connector No.	F301
Connector Name	TSM
Connector Type	SPTDFG



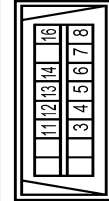
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	IGNITION POWER SUPPLY
2	-	BATTERY POWER SUPPLY
3	-	CAN-H
4	-	K-LINE
5	-	GROUND
6	-	IGNITION POWER SUPPLY
7	-	BACK-UP LAMP RELAY
8	-	CAN-L
9	-	STARTER RELAY
10	-	GROUND

Connector No.	M2
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS10FW-CS



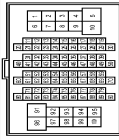
Terminal No.	Color Of Wire	Signal Name [Specification]
1B	W/B	-
2B	R	-
3B	R	-
4B	B	-
5B	BR	-
6B	Y	-
8B	L/O	-

Connector No.	M4
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	-
4	B	-
5	B	-
6	B	-
7	SB	-
8	GR	-
11	SB	-
12	R	-
13	L	-
14	P	-
16	Y	-

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	-
3	BR	-
5	R/W	-
6	L	-
7	V	-
9	G	-
11	W/B	-
12	BR	-
13	G/R	-
14	B/Y	-
15	W/R	-
16	GR/R	-
18	G/W	-
19	V	-
20	W/G	-
21	B/W	-
22	G	-
24	V	-
25	O	-
26	Y	-
27	L	-
28	Y	-
29	L	-
30	R	-
31	G/Y	-
32	B/SB	-
33	LG/R	-
34	BR/W	-
35	GR/R	-
36	SB	-
37	LG	-
38	L	-
39	P	-
40	W/G	-
41	O	-
43	V/W	-

44	LG/B	-
46	B	-
47	BR/W	-
49	GR	-
50	R/B	-
51	W/R	-
52	BR/Y	-
53	G/B	-
54	G/O	-
55	R/O	-
56	LG/R	-
57	GR/R	-
58	Y/G	-
59	V/W	-
60	R	-
63	B	-
64	R	-
65	W	-
66	G	-
67	SHIELD	-
69	LG/B	-
70	P/L	-
71	L	-
72	R	-
77	Y/B	-
78	Y/L	-
79	Y	-
80	W/R	-
81	Y/L	-
84	L/O	-
86	O	-
87	W/R	-
88	O	-
89	W/L	-
90	GR/L	-
91	W	-
92	G	-
94	W/R	-
96	L/W	-
97	Y	-
98	Y	-
99	L/W	-
100	P/B	-

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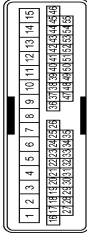
DRIVER ASSISTANCE SYSTEMS

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[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE SYSTEM

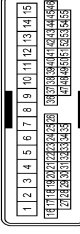
Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	
2	W	
3	V	
4	Y	
5	LG/R	
6	BR/W	
8	V	
9	G	
10	L	
12	B/Y	
13	Y	
14	R	
15	B	
16	GR/R	
17	V/W	
18	B	
19	R	
20	P	
21	SHIELD	
22	V	
23	P/B	
24	L/O	
25	BR/W	
26	BR/W	
27	W/R	
28	W/G	
29	Y/G	
30	O/L	
31	GR/B	
32	BR	
33	V/W	
34	R	
35	W	
36	G/O	
37	BR/Y	
38	SB	

39	W/L	-
40	L/W	-
41	Y/G	-
42	P/L	-
43	LG	-
44	GR	-
45	SHIELD	-
46	W	-
47	LG	-
48	O/W	-
49	L/O	-
50	L/Y	-
51	GR/R	-
52	LG/B	-
53	G	-
54	B	-
55	R	-


Connector No.	M22
Connector Name	WIRE TO WIRE
Connector Type	TH40MW-CS15



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	
2	W	
3	Y	
5	P/L	
8	L/R	
8	L/W	
9	G/Y	
10	L	
12	B/Y	
13	L	
14	R	
15	B	
16	Y/G	
17	Y/L	
18	B/W	
19	R	
20	P	

22	Y/R	-
23	LG/B	-
24	L/W	-
25	W/R	-
26	W/R	-
27	SHIELD	-
36	O/O	-
37	Y/B	-
38	Y	-
39	W/L	-
40	L/O	-
44	GR	-
45	G	-
46	W	-
47	LG	-
48	L/R	-
49	Y	-
50	R/B	-
53	SHIELD	-
54	B	-
55	R	-


Connector No.	M23
Connector Name	WIRE TO WIRE
Connector Type	TH32MM-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	
2	V	
3	B	
4	Y	
5	GR	
6	B/Y	
7	B	
8	Y/L	
9	G	
10	B	
11	R	
14	Y	
15	W/R	

16	L/O	-
17	Y	-
18	L/O	-
20	W	-
21	O	-
22	SB	-
23	P	-
24	SHIELD	-
56	Y/G	-
57	W/G	-
28	Y	-
29	L	-
30	B/SB	-
31	BR	-
32	GR/L	-

Connector No.	M30
Connector Name	STEERING ANGLE SENSOR
Connector Type	TH08FW-NH



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

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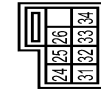
DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

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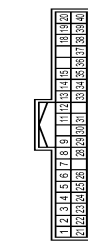
DRIVER ASSISTANCE SYSTEM

Connector No.	M33
Connector Name	COMBINATION SWITCH (SERIAL CABLE)
Connector Type	TK0BF0Y-1V



Terminal No.	Color Of Wire	Signal Name [Specification]
24	Y/G	
25	Y	
26	B	
31	Y/L	
32	B	
33	B	
34	P/B	

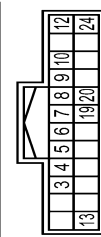
Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	TH4QFW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BATTERY POWER SUPPLY
2	GR	IGNITION SIGNAL
3	B	GROUND
4	B	ILL GND
5	B	ILL CONTROL OUTPUT
6	GR	LED HEADLAMP (RH) WARNING SIGNAL
7	R	LOW MODE SIGNAL
8	P/L	TRIP RESET SWITCH SIGNAL
9	O	LED HEADLAMP (LH) WARNING SIGNAL
11	G	ENTER SWITCH SIGNAL
12	O	SELECT SWITCH SIGNAL
13	W/R	ILLUMINATION CONTROL SWITCH SIGNAL (+)
14	R	ILLUMINATION CONTROL SWITCH SIGNAL (-)

15	R/W	AIR BAG SIGNAL
18	W/R	AMBIENT SENSOR SIGNAL
19	V/W	A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL
20	B	AMBIENT SENSOR GROUND
21	L	CAN-H
22	P	CAN-L
23	B	GROUND
24	B	FUEL LEVEL SENSOR GROUND
25	O/L	FUEL LEVEL SIGNAL
26	W	ALTERNATOR SWITCH SIGNAL
28	GR/R	SECURITY SIGNAL
29	BR	WASHER LEVEL SWITCH SIGNAL
30	SB	VEHICLE SPEED SIGNAL (2-PULSE)
31	BR/W	VEHICLE SPEED SIGNAL (3-PULSE)
33	W	SHOW MODE SIGNAL
34	BR/Y	FUEL LEVEL SENSOR SIGNAL
35	O/B	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)
36	G/Y	PASSENGER SEAT BELT WARNING SIGNAL
37	R/Y	NON-MANUAL MODE SIGNAL
38	L/W	MANUAL MODE SHIFT DOWN SIGNAL
39	Y/B	MANUAL MODE SHIFT UP SIGNAL
40	G/W	MANUAL MODE SIGNAL

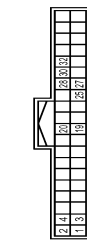
Connector No.	M47
Connector Name	SONAR CONTROL UNIT
Connector Type	TH3ZFW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	CORNER SENSOR FRONT LH
3	R	CORNER SENSOR FRONT RH
4	W	CORNER SENSOR REAR LH
5	R	CORNER SENSOR REAR RH
6	R	CORNER SENSOR REAR LH
7	G	CORNER SENSOR REAR RH
8	Y	CENTER SENSOR FRONT LH
9	G	CENTER SENSOR FRONT RH
10	Y	CENTER SENSOR FRONT LH SENSOR GND
12	B	IGN
13	GR/L	CAN-H
19	L	CAN-L
20	R	CAN-L [Without ADAS]

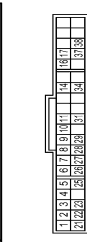
20	Y	ITS-CAN L [With ADAS]
24	B	GND

Connector No.	M48
Connector Name	AROUND VIEW MONITOR CONTROL UNIT
Connector Type	TH4QFW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GND
2	Y/G	BATTERY POWER SUPPLY
3	GR/L	IGNITION SIGNAL
4	V	ACC POWER SUPPLY
19	SB	AV COMM (H)
20	LG	AV COMM (L)
25	P	REVERSE
27	L	CAN-H
28	R	CAN-L [Without ADAS]
28	Y	CAN-L [With ADAS]
30	LG	RETRACT MOTOR OPERATION SIGNAL (OPEN)
32	G/O	RETRACT MOTOR OPERATION SIGNAL (CLOSE)

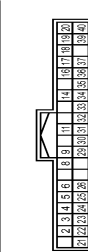
Connector No.	M50
Connector Name	A/C AUTO AMP.
Connector Type	SAB4QFW



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	B	GROUND
3	Y/G	BATTERY POWER SUPPLY
4	V	ACC POWER SUPPLY

5	W	IONIZER CONTROL SIGNAL
6	V/W	A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL
7	W/R	AMBIENT SENSOR SIGNAL
8	GR/L	RR IN-VEHICLE SENSOR SIGNAL
9	BR	SUNLOAD SENSOR (DR) SIGNAL
10	V/W	Env gas - outside model detecting sensor signal
11	W	COMM (A/C AUTO AMP.-RR A/C CONT)
14	O/L	FR BLOWER MOTOR CONTROL SIGNAL
16	R/G	EACH DOOR MOTOR LIN SIGNAL
17	L/Y	EACH DOOR MOTOR POWER SUPPLY
21	P	CAN-L
22	B	GROUND
23	GR/L	IGNITION POWER SUPPLY
25	R	
26	B	SENSOR GROUND
27	GR	FR IN-VEHICLE SENSOR SIGNAL
28	R	INTAKE SENSOR SIGNAL
29	O	SUNLOAD SENSOR (PASS) SIGNAL
31	O/L	COMM (RR A/C CONT-A/C AUTO AMP)
34	L/O	RR BLOWER MOTOR CONTROL SIGNAL
37	B	GROUND
38	G/W	RR A/C RELAY CONTROL SIGNAL

Connector No.	M68
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH4QFB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	BR/Y	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	L	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	V	COMBI SW INPUT 1
8	V	POWER WINDOW SW COMM
9	R	STOP LAMP SW 1
11	R	RAIN SENSOR SERIAL LINK
14	P/B	OPTICAL SENSOR
16	L/O	DIMMER SIGNAL
17	Y/G	SENSOR PWR SPLY
18	B/Y	RECEIVER/SENSOR GND

DRIVER ASSISTANCE SYSTEMS

< WIRING DIAGRAM >

[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE SYSTEM

19	G/Y	TURN SIG RH OUTPUT (FRONT)
20	G	TURN SIG LH OUTPUT (FRONT)
21	P	NATS ANT AMP
22	W/B	KYLS ENT RECEIVER RSSI
23	GR/R	SECURITY IND.CONT
24	SB	DOANGLE LINK
25	LG/R	NATS ANT AMP
26	O	INTELLIGENT KEY IDENTIFICATION
28	W	HAZARD SW
30	W/L	DR DOOR GRAB SW
31	W/G	DR DOOR UNLOCK SENSOR
32	LG	COMBI SW OUTPUT 5
33	Y	COMBI SW OUTPUT 4
34	W	COMBI SW OUTPUT 3
35	R/W	COMBI SW OUTPUT 2
36	SB	COMBI SW OUTPUT 1
37	G/Y	SHIFT P
39	L	CAN-H
40	P	CAN-L

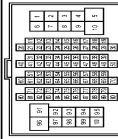
Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	L/W	-
3	R/B	-
4	Y	-
5	Y	-
7	W/G	-
8	P/B	-
9	W/B	-
10	G	-
11	L	-
12	P	-
13	P/B	-
14	BR	-
15	O/L	-
16	SB	-

18	BR	-
19	Y/G	-
20	BR/Y	-
21	V	-
22	L	-
23	Y	-
24	L/W	-
28	O	-
30	B/W	-
31	O/L	-
32	GR/R	-
34	Y	-
35	R	-
36	B/O	-
37	G/Y	-
38	G	-
40	SB	-
41	W/R	-
42	R	-
43	V	-
54	GR/L	-
91	BR	-
92	L/W	-
94	Y/B	-
95	L/R	-
97	R	-
98	O/L	-
100	W/B	-

Connector No.	M111
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

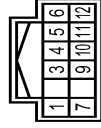


Terminal No.	Color Of Wire	Signal Name [Specification]
1	R/B	-
2	G	-
3	W/R	-
5	W/B	-
6	L/Y	-

7	R	-
8	GR/R	-
9	SB	-
11	W	-
12	V	-
13	Y	-
16	L/O	-
17	GR/L	-
18	V/O	-
19	G/Y	-
20	G/Y	-
21	R	-
22	GR	-
27	L/O	-
29	SB	-
30	R/L	-
31	Y/L	-
32	W/R	-
33	W/G	-
34	L/R	-
36	G	-
37	V	-
38	SHIELD	-
39	P/B	-
40	W/R	-
41	R	-
42	L/W	-
43	B/W	-
44	L	-
45	P	-
46	SHIELD	-
47	R	-
48	W	-
49	SHIELD	-
50	V	-
51	O/L	-
52	L/R	-
53	SB	-
54	V/W	-
59	L	-
60	GR	-
61	P/L	-
62	B/SB	-
63	R/Y	-
64	BR	-
70	O	-
71	W	-
72	SHIELD	-
73	B	-
74	R	-

75	G	-
76	Y	-
77	SB	-
78	LG	-
79	R/B	-
80	W/B	-
83	Y	-
84	L	-
85	L/R	-
86	R	-
87	W	-
88	V	-
89	L/W	-
100	W	-

Connector No.	M75
Connector Name	CAN GATEWAY
Connector Type	TH12FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
3	Y	BATTERY
4	L	CAN-H
5	B	GND
6	L	CAN-H
7	P	CAN-L
9	GR	IGNITION
10	R	CAN-L
11	B	GND
12	R	CAN-L

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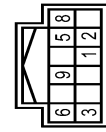
DRIVER ASSISTANCE SYSTEMS

[DRIVER ASSISTANCE SYSTEM]

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DRIVER ASSISTANCE SYSTEM

Connector No.	M127
Connector Name	TWIN SWITCH
Connector Type	TH12FCY-NH



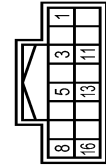
Terminal No.	Color Of Wire	Signal Name [Specification]
1	O	
2	V/W	
3	B	
5	L/O	
6	B/O	
8	W/G	
9	LG/B	

Connector No.	M149
Connector Name	DRIVER ASSISTANCE BUZZER
Connector Type	NS02FW-CS



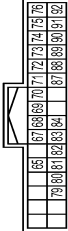
Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	SPEAKER (IN+)
2	Y	SPEAKER (IN-)

Connector No.	M150
Connector Name	DRIVER ASSISTANCE BUZZER CONTROL MODULE
Connector Type	TH16FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W/G	IGN
3	L	ITS COMM-H
5	B	GROUND
8	BR	SPEAKER OUT(+)
11	Y	ITS COMM-L
13	B	GROUND
16	Y	SPEAKER OUT(-)

Connector No.	M210
Connector Name	AV CONTROL UNIT
Connector Type	TH32FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
65	W	PARKING BRAKE SIGNAL
67	W	COMPOSITE IMAGE SIGNAL GND
68	R	COMPOSITE IMAGE SIGNAL
69	O	INTELLIGENT KEY IDENTIFICATION SIGNAL
70	BR	
71	SHIELD	MICROPHONE SHIELD
72	Y	MICROPHONE VCC (With DCM)
73	Y/G	MICROPHONE VCC (Without DCM)
74	P	COMM (CONT-DISP)
75	LG	AV COMM (L)
76	LG	AV COMM (L)
79	L/O	DIMMER SIGNAL

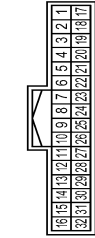
80	GR/L	IGNITION SIGNAL
81	R/Y	REVERSE SIGNAL
82	BR/W	VEHICLE SPEED SIGNAL (8-PULSE)
83	SHIELD	SHIELD
84	W/B	COMPOSITE IMAGE SYNC SIGNAL
87	BR	MICROPHONE SIGNAL (With DCM)
88	Y/L	MICROPHONE SIGNAL (Without DCM)
89	SHIELD	SHIELD
90	Y/L	COMM (RSP-COMT)
91	SE	CAN-H
92	SB	AV COMM (H)

Connector No.	M302
Connector Name	COMBINATION SWITCH (SPIRAL CABLE)
Connector Type	TK08FY



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

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Type	TH82FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	
2	V	
3	B	
4	Y	
5	B/R	
6	B/Y	
7	B	
8	Y/L	
9	G	
10	B	
11	R	
14	B/Y	
15	W/R	
16	L/O	
17	Y	
18	L/O	
20	W	
21	O	
22	SB	
23	B	
24	SHIELD	
25	Y/G	
26	B/SB	
27	W/G	
29	L	
30	B/SB	
31	BR	
32	B/R	

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DRIVER ASSISTANCE SYSTEMS

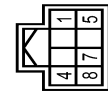
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[DRIVER ASSISTANCE SYSTEM]

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DRIVER ASSISTANCE SYSTEM

Connector No.	R8
Connector Name	LANE CAMERA UNIT
Connector Type	TH08FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	GROUND
4	L	ITS COMM-H
5	B	GND
7	W/G	IGNITION
8	Y	ITS COMM-L

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DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

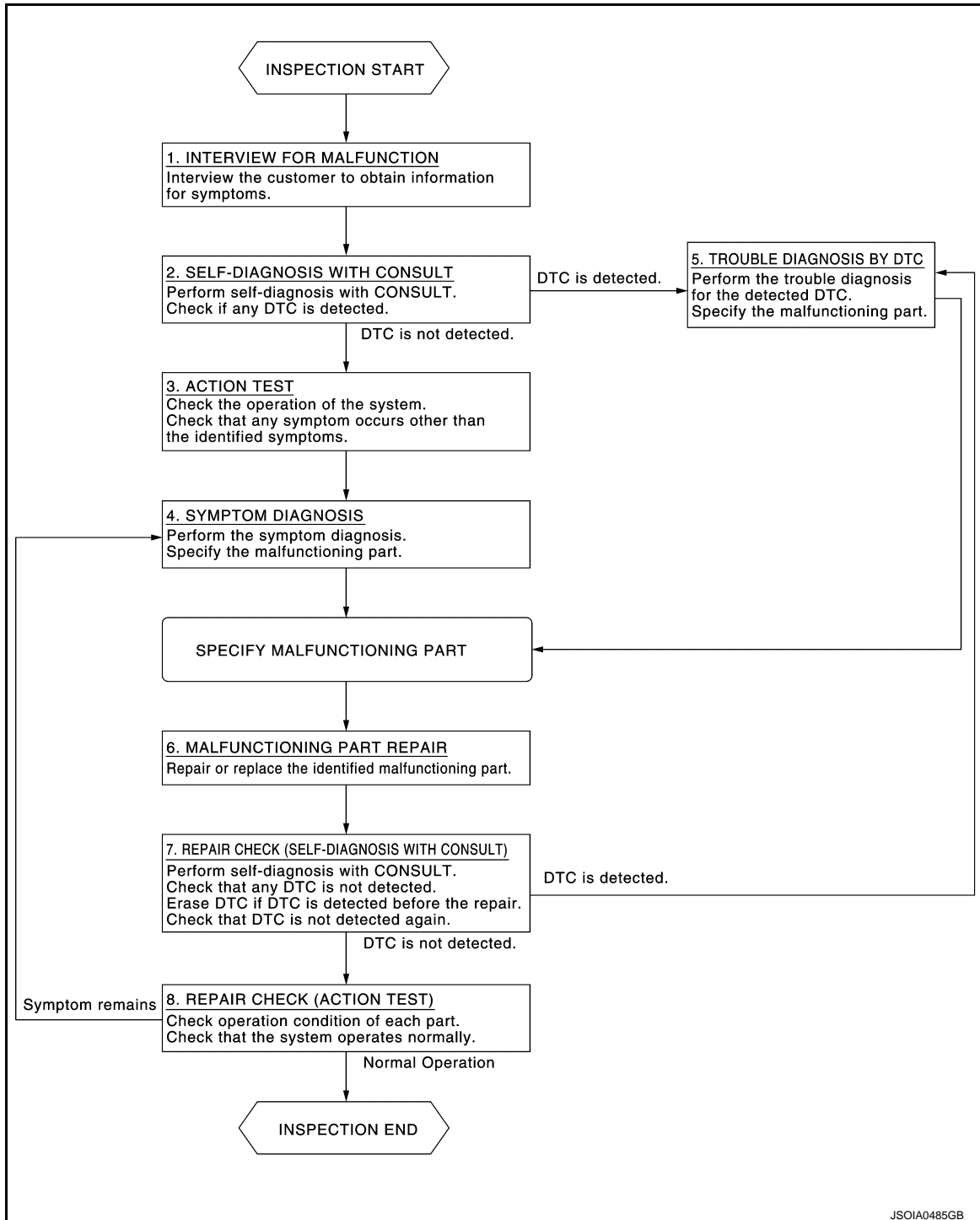
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000011450017

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.

DIAGNOSIS AND REPAIR WORK FLOW

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

NOTE:

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

>> GO TO 2.

2.SELF-DIAGNOSIS WITH CONSULT

1. Perform “All DTC Reading” with CONSULT.
2. Check if the DTC is detected on the self-diagnosis results of following.
 - “ICC/ADAS”
 - “LASER/RADAR”
 - “ACCELE PEDAL ACT”
 - “LANE CAMERA”
 - “SIDE RADAR LEFT”
 - “SIDE RADAR RIGHT”
 - “BSW/BUZZER”

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 3.

3.ACTION TEST

Perform Following system action test to check the operation status. Check if any other malfunctions occur.

- DCA: Refer to [DAS-292, "DCA : Description"](#).
- LDW/LDP: Refer to [DAS-293, "LDW/LDP : Description"](#).
- Blind Spot Warning/Blind spot Intervention: Refer to [DAS-295, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description"](#).
- BCI: Refer to [DAS-298, "BCI : Description"](#).

>> GO TO 4.

4.SYMPTOM DIAGNOSIS

Perform the applicable diagnosis according to the diagnosis chart by symptom. Refer to [DAS-350, "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 following.
 - “ICC/ADAS”: Refer to [DAS-242, "DTC Index"](#).
 - “LASER/RADAR” Refer to [DAS-247, "DTC Index"](#).
 - “ACCELE PEDAL ACT”: Refer to [DAS-250, "DTC Index"](#).
 - “LANE CAMERA”: Refer to [DAS-253, "DTC Index"](#).
 - “SIDE RADAR LEFT”: Refer to [DAS-256, "DTC Index"](#).
 - “SIDE RADAR RIGHT”: Refer to [DAS-259, "DTC Index"](#).
 - “BSW/BUZZER”: Refer to [DAS-263, "DTC Index"](#).

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.

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DIAGNOSIS AND REPAIR WORK FLOW

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

2. Perform "All DTC Reading" again after repairing or replacing the specific items.
3. Check if any DTC is detected in self-diagnosis results of following.
 - "ICC/ADAS"
 - "LASER/RADAR"
 - "ACCELE PEDAL ACT"
 - "LANE CAMERA"
 - "SIDE RADAR LEFT"
 - "SIDE RADAR RIGHT"
 - "BSW/BUZZER"

Is any DTC detected?

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

8. REPAIR CHECK (ACTION TEST)

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

- DCA: Refer to [DAS-292, "DCA : Description"](#).
- LDW/LDP: Refer to [DAS-293, "LDW/LDP : Description"](#).
- Blind Spot Warning/Blind Spot Intervention: Refer to [DAS-295, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description"](#).
- BCI: Refer to [DAS-298, "BCI : Description"](#).

Is there a malfunction symptom?

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

ADDITIONAL SERVICE WHEN REPLACING ICC SENSOR

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

ADDITIONAL SERVICE WHEN REPLACING ICC SENSOR

Description

INFOID:0000000011450018

- 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 DCA system action test check that the DCA system operates normally.

Work Procedure

INFOID:0000000011450019

1. RADAR ALIGNMENT

Perform the radar alignment. Refer to [CCS-81, "Application Notice"](#).

>> GO TO 2.

2. DCA SYSTEM ACTION TEST

1. Perform the DCA system action test. Refer to [CCS-93, "Description"](#).
2. Check that the DCA system operates normally.

>> INSPECTION END

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DAS

ADDITIONAL SERVICE WHEN REPLACING ACCELERATOR PEDAL ASSEMBLY

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

ADDITIONAL SERVICE WHEN REPLACING ACCELERATOR PEDAL ASSEMBLY

Description

INFOID:000000011450020

Perform the DCA system action test check that the DCA system operates normally.

Work Procedure

INFOID:000000011450021

1. DCA SYSTEM ACTION TEST

1. Perform the DCA system action test. Refer to [DAS-292, "DCA : Description"](#).
2. Check that the DCA system operates normally.

>> INSPECTION END

ADDITIONAL SERVICE WHEN REPLACING LANE CAMERA UNIT

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

ADDITIONAL SERVICE WHEN REPLACING LANE CAMERA UNIT

Description

INFOID:000000011450022

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

CAUTION:

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

Work Procedure

INFOID:000000011450023

1. CAMERA AIMING ADJUSTMENT

Perform the camera aiming adjustment. Refer to [DAS-289, "Work Procedure \(Camera Aiming Adjustment\)"](#).

>> GO TO 2.

2. PERFORM SELF-DIAGNOSIS

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

Is any DTC detected?

YES >> Perform the trouble diagnosis for the detected DTC. Refer to [DAS-253, "DTC Index"](#)

NO >> GO TO 3.

3. LDW/LDP SYSTEM ACTION TEST

1. Perform the LDW/LDP system action test. Refer to [DAS-293, "LDW/LDP : Description"](#).
2. Check that the LDW/LDP system operates normally.

>> GO TO 4.

4. BLIND SPOT WARNING/BLIND SPOT INTERVENTION SYSTEM ACTION TEST

1. Perform the Blind Spot Warning/Blind Spot Intervention system action test. Refer to [DAS-296, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Work Procedure"](#).
2. Check that the Blind Spot Warning/Blind Spot Intervention system operates normally.

>> WORK END

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DAS

PRE-INSPECTION FOR DIAGNOSIS

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

PRE-INSPECTION FOR DIAGNOSIS

LANE CAMERA UNIT

LANE CAMERA UNIT : Inspection Procedure

INFOID:000000011450024

1.CHECK CAMERA LENS AND WINDSHIELD

Are camera lens and windshield contaminated with foreign materials?

YES >> Clean camera lens and windshield.

NO >> GO TO 2.

2.CHECK LANE CAMERA UNIT INSTALLATION CONDITION

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

Is it properly installed?

YES >> GO TO 3.

NO >> Install lane camera unit properly, and perform camera aiming. Refer to [DAS-287, "Description"](#).

3.CHECK VEHICLE HEIGHT

Check vehicle height. Refer to [FSU-21, "Wheel Height"](#).

Is vehicle height appropriate?

YES >> INSPECTION END

NO >> Repair vehicle to appropriate height.

CAMERA AIMING ADJUSTMENT

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

CAMERA AIMING ADJUSTMENT

Description

INFOID:000000011450025

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

CAUTION:

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

Work Procedure (Preparation)

INFOID:000000011450026

1. PERFORM SELF-DIAGNOSIS

Perform self-diagnosis of ADAS control unit and lane camera unit.

Is any DTC detected?

Except "C1B01">>Perform diagnosis on the detected DTC and repair or replace the applicable item. Refer to [DAS-242, "DTC Index"](#) (ICC/ADAS) or [DAS-253, "DTC Index"](#) (LANE CAMERA).

"C1B01" or no DTC>>GO TO 2.

2. PREPARATION BEFORE CAMERA AIMING ADJUSTMENT

1. Perform pre-inspection for diagnosis. Refer to [DAS-286, "LANE CAMERA UNIT : Inspection Procedure"](#).
2. Adjust the tire pressure to the specified pressure value.
3. Maintain no-load in vehicle.
4. Check if coolant and engine oil are filled up to correct level and fuel tank is full.
5. Shift the selector lever to "P" position and release the parking brake.
6. Clean the windshield.
7. Completely clear off the instrument panel.

>> GO TO 3.

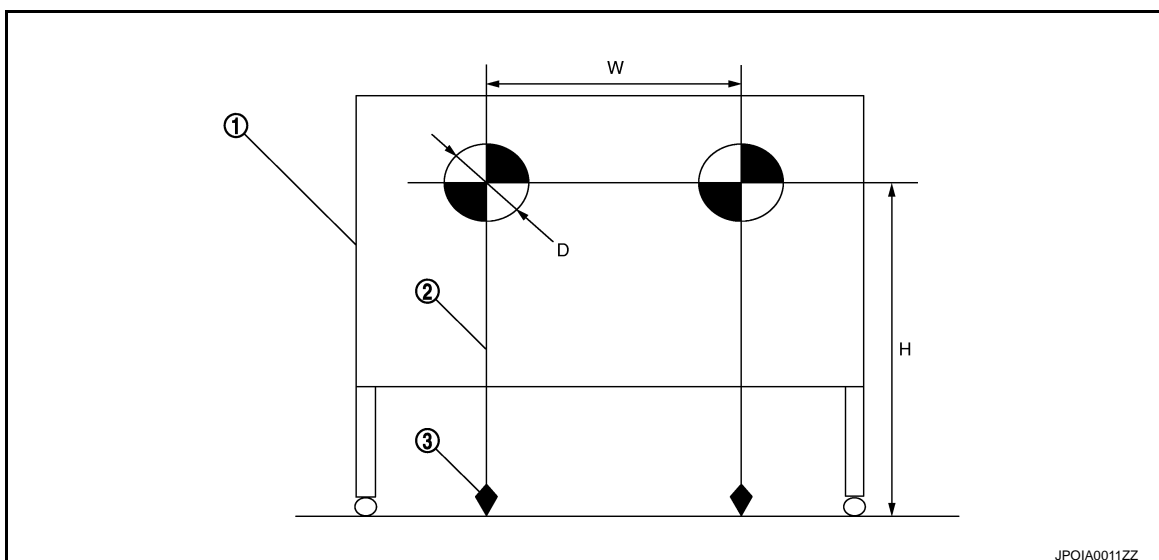
3. PREPARATION OF AIMING ADJUSTMENT JIG

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

1. Print out the target mark attached in this service manual. Refer to [DAS-290, "Work Procedure \(Target Mark Sample\)"](#).
2. Stick a printed target mark on the board with a scotch tape or a piece of double-sided tape.

NOTE:

- Use the board that peripheral area of the target is monochrome such as a white-board.
- Notice that the cross of the target is horizontal and vertical.



CAMERA AIMING ADJUSTMENT

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

- ① Board
- ② String
- ③ Cone
- : Target mark

Diameter of a target (D) : 200 mm (7.87 in)
Height of a target center (H) : 1,450 mm (57.09 in)
Width between a right target center from a left target center (W) : 600 mm (23.62 in)

>> Go to [DAS-288. "Work Procedure \(Target Setting\)"](#).

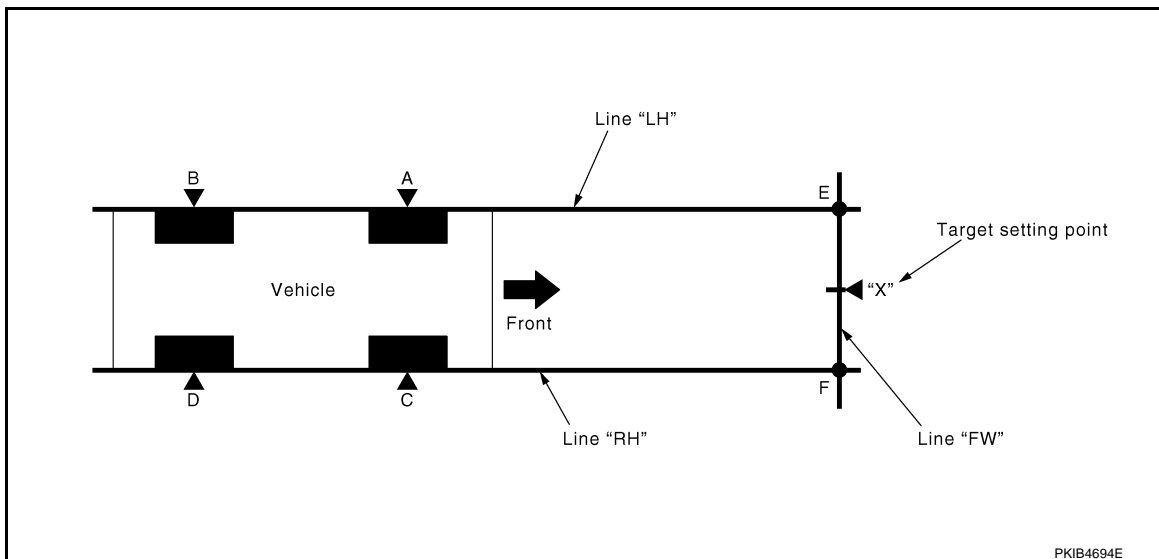
Work Procedure (Target Setting)

INFOID:000000011450027

CAUTION:

- Perform this operation in a horizontal position where there is a clear view for 5 m (16.4 ft) forward and 3 m (9.84 ft) wide.
- Place the target in a well-lighted location. (Poor lighting may make it hard to adjust.)
- The target may not be detected when there is a light source within 1.5 m (4.92 ft) from either side and within 1 m (3.28 ft) upward/downward from the target.
- Check the location of the sun. (Sunlight should not shine directly on the front of the vehicle.)
- The target may not be detected when there is the same pattern of black and white as the target when the pattern is within 1 m (3.28 ft) from either side and upward/downward position from the target. (It is desirable that the vehicle is positioned on the opposite side of a single-color wall.)

1. TARGET SETTING



"A" – "E" ("C" – "F") : 3,850 mm (151.57 in)

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

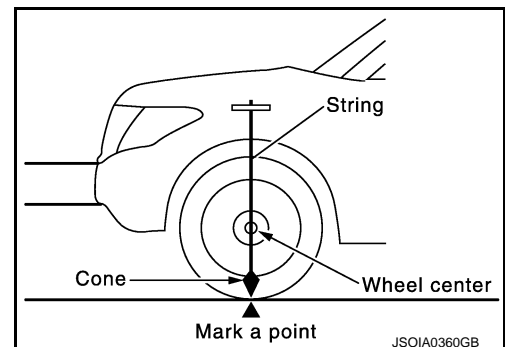
NOTE:

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

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

NOTE:

Approximately 4 m (13.12 ft) or more from the front end of vehicle.



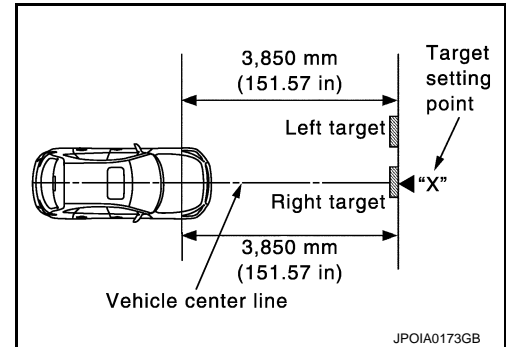
CAMERA AIMING ADJUSTMENT

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

3. Mark point "E" on the line "LH" at the positions 3,850 mm (151.57 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 4 m (13.12 ft) or more from the front end of vehicle.
5. Mark point "F" on the line "RH" at the positions 3,850 mm (151.57 in) from point "C".
6. Draw line "FW" passing through the points "E" and "F" on the front side of vehicle.
7. Mark point "X" at the center of point "E" and "F" on the line "FW".
CAUTION:
Make sure that "E" to "X" is equal to "F" to "X".
8. Position the center of the right target to point of "X".

>> Go to [DAS-289, "Work Procedure \(Camera Aiming Adjustment\)"](#).



INFOID:000000011450028

Work Procedure (Camera Aiming Adjustment)

CAUTION:
Perform the adjustment under unloaded vehicle condition.

1. CHECK VEHICLE HEIGHT

Measure the wheelarch height. Calculate "Dh".

$$Dh [mm] = (Hfl + Hfr) \div 2 - 903$$

where,

Hfl: Front left wheelarch height [mm]

Hfr: Front right wheelarch height [mm]

NOTE:

"Dh" may be calculated as a minus value.

>> GO TO 2.

2. CAMERA AIMING ADJUSTMENT

CAUTION:

Operate CONSULT outside the vehicle, and close all the doors. (To retain vehicle attitude appropriately)

1. Select "Work Support" on "LANE CAMERA" with CONSULT.
2. Select "AUTO AIM".
3. Confirm the following items;
 - The target should be accurately placed.
 - The vehicle should be stopped.
4. Select "Start" to perform camera aiming.

CAUTION:

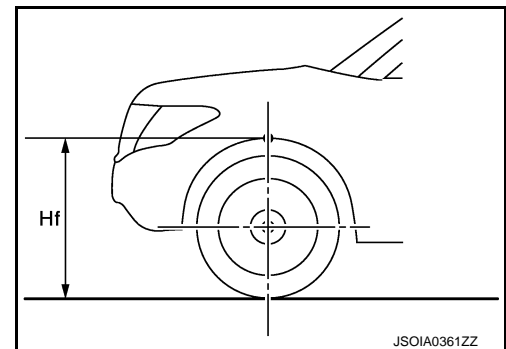
- Never select "Start" when the target is not accurately placed.
- Wait 5 seconds or more after selecting "Start".

5. Input "Dh", and then select "Start".

CAUTION:

Never change "Ht" and "Dt".

6. Confirm the displayed item.
 - "Normally Completed": Select "Completion".
 - "SUSPENSION", "X AIMING NG Y", "ABNORMALLY COMPLETED": Perform the following services.



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CAMERA AIMING ADJUSTMENT

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

Displayed item		Possible cause	Service procedure
SUSPENSION	—	Temporary malfunction in internal processing of the lane camera unit.	Go back to Step 1
	00H Routine not activated	Lane camera unit malfunction.	Position the target appropriately again. Perform the aiming again. Refer to DAS-288, "Work Procedure (Target Setting)"
	10H Writing error	<ul style="list-style-type: none">Temporary malfunction in internal processing of the lane camera unit.Lane camera unit malfunction.	
X AIMING NG Y (X: 0 - 7, Y: 1 - 8)	—	<ul style="list-style-type: none">A target is not-yet-placed. (The lane camera unit cannot detect a target.)The position of the lane camera unit is not correct.	Position the target appropriately again. Perform the aiming again. Refer to DAS-287, "Work Procedure (Preparation)" .
ABNORMALLY COMPLETED	—	<ul style="list-style-type: none">Inappropriate work environment.Inappropriate vehicle condition.	

NOTE:

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

7. Confirm that "Normally Completed" is displayed and then select "End" to close the aiming adjustment procedure.

>> GO TO 3.

3.PERFORM SELF-DIAGNOSIS

Perform self-diagnosis of lane camera unit with CONSULT.

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the applicable item. Refer to [DAS-253, "DTC Index"](#).

NO >> GO TO 4.

4.ACTION TEST

Test the LDW/LDP system operation by action test. Refer to [DAS-293, "LDW/LDP : Description"](#).

>> WORK END

Work Procedure (Target Mark Sample)

INFOID:000000011450029

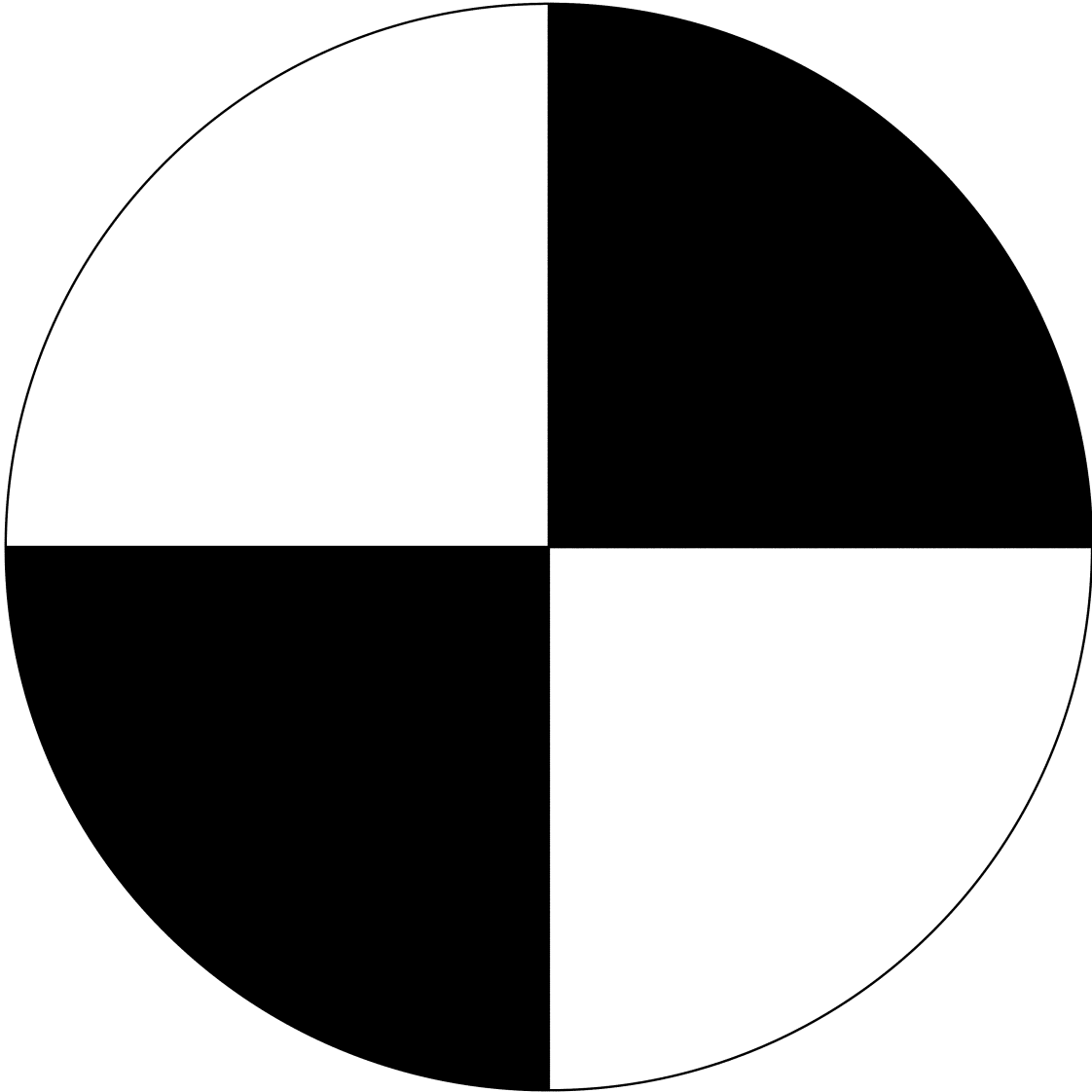
NOTE:

CAMERA AIMING ADJUSTMENT

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

Print this illustration so that the diameter of the circle is 200 mm (7.87 in).



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ACTION TEST

DCA

DCA : Description

INFOID:000000011450030

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

CAUTION:

Perform the DCA system action test after checking that the ICC system operates normally because the DCA system shares components with the ICC system.

DCA : Work Procedure

INFOID:000000011450031

NOTE:

When the ICC system is set, the information display changes to the ICC system display.

1. ICC SYSTEM ACTION TEST

Perform the ICC system action test. Refer to [CCS-93, "Description"](#).

>> GO TO 2.

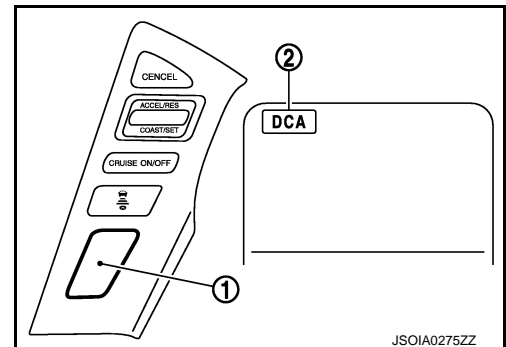
2. CHECK DCA SYSTEM SETTING

1. Start the engine.
2. After starting the engine wait for 30 seconds or more.
3. Check that the DCA system setting can be enabled/disabled on the navigation screen.
4. Turn OFF the ignition switch and wait for 5 seconds or more.
5. Check that the previous setting is saved when the engine starts again.

>> GO TO 3.

3. CHECK DRIVER ASSISTANCE SYSTEMS SWITCH

1. Start the engine.
2. After starting the engine wait for 30 seconds or more.
3. Enable the setting of the DCA system on the navigation screen.
4. Press the dynamic driver assistance switch ①.
5. Check that the DCA system switch indicator ② on the information display illuminates.
6. Check that the DCA system switch indicator turns OFF when the system is turned OFF by pressing the dynamic driver assistance switch.
7. Check that the DCA system switch indicator turns OFF when the engine starts again.



NOTE:

The DCA system switch indicator does not illuminate even when the dynamic driver assistance switch is turned ON within approximately 5 seconds after starting the engine.

If the accelerator pedal assembly is not replaced >> INSPECTION END

If the accelerator pedal assembly is replaced >> GO TO 4.

4. CHECK DCA SYSTEM OPERATION

Check that the accelerator pedal actuator operates by the "Active Test" items "ACCELERATOR PEDAL ACTUATOR TEST1" and "ACCELERATOR PEDAL ACTUATOR TEST2" of "ACCELE PEDAL ACT" with CONSULT.

>> INSPECTION END

LDW/LDP

ACTION TEST

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

LDW/LDP : Description

INFOID:000000011450032

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

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

- Fully understand the following items well before the road test;
 - Precautions: Refer to [DAS-161, "LDW/LDP System Service"](#).
 - System description for LDW: Refer to [DAS-174, "LDW : System Description"](#).
 - System description for LDP: Refer to [DAS-176, "LDP : System Description"](#).
 - Handling precaution: Refer to [DAS-205, "Precautions for Lane Departure Warning/Lane Departure Prevention"](#).

LDW/LDP : Inspection Procedure

INFOID:000000011450033

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

- Fully understand the following items well before the road test;
 - Precautions: Refer to [DAS-161, "LDW/LDP System Service"](#).
 - System description for LDW: Refer to [DAS-174, "LDW : System Description"](#).
 - System description for LDP: Refer to [DAS-176, "LDP : System Description"](#).
 - Handling precaution: Refer to [DAS-205, "Precautions for Lane Departure Warning/Lane Departure Prevention"](#).

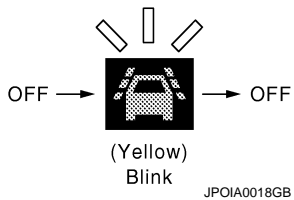
1. CHECK LDW SYSTEM SETTING

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

>> GO TO 2.

2. ACTION TEST FOR LDW

1. Enable the setting of the LDW system on the navigation screen.
2. Turn warning systems switch ON (warning systems ON indicator is ON).
NOTE:
LDP system is OFF.
3. Check the LDW operation according to the following table.

Vehicle condition/ Driver's operation		Action	Warning systems ON indicator	Indication on the combination meter	Buzzer
Less than approx. 60 km/h (37 MPH)	Close to lane marker	No action	ON	OFF	—
Approx. 70 km/h (45 MPH) or more	Close to lane marker	Warning <ul style="list-style-type: none"> • Buzzer sounds • Warning lap blinks 	ON		Short continuous beeps
	<ul style="list-style-type: none"> • Close to lane marker • Turn signal ON (Deviate side) 	No action	ON	OFF	—

NOTE:



ACTION TEST

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (37 MPH). Refer to [DAS-174, "LDW : System Description"](#).

>> GO TO 3.


3.CHECK LDP SYSTEM SETTING

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

>> GO TO 4.

4.ACTION TEST FOR LDP

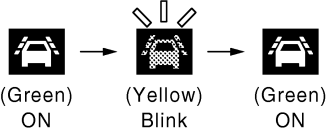

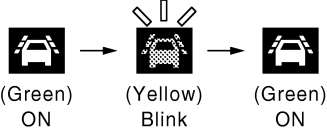
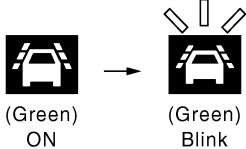
1. Enable the setting of the LDP system on the navigation screen.
2. Turn dynamic driver assistance switch ON (LDP ON indicator lamp is ON).
3. Check the LDP operation according to the following table.

Vehicle condition/ Driver's operation		Action	Indication on the combination meter	Buzzer
Less than approx. 60 (37)	Close to lane marker	No action	 (Green) ON <small>JPOIA0021GB</small>	—

ACTION TEST

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

Vehicle condition/ Driver's operation	Action	Indication on the combination meter	Buzzer	
	Warning <ul style="list-style-type: none"> • Buzzer sounds • Warning lamp blinks • Brake control 	 <p style="text-align: center; font-size: small;">(Green) ON (Yellow) Blink (Green) ON</p> <p style="text-align: center; font-size: x-small;">JPOIA0022GB</p>	Short continuous beeps	
Approx. 70 (45) or more	<ul style="list-style-type: none"> • Close to lane marker • Turn signal ON (deviate side) 	 <p style="text-align: center; font-size: small;">(Green) ON</p> <p style="text-align: center; font-size: x-small;">JPOIA0021GB</p>	—	
	Warning <ul style="list-style-type: none"> • Buzzer sounds • Warning lamp blinks 	 <p style="text-align: center; font-size: small;">(Green) ON (Yellow) Blink (Green) ON</p> <p style="text-align: center; font-size: x-small;">JPOIA0022GB</p>	Short continuous beeps	
	<ul style="list-style-type: none"> • VDC OFF switch OFF ⇒ ON (VDC system ON ⇒ OFF) • SNOW mode switch OFF ⇒ ON • 4WD shift switch is in the 4H or 4L 	Cancellation <ul style="list-style-type: none"> • Buzzer sounds • Indicator lamp blinks NOTE: When dynamic driver assistance switch ON ⇒ OFF, indicator lamp is turned OFF.	 <p style="text-align: center; font-size: small;">(Green) ON (Green) Blink</p> <p style="text-align: center; font-size: x-small;">JPOIA0023GB</p>	Beep

NOTE:

After the operating conditions of warning are satisfied, the warning continues until the vehicle speed reaches approximately 60 km/h (37 MPH). Refer to [DAS-176, "LDP : System Description"](#).

>> INSPECTION END

BLIND SPOT WARNING/BLIND SPOT INTERVENTION

BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description

INFOID:000000011450034

Always perform the Blind Spot Warning and Blind Spot Intervention system action test to check that the system operates normally after replacing the lane camera unit, replacing the side radar left (right), or repairing any Blind Spot Intervention system malfunction.

NOTE:

Perform the Blind Spot Intervention system action test after checking that the LDP system operates normally because the Blind Spot Intervention system shares components with the LDP system.

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

Fully understand the following items well before the road test;

- **Precautions:** Refer to [DAS-161, "Blind Spot Warning/Blind Spot Intervention System Service"](#).
- **System description for Blind Spot Warning:** Refer to [DAS-179, "BSW : System Description"](#).
- **System description for Blind Spot Intervention:** Refer to [DAS-182, "BLIND SPOT INTERVENTION : System Description"](#).
- **Normal operating condition:** Refer to [DAS-375, "Description"](#).

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DAS

ACTION TEST

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Work Procedure INFOID:000000011450035

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

Fully understand the following items well before the road test;

- Precautions: Refer to [DAS-161, "Blind Spot Warning/Blind Spot Intervention System Service"](#).
- System description for Blind Spot Warning: Refer to [DAS-179, "BSW : System Description"](#).
- System description for Blind Spot Intervention: Refer to [DAS-182, "BLIND SPOT INTERVENTION : System Description"](#).
- Normal operating condition: Refer to [DAS-375, "Description"](#).

1. LDW/LDP SYSTEM ACTION TEST

Perform the LDW/LDP system action test. Refer to [DAS-293, "LDW/LDP : Inspection Procedure"](#).

>> GO TO 2.

2. CHECK BSW SYSTEM SETTING

1. Start the engine.
2. Check that the BSW system setting can be enabled/disabled on the navigation screen.
3. Turn OFF the ignition switch and wait for 5 seconds or more.
4. Check that the previous setting is saved when the engine starts again.

>> GO TO 3.

3. BSW SYSTEM ACTION TEST

1. Enable the setting of the BSW system on the navigation screen.
2. Turn warning systems switch ON (warning systems ON indicator is ON).

NOTE:

Blind Spot Intervention system is OFF.

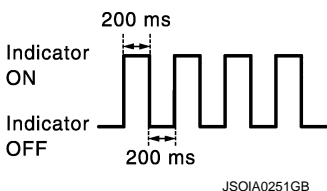
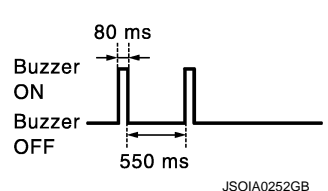
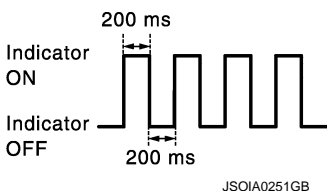
3. Check BSW operation according to the following table.

Vehicle condition/ Driver's operation				Action	
Warning systems ON indicator	Vehicle speed	Turn signal condition	Status of vehicle detection within detection area	Indication on the Blind Spot Warning/Blind Spot Intervention indicator	Buzzer
OFF	—	—	—	OFF	OFF

ACTION TEST

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

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

NOTE:

- If vehicle speed exceeds approximately 32 km/h (20MPH), BSW function operates until the vehicle speed becomes lower than approximately 29km/h (18MPH).
- Time shown in the figure is approximate time.
- Always Blind Spot Intervention system operates together with BSW system. Whenever Blind Spot Intervention system is turned on by pushing the dynamic driver assistance switch, BSW system also be turned on even if the BSW system is turned off. However, at this time the warning systems ON indicator remains OFF.

>> GO TO 4.

4. CHECK BLIND SPOT INTERVENTION SYSTEM SETTING

1. Start the engine.
2. Check that the Blind Spot Intervention system setting can be enabled/disabled on the navigation screen.
3. Turn OFF the ignition switch and wait for 5 seconds or more.
4. Check that the previous setting is saved when the engine starts again.

>> GO TO 5.

5. CHECK DYNAMIC DRIVER ASSISTANCE SWITCH

1. Start the engine.
2. After starting the engine wait for 5 seconds or more.
3. Enable the setting of the Blind Spot Intervention system on the navigation screen.
4. Press the dynamic driver assistance switch.
5. Check that the Blind Spot Intervention ON indicator on the combination meter illuminates.
6. Check that the Blind Spot Intervention ON indicator turns OFF when the system is turned OFF by pressing the dynamic driver assistance switch.
7. Check that the Blind Spot Intervention ON indicator turns OFF when the engine starts again.

NOTE:

DAS

ACTION TEST

[DRIVER ASSISTANCE SYSTEM]

< BASIC INSPECTION >

- The Blind Spot Intervention ON indicator does not illuminate even when the dynamic driver assistance switch is turned ON within approximately 5 seconds after starting the engine.
- When the Blind Spot Intervention system setting is disabled on the navigation screen, the Blind Spot Intervention ON indicator is not turned ON by pressing the dynamic driver assistance switch.

>> INSPECTION END

BCI

BCI : Description

INFOID:000000011450036

Always perform the BCI system action test to check that the system operates normally after replacing the side radar (left or right), or repairing any BCI system malfunction.

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

Fully understand the following items well before the road test;

- Precautions: Refer to [DAS-162, "BCI system service"](#).
- System description for BCI: Refer to [DAS-186, "BCI : System Description"](#).
- Normal operating condition: Refer to [DAS-375, "Description"](#).

BCI : Work Procedure

INFOID:000000011450037

WARNING:

Be careful of traffic conditions and safety around the vehicle when performing road test.

CAUTION:

Fully understand the following items well before the road test;

- Precautions: Refer to [DAS-162, "BCI system service"](#).
- System description for BCI: Refer to [DAS-186, "BCI : System Description"](#).
- Normal operating condition: Refer to [DAS-375, "Description"](#).

1. CHECK BCI SYSTEM SETTING

Check the sonar system operation. Refer to [AV-16, "MULTI AV SYSTEM : System Diagram"](#).

>> GO TO 2.

2. CHECK BCI SYSTEM SETTING

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

>> GO TO 3.




3. ACTION TEST FOR BCI

1. Enable the setting of the BCI system on the navigation screen.
2. Turn BCI switch OFF (Back-up Collision Intervention system ON indicator is ON).
3. Check the BCI operation according to the following table.

ACTION TEST

< BASIC INSPECTION >

[DRIVER ASSISTANCE SYSTEM]

Vehicle condition	Action	Indication on the combination meter	Buzzer	
0 km/h (0 MPH) R range	If the radar detects an approaching vehicle from the side	<ul style="list-style-type: none"> • Chime sound (single beep) • Flashes Blind Spot Warning/ Blind Spot Intervention indicator on the side of the approaching vehicle is detected • Yellow rectangular frame appears in the display 	 <p style="text-align: right; margin-top: 5px;">JSOIA0965ZZ</p>	Single beep
	No approaching vehicle	No action	 <p style="text-align: right; margin-top: 5px;">JSOIA0965ZZ</p>	—
	No approaching vehicle	BCI system OFF	 <p style="text-align: right; margin-top: 5px;">JSOIA0971ZZ</p>	—

>> INSPECTION END

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DAS

DTC/CIRCUIT DIAGNOSIS

C1A50 ADAS CONTROL UNIT

LANE CAMERA UNIT

LANE CAMERA UNIT : DTC Logic

INFOID:000000011450038

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.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

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 [DAS-329, "LANE CAMERA UNIT : DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform “All DTC Reading” with CONSULT.
4. Check if the “C1A50” is detected as the current malfunction in “Self Diagnostic Result” of “LANE CAMERA”.

Is “C1A50” detected as the current malfunction?

YES >> Refer to [DAS-300, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011450039

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 [DAS-329, "LANE CAMERA UNIT : 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 [DAS-242, "DTC Index"](#).

NO >> Replace the lane camera unit. Refer to [DAS-383, "Removal and Installation"](#).

C1B00 CAMERA UNIT MALF

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

C1B00 CAMERA UNIT MALF

LANE CAMERA UNIT

LANE CAMERA UNIT : DTC Logic

INFOID:000000011450040

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1B00	CAMERA UNIT MALF (Camera unit malfunction)	If lane camera unit is malfunctioning

POSSIBLE CAUSE

Lane camera unit

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B00" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "C1B00" detected as the current malfunction?

- YES >> Refer to [DAS-301, "LANE CAMERA UNIT : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011450041

1.CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC other than "C1B00" is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-253, "DTC Index"](#).
- NO >> Replace the lane camera unit. Refer to [DAS-383, "Removal and Installation"](#).

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C1B01 CAM AIMING INCMP

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

C1B01 CAM AIMING INCMP

LANE CAMERA UNIT

LANE CAMERA UNIT : DTC Logic

INFOID:000000011450042

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1B01	CAM AIMING INCMP (Camera aiming incomplete)	Camera aiming is not completed

POSSIBLE CAUSE

- Lane camera aiming is not adjusted
- Lane camera aiming adjustment has been interrupted

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B01" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "C1B01" detected as the current malfunction?

- YES >> Refer to [DAS-302, "LANE CAMERA UNIT : Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011450043

1. CAMERA AIMING ADJUSTMENT

1. Perform the camera aiming. Refer to [DAS-287, "Description"](#).
2. Erase all self-diagnosis results with CONSULT.
3. Perform "All DTC Reading".
4. Check if the "C1B01" is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is "C1B01" detected?

- YES >> Replace the lane camera unit. Refer to [DAS-383, "Removal and Installation"](#).
NO >> INSPECTION END

C1B03 ABNRML TEMP DETECT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

C1B03 ABNRML TEMP DETECT

LANE CAMERA UNIT

LANE CAMERA UNIT : DTC Logic

INFOID:0000000011450044

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1B03	ABNRML TEMP DETECT (Abnormal temperature detect)	Temperature around lane camera unit is excessively high

POSSIBLE CAUSE

Interior room temperature is excessively high

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B03" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "C1B03" detected as the current malfunction?

- YES >> Refer to [DAS-303. "LANE CAMERA UNIT : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:0000000011450045

1. COOLING LANE CAMERA UNIT

1. Wait for 10 minutes or more to cool the lane camera unit.
2. Erase all self-diagnosis results with CONSULT.
3. Perform "All DTC Reading".
4. Check if the "C1B03" is detected in "Self Diagnostic Result" of "LANE CAMERA".

Is "C1B03" detected?

- YES >> Replace the lane camera unit. Refer to [DAS-383. "Removal and Installation"](#).
- NO >> INSPECTION END

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C1B20 CONTROL MODULE

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

C1B20 CONTROL MODULE

DRIVER ASSISTANCE BUZZER CONTROL MODULE

DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic

INFOID:000000011450046

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1B20	CONTROL MODULE (Control module)	If driver assistance buzzer control module is malfunctioning

POSSIBLE CAUSE

- Driver assistance buzzer control module
- Driver assistance buzzer
- Driver assistance buzzer circuit

FAIL-SAFE

None

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B20" is detected as the current malfunction in "Self Diagnostic Result" of "BSW/BUZZER".

Is "C1B20" detected as the current malfunction?

YES >> Refer to [DAS-304, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure

INFOID:000000011450047

1.CHECK SELF-DIAGNOSIS RESULTS

Check if any DTC other than "C1B20" is detected in "Self Diagnostic Result" of "BSW/BUZZER".

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts. Refer to [DAS-263, "DTC Index"](#).

NO >> GO TO 2.

2.CHECK DRIVER ASSISTANCE BUZZER SIGNAL CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect the driver assistance buzzer connector.
3. Disconnect the driver assistance buzzer control module connector.
4. Check continuity between the driver assistance buzzer control module harness connector and driver assistance buzzer harness connector.

Driver assistance buzzer control module		Driver assistance buzzer		Continuity
Connector	Terminal	Connector	Terminal	
M150	8	M149	1	Existed
	16		2	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

C1B20 CONTROL MODULE

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

3. CHECK DRIVER ASSISTANCE BUZZER SIGNAL CIRCUIT FOR SHORT

Check continuity between the driver assistance buzzer control module harness connector and ground.

Driver assistance buzzer control module		Ground	Continuity
Connector	Terminal		
M150	8		Not existed
	16		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK DRIVER ASSISTANCE BUZZER

Check driver assistance buzzer. Refer to [DAS-305, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Component Inspection"](#).

Is the inspection result normal?

YES >> Replace the driver assistance buzzer control module. Refer to [DAS-388, "Removal and Installation"](#).

NO >> Replace the driver assistance buzzer. Refer to [DAS-389, "Removal and Installation"](#).

DRIVER ASSISTANCE BUZZER CONTROL MODULE : Component Inspection

INFOID:000000011450048

1. CHECK DRIVER ASSISTANCE BUZZER

1. Turn ignition switch OFF.
2. Disconnect driver assistance buzzer connector.
3. Check resistance between driver assistance buzzer terminals.

Terminal		Resistance
1	2	Approx. 6 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace driver assistance buzzer.

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C1B50 SIDE RADAR MALFUNCTION

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

C1B50 SIDE RADAR MALFUNCTION

SIDE RADAR

SIDE RADAR : DTC LOGIC

INFOID:000000011450049

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1B50	SIDE RDR MALFUNCTION (Side radar malfunction)	Side radar malfunction

POSSIBLE CAUSE

Side radar

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B50" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

Is the "C1B50" detected as the current malfunction?

- YES >> Refer to [DAS-306, "SIDE RADAR : Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

SIDE RADAR : Diagnosis Procedure

INFOID:000000011450050

1. CHECK SELF-DIAGNOSIS RESULT

Check if any DTC other than "C1B50" is detected in "Self Diagnostic Result" of "SIDE RADAR LEFT/RIGHT"

Is any DTC detected?

- YES >> Perform diagnosis on the detected DTC and repair or replace the malfunction part. Refer to [DAS-259, "DTC Index"](#) (SIDE RADAR RIGHT) or [DAS-256, "DTC Index"](#) (SIDE RADAR LEFT).
NO >> Replace the side radar. Refer to [DAS-384, "Removal and Installation"](#).

C1B51 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR SHORT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

C1B51 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR SHORT CIRCUIT SIDE RADAR

SIDE RADAR : DTC Logic

INFOID:000000011450051

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1B51	BSW/BSI IND SHORT CIR (Blind Spot Warning/Blind Spot Intervention indicator short circuit)	Short circuit in Blind Spot Warning/Blind Spot Intervention indicator circuit is detected. (Over current is detected)

POSSIBLE CAUSE

- Blind Spot Warning/Blind Spot Intervention indicator circuit.
- Blind Spot Warning/Blind Spot Intervention indicator.
- Side radar.

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B51" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

Is the "C1B51" detected as the current malfunction?

YES >> Refer to [DAS-307, "SIDE RADAR : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

SIDE RADAR : Diagnosis Procedure

INFOID:000000011450052

1.CHECK BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR CIRCUIT FOR SHORT

1. Turn ignition switch OFF.
2. Disconnect side radar harness connector and Blind Spot Warning/Blind Spot Intervention indicator harness connector.
3. Check continuity between side radar harness connector and ground.

Side radar		Ground	Continuity
Connector	Terminal		
B74 (LH)	6		Not existed
B243 (RH)			

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

2.REPLACE THE SIDE RADAR

1. Replace the side radar.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B51" is detected in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT"

C1B51 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR SHORT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Is the DTC "C1B51" detected?

- YES >> Replace the side radar. Refer to [DAS-384, "Removal and Installation"](#).
- NO >> INSPECTION END

C1B52 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR OPEN CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

C1B52 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR OPEN CIRCUIT SIDE RADAR

SIDE RADAR : DTC Logic

INFOID:000000011450053

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1B52	BSW/BSI IND OPEN CIR (Blind Spot Warning/Blind Spot Intervention indicator open cir- cuit)	Open circuit in Blind Spot Warning/Blind Spot Intervention indicator circuit is de- tected.

POSSIBLE CAUSE

- Blind Spot Warning/Blind Spot Intervention indicator circuit.
- Blind Spot Warning/Blind Spot Intervention indicator.
- Side radar.

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "C1B52" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT/LEFT".

Is the "C1B52" detected as the current malfunction?

YES >> Refer to [DAS-309, "SIDE RADAR : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

SIDE RADAR : Diagnosis Procedure

INFOID:000000011450054

1. CHECK BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR CIRCUIT FOR OPEN 1

1. Turn ignition switch OFF.
2. Disconnect side radar harness connector and Blind Spot Warning/Blind Spot Intervention indicator harness connector.
3. Check continuity between side radar harness connector and Blind Spot Warning/Blind Spot Intervention indicator harness connector.

Side radar		Blind Spot Warning/Blind Spot Intervention indicator		Continuity
Connector	Terminal	Connector	Terminal	
B74 (LH)	6	D73 (LH)	1	Existed
B243 (RH)		D74 (RH)		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

C1B52 BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR OPEN CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

2. CHECK BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR CIRCUIT FOR OPEN 2

Check continuity between Blind Spot Warning/Blind Spot Intervention indicator harness connector and ground.

Blind Spot Warning/Blind Spot Intervention indicator		Ground	Continuity
Connector	Terminal		
D73 (LH)	4		Existed
D74 (RH)			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3. CHECK SIDE RADAR VOLTAGE OUTPUT

1. Connect side radar harness connector.
2. Check voltage between Blind Spot Warning/Blind Spot Intervention indicator harness connector and ground.

Blind Spot Warning/Blind Spot Intervention indicator		Ground	Condition	Voltage (Approx.)
Connector	Terminal			
D73 (LH)	1		Ignition switch OFF ⇒ ON (Approx. 2 sec.)	6 V
D74 (RH)				

Is the inspection result normal?

YES >> Replace Blind Spot Warning/Blind Spot Intervention indicator.

NO >> Replace side radar. Refer to [DAS-384, "Removal and Installation"](#).

C1B55 RADAR BLOCKAGE

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

C1B55 RADAR BLOCKAGE

SIDE RADAR

SIDE RADAR : DTC Logic

INFOID:000000011450055

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition
C1B55	RADAR BLOCKAGE (Radar blockage)	Side radar is blocked.

NOTE:

DTC "C1B55" may be detected under the following conditions except for possible cause. (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".)

- The side radar may be blocked by temporary ambient conditions such as splashing water, mist or fog.
- The blocked condition may also be caused by objects such as ice, frost or dirt obstructing the side radar.
- Due to the nature of radar technology it is possible to get a blockage warning and not actually be blocked. This is rare and is known as a false blockage warning. A false blocked condition either self-clears or clears after an ignition cycle.

POSSIBLE CAUSE

Stain or foreign materials is deposited.

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the Blind spot Intervention system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the C1B55 is detected as the current malfunction in "Self Diagnosis Result" of "SIDE RADAR RIGHT/LEFT".

Is the DTC "C1B55" detected?

- YES >> Refer to [DAS-311, "SIDE RADAR : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction system before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

SIDE RADAR : Diagnosis Procedure

INFOID:000000011450056

1.CHECK THE REAR BUMPER

Check rear bumper near the side radar contaminated with foreign materials.

>> GO TO 2.

2.CHECK THE SIDERADAR

Check side radar and the side radar outskirts contaminated with foreign materials.

>> GO TO 3.

3.CHECK THE SIDE RADAR INSTALL CONDITION

Check side radar installation condition (installation position, properly tightened, a bent bracket).

>> GO TO 4.

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DAS

C1B55 RADAR BLOCKAGE

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

4. INTERVIEW

1. Ask if there is stain or foreign materials.
2. Ask if there is any temporary ambient condition such as splashing water, mist or fog.
3. Ask if there is any object such as ice, frost or dirt obstructing the side radar.

Is any of above conditions seen?

YES >> Explain to the customer about the difference between the blockage detection function and the indication when the malfunction is detected and tell them "This is not malfunction".

NO >> INSPECTION END

C1F01 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

C1F01 ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011450057

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1F01	APA MOTOR MALF (Accelerator pedal actuator motor malfunction)	If the accelerator pedal actuator motor error is detected

POSSIBLE CAUSE

Accelerator pedal actuator integrated motor malfunction

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON.
3. Slowly depress the accelerator pedal completely, and then release it.
4. Repeat step 3 several times.
5. Perform "All DTC Reading" with CONSULT.
6. Check if the DTC "C1F01" is detected as the current malfunction on the self-diagnosis results of "ICC/ADAS" or "ACCELE PEDAL ACT".

Is "C1F01" detected as the current malfunction?

- YES >> Refer to [DAS-313, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011450058

1. REPLACE ACCELERATOR PEDAL ASSEMBLY

Perform DTC confirmation procedure. If "C1F01" is detected, replace the accelerator pedal assembly. Refer to [DAS-381, "Exploded View"](#).

>> INSPECTION END

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C1F02 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

C1F02 ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011450059

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1F02	APA C/U MALF (Accelerator pedal actuator control unit malfunction)	If the accelerator pedal actuator integrated control unit error is detected

POSSIBLE CAUSE

Accelerator pedal actuator integrated control unit malfunction

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F02" is detected as the current malfunction on the self-diagnosis results of "ACCELERATOR PEDAL ACT" or "ICC/ADAS".

Is "C1F02" detected as the current malfunction?

- YES >> Refer to [DAS-314. "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011450060

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F02" is detected as the current malfunction on the self-diagnosis results of "ACCELERATOR PEDAL ACT" or "ICC/ADAS".

Is "C1F02" detected as the current malfunction?

- YES >> Replace the accelerator pedal assembly. Refer to [DAS-381. "Exploded View"](#).
NO >> INSPECTION END

C1F03 ACCELERATOR PEDAL ACTUATOR

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

C1F03 ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011450061

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1F03	APA HI TEMP (Accelerator pedal actuator high temperature)	<ul style="list-style-type: none">The temperature of the motor integrated in the accelerator pedal actuator remains 100°C (212°F) or more for 0.4 seconds or more.The temperature of the motor drive circuit integrated in the accelerator pedal actuator remains 120°C (248°F) or more for 0.4 seconds or more.

POSSIBLE CAUSE

Accelerator pedal actuator integrated motor malfunction

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

When the accelerator pedal actuator operates excessively, "C1F03" may be detected temporarily.

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the ignition switch OFF.
2. Wait for 10 minutes or more and cool the accelerator pedal actuator integrated motor.
3. Drive the vehicle with DCA system ON and operate the system.

CAUTION:

Always drive safely.

4. Stop the vehicle.
5. Perform "All DTC Reading" with CONSULT.
6. Check if the DTC "C1F03" is detected as the current malfunction in self-diagnosis results of "ACCELERATOR PEDAL ACT".

Is "C1F03" detected as the current malfunction?

- YES >> Refer to [DAS-315, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011450062

When the accelerator pedal actuator operates excessively, "C1F03" may be detected temporarily.

1. REPLACE ACCELERATOR PEDAL ASSEMBLY

Perform DTC confirmation procedure. If "C1F03" is detected, replace the accelerator pedal assembly. Refer to [DAS-381, "Exploded View"](#).

>> INSPECTION END

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C1F05 ACCELERATOR PEDAL ACTUATOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

C1F05 ACCELERATOR PEDAL ACTUATOR POWER SUPPLY CIRCUIT ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011450063

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1F05	APA PWR SUPPLY CIR (Accelerator pedal actuator power supply circuit)	The battery voltage sent to accelerator pedal actuator remains less than 7.9 V or more than 19.3 V for 5 seconds

POSSIBLE CAUSE

- Harness, connector, or fuse
- Accelerator pedal actuator

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F05" is detected as the current malfunction on the self-diagnosis results of "ACCELERATOR PEDAL ACT".

Is "C1F05" detected as the current malfunction?

- YES >> Refer to [DAS-316, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011450064

1. CHECK POWER SUPPLY CIRCUIT

Check the accelerator pedal actuator power supply circuit. Refer to [DAS-337, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> Replace the accelerator pedal assembly. Refer to [DAS-381, "Exploded View"](#).
NO >> Repair or replace the malfunctioning parts.

C1F06 CAN CIRCUIT2

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

C1F06 CAN CIRCUIT2

ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011450065

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1F06	CAN CIR 2 (CAN Circuit 2)	If accelerator pedal actuator 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
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1F06" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-328, "ACCELERATOR PEDAL ACTUATOR : DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F06" is detected as the current malfunction in "Self Diagnostic Result" of "ACCELERATOR PEDAL ACT".

Is "C1F06" detected as the current malfunction?

YES >> Refer to [DAS-317, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011450065

1.CHECK DTC PRIORITY

If DTC "C1F06" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-328, "ACCELERATOR PEDAL ACTUATOR : DTC Logic"](#).

NO >> GO TO 2.

2.REPLACE ADAS CONTROL UNIT

1. Turn the ignition switch OFF.
2. Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
3. Erases all self-diagnosis results.
4. Perform "All DTC Reading" again.
5. Check if the "C1F06" is detected in self-diagnosis results of "ACCELERATOR PEDAL ACT".

Is "C1F06" detected?

YES >> Replace the accelerator pedal assembly. Refer to [DAS-381, "Exploded View"](#).

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C1F06 CAN CIRCUIT2

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

NO >> INSPECTION END

C1F07 CAN CIRCUIT1

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

C1F07 CAN CIRCUIT1

ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011450067

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
C1F07	CAN CIR 1 (CAN Circuit1)	If accelerator pedal actuator 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
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

If DTC "C1F07" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-328, "ACCELERATOR PEDAL ACTUATOR : DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the DCA system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "C1F07" is detected as the current malfunction in "Self Diagnostic Result" of "ACCELERATOR PEDAL ACT".

Is "C1F07" detected as the current malfunction?

YES >> Refer to [DAS-319, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011450068

1.CHECK DTC PRIORITY

If DTC "C1F07" is displayed with DTC "U1000", first diagnose the DTC "U1000".

Is applicable DTC detected?

YES >> Perform diagnosis of applicable. Refer to [DAS-328, "ACCELERATOR PEDAL ACTUATOR : DTC Logic"](#).

NO >> GO TO 2.

2.REPLACE ADAS CONTROL UNIT

1. Turn the ignition switch OFF.
2. Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
3. Erases all self-diagnosis results.
4. Perform "All DTC Reading" again.
5. Check if the "C1F07" is detected in self-diagnosis results of "ACCELERATOR PEDAL ACT".

Is "C1F07" detected?

YES >> Replace the accelerator pedal assembly. Refer to [DAS-381, "Exploded View"](#).

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C1F07 CAN CIRCUIT1

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

NO >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

U0104 ADAS CAN 1

LANE CAMERA UNIT

LANE CAMERA UNIT : DTC Logic

INFOID:0000000011450069

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U0104	ADAS CAN CIR 1 (ADAS control unit CAN circuit 1)	If lane camera unit 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.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

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 [DAS-329, "LANE CAMERA UNIT : DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0104" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U0104" detected as the current malfunction?

- YES >> Refer to [DAS-321, "LANE CAMERA UNIT : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:0000000011450070

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 [DAS-329, "LANE CAMERA UNIT : 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 [DAS-242, "DTC Index"](#).
- NO >> Replace the lane camera unit. Refer to [DAS-383, "Removal and Installation"](#).

SIDE RADAR

SIDE RADAR : DTC Logic

INFOID:0000000011450071

DTC DETECTION LOGIC

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U0104 ADAS CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

DTC	Trouble diagnosis name	DTC detecting condition
U0104	ADAS CAN CIR 1 (ADAS control unit CAN circuit 1)	If side radar LH/RH 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.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

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 [DAS-330, "SIDE RADAR LH : DTC Logic"](#) (SIDE RADAR LEFT) or [DAS-331, "SIDE RADAR RH : DTC Logic"](#) (SIDE RADAR RIGHT).

NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the BSW system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0104" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR LEFT/RIGHT".

Is "U0104" detected as the current malfunction?

YES >> Refer to [DAS-322, "SIDE RADAR : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

SIDE RADAR : Diagnosis Procedure

INFOID:000000011450072

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 [DAS-330, "SIDE RADAR LH : DTC Logic"](#) (SIDE RADAR LEFT) or [DAS-331, "SIDE RADAR RH : DTC Logic"](#) (SIDE RADAR RIGHT).

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 [DAS-242, "DTC Index"](#).

NO >> Replace the side radar. Refer to [DAS-383, "Removal and Installation"](#).

DRIVER ASSISTANCE BUZZER CONTROL MODULE

DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic

INFOID:000000011450073

DTC DETECTION LOGIC

U0104 ADAS CAN 1

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

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

POSSIBLE CAUSE

ADAS control unit

FAIL-SAFE

None

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 [DAS-331, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic"](#).

NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U0104" detected as the current malfunction?

YES >> Refer to [DAS-323, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure

INFOID:000000011450074

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 [DAS-331, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : 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 [DAS-242, "DTC Index"](#).

NO >> Replace the driver assistance buzzer control module. Refer to [DAS-383, "Removal and Installation"](#).

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< DTC/CIRCUIT DIAGNOSIS >

U0126 STRG SEN CAN 1

LANE CAMERA UNIT

LANE CAMERA UNIT : DTC Logic

INFOID:000000011450075

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U0126	STRG SEN CAN CIR1 (Steering angle sensor CAN circuit1)	If lane camera unit 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.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

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 [DAS-329, "LANE CAMERA UNIT : DTC Logic"](#).
 NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0126" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U0126" detected as the current malfunction?

- YES >> Refer to [DAS-324, "LANE CAMERA UNIT : Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011450076

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 [DAS-329, "LANE CAMERA UNIT : 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 [DAS-242, "DTC Index"](#).
 NO >> Replace the lane camera unit. Refer to [DAS-383, "Removal and Installation"](#).

< DTC/CIRCUIT DIAGNOSIS >

U0405 ADAS CAN 2
LANE CAMERA UNIT

LANE CAMERA UNIT : DTC Logic

INFOID:000000011450077

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U0405	ADAS CAN CIR 2 (ADAS control unit CAN circuit 2)	If lane camera unit 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.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1.CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-329, "LANE CAMERA UNIT : DTC Logic"](#).
- NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0405" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U0405" detected as the current malfunction?

- YES >> Refer to [DAS-325, "LANE CAMERA UNIT : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011450078

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 [DAS-329, "LANE CAMERA UNIT : 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 [DAS-242, "DTC Index"](#).
- NO >> Replace the lane camera unit. Refer to [DAS-383, "Removal and Installation"](#).

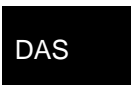
SIDE RADAR

SIDE RADAR : DTC Logic

INFOID:000000011450079

DTC DETECTION LOGIC

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DTC	Trouble diagnosis name	DTC detecting condition
U0405	ADAS CAN CIR 2 (ADAS control unit CAN circuit 2)	If side radar 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.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. CHECK DTC PRIORITY

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

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [DAS-329, "LANE CAMERA UNIT : DTC Logic"](#).
 NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the BSW system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0405" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR LEFT/RIGHT".

Is "U0405" detected as the current malfunction?

- YES >> Refer to [DAS-326, "SIDE RADAR : Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: INSPECTION END

SIDE RADAR : Diagnosis Procedure

INFOID:000000011450080

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 [DAS-329, "LANE CAMERA UNIT : 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 [DAS-242, "DTC Index"](#).
 NO >> Replace the side radar. Refer to [DAS-383, "Removal and Installation"](#).

< DTC/CIRCUIT DIAGNOSIS >

U0428 STRG SEN CAN 2

LANE CAMERA UNIT

LANE CAMERA UNIT : DTC Logic

INFOID:000000011450081

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U0428	STRG SEN CAN CIR2 (Steering angle sensor CAN circuit2)	If lane camera unit 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.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

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 [DAS-329, "LANE CAMERA UNIT : DTC Logic"](#).
 NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE

1. Start the engine.
2. Turn the LDP system ON.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U0428" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U0428" detected as the current malfunction?

- YES >> Refer to [DAS-327, "LANE CAMERA UNIT : Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011450082

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 [DAS-329, "LANE CAMERA UNIT : 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 [DAS-242, "DTC Index"](#).
 NO >> Replace the lane camera unit. Refer to [DAS-383, "Removal and Installation"](#).

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

U1000 CAN COMM CIRCUIT ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR : Description

INFOID:000000011450083

ITS COMMUNICATION

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

ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:000000011450084

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

ITS communication system

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1000" detected as the current malfunction?

- YES >> Refer to [DAS-328. "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43. "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011450085

1. PERFORM THE SELF-DIAGNOSIS

1. Turn the ignition switch ON.
2. Turn the DCA system ON, and then wait for 2 seconds or more.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "ACCELERATOR PEDAL ACT".

Is "U1000" detected as the current malfunction?

- YES >> Refer to [LAN-21. "Trouble Diagnosis Flow Chart"](#).
NO >> Refer to [GI-43. "Intermittent Incident"](#).

LANE CAMERA UNIT

LANE CAMERA UNIT : Description

INFOID:000000011450086

ITS COMMUNICATION

- ITS communication is a multiplex communication system. This enables the system to transmit and receive large quantities of data at high speed by connecting control units with 2 communication lines.

U1000 CAN COMM CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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

LANE CAMERA UNIT : DTC Logic

INFOID:000000011450087

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

ITS communication system

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1000" detected as the current malfunction?

YES >> Refer to [DAS-329, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011450088

1. PERFORM THE SELF-DIAGNOSIS

1. Turn the ignition switch ON.
2. Turn the LDP system ON, and then wait for 2 seconds or more.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U1000" detected as the current malfunction?

YES >> Refer to [LAN-21, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-43, "Intermittent Incident"](#).

SIDE RADAR LH

SIDE RADAR LH : Description

INFOID:000000011450089

CAN COMMUNICATION

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

CAN communication signal chart. Refer to [LAN-31, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

ITS COMMUNICATION

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

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U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

SIDE RADAR LH : DTC Logic

INFOID:000000011450090

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

ITS communication system

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1000" detected as the current malfunction?

- YES >> Refer to [DAS-330, "SIDE RADAR LH : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

SIDE RADAR LH : Diagnosis Procedure

INFOID:000000011450091

1. PERFORM THE SELF-DIAGNOSIS

1. Start the engine.
2. Turn the Blind Spot Intervention system ON, and then wait for 30 seconds or more.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is "U1000" detected as the current malfunction?

- YES >> Refer to [LAN-21, "Trouble Diagnosis Flow Chart"](#).
- NO >> Refer to [GI-43, "Intermittent Incident"](#).

SIDE RADAR RH

SIDE RADAR RH : Description

INFOID:000000011450092

CAN COMMUNICATION

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

CAN communication signal chart. Refer to [LAN-31, "CAN COMMUNICATION SYSTEM : CAN Communication Signal Chart"](#).

ITS COMMUNICATION

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

U1000 CAN COMM CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

SIDE RADAR RH : DTC Logic

INFOID:000000011450093

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

ITS communication system

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1000" detected as the current malfunction?

YES >> Refer to [DAS-331, "SIDE RADAR RH : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

SIDE RADAR RH : Diagnosis Procedure

INFOID:000000011450094

1. PERFORM THE SELF-DIAGNOSIS

1. Start the engine.
2. Turn the Blind Spot Intervention system ON, and then wait for 30 seconds or more.
3. Perform "All DTC Reading" with CONSULT.
4. Check if the "U1000" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is "U1000" detected as the current malfunction?

YES >> Refer to [LAN-21, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-43, "Intermittent Incident"](#).

DRIVER ASSISTANCE BUZZER CONTROL MODULE

DRIVER ASSISTANCE BUZZER CONTROL MODULE : Description

INFOID:000000011450095

ITS COMMUNICATION

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

DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic

INFOID:000000011450096

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U1000	CAN COMM CIRCUIT (CAN communication circuit)	If driver assistance buzzer control module is not transmitting or receiving ITS communication signal for 2 seconds or more

POSSIBLE CAUSE

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DAS

U1000 CAN COMM CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

ITS communication system

FAIL-SAFE

None

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1000" detected as the current malfunction?

YES >> Refer to [DAS-332, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure

INFOID:000000011450097

1. PERFORM THE SELF-DIAGNOSIS

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

Is "U1000" detected as the current malfunction?

YES >> Refer to [LAN-21, "Trouble Diagnosis Flow Chart"](#).

NO >> Refer to [GI-43, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

U1010 CONTROL UNIT (CAN) ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR : Description

INFOID:0000000011450098

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

ACCELERATOR PEDAL ACTUATOR : DTC Logic

INFOID:0000000011450099

DTC DETECTION LOGIC

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

POSSIBLE CAUSE

Accelerator pedal actuator

FAIL-SAFE

The following systems are canceled.

- Vehicle-to-vehicle distance control mode
- Distance Control Assist (DCA)
- Forward Emergency Braking (FEB)
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1010" detected as the current malfunction?

- YES >> Refer to [DAS-333, "ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:0000000011450100

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the DCA system ON.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "ACCELERATOR PEDAL ACT".

Is "U1010" detected as the current malfunction?

- YES >> Replace the accelerator pedal actuator. Refer to [DAS-381, "Exploded View"](#).
NO >> INSPECTION END

LANE CAMERA UNIT

LANE CAMERA UNIT : Description

INFOID:0000000011450101

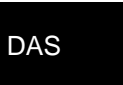
CAN controller controls the communication of ITS communication signal and the error detection.

LANE CAMERA UNIT : DTC Logic

INFOID:0000000011450102

DTC DETECTION LOGIC

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U1010 CONTROL UNIT (CAN)

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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

POSSIBLE CAUSE

Lane camera unit

FAIL-SAFE

The following systems are canceled.

- Lane Departure Warning (LDW)/Lane Departure Prevention (LDP)
- Blind Spot Warning (BSW)/Blind Spot Intervention

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1010" detected as the current malfunction?

YES >> Refer to [DAS-334, "LANE CAMERA UNIT : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011450103

1. PERFORM DTC CONFIRMATION PROCEDURE

1. Turn the LDP system ON.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "LANE CAMERA".

Is "U1010" detected as the current malfunction?

YES >> Replace the lane camera unit. Refer to [DAS-383, "Removal and Installation"](#).

NO >> INSPECTION END

SIDE RADAR LH

SIDE RADAR LH : Description

INFOID:000000011450104

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

SIDE RADAR LH : DTC Logic

INFOID:000000011450105

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	If side radar LH detects malfunction by CAN controller initial diagnosis.

POSSIBLE CAUSE

Side radar LH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

U1010 CONTROL UNIT (CAN)

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1010" detected as the current malfunction?

- YES >> Refer to [DAS-335, "SIDE RADAR LH : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

SIDE RADAR LH : Diagnosis Procedure

INFOID:0000000011450106

1. CHECK SELF-DIAGNOSIS RESULT

1. Turn the Blind Spot Intervention system ON.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR LEFT".

Is "U1010" detected as the current malfunction?

- YES >> Replace the side radar LH. [DAS-384, "Removal and Installation"](#).
- NO >> INSPECTION END

SIDE RADAR RH

SIDE RADAR RH : Description

INFOID:0000000011450107

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

SIDE RADAR RH : DTC Logic

INFOID:0000000011450108

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	If Side radar RH detects malfunction by CAN controller initial diagnosis.

POSSIBLE CAUSE

Side radar RH

FAIL-SAFE

The following systems are canceled.

- Blind Spot Warning (BSW)
- Blind Spot Intervention
- Back-up Collision Intervention (BCI)

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1010" detected as the current malfunction?

- YES >> Refer to [DAS-335, "SIDE RADAR RH : Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

SIDE RADAR RH : Diagnosis Procedure

INFOID:0000000011450109

1. CHECK SELF-DIAGNOSIS RESULT

U1010 CONTROL UNIT (CAN)

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

1. Turn the Blind Spot Intervention system ON.
2. Perform "All DTC Reading" with CONSULT.
3. Check if the "U1010" is detected as the current malfunction in "Self Diagnostic Result" of "SIDE RADAR RIGHT".

Is "U1010" detected as the current malfunction?

YES >> Replace the side radar RH. [DAS-384, "Removal and Installation"](#).

NO >> INSPECTION END

DRIVER ASSISTANCE BUZZER CONTROL MODULE

DRIVER ASSISTANCE BUZZER CONTROL MODULE : Description

INFOID:000000011450110

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

DRIVER ASSISTANCE BUZZER CONTROL MODULE : DTC Logic

INFOID:000000011450111

DTC DETECTION LOGIC

DTC	Trouble diagnosis name	DTC detecting condition
U1010	CONTROL UNIT (CAN) [Control unit (CAN)]	If driver assistance buzzer control module detects malfunction by CAN controller initial diagnosis

POSSIBLE CAUSE

Driver assistance buzzer control module

FAIL-SAFE

None

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1010" detected as the current malfunction?

YES >> Refer to [DAS-336, "DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-43, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure

INFOID:000000011450112

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is "U1010" detected as the current malfunction?

YES >> Replace the driver assistance buzzer control module. Refer to [DAS-383, "Removal and Installation"](#).

NO >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

ACCELERATOR PEDAL ACTUATOR

ACCELERATOR PEDAL ACTUATOR : Diagnosis Procedure

INFOID:000000011450113

1. CHECK FUSES

Check if any of the following fuses are blown:

Signal name	Fuse No.
Battery power supply	33

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 ACCELERATOR PEDAL ACTUATOR/ACCELERATOR PEDAL POSITION SENSOR POWER SUPPLY CIRCUIT

Check voltage between accelerator pedal actuator/accelerator pedal position sensor harness connector and ground.

Terminal		Condition	Voltage (Approx.)
(+)	(-)		
Accelerator pedal actuator/accelerator pedal position sensor		Ignition switch	Battery voltage
Connector	Terminal		
E213	1	OFF	
	2	ON	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the accelerator pedal actuator/accelerator pedal position sensor power supply circuit.

3. CHECK ACCELERATOR PEDAL ACTUATOR/ACCELERATOR PEDAL POSITION SENSOR GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the accelerator pedal actuator/accelerator pedal position sensor connector.
3. Check for continuity between accelerator pedal actuator/accelerator pedal position sensor harness connector and ground.

Accelerator pedal actuator/accelerator pedal position sensor		Ground	Continuity
Connector	Terminal		
E213	7		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the accelerator pedal actuator/accelerator pedal position sensor ground circuit.

LANE CAMERA UNIT

LANE CAMERA UNIT : Diagnosis Procedure

INFOID:000000011450114

1. CHECK LANE CAMERA UNIT POWER SUPPLY CIRCUIT

Check voltage between lane camera unit harness connector and ground.

POWER SUPPLY AND GROUND CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

Terminal		Condition	Voltage (Approx.)
(+)	(-)		
Lane camera unit		Ignition switch	0 V
Connector	Terminal		
R8	7	OFF	
		ON	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the lane camera unit power supply circuit.

2.CHECK LANE CAMERA UNIT GROUND CIRCUIT

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

Lane camera unit		Ground	Continuity
Connector	Terminal		
R8	1		Existed
	5		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the lane camera unit ground circuit.

SIDE RADAR LH

SIDE RADAR LH : Diagnosis Procedure

INFOID:000000011450115

1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the side radar LH connector.
3. Check voltage between side radar LH harness connector and ground.

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
Side radar LH		Ignition switch	0 V
Connector	Terminal		
B74	5	OFF	
		ON	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the side radar LH power supply circuit.

2.CHECK GROUND CIRCUIT

Check continuity between side radar LH harness connectors and ground.

Side radar LH		Ground	Continuity
Connector	Terminal		
B74	2		Existed

Is the inspection result normal?

YES >> INSPECTION END

POWER SUPPLY AND GROUND CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair the side radar LH ground circuit.

SIDE RADAR RH

SIDE RADAR RH : Diagnosis Procedure

INFOID:000000011450116

1.CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the side radar RH connector.
3. Check voltage between side radar RH harness connector and ground.

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
Side radar RH		Ignition switch	0 V
Connector	Terminal		
B243	5	OFF	0 V
		ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the side radar RH power supply circuit.

2.CHECK GROUND CIRCUIT

Check continuity between side radar RH harness connectors and ground.

Side radar RH		Ground	Continuity
Connector	Terminal		
B243	2		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the side radar RH ground circuit.

DRIVER ASSISTANCE BUZZER CONTROL MODULE

DRIVER ASSISTANCE BUZZER CONTROL MODULE : Diagnosis Procedure

INFOID:000000011450117

1.CHECK DRIVER ASSISTANCE BUZZER CONTROL MODULE POWER SUPPLY CIRCUIT

Check voltage between driver assistance buzzer control module harness connector and ground.

Terminal		Condition	Voltage (Approx.)
(+)	(-)		
Driver assistance buzzer control module		Ignition switch	Battery voltage
Connector	Terminal		
M150	1	ON	Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the driver assistance buzzer control module power supply circuit.

2.CHECK DRIVER ASSISTANCE BUZZER CONTROL MODULE GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the driver assistance buzzer control module.
3. Check for continuity between driver assistance buzzer control module harness connector and ground.

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Driver assistance buzzer control module		Ground	Continuity
Connector	Terminal		
M150	5		Existed
	13		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair the driver assistance buzzer control module.

RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

Diagnosis Procedure

INFOID:0000000011450118

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Check the terminals and connectors of the side radar RH for damage, bend and short (unit side and connector side).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the terminal or connector.

2. CHECK CONTINUITY RIGHT/LEFT SWITCHING SIGNAL CIRCUIT

1. Disconnect side radar RH connector.
2. Check continuity between side radar RH harness connectors and ground.

Side radar RH		Ground	Continuity
Connector	Terminal		
B243	1		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

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DAS

DRIVER ASSISTANCE BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE BUZZER CIRCUIT

Component Function Check

INFOID:000000011450119

1.CHECK WARNING BUZZER

1. Turn the ignition switch ON.
2. Select the active test item "BUZZER 1 (ADAS)" of "BSW/BUZZER" with CONSULT.
3. With operating the test item, check the operation.

On : Warning buzzer is activated.

Off : Warning buzzer is not activated.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [DAS-342, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000011450120

1.CHECK DRIVER ASSISTANCE BUZZER SIGNAL CIRCUIT FOR OPEN

1. Turn ignition switch OFF.
2. Disconnect the driver assistance buzzer connector.
3. Disconnect the driver assistance buzzer control module connector.
4. Check continuity between the driver assistance buzzer control module harness connector and driver assistance buzzer harness connector.

Driver assistance buzzer control module		Driver assistance buzzer		Continuity
Connector	Terminal	Connector	Terminal	
M150	8	M149	1	Existed
	16		2	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the harnesses or connectors.

2.CHECK DRIVER ASSISTANCE BUZZER SIGNAL CIRCUIT FOR SHORT

Check continuity between the driver assistance buzzer control module harness connector and ground.

Driver assistance buzzer control module		Ground	Continuity
Connector	Terminal		
M150	8		Not existed
	16		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

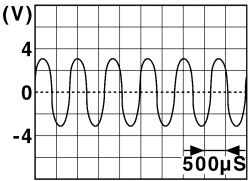
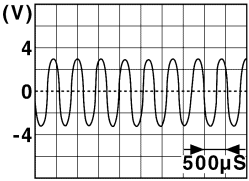
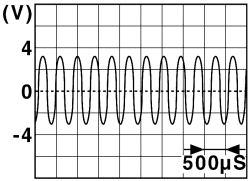
3.CHECK DRIVER ASSISTANCE BUZZER SIGNAL

1. Connect the driver assistance buzzer connector and driver assistance buzzer control module connector.
2. Turn ignition switch ON.
3. Check waveform between the driver assistance buzzer control module harness connector and ground.

DRIVER ASSISTANCE BUZZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Driver assistance buzzer control module		Condition	Voltage (Approx.)	
Connector	Terminal			
	+			-
M150	8	16	At "BUZZER 1" test of "Active test"  <small>JSOIA0949ZZ</small>	
			At "BUZZER 2" test of "Active test"  <small>JSOIA0950ZZ</small>	
			At "BUZZER 3" test of "Active test"  <small>JSOIA0951ZZ</small>	

Is the inspection result normal?

- YES >> Replace the driver assistance buzzer. Refer to [DAS-159, "Removal and Installation"](#).
- NO >> Replace the driver assistance buzzer control module. Refer to [DAS-389, "Removal and Installation"](#).

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WARNING SYSTEMS SWITCH CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

WARNING SYSTEMS SWITCH CIRCUIT

Component Function Check

INFOID:000000011450121

1.CHECK WARNING SYSTEMS SWITCH INPUT SIGNAL

1. Turn the ignition switch ON.
2. Select the DATA MONITOR item "WARN SYS SW" of "ICC/ADAS" with CONSULT.
3. With operating the warning systems switch, check the monitor status.

Monitor item	Condition	Monitor status
WARN SYS SW	Warning systems switch is pressed	On
	Warning systems switch is not pressed	OFF

Is the inspection result normal?

YES >> Warning systems switch circuit is normal.

NO >> Refer to [DAS-344, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000011450122

1.CHECK WARNING SYSTEMS SWITCH SIGNAL INPUT

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

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
ADAS control unit		Warning systems switch	
Connector	Terminal		
B52	18	Pressed	
		Released	12 V

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

NO >> GO TO 2.

2.CHECK WARNING SYSTEMS SWITCH

1. Turn ignition switch OFF.
2. Remove warning systems switch. Refer to [DAS-390, "Removal and Installation"](#).
3. Check warning systems switch. Refer to [DAS-345, "Component Inspection"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the warning systems switch. Refer to [DAS-390, "Removal and Installation"](#).

3.CHECK WARNING SYSTEMS SWITCH GROUND CIRCUIT

Check continuity between twin switch harness connector terminal and the ground.

Twin switch		Ground	Continuity
Connector	Terminal		
M127	3		Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

4.CHECK WARNING SYSTEMS SWITCH SIGNAL INPUT CIRCUIT FOR OPEN

1. Disconnect the ADAS control unit connector.

WARNING SYSTEMS SWITCH CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

2. Check continuity between the ADAS control unit harness connector and twin switch harness connector.

ADAS control unit		Twin switch		Continuity
Connector	Terminal	Connector	Terminal	
B52	18	M127	2	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5. CHECK WARNING SYSTEMS SWITCH SIGNAL INPUT CIRCUIT FOR SHORT

Check continuity between the ADAS control unit harness connector and ground.

ADAS control unit		Ground	Continuity
Connector	Terminal		
B52	18		Not existed

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

NO >> Repair the harnesses or connectors.

Component Inspection

INFOID:000000011450123

1. CHECK WARNING SYSTEMS SWITCH

Check continuity of warning systems switch.

Terminal		Condition	Continuity
2	3	When warning systems switch is pressed	Existed
		When warning systems switch is released	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace warning systems switch. Refer to [DAS-390, "Removal and Installation"](#).

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WARNING SYSTEMS ON INDICATOR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

WARNING SYSTEMS ON INDICATOR CIRCUIT

Component Function Check

INFOID:000000011450124

1. CHECK WARNING SYSTEMS ON INDICATOR

1. Turn the ignition switch ON.
2. Select the active test item "WARNING SYSTEM IND" of "ICC/ADAS" with CONSULT.
3. With operating the test item, check the operation.

On : Warning systems ON indicator illuminates

Off : Warning systems ON indicator is turned OFF

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [DAS-346, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000011450125

1. CHECK WARNING ON INDICATOR POWER SUPPLY CIRCUIT

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

Terminals		Voltage (Approx.)
(+)	(-)	
Twin switch		Ground Battery voltage
Connector	Terminal	
M127	8	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair the warning systems ON indicator power supply circuit.

2. CHECK WARNING SYSTEMS ON INDICATOR SIGNAL FOR OPEN

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

ADAS control unit		Twin switch		Continuity
Connector	Terminal	Connector	Terminal	
B52	19	M127	9	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3. CHECK WARNING SYSTEMS ON INDICATOR SIGNAL CIRCUIT FOR SHORT

Check continuity between the ADAS control unit harness connector and ground.

ADAS control unit		Ground	Continuity
Connector	Terminal		
B52	19		Not existed

Is the inspection result normal?

YES >> GO TO 4.

WARNING SYSTEMS ON INDICATOR CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair the harnesses or connectors.

4.CHECK WARNING SYSTEMS ON INDICATOR

Check the warning systems ON indicator. Refer to [DAS-347, "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

NO >> Replace warning systems switch. [DAS-390, "Removal and Installation"](#).

Component Inspection

INFOID:000000011450126

1.CHECK WARNING SYSTEMS ON INDICATOR

Apply battery voltage to warning systems switch terminals 8 and 9, and then check if the warning systems ON indicator illuminates.

Terminals		Condition	Warning systems ON indicator
(+)	(-)		
8	9	When the battery voltage is applied	On
		When the battery voltage is not applied	Off

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the warning systems switch. Refer to [DAS-390, "Removal and Installation"](#).

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BCI SWITCH CIRCUIT

Component Function Check

INFOID:000000011450127

1. CHECK BCI SWITCH INPUT SIGNAL

1. Turn the ignition switch ON.
2. Select the DATA MONITOR item "BCI SWITCH" of "ICC/ADAS" with CONSULT.
3. With operating the BCI switch, check the monitor status.

Monitor item	Condition	Monitor status
BCI SWITCH	BCI switch is pressed	On
	BCI switch is not pressed	OFF

Is the inspection result normal?

- YES >> BCI switch circuit is normal.
 NO >> Refer to [DAS-348. "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000011450128

1. CHECK BCI SWITCH SIGNAL INPUT

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

Terminals		Condition	Voltage (Approx.)	
(+)	(-)			
ADAS control unit		BCI switch		
Connector	Terminal			
B52	22	Pressed		0 V
		Released		12 V

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).
 NO >> GO TO 2.

2. CHECK BCI SWITCH

1. Turn ignition switch OFF.
2. Remove BCI switch. Refer to [DAS-391. "Removal and Installation"](#).
3. Check BCI switch. Refer to [DAS-349. "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace the BCI switch. Refer to [DAS-391. "Removal and Installation"](#).

3. CHECK BCI SWITCH GROUND CIRCUIT

Check continuity between twin switch harness connector terminal and the ground.

Twin switch		Ground	Continuity
Connector	Terminal		
M127	3		Existed

Is the inspection result normal?

- YES >> GO TO 4.
 NO >> Repair harness or connector.

4. CHECK BCI SWITCH SIGNAL INPUT CIRCUIT FOR OPEN

1. Disconnect the ADAS control unit connector.
2. Check continuity between the ADAS control unit harness connector and twin switch harness connector.

BCI SWITCH CIRCUIT

[DRIVER ASSISTANCE SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

ADAS control unit		Twin switch		Continuity
Connector	Terminal	Connector	Terminal	
B52	22	M127	1	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5.CHECK BCI SWITCH SIGNAL INPUT CIRCUIT FOR SHORT

Check continuity between the ADAS control unit harness connector and ground.

ADAS control unit		Ground	Continuity
Connector	Terminal		
B52	22		Not existed

Is the inspection result normal?

YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

NO >> Repair the harnesses or connectors.

Component Inspection

INFOID:0000000011450129

1.CHECK BCI SWITCH

Check continuity of BCI switch.

Terminal		Condition	Continuity
1	3	When BCI switch is pressed	Existed
		When BCI switch is released	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace BCI switch. Refer to [DAS-391, "Removal and Installation"](#).

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SYMPTOM DIAGNOSIS

DRIVER ASSISTANCE SYSTEM SYMPTOMS

Symptom Table

INFOID:000000011450130

DCA

CAUTION:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

NOTE:

Refer to the operation condition of the DCA system. Refer to [DAS-168, "DCA : System Description"](#).

Symptoms		Reference page
Operation	Switch does not turn ON	Refer to DAS-355, "DCA : Description" .
	Switch does not turn OFF	
	DCA system setting cannot be turned ON on the navigation screen	Refer to DAS-358, "DCA : Description" .
	DCA system setting cannot be turned OFF on the navigation screen	
	DCA system not activated (switch is ON)	Refer to DAS-362, "DCA : Description" .
Display/Chime	Information display is not illuminated (vehicle ahead indicator)	Refer to MWI-30, "On Board Diagnosis Function" .
	Chime does not sound	Refer to DAS-365, "Description" .
Control	No force generated for putting back the accelerator pedal	Refer to DAS-367, "Description" .
Detection of lead vehicle	Frequently cannot detect the vehicle ahead	Refer to DAS-368, "Description" .
	Detection zone is short	
	System misidentifies a vehicle even though there is no vehicle ahead	<ul style="list-style-type: none"> Adjust ICC sensor alignment: Refer to CCS-81, "Application Notice". Perform action test. Refer to CCS-93, "Description".
	System misidentifies a vehicle in the next lane	
	System does not detect the vehicle ahead at all	Refer to DAS-370, "Description" .

LDW/LDP

CAUTION:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

NOTE:

Refer to the operation condition of the LDW/LDP system.

- LDW system: [DAS-174, "LDW : System Description"](#).
- LDP system: [DAS-176, "LDP : System Description"](#).

DRIVER ASSISTANCE SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Symptom	Possible cause	Inspection item/Reference page	
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON	<ul style="list-style-type: none"> Lane departure warning lamp (Yellow) does not illuminate. 	<ul style="list-style-type: none"> Combination meter ADAS control unit <p>Lane departure warning lamp does not turned ON Refer to DAS-372, "Description"</p>	
	<ul style="list-style-type: none"> LDP ON indicator lamp (Green) does not illuminate. 	<ul style="list-style-type: none"> Combination meter ADAS control unit <p>LDP ON indicator lamp does not turned ON Refer to DAS-373, "Description"</p>	
	<ul style="list-style-type: none"> Warning systems ON indicator does not illuminate. 	<ul style="list-style-type: none"> Harness between ADAS control unit and warning systems switch Warning systems switch ADAS control unit <p>Warning systems ON indicator circuit Refer to DAS-346, "Component Function Check"</p>	
	<ul style="list-style-type: none"> Lane departure warning lamp (Yellow) and LDP ON indicator lamp (Green) does not illuminate. 	<ul style="list-style-type: none"> Combination meter ADAS control unit 	<ul style="list-style-type: none"> Lane departure warning lamp does not turned ON Refer to DAS-372, "Description" LDP ON indicator lamp does not turned ON Refer to DAS-373, "Description"
	<ul style="list-style-type: none"> All of indicator/warning lamps does not illuminate; Lane departure warning lamp (Yellow) LDP ON indicator lamp (Green) Warning systems ON indicator 	<ul style="list-style-type: none"> Power supply and ground circuit of ADAS control unit ADAS control unit 	<p>Power supply and ground circuit of ADAS control unit Refer to DAS-158, "Diagnosis Procedure"</p>
LDW system is not activated. (Indicator/warning lamps illuminate when ignition switch OFF ⇒ ON)	<ul style="list-style-type: none"> Warning systems ON indicator is not turned ON ⇔ OFF when operating warning systems switch 	<ul style="list-style-type: none"> Harness between ADAS control unit and warning systems switch Harness between warning systems switch and ground Warning systems switch ADAS control unit <p>Warning systems switch circuit Refer to DAS-344, "Component Function Check"</p> <p>LDW system setting can not be turned ON/OFF on the navigation screen Refer to DAS-359, "LDW/LDP : Diagnosis Procedure"</p>	
	<ul style="list-style-type: none"> Warning buzzer is not sounding. (Lane departure warning lamp is activated.) 	<ul style="list-style-type: none"> Harness between the IPDM E/R and warning buzzer Harness between ADAS control unit, driver assistance buzzer control module and driver assistance buzzer Driver assistance buzzer Driver assistance buzzer control module ADAS control unit 	<p>Driver assistance buzzer circuit Refer to DAS-342, "Component Function Check"</p>
LDP system is not activated. (LDW system is functioning normally)	<ul style="list-style-type: none"> Indicator lamp is not turned ON ⇔ OFF when operating dynamic driver assistance switch 	<ul style="list-style-type: none"> Dynamic driver assistance switch Combination meter ADAS control unit AV control unit 	<ul style="list-style-type: none"> Dynamic driver assistance switch (ICC steering switch) Refer to DAS-75, "Component Inspection" LDP system setting can not be turned ON/OFF on the navigation screen Refer to DAS-359, "LDW/LDP : Description"
	<ul style="list-style-type: none"> Warning is functioning but yawing is not functioning. 	—	<ul style="list-style-type: none"> Cause of auto-cancel 2 Refer to DAS-210, "CONSULT Function (ICC/ADAS)" Normal operating condition Refer to DAS-375, "Description"

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DRIVER ASSISTANCE SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Symptom	Possible cause	Inspection item/Reference page
Warning functions are not timely (Example) <ul style="list-style-type: none"> Does not function when driving on lane markers Functions when driving in a lane Functions in a different position from the actual position. 	<ul style="list-style-type: none"> Camera aiming adjustment Lane camera unit ADAS control unit 	Camera aiming adjustment DAS-287, "Description"
Functions when changing the course in direction of the turn signal	Turn indicator signal (CAN) <ul style="list-style-type: none"> BCM ADAS control unit 	System operates even when using turn signal Refer to DAS-374, "Description"

BLIND SPOT WARNING/BLIND SPOT INTERVENTION

CAUTION:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

NOTE:

Refer to the operation condition of the Blind Spot Warning/Blind Spot Intervention system.

- Blind Spot Warning system: [DAS-179, "BSW : System Description"](#).
- Blind Spot Intervention system: [DAS-182, "BLIND SPOT INTERVENTION : System Description"](#).

Symptom	Possible cause	Inspection item/Reference page	
Indicator/warning lamps do not illuminate when ignition switch OFF ⇒ ON.	Blind Spot Warning/Blind Spot Intervention warning lamp (Yellow) does not illuminate <ul style="list-style-type: none"> Blind Spot Warning/Blind Spot Intervention warning lamp signal (CAN) Combination meter ADAS control unit Blind Spot Warning/Blind Spot Intervention warning lamp (combination meter) 	<ul style="list-style-type: none"> ADAS control unit Active test "BSW/BSI WARNING LAMP" and "BSI ON INDICATOR". Refer to DAS-210, "CONSULT Function (ICC/ADAS)". ADAS control unit Data monitor "BSW/BSI WARN LMP" and "BSI ON IND". Refer to DAS-210, "CONSULT Function (ICC/ADAS)" Combination meter Data monitor "BSW W/L" and "BSI IND" Refer to MWI-31, "CONSULT Function" 	
	Blind Spot Intervention ON indicator (Green) does not illuminate <ul style="list-style-type: none"> Blind Spot Intervention ON indicator lamp signal (CAN) Combination meter ADAS control unit Blind Spot Intervention ON indicator (combination meter) 		
	Blind Spot Intervention ON indicator (Green) and Blind Spot Warning/Blind Spot Intervention warning lamp (Yellow) do not illuminate <ul style="list-style-type: none"> Combination meter ADAS control unit 		
	All of indicator/warning lamps do not illuminate; <ul style="list-style-type: none"> Blind Spot Warning/Blind Spot Intervention warning lamp Blind Spot Intervention ON indicator Warning systems ON indicator 	<ul style="list-style-type: none"> Power supply and ground circuit of ADAS control unit ADAS control unit Combination meter 	Power supply and ground circuit of ADAS control unit. Refer to DAS-158, "Diagnosis Procedure"
	Warning systems ON indicator (on the warning systems switch) does not illuminate	<ul style="list-style-type: none"> Harness between ADAS control unit and warning systems switch Warning systems switch ADAS control unit 	Warning systems ON indicator circuit. Refer to DAS-346, "Diagnosis Procedure"
	Blind Spot Warning/Blind Spot Intervention indicator does not turn ON	<ul style="list-style-type: none"> Harness between side radar and Blind Spot Warning/Blind Spot Intervention indicator Side radar LH/RH Blind Spot Warning/Blind Spot Intervention indicator 	Perform self-diagnosis of side radar. Refer to DAS-229, "CONSULT Function (SIDE RADAR LEFT)" or DAS-230, "CONSULT Function (SIDE RADAR RIGHT)" .

DRIVER ASSISTANCE SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Symptom	Possible cause	Inspection item/Reference page
BSW system is not activated. (Indicator/warning lamps illuminate when ignition switch OFF ⇒ ON.)	<ul style="list-style-type: none"> Warning systems ON indicator is not turned ON ⇔ OFF when operating warning systems switch 	<ul style="list-style-type: none"> Harness between ADAS control unit and warning systems switch Harness between warning systems switch and ground ADAS control unit Warning systems switch
	<ul style="list-style-type: none"> Warning systems switch circuit. Refer to DAS-344, "Diagnosis Procedure". BSW system setting cannot be turned ON/OFF on the navigation screen. Refer to DAS-359, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description" 	
Buzzer is not sounding	<ul style="list-style-type: none"> Buzzer power supply circuit. Harness between ADAS control unit, driver assistance buzzer control module and driver assistance buzzer Driver assistance buzzer Driver assistance buzzer control module ADAS control unit 	<ul style="list-style-type: none"> Driver assistance buzzer circuit. Refer to DAS-342, "Diagnosis Procedure"
Blind Spot Intervention system is not activated. (BSW system is functioning normally)	<ul style="list-style-type: none"> Blind Spot Intervention ON indicator is not turned ON ⇔ OFF when operating dynamic driver assistance switch. 	<ul style="list-style-type: none"> Dynamic driver assistance switch Combination meter ADAS control unit
	<ul style="list-style-type: none"> Dynamic driver assistance switch does not turn ON/OFF. Refer to DAS-356, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description" Blind Spot Intervention system setting cannot be turned ON/OFF on the navigation screen. Refer to DAS-359, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description" 	
Warning is functioning but yawing is not functioning.	—	<ul style="list-style-type: none"> Check "Cause of auto-cancel 2". Refer to DAS-210, "CONSULT Function (ICC/ADAS)" Check normal operating condition. Refer to DAS-375, "Description"
Blind Spot Intervention functions are not timely. (BSW system is functioning normally.) (Example)	<ul style="list-style-type: none"> Camera aiming adjustment Lane camera unit 	<ul style="list-style-type: none"> Camera aiming adjustment. Refer to DAS-287, "Description".

BCI

CAUTION:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

NOTE:

Refer to the operation condition of the BCI system. Refer to [DAS-186, "BCI : System Description"](#).



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DRIVER ASSISTANCE SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

Symptom		Possible cause	Action to take/Reference page	
BCI system does not operation	BCI ON indicator/BCI OFF indicator does not display	<ul style="list-style-type: none"> • Meter display signal (CAN) - Combination meter - ADAS control unit • BCI switch 	BCI system does not activate. Refer to DAS-360, "BCI : Description" .	
	<ul style="list-style-type: none"> • BCI system setting is not selectable on the navigation screen • BCI system setting differs from the one set at the previous driving 	<ul style="list-style-type: none"> • ADAS control unit • AV control unit • Combination meter 	BCI system setting cannot be turned ON/OFF. Refer to DAS-360, "BCI : Description" .	
	Blind Spot Warning/Blind Spot Intervention indicator does not turn ON	<ul style="list-style-type: none"> • Harness between side radar and Blind Spot Warning/Blind Spot Intervention indicator • Side radar LH/RH • Blind Spot Warning/Blind Spot Intervention indicator 	Perform self-diagnosis of side radar. Refer to DAS-229, "CONSULT Function (SIDE RADAR LEFT)" or DAS-230, "CONSULT Function (SIDE RADAR RIGHT)" .	
	Buzzer does not sound	Buzzer does not sound both in sonar system and Back-up Collision Intervention system	Sonar control unit	Replace the sonar control unit. Refer to AV-309, "Removal and Installation" .
		Buzzer does not sound only in Back-up Collision Intervention system	ADAS control unit	Replace the ADAS control unit. Refer to DAS-159, "Removal and Installation" .

SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

DCA

DCA : Description

INFOID:000000011450131

The switch does not turn ON

- When the DCA system setting is ON, the DCA system switch indicator does not illuminate even if the dynamic driver assistance switch is depressed.

The switch does not turn OFF

- The DCA system switch indicator does not turn OFF even if the dynamic driver assistance switch is pressed when the DCA system switch indicator illuminates.

NOTE:

The system cannot be operated when setting conventional (fixed speed) cruise control mode.

DCA : Diagnosis Procedure

INFOID:000000011450132

1. CHECK DCA SYSTEM SETTING

1. Start the engine.
2. After starting the engine wait for 5 seconds or more.
3. Check that DCA system setting on the navigation screen is ON.

Is DCA system setting ON?

- YES >> GO TO 2.
- NO >> Enable the DCA system setting.

2. DYNAMIC DRIVER ASSISTANCE SWITCH INSPECTION

1. Start the engine.
2. Check that "DYNA ASIST SW" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

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

3. CHECK DCA SYSTEM SWITCH INDICATOR CIRCUIT

1. Start the engine.
2. Select the active test item "DCA INDICATOR" of "ICC/ADAS" with CONSULT.
3. Check if the DCA system switch indicator illuminates when the test item is operated.

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> GO TO 4.

4. PERFORM THE SELF-DIAGNOSIS OF COMBINATION METER

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "METER/M&A". Refer to [MWI-45. "DTC Index"](#).

Is the inspection result normal?

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

5. CHECK STEERING SWITCH CIRCUIT

Check the steering switch circuit. Refer to [DAS-74. "Diagnosis Procedure"](#).

Is the inspection result normal?

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

6. PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS". Refer to [DAS-242. "DTC Index"](#).

Is any DTC detected?

SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

- YES >> GO TO 7.
NO >> GO TO 8.

7. REPAIR OR REPLACE MALFUNCTIONING PARTS.

Repair or replace malfunctioning parts.

>> GO TO 8.

8. CHECK DCA SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-292. "DCA : Description"](#) for action test.)
2. Check that the DCA system is normal.

>> INSPECTION END

BLIND SPOT WARNING/BLIND SPOT INTERVENTION

BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description

INFOID:000000011450133

The switch does not turn ON

- When the Blind Spot Intervention system setting is ON, the Blind Spot Intervention ON indicator does not illuminate even if the dynamic driver assistance switch is depressed.

The switch does not turn OFF

- The Blind Spot Intervention ON indicator does not turn off even if the dynamic driver assistance switch is pressed when the Blind Spot Intervention ON indicator illuminates.

BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Diagnosis Procedure

INFOID:000000011450134

1. CHECK BLIND SPOT INTERVENTION SYSTEM SETTING

1. Start the engine.
2. After starting the engine wait for 5 seconds or more.
3. Check that Blind Spot Intervention system setting on the navigation screen is ON.

Is Blind Spot Intervention system setting ON?

- YES >> GO TO 2.
NO >> Enable the Blind Spot Intervention system setting.

2. DYNAMIC DRIVER ASSISTANCE SWITCH INSPECTION

1. Start the engine.
2. Check that "DYNA ASIST SW" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

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

3. CHECK BLIND SPOT INTERVENTION ON INDICATOR CIRCUIT

1. Start the engine.
2. Select the active test item "BSI ON IND" of "ICC/ADAS" with CONSULT.
3. Check if the Blind Spot Intervention ON indicator illuminates when the test item is operated.

Is the inspection result normal?

- YES >> GO TO 6.
NO >> GO TO 4.

4. PERFORM THE SELF-DIAGNOSIS OF COMBINATION METER

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "METER/M&A". Refer to [MWI-45. "DTC Index"](#).

Is the inspection result normal?

- YES >> GO TO 7.

SWITCH DOES NOT TURN ON / SWITCH DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

NO >> GO TO 6.

5.CHECK STEERING SWITCH CIRCUIT

Check the steering switch circuit. Refer to [DAS-74, "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 7.

6.PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.

2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS". Refer to [DAS-242, "DTC Index"](#).

Is any DTC detected?

YES >> GO TO 7.

NO >> GO TO 8.

7.REPAIR OR REPLACE MALFUNCTIONING PARTS.

Repair or replace malfunctioning parts.

>> GO TO 8.

8.CHECK BLIND SPOT INTERVENTION SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-295, "BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description"](#) for action test.)

2. Check that the Blind Spot Intervention system is normal.

>> INSPECTION END

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DAS

SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN

DCA

DCA : Description

INFOID:000000011450135

- DCA system setting is not selectable on the navigation screen.

NOTE:

When the ignition switch is in ACC position, DCA system settings cannot be changed.

- "Distance Control Assist" is not indicated on the navigation screen.
- The switching between ON and OFF cannot be performed by operating the navigation screen.
- The item of "Distance Control Assist" on the navigation screen is not active.
- After turning ON the ignition switch or starting the engine, DCA settings of the navigation screen cannot be selected for several tens of seconds under the following conditions:
 - After replacing AV control unit.
 - After erasing connection history of the navigation screen.
 - After erasing self-diagnosis results.
- The DCA system setting differs from the one set at the previous driving.

NOTE:

Turn OFF the ignition switch and wait for 5 seconds or more.

DCA : Diagnosis Procedure

INFOID:000000011450136

1. CHECK DCA SYSTEM SETTING

1. Start the engine.
2. Check that the DCA system settings is selectable on the navigation screen.

Is the inspection result normal?

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

2. PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS", "MULTI AV" and "METER/M&A".
Refer to the following.
 - ICC/ADAS: [DAS-242, "DTC Index"](#)
 - MULTI AV: [AV-69, "DTC Index"](#)
 - METER/M&A: [MWI-45, "DTC Index"](#)

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> INSPECTION END

3. CHECK DATA MONITOR OF ADAS CONTROL UNIT

Check that "DCA SELECT" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

- YES >> Refer to [AV-37, "On Board Diagnosis Function"](#).
- NO >> GO TO 4.

4. CHECK MULTIFUNCTION SWITCH

Operate the multifunction switch to check that the audio, navigation screen, and air conditioner operate properly.

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
- NO >> Repair or replace malfunctioning parts.

LDW/LDP

SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

LDW/LDP : Description

INFOID:000000011450139

- LDW system setting is not selectable on the navigation screen.
- LDP system setting is not selectable on the navigation screen.

NOTE:

- When the ignition switch is in ACC position, LDW or LDP system settings cannot be changed.
- "Lane Departure Warning" or "Lane Departure Prevention" is not indicated on the navigation screen.
 - The switching between ON and OFF cannot be performed by operating the navigation screen.
 - The item of "Lane Departure Warning" or "Lane Departure Prevention" on the navigation screen is not active.
 - After turning ON the ignition switch or starting the engine, LDW or LDP settings of the navigation screen cannot be selected for several tens of seconds under the following conditions:
 - After replacing AV control unit.
 - After erasing connection history of the navigation screen.
 - After erasing self-diagnosis results of AV control unit.
 - The LDW or LDP system setting differs from the one set at the previous driving.

NOTE:

Turn OFF the ignition switch and wait for 5 seconds or more.

LDW/LDP : Diagnosis Procedure

INFOID:000000011450140

1. CHECK LDP SYSTEM SETTING

1. Start the engine.
2. Check that the LDP system settings is selectable on the navigation screen.

Is the inspection result normal?

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

2. PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS", "MULTI AV" and "METER/M&A". Refer to the following.
 - ICC/ADAS: [DAS-242. "DTC Index"](#)
 - MULTI AV: [AV-69. "DTC Index"](#)
 - METER/M&A: [MWI-45. "DTC Index"](#)

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> INSPECTION END

3. CHECK DATA MONITOR OF ADAS CONTROL UNIT

Check that "LDP SELECT" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

- YES >> Refer to [AV-37. "On Board Diagnosis Function"](#).
- NO >> GO TO 4.

4. CHECK MULTIFUNCTION SWITCH

Operate the multifunction switch to check that the audio, navigation screen, and air conditioner operate properly.

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).
- NO >> Repair or replace malfunctioning parts.

BLIND SPOT WARNING/BLIND SPOT INTERVENTION

BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Description

INFOID:000000011450141

- BSW system setting is not selectable on the navigation screen.
- Blind Spot Intervention system setting is not selectable on the navigation screen.

NOTE:

When the ignition switch is in ACC position, Blind Spot Warning or Blind Spot Intervention system settings cannot be changed.

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DAS

SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

- "Blind Spot Warning" or "Blind Spot Intervention" is not indicated on the navigation screen.
- The switching between ON and OFF cannot be performed by operating the navigation screen.
- The item "Blind Spot Warning" or "Blind Spot Intervention" on the navigation screen is not active.
- The Blind Spot Warning or Blind Spot Intervention system setting differs from the one set at the previous driving.

NOTE:

Turn OFF the ignition switch and wait for 5 seconds or more.

BLIND SPOT WARNING/BLIND SPOT INTERVENTION : Diagnosis Procedure

INFOID:000000011450142

1. CHECK BLIND SPOT INTERVENTION SYSTEM SETTING

1. Start the engine.
2. Check that the Blind Spot Intervention system settings is selectable on the navigation screen.

Is the inspection result normal?

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

2. PERFORM THE SELF-DIAGNOSIS

1. Perform self-diagnosis with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS", "MULTI AV" and "METER/M&A". Refer to the following.
 - ICC/ADAS: [DAS-242, "DTC Index"](#)
 - MULTI AV: [AV-69, "DTC Index"](#)
 - METER/M&A: [MWI-45, "DTC Index"](#)

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> INSPECTION END

3. CHECK DATA MONITOR OF ADAS CONTROL UNIT

Check that "BSI SELECT" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

- YES >> Refer to [AV-37, "On Board Diagnosis Function"](#).
- NO >> GO TO 4.

4. CHECK MULTIFUNCTION SWITCH

Operate the multifunction switch to check that the audio, navigation screen, and air conditioner operate properly.

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).
- NO >> Repair or replace malfunctioning parts.

BCI

BCI : Description

INFOID:000000011450143

- BCI system setting is not selectable on the navigation screen.
- Back-up Collision Intervention system setting is not selectable on the navigation screen.

NOTE:

When the ignition switch is in ACC position, Back-up Collision Intervention system settings cannot be changed.

- "Back-up Collision Intervention" is not indicated on the navigation screen.
- The switching between ON and OFF cannot be performed by operating the navigation screen.
- The item "Back-up Collision Intervention" on the navigation screen is not active.
- The Back-up Collision Intervention system setting differs from the one set at the previous driving.

NOTE:

Turn OFF the ignition switch and wait for 5 seconds or more.

SYSTEM SETTINGS CANNOT BE TURNED ON/OFF ON THE NAVIGATION SCREEN

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

BCI : Diagnosis Procedure

INFOID:000000011450144

1. CHECK BACK-UP COLLISION INTERVENTION SYSTEM SETTING

1. Start the engine.
2. Check that the Back-up Collision Intervention system settings is selectable on the navigation screen.

Is the inspection result normal?

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

2. PERFORM THE SELF-DIAGNOSIS

1. Perform self-diagnosis with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS", "MULTI AV" and "METER/M&A". Refer to the following.
 - ICC/ADAS: [DAS-242. "DTC Index"](#)
 - MULTI AV: [AV-69. "DTC Index"](#)
 - METER/M&A: [MWI-45. "DTC Index"](#)

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> INSPECTION END

3. CHECK DATA MONITOR OF ADAS CONTROL UNIT

Check that "BSI SELECT" operates normally in "DATA MONITOR" of "ICC/ADAS" with CONSULT.

Is the inspection result normal?

- YES >> Refer to [AV-37. "On Board Diagnosis Function"](#).
- NO >> GO TO 4.

4. CHECK MULTIFUNCTION SWITCH

Operate the multifunction switch to check that the audio, navigation screen, and air conditioner operate properly.

Is the inspection result normal?

- YES >> Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).
- NO >> Repair or replace malfunctioning parts.

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DAS

SYSTEM NOT ACTIVATED

DCA

DCA : Description

INFOID:000000011450145

The dynamic driver assistance switch can be turned ON/OFF, but the DCA system does not operate.

NOTE:

Never start the operation under the following conditions.

- No operation condition
- When the brake pedal depressed
- When the ICC system is set
- When the system judges that the vehicle comes to a standstill by the system control
- When the vehicle ahead is not detected
- Operation cancellation condition
- When the dynamic driver assistance switch is turned to OFF
- When the system malfunction occurs
- When ABS or VDC (including the TCS) operates
- When the VDC is turned OFF
- When ABS warning lamp is ON
- When the SNOW mode switch is turned ON
- When the 4WD shift switch is not AUTO position
- When the radar is temporarily interrupted
- When the ICC sensor area is dirty and the measurement of the distance between the vehicles becomes difficult

DCA : Diagnosis Procedure

INFOID:000000011450146

1. CHECK CAUSE OF AUTOMATIC CANCELLATION

Check if there is any 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-74, "DTC Logic"](#).

"VHCL SPD UNMATCH" >> Refer to [DAS-66, "DTC Logic"](#).

"IGN LOW VOLT" >> Refer to [DAS-65, "DTC Logic"](#).

"CAN COMM ERROR" >> Refer to [DAS-126, "DTC Logic"](#).

"ICC SENSOR CAN COMM ERR" >> Refer to [DAS-120, "DTC Logic"](#).

"ABS/TCS/VDC CIRC" >> Refer to [DAS-68, "DTC Logic"](#).

"APA HI TEMP" >> Refer to [DAS-315, "ACCELERATOR PEDAL ACTUATOR : DTC Logic"](#).

"ECD CIRCUIT" >> Refer to [DAS-89, "DTC Logic"](#).

2. PERFORM ALL OF THE SELF-DIAGNOSIS

1. Perform "All DTC Reading".

2. Check if any DTC is detected in self-diagnosis results of "ICC/ADAS". Refer to [DAS-242, "DTC Index"](#).

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"
- "BRAKE SW"
- "DYNA ASIST SW"

SYSTEM NOT ACTIVATED

[DRIVER ASSISTANCE SYSTEM]

< SYMPTOM DIAGNOSIS >

Is there a malfunctioning item?

All items are normal>>GO TO 5.

“VHCL SPEED SE”>>Refer to [DAS-66. "DTC Logic"](#).

“BRAKE SW”>>Refer to [DAS-69. "DTC Logic"](#).

“DYNA ASIST SW”>>Refer to [DAS-74. "DTC Logic"](#).

5.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

>> GO TO 6.

6.CHECK DCA SYSTEM

1. Erase “self-diagnosis result”, and then perform “All DTC Reading” again after performing the action test. (Refer to [DAS-292. "DCA : Description"](#) for action test.)
2. Check that the DCA system is normal.

>> INSPECTION END

BCI

BCI : Description

INFOID:000000011450149

The switch does not turn ON

- When the BCI system setting is ON and BCI system is OFF, the BCI ON indicator does not illuminate even if the BCI switch is depressed.

The switch does not turn OFF

- When the BCI system setting is ON and BCI system ON, the BCI OFF indicator does not illuminate even if the BCI switch is depressed.

BCI : Diagnosis Procedure

INFOID:000000011450150

1.CHECK BACK-UP COLLISION INTERVENTION SYSTEM SETTING

1. Start the engine.
2. After starting the engine wait for 5 seconds or more.
3. Check that Back-up Collision Intervention system setting on the navigation screen is ON.

Is Back-up Collision Intervention system setting ON?

YES >> GO TO 2.

NO >> Enable the Back-up Collision Intervention system setting.

2.BCI SWITCH INSPECTION

Check that “BCI SWITCH” operates normally in “DATA MONITOR” of “ICC/ADAS” with CONSULT.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check the BCI switch circuit. Refer to [DAS-348. "Component Function Check"](#).

3.CHECK BCI ON INDICATOR

1. Turn the BCI system ON/OFF.
2. Check the data monitor item “BCI ON IND” of “ICC/ADAS” with CONSULT.

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 7.

4.PERFORM THE SELF-DIAGNOSIS OF COMBINATION METER

1. Perform “All DTC Reading” with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of “METER/M&A”. Refer to [MWI-45. "DTC Index"](#).

Is any DTC detected?

YES >> GO TO 6.

SYSTEM NOT ACTIVATED

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

NO >> GO TO 5.

5.PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS". Refer to [DAS-242. "DTC Index"](#).

Is any DTC detected?

YES >> GO TO 6.

NO >> GO TO 8.

6.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts.

>> GO TO 8.

7.REPLACE ADAS CONTROL UNIT

Replace ADAS control unit. Refer to [DAS-159. "Removal and Installation"](#).

>> GO TO 8.

8.CHECK BACK-UP COLLISION INTERVENTION SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. Refer to [DAS-298. "BCI : Description"](#).
2. Check that the Back-up Collision Intervention system is normal.

>> INSPECTION END

CHIME DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

CHIME DOES NOT SOUND

Description

INFOID:0000000011450151

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 near own vehicle.
- 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 [DAS-368, "Description"](#).)

Diagnosis Procedure

INFOID:0000000011450152

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 detection condition when the malfunction occurred. If the warning chime should have sounded, replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

>> GO TO 9.

3.PERFORM THE SELF-DIAGNOSIS

1. Perform "All DTC Reading" with CONSULT.

2. Check if the "U1000" is detected in self-diagnosis results of "ICC/ADAS".

Is "U1000" detected?

YES >> GO TO 4.

NO >> GO TO 5.

4.CAN COMMUNICATIONS INSPECTION

Check the CAN communication and repair or replace malfunctioning parts. Refer to [DAS-126, "DTC Logic"](#).

>> GO TO 9.

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

1. Perform "All DTC Reading" with CONSULT.

2. Check if any DTC is detected in self-diagnosis results of "BSW/BUZZER".

Is any DTC detected?

YES >> Repair or replace malfunctioning parts. Refer to [DAS-263, "DTC Index"](#).

NO >> GO TO 6.

6.CHECK DRIVER ASSISTENCE BUZZER CIRCUIT

Check driver assistance buzzer. Refer to [DAS-342, "Component Function Check"](#).

Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 7.

7.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts.

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CHIME DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

>> GO TO 9.

8.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

>> GO TO 9.

9.CHECK EACH SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-292, "DCA : Description"](#) for action test.)
2. Check if the each system is normal.

>> INSPECTION END

NO FORCE GENERATED FOR PUTTING BACK THE ACCELERATOR PEDAL

Description

INFOID:0000000011450153

The dynamic driver assistance switch can be turned ON/OFF but the actuation force of accelerator pedal is not generated.

NOTE:

- When the vehicle ahead detection indicator does not illuminate, the control and warning with the system are not performed.
- The actuation force of accelerator pedal may not be generated sufficiently depending on depressing method or depressing amount of accelerator pedal.

Diagnosis Procedure

INFOID:0000000011450154

1.PERFORM THE SELF-DIAGNOSIS

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

Is any DTC detected?

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

2.REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace malfunctioning parts. Refer to [DAS-242. "DTC Index"](#) (ICC/ADAS) or [DAS-250. "DTC Index"](#) (ACCELE PEDAL ACT).

>> GO TO 5.

3.PERFORM ACTIVE TEST

Check if the accelerator pedal actuator operates by the active test items "ACCELERATOR PEDAL ACTUATOR TEST1" and "ACCELERATOR PEDAL ACTUATOR TEST2" of "ACCELE PEDAL ACT" with CONSULT.

Does it operate?

- YES >> GO TO 4.
NO >> Replace the accelerator pedal assembly.

4.CHECK VEHICLE AHEAD DETECTION PERFORMANCE

Understand the vehicle ahead detection condition when the malfunction occurred. If the detecting function is malfunctioning, check according to [DAS-368. "Description"](#).

>> INSPECTION END

5.CHECK DCA SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-292. "DCA : Description"](#) for action test.)
2. Check if the DCA system is normal.

>> INSPECTION END

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DAS

FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT

Description

INFOID:000000011450155

Symptom check: Detection function may become unstable under the following conditions.

- When the vehicle is driving on a curve such as S-curve where the curvature changes.
- When the vehicle is driving on up-and-down road or passing the peak or foot of slope or passing the break of the inclination of hill.

Diagnosis Procedure

INFOID:000000011450156

1.VISUAL CHECK (1)

Check front bumper grille near the ICC sensor for contamination and foreign materials.

Do foreign materials adhere?

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

2.WIPE OUT DIRT AND FOREIGN OBJECTS

Wipe out the contamination and/or foreign materials from the front bumper grille near the ICC sensor.

>> GO TO 7.

3.VISUAL CHECK (2)

Check ICC sensor body window for cracks and/or scratches.

Are there cracks?

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

4.PERFORM RADAR ALIGNMENT

1. Perform radar alignment. Refer to [CCS-81, "Application Notice"](#).
2. Perform action test. Refer to [CCS-93, "Description"](#).
3. Check that the vehicle ahead detection performance improves.

Does it improve?

- YES >> INSPECTION END
- NO >> GO TO 5.

5.REPLACE ICC SENSOR

1. Replace the ICC sensor. Refer to [CCS-133, "Removal and Installation"](#).
2. Perform radar alignment. Refer to [CCS-81, "Application Notice"](#).
3. Perform action test. Refer to [CCS-93, "Description"](#).
4. Check that the vehicle ahead detection performance improves.

Does it improve?

- YES >> INSPECTION END
- NO >> GO TO 6.

6.REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

>> GO TO 7.

7.CHECK DCA SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-292, "DCA : Description"](#) for action test.)
2. Check that the DCA/PFC system is normal.

FREQUENTLY CANNOT DETECT THE VEHICLE AHEAD / DETECTION ZONE IS SHORT

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

>> INSPECTION END

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THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL

Description

INFOID:000000011450157

When DCA system is active, the DCA system does not perform any control even through there is a vehicle ahead.

Diagnosis Procedure

INFOID:000000011450158

1. CHECK INFORMATION DISPLAY

1. Start the self-diagnosis mode of combination meter. Refer to [MWI-30, "On Board Diagnosis Function"](#).
2. Check that the segment of information display is displayed normally.

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Replace the combination meter.

2. VISUAL CHECK (1)

Check front bumper grille near the ICC sensor for contamination and/or foreign materials.

Do foreign materials adhere?

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

3. WIPE OUT DIRT AND FOREIGN MATERIALS

Wipe out the contamination and/or foreign materials from the front bumper grille near the ICC sensor.

>> GO TO 8.

4. VISUAL CHECK (2)

Check ICC sensor body window for cracks and/or scratches.

Are there cracks?

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

5. PERFORM RADAR ALIGNMENT

1. Perform radar alignment. Refer to [CCS-81, "Application Notice"](#).
2. Perform action test. Refer to [CCS-93, "Description"](#).
3. Check that the vehicle ahead detection performance improves.

Does it improve?

- YES >> INSPECTION END
- NO >> GO TO 6.

6. REPLACE ICC SENSOR

1. Replace the ICC sensor. Refer to [CCS-133, "Removal and Installation"](#).
2. Perform radar alignment. Refer to [CCS-81, "Application Notice"](#).
3. Perform action test. Refer to [CCS-93, "Description"](#).
4. Check that the vehicle ahead detection performance improves.

>> GO TO 7.

7. REPLACE ADAS CONTROL UNIT

Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

>> GO TO 8.

8. CHECK DCA SYSTEM

1. Erase "self-diagnosis result", and then perform "All DTC Reading" again after performing the action test. (Refer to [DAS-292, "DCA : Description"](#) for action test.)

THE SYSTEM DOES NOT DETECT THE VEHICLE AHEAD AT ALL

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

2. Check that the DCA system is normal.

>> INSPECTION END

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LANE DEPARTURE WARNING LAMP DOES NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

LANE DEPARTURE WARNING LAMP DOES NOT TURNED ON

Description

INFOID:000000011450159

The lane departure warning lamp in the combination meter does not turn ON when turning on the ignition switch

Diagnosis Procedure

INFOID:000000011450160

1. CHECK LANE DEPARTURE WARNING LAMP

1. Check that "LANE DEPARTURE W/L" operate normally in "ACTIVE TEST" of "ICC/ADAS".
2. Operate the test items to check that the lane departure warning lamp blinks

Is the inspection result normal?

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

2. CHECK COMBINATION METER

Turn the ignition switch from OFF to ON to check that "LANE W/L" included in "DATA MONITOR" in "METER/M&A" operates normally.

Is the inspection result normal?

- YES >> Replace the combination meter. Refer to [MWI-88, "Removal and Installation"](#).
- NO >> GO TO 3.

3. CHECK SELF-DIAGNOSIS RESULTS OF COMBINATION METER

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "METER/M&A". Refer to [MWI-45, "DTC Index"](#).

Is any DTC detected?

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

4. CHECK SELF-DIAGNOSIS RESULTS OF ADAS CONTROL UNIT

Check if the DTC is detected in self-diagnosis results of "ICC/ADAS" Refer to [DAS-242, "DTC Index"](#).

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

LDP ON INDICATOR LAMP DOES NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

LDP ON INDICATOR LAMP DOES NOT TURNED ON

Description

INFOID:000000011450161

The LDP ON indicator lamp in the combination meter does not turn ON when turning on the ignition switch

Diagnosis Procedure

INFOID:000000011450162

1. CHECK LDP ON INDICATOR LAMP

1. Check that "LDP ON IND" operate normally in "ACTIVE TEST" of "ICC/ADAS".
2. Check if the LDP ON indicator lamp illuminates when operates each test item.

Is the inspection result normal?

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

2. CHECK COMBINATION METER

Turn the ignition switch from OFF to ON to check that "LDP IND" included in "DATA MONITOR" in "METER/M&A" operates normally.

Is the inspection result normal?

- YES >> Replace the combination meter. Refer to [MWI-88, "Removal and Installation"](#).
- NO >> GO TO 3.

3. CHECK SELF-DIAGNOSIS RESULTS OF COMBINATION METER

1. Perform "All DTC Reading" with CONSULT.
2. Check if the DTC is detected in self-diagnosis results of "METER/M&A" Refer to [MWI-45, "DTC Index"](#).

Is any DTC detected?

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

4. CHECK SELF-DIAGNOSIS RESULTS OF ADAS CONTROL UNIT

Check if the DTC is detected in self-diagnosis results of "ICC/ADAS" Refer to [DAS-242, "DTC Index"](#).

Is any DTC detected?

- YES >> Repair or replace malfunctioning parts.
- NO >> Replace the ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

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DAS

THE SYSTEM OPERATES EVEN WHEN USING TURN SIGNAL

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

THE SYSTEM OPERATES EVEN WHEN USING TURN SIGNAL

Description

INFOID:000000011450163

The warning of Lane Departure Warning (LDW) and Lane Departure Prevention (LDP) and the yaw moment control are activated during the use of a turn signal.

NOTE:

For the operational conditions of Lane Departure Warning (LDW) and Lane Departure Prevention (LDP), refer to the following descriptions.

- LDW: [DAS-174, "LDW : System Description"](#)
- LDP: [DAS-176, "LDP : System Description"](#)

Diagnosis Procedure

INFOID:000000011450164

1. CHECK TURN SIGNAL OPERATION

Check that both right and left turn signals are normal.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace malfunctioning parts. Refer to [DAS-350, "Symptom Table"](#).

2. CHECK SELF-DIAGNOSIS RESULTS

1. Perform "All DTC Reading" with CONSULT.

2. Check if the DTC is detected in self-diagnosis results of "ICC/ADAS" Refer to [DAS-242, "DTC Index"](#).

Is any DTC detected?

YES >> Perform diagnosis on the detected DTC and repair or replace the malfunctioning parts.

NO >> Replace ADAS control unit. Refer to [DAS-159, "Removal and Installation"](#).

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

NORMAL OPERATING CONDITION

Description

INFOID:000000011450165

PRECAUTIONS FOR DISTANCE CONTROL ASSIST (DCA) SYSTEM

- 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 with a warning chime. To prevent the vehicle from moving, the driver must depress the brake pedal.
- The DCA system will not apply brake control while the driver is depressing the accelerator pedal.
- This 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.
- This system will not adapt automatically to road conditions. Do not use the system on roads with sharp curves, or on icy roads, in heavy rain or in fog.
- The distance sensor will not detect under most conditions.
 - Stationary and slow moving vehicles
 - Pedestrians or objects in the roadway
 - Oncoming vehicles in the same lane
 - Motorcycles traveling offset in the travel lane
- As there is a performance limit to the distance control function, never rely solely on the DCA 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.
- The system may not detect the vehicle in front of own vehicle in certain road or weather conditions. To avoid accidents, never use the DCA system under the following conditions.
 - On roads with sharp curves
 - On slippery road surfaces such as on ice or snow, etc.
 - On off-road surfaces such as on sand or rock, etc.
 - During bad weather (rain, fog, snow, etc.)
 - When rain, snow or dirt adhere to the system sensor
 - On steep downhill roads (frequent braking may result in overheating the brakes)
 - On repeated uphill and downhill roads
 - When towing a trailer or other vehicle
- Do not use the DCA system if own vehicle are towing a trailer. The system may not detect a vehicle ahead.
- In some road or traffic conditions, a vehicle or object can unexpectedly come into the sensor detection zone and cause automatic braking. Driver may need to control the distance from other vehicles using the accelerator pedal. Always stay alert and avoid using the DCA system when it is not recommended in this section.
- The following are some conditions in which the sensor cannot detect the signals.
 - When the snow or road spray from traveling vehicles reduces the sensor's visibility
 - When excessively heavy baggage is loaded in the rear seat or the luggage room of own vehicle
- The DCA system is designed to automatically check the sensor's operation. When the sensor area 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 DCA system may not detect them. In these instances, the DCA system may not be able to decelerate the vehicle properly. Be sure to check and clean the sensor regularly.
- The DCA system is designed to help assist the driver to maintain a following distance from the vehicle ahead. The system will decelerate as necessary and if the vehicle ahead comes to a stop, the vehicle decelerates to standstill. However, the DCA system can only apply up to approximately 40% of the vehicles total braking power. If a vehicle moves into the traveling lane ahead or if a vehicle traveling ahead rapidly decelerates, the distance between vehicles may become closer because the DCA system cannot decelerate the vehicle quickly enough. If this occurs, the DCA system will sound a warning chime and blink the system display to notify the driver to take necessary action.
- The DCA system does not control vehicle speed or warn when driver approach stationary and slow moving vehicles. Driver must pay attention to vehicle operation to maintain proper distance from vehicles ahead.

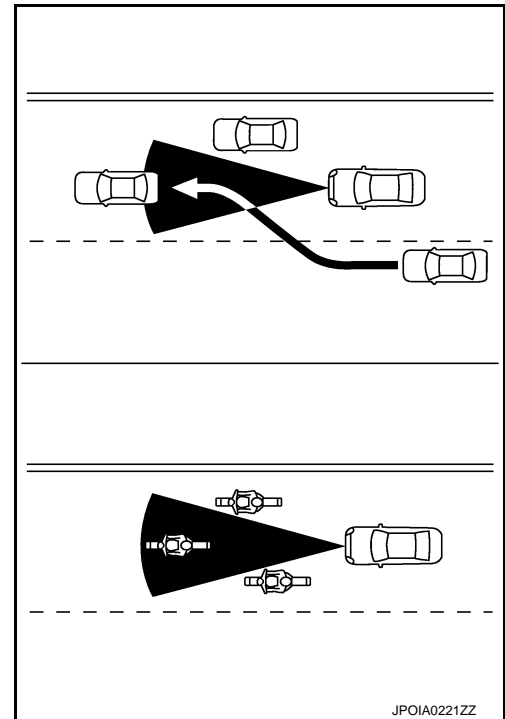
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NORMAL OPERATING CONDITION

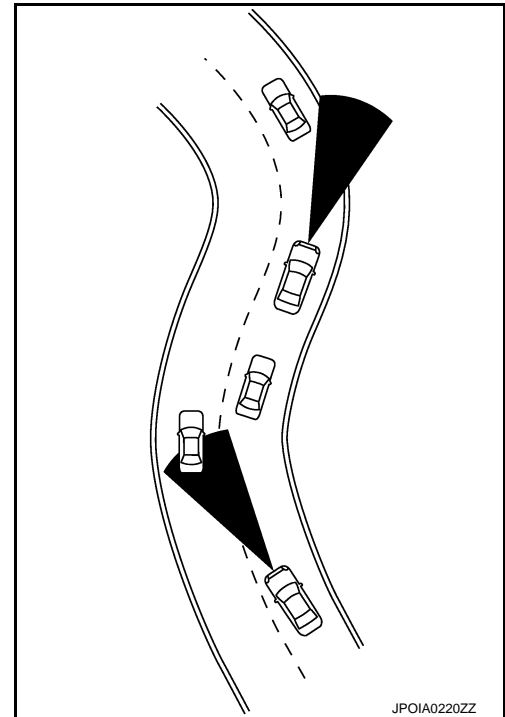
< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

- The detection zone of the sensor is limited. A vehicle ahead must be in the detection zone for the system to operate.
- 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 system may warn 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 sensor may detect vehicles in a different lane, or may temporarily not detect a vehicle traveling ahead. This may cause the system to work inappropriately. 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 system may warn 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.



- The approach warning chime may sound and the system display may blink when the sensor detects some reflectors which are fitted on vehicles in other lanes or on the side of the road. This may cause the DCA system to operate inappropriately. The sensor may detect these reflectors when the vehicle is driven on winding roads, hilly roads or when entering or exiting a curve. The sensor may also detect reflectors on narrow roads or in road construction zones. In these cases driver will have to manually control the proper distance ahead of own vehicle. Also, the sensor sensitivity can be affected by vehicle operation (steering maneuver or driving position in the lane) or traffic or vehicle condition (for example, if a vehicle is being driven with some damage).
- The DCA system automatically decelerates own vehicle to help assist the driver to maintain a following distance from the vehicle ahead. Manually brake when deceleration is required to maintain a safe distance upon sudden braking by the vehicle ahead or when a vehicle suddenly appears in front of own vehicle. Always stay alert when using the DCA system.
- When the vehicle ahead detection indicator lamp is not illuminated, system will not control or warn the driver.
- Never place a foot under the brake pedal. A foot may be caught when the system controls the brake.
- Depending on the position of the accelerator pedal, the system may not be able to assist the driver to release the accelerator pedal appropriately.
- If the vehicle ahead comes to a standstill, the vehicle decelerates to a standstill within the limitations of the system. The system will release brake control with a warning chime once it judges the vehicle is at a standstill. To prevent the vehicle from moving, the driver must depress the brake pedal. [The system will resume control automatically once the system reaches 5 km/h (3 MPH)].

PRECAUTIONS FOR FORWARD COLLISION WARNING (PFCW) SYSTEM

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

- PFCW system is designed to warn driver before a collision but will not avoid a collision. It is the driver's responsibility to stay alert, drive safely and be in control of the vehicle at all times. A
- As there is a performance limit, the FCW system may not provide a warning in certain conditions.
- The radar sensor does not detect the following objects. B
 - Pedestrians, animals, or obstacles in the roadway.
 - Oncoming vehicles
 - Crossing vehicles
- The predictive forward collision warning system does not function when a vehicle ahead is a narrow vehicle, such as a motorcycle. C
- The radar sensor may not detect a second vehicle ahead in the following conditions: D
 - Snow or heavy rain
 - Dirt, ice, snow or other material covering the radar sensor
 - Interference by other radar sources
 - Snow or road spray from traveling vehicles is splashed
 - Driving in a tunnel
 - Towing a trailer or other vehicle E
- The radar sensor may not detect a second vehicle when the vehicle ahead is being towed.
- When the distance to the vehicle ahead is too close, the beam of the radar sensor is obstructed.
- The radar sensor may not detect a second vehicle when driving on a steep downhill slope or on roads with sharp curves. F
- Excessive noise will interfere with the warning tone sound, and it may not be heard.

PRECAUTIONS FOR LANE DEPARTURE WARNING (LDW) SYSTEM G

- LDW system is only a warning device to inform the driver of a potential unintended lane departure. It will not steer the vehicle or prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of the vehicle at all times. H
- LDW system will not operate at speeds below approximately 70 km/h (45 MPH) or if it cannot detect lane markers. I
- Excessive noise will interfere with the warning chime sound, and the chime may not be heard. J
- LDW system may not function properly under the following conditions: K
 - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; non-standard lane markers; or lane markers covered with water, dirt or snow, etc.
 - On roads where the discontinued lane markers are still detectable.
 - On roads where there are sharp curves.
 - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs. (The LDW system could detect these items as lane markers.)
 - On roads where the traveling lane merges or separates.
 - When the vehicle's traveling direction does not align with the lane marker.
 - When traveling close to other vehicle in front of the vehicle, which obstructs the lane camera unit detection range. L
 - When rain, snow or dirt adheres to the windshield in front of the lane camera unit.
 - When the headlights are not bright due to dirt on the lens or if the aiming is not adjusted properly. M
 - When strong light enters the lane camera unit. (For example, the light directly shines on the front of the vehicle at sunrise or sunset.)
 - When a sudden change in brightness occurs. (For example, when the vehicle enters or exits a tunnel or under a bridge.) N

PRECAUTIONS FOR LANE DEPARTURE PREVENTION (LDP) SYSTEM

- LDP system will not steer the vehicle or prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of vehicle at all times. DAS
- LDP system is primarily intended for use on well-developed freeways or highways. It may not detect the lane markers in certain roads, weather or driving conditions.
- Using the LDP system under some conditions of road, lane marker or weather, or when driver change lanes without using the turn signal could lead to an unexpected system operation. In such conditions, driver needs to correct the vehicle's direction with driver's steering operation to avoid accidents. P
- When the LDP system is operating, avoid excessive or sudden steering maneuvers. Otherwise, driver could lose control of the vehicle.
- The LDP system will not operate at speeds below approximately 70 km/h (45 MPH) or if it cannot detect lane markers.
- The LDP system may not function properly under the following conditions, and do not use the LDP system:
 - During bad weather (rain, fog, snow, wind, etc.).

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

- When driving on slippery roads, such as on ice or snow, etc.
- When driving off-road such as on sand or rock, etc.
- When driving on winding or uneven roads.
- When there is a lane closure due to road repairs.
- When driving in a makeshift lane.
- When driving on roads where the lane width is too narrow.
- When driving with a tire that is not within normal tire conditions (for example, tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
- When the vehicle is equipped with non-original brake parts or suspension parts.
- When driver is towing a trailer or other vehicle.
- Excessive noise will interfere with the warning chime sound, and the chime may not be heard.
- The functions of the LDP system (warning and brake control assist) may or may not operate properly under the following conditions:
 - On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; non-standard lane markers or lane markers covered with water, dirt or snow, etc.
 - On roads where discontinued lane markers are still detectable.
 - On roads where there are sharp curves.
 - On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs (The LDP system could detect these items as lane markers.).
 - On roads where the traveling lane merges or separates.
 - When the vehicle's traveling direction does not align with the lane marker.
 - When traveling close to other vehicle in front of the vehicle, which obstructs the lane camera unit detection range.
 - When rain, snow or dirt adheres to the windshield in front of the lane camera unit.
 - When the headlights are not bright due to dirt on the lens or if the aiming is not adjusted properly.
 - When strong light enters the lane camera unit (For example, the light directly shines on the front of the vehicle at sunrise or sunset.)
 - When a sudden change in brightness occurs (For example, when the vehicle enters or exits a tunnel or under a bridge.)

PRECAUTIONS FOR BLIND SPOT WARNING (BSW) & BLIND SPOT INTERVENTION SYSTEM

- The Blind Spot Warning and Blind Spot Intervention systems are not a replacement for proper driving procedure and are not designed to prevent contact with vehicles or objects. When changing lanes, always use the side and rear mirrors and turn and look in the direction driver will move to ensure it is safe to change lanes. Never rely solely on the Blind Spot Warning or Blind Spot Intervention system.
- Using the Blind Spot Intervention system under some road, lane marker or weather conditions could lead to improper system operation. Always rely on driver's own steering and braking operation to avoid accidents.
- The Blind Spot Warning and Blind Spot Intervention systems may not provide a warning or brake control for vehicles that pass through the detection zone quickly.
- Do not use the Blind Spot Warning or Blind Spot Intervention systems when towing a trailer.
- Excessive noise (e.g. audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.
- The side radar may not be able to detect and activate Blind Spot Warning/Blind Spot Intervention when certain objects are present such as:
 - Pedestrians, bicycles, animals.
 - Vehicle such as motorcycles, low height vehicle, or high ground clearance vehicle.
 - Oncoming vehicles.
 - Vehicles remaining in the detection zone when driver accelerate from a stop.
 - A vehicle merging into an adjacent lane at a speed approximately the same as vehicle.
 - A vehicle approaching rapidly from behind.
 - A vehicle which vehicle overtakes rapidly.
- Severe weather or road spray conditions may reduce the ability of the radar to detect other vehicles.
- The side radar detection zone is designed based on a standard lane width. When driving in a wider lane, the side radar may not detect vehicles in an adjacent lane. When driving in a narrow lane, the side radar may detect vehicles driving two lanes away.
- The side radar are designed to ignore most stationary objects, however objects such as guardrails, walls, foliage and parked vehicles may occasionally be detected. This is a normal operating condition.

PRECAUTIONS FOR BLIND SPOT INTERVENTION SYSTEM

- Do not use the Blind Spot Intervention system under the following conditions because the system may not function properly.

NORMAL OPERATING CONDITION

[DRIVER ASSISTANCE SYSTEM]

< SYMPTOM DIAGNOSIS >

- During bad weather (e.g. rain, fog, snow, wind, etc.)
- When driving on slippery roads, such as on ice or snow, etc.
- When driving on winding or uneven roads.
- When there is a lane closure due to road repairs.
- When driving in a makeshift lane.
- When driving on roads where the lane width is too narrow.
- When driving with a tire that is not within normal tire conditions (e.g. tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
- When the vehicle is equipped with non-original brake parts or suspension parts.
- The camera may not detect lane markers in the following situations and the Blind Spot Intervention system may not operate properly.
- On roads where there are multiple parallel lane markers; lane markers that are faded or not painted clearly; yellow painted lane markers; nonstandard lane markers; lane markers covered with water, dirt, snow, etc.
- On roads where discontinued lane markers are still detectable.
- On roads where there are sharp curves.
- On roads where there are sharply contrasting objects, such as shadows, snow, water, wheel ruts, seams or lines remaining after road repairs.
- On roads where the traveling lane merges or separates.
- When the vehicle is traveling direction does not align with the lane markers.
- When traveling close to the vehicle in front of driver, which obstructs the lane camera unit detection range.
- When rain, snow or dirt adheres to the windshield in front of a lane camera unit.
- When the headlights are not bright due to dirt on the lens or if aiming is not adjusted properly.
- When strong light enters a lane camera unit. (e.g. light directly shines on the front of the vehicle at sunrise or sunset.)
- When a sudden change in brightness occurs. (e.g. when the vehicle enters or exits a tunnel or under a bridge.)
- The Blind Spot Intervention system will not operate if your vehicle is on a lane marker when another vehicle enters the detection zone. In this case only the BSW system operates.
- Blind Spot Intervention braking will not operate or will stop operating and only a warning chime will sound under the following conditions.
- When the brake pedal is depressed.
- When the vehicle is accelerated during Blind Spot Intervention operation.
- When steering quickly.
- When the ICC, DCA, PFCW or FEB warnings sound.
- When the hazard warning flashers are operated.
- When driving on a curve at a high speed.

PRECAUTIONS FOR BACK-UP COLLISION INTERVENTION (BCI) SYSTEM

Sonar Handling

- Always keep the sonar sensors clean.
- Do not attach a sticker (including transparent material), install an accessory or paintwork over any of the sonar sensors.
- Do not strike or scratch any of the sonar sensors causing physical damage. to a sensor or the surrounding area

Side Radar Handling

- Always keep the rear bumper near the side radar clean.
- Do not attach a sticker (including transparent material), install an accessory or paintwork near the side radar.
- Do not strike or damage the areas around the side radar.

Back-up Collision Intervention

- The Back-up Collision Intervention system is not a replacement for proper driving procedure and is not designed to prevent contact with vehicles or objects. When backing up, always look in the direction driver will move to ensure it is safe to proceed. Never rely solely on the Back-up Collision Intervention system.
- Using the Back-up Collision Intervention system under some road or weather condition could lead to improper system operation. Always rely on driver's own steering and braking operation to avoid accidents.
- The Back-up Collision Intervention system may not provide a warning or brake control for vehicles that pass through the detection zone quickly.
- The side radar may not be able to detect and activate Back-up Collision Intervention when certain objects are present such as:
 - Pedestrians, bicycles or animals.
 - A vehicle passing at a speed greater than approximately 24 km/h (15 MPH).

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[DRIVER ASSISTANCE SYSTEM]

- A radar sensor may not detect approaching vehicles in certain situations:
 - When the vehicle parked aside obstruct the beam of the radar sensor.
 - When the vehicle is parked in an angled parking space.
 - When the vehicle is parked on an inclined ground.
 - When the vehicle turns around into own vehicle's aisle.
 - When the angle formed by your vehicle and approaching vehicle is small.
- Severe weather or road spray conditions may reduce the ability of the radar to detect other vehicles.
- The sonar system may not detect:
 - Small or moving object.
 - Wedge-shaped objects.
 - Object closer to the bumper than 30 cm (10 inch).
 - Thin objects such as rope, wire, chain, etc.
- The brakes engaged by the BCI system is relatively weaker on a slope than flat ground. On a steep slope, the system may not function properly.
- Do not use the BCI system under the following conditions because the system may not function properly:
 - When driving with a tire that is not the within normal tire condition (example: tire wear, low tire pressure, installation of spare tire, tire chains, non-standard wheels).
 - When the vehicle is equipped with non-original brake parts or suspension parts.
 - When towing a trailer or other vehicle.
- Excessive noise (for example, audio system volume, open vehicle window) will interfere with the chime sound, and it may not be heard.

ACCELERATOR PEDAL ASSEMBLY

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

REMOVAL AND INSTALLATION

ACCELERATOR PEDAL ASSEMBLY

Exploded View

INFOID:000000011450166

Refer to [ACC-4, "MODELS WITH DISTANCE CONTROL ASSIST SYSTEM : Exploded View"](#).

CAUTION:

Always perform accelerator pedal released position learning after replacement, removal, or installation of accelerator pedal assembly, and then check the DCA system operation. Refer to [DAS-284, "Description"](#).

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DYNAMIC DRIVER ASSISTANCE SWITCH

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

DYNAMIC DRIVER ASSISTANCE SWITCH

Exploded View

INFOID:000000011450167

Dynamic driver assistance switch is integrated in the ICC steering switch. Refer to [ST-33. "Exploded View"](#).

NOTE:

Always remove dynamic driver assistance switch together with steering wheel.

LANE CAMERA UNIT

Removal and Installation

INFOID:000000011450168

REMOVAL

1. Remove headlining assembly. Refer to [INT-29, "Removal and Installation"](#).
2. Remove map lamp bracket. Refer to [INL-70, "Removal and Installation"](#).
3. Remove the bolts.
4. Remove lane camera unit.

INSTALLATION

Install in the reverse order of removal.

CAUTION:

- Remove the camera lens cap for replacement.
- Never give an impact to the lane camera unit.
- Perform the camera aiming every time the lane camera unit is removed and installed. Refer to [DAS-285, "Description"](#).

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SIDE RADAR

< REMOVAL AND INSTALLATION >

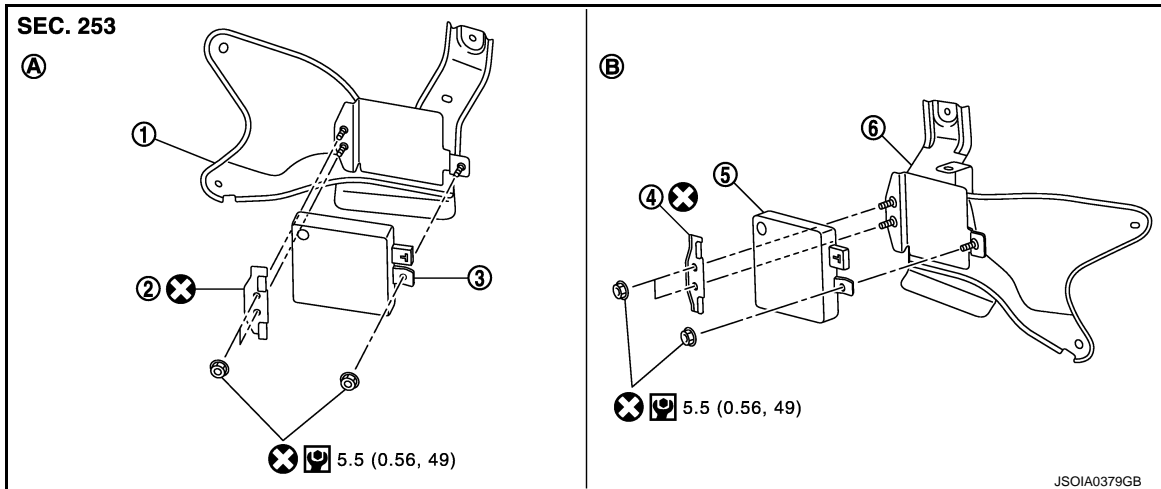
[DRIVER ASSISTANCE SYSTEM]

SIDE RADAR

Removal and Installation

INFOID:000000011450169

EXPLODED VIEW

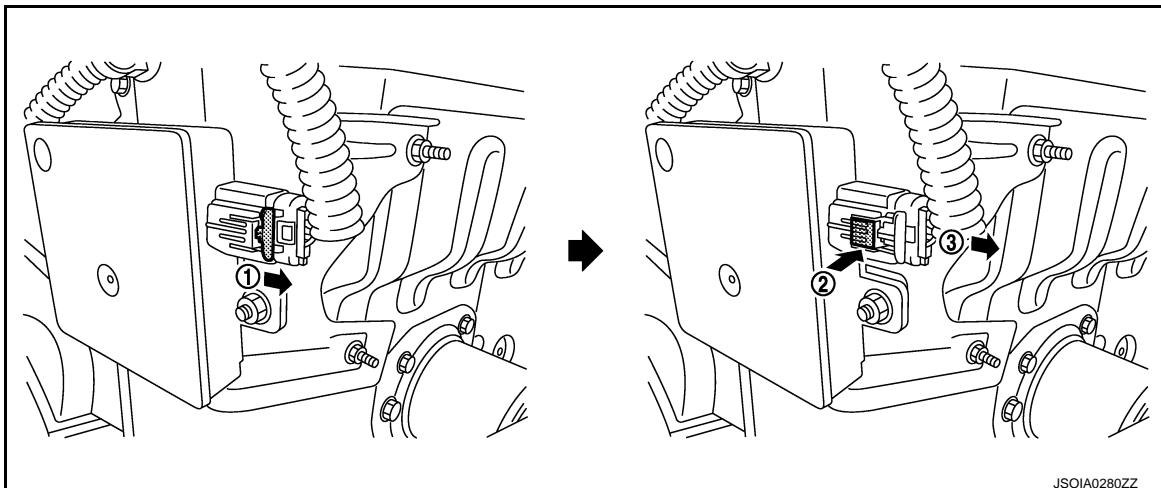


- | | | |
|-------------|-----------------|-----------------|
| ① Bracket | ② Bracket | ③ Side radar LH |
| ④ Bracket | ⑤ Side radar RH | ⑥ Bracket |
| (A) LH side | (B) RH side | |
- ⊗ : Always replace after every disassembly.
- Ⓜ : N·m (kg·m, in·lb)

REMOVAL AND INSTALLATION

Removal

1. Remove the rear bumper fascia assembly. Refer to [EXT-18, "Removal and Installation"](#).
2. Remove the side radar connector.



NOTE:

This illustration is an example.

3. Remove the mounting nut.
4. Remove the side radar RH/LH.

Installation

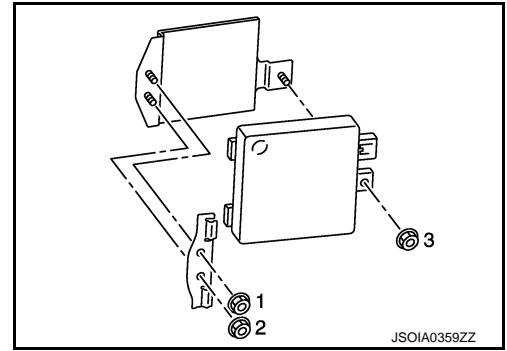
Note the following, and install in the reverse order of removal.

SIDE RADAR

[DRIVER ASSISTANCE SYSTEM]

< REMOVAL AND INSTALLATION >

- Tighten mounting nuts in the numerical order as shown in the figure.
- Always lock the side radar connector.



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SPLASH GUARD

< REMOVAL AND INSTALLATION >

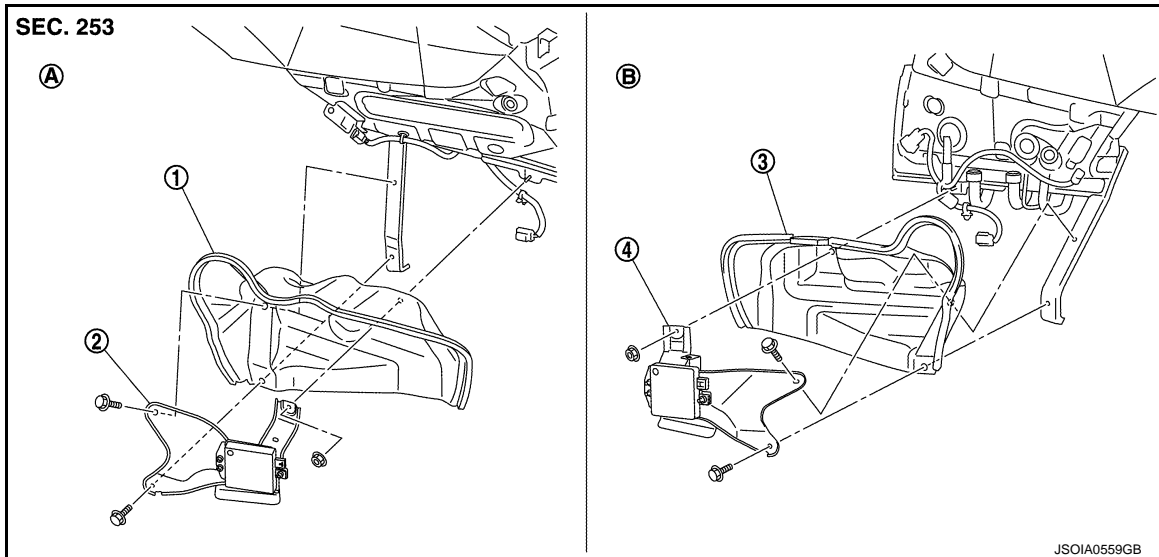
[DRIVER ASSISTANCE SYSTEM]

SPLASH GUARD

Removal and Installation

INFOID:000000011450170

EXPLODED VIEW

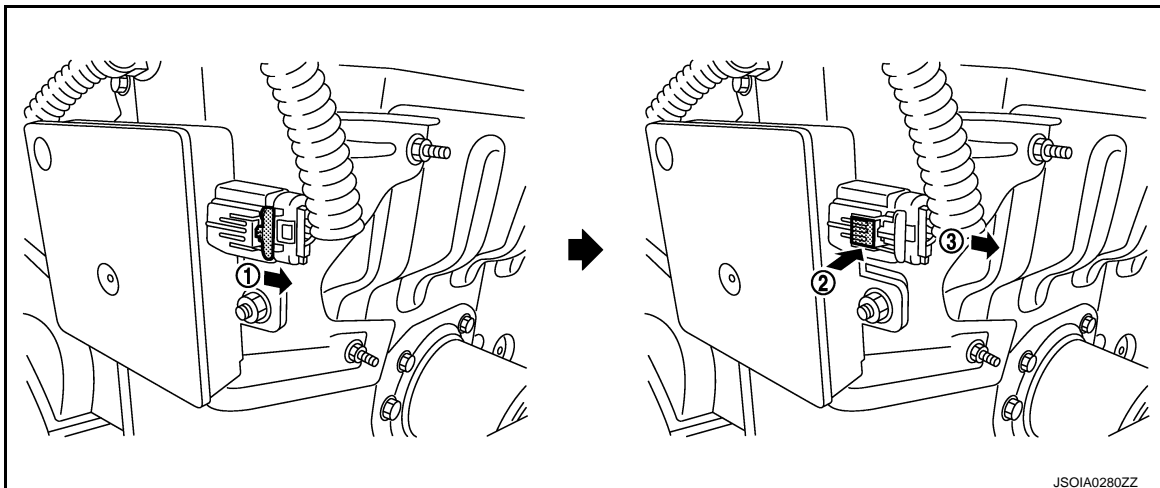


- ① Splash guard LH
- ② Side radar LH (With bracket)
- ③ Splash guard RH
- ④ Side radar RH (With bracket)
- Ⓐ LH side
- Ⓑ RH side

REMOVAL AND INSTALLATION

Removal

1. Remove the rear bumper fascia assembly. Refer to [EXT-18, "Removal and Installation"](#).
2. Remove the side radar connector.



NOTE:

This illustration is an example.

3. Remove the mounting nut and bolts to remove the side radar RH/LH with the bracket mounted.
4. Remove the splash guard RH/LH.

NOTE:

For splash guard LH, pull out the side radar harness.

Installation

Install in the reverse order of removal.

BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

BLIND SPOT WARNING/BLIND SPOT INTERVENTION INDICATOR

Removal and Installation

INFOID:000000011450171

REMOVAL AND INSTALLATION

Removal

1. Remove the front door sash inner cover. Refer to [INT-14. "Removal and Installation"](#).
2. Remove the Blind Spot Warning/Blind Spot Intervention indicator.

Installation

Install in the reverse order of removal.

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DRIVER ASSISTANCE BUZZER CONTROL MODULE

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE BUZZER CONTROL MODULE

Removal and Installation

INFOID:000000011450172

REMOVAL

1. Remove instrument lower panel (LH). Refer to [IP-14, "Removal and Installation"](#).
2. Remove driver assistance buzzer control module mounting screw.
3. Disconnect harness connector from the driver assistance buzzer control module.
4. Remove driver assistance buzzer control module.

INSTALLATION

Installation is in the reverse order of removal.

DRIVER ASSISTANCE BUZZER

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

DRIVER ASSISTANCE BUZZER

Removal and Installation

INFOID:000000011450173

REMOVAL

1. Remove the AV control unit. Refer to [AV-282. "Removal and Installation"](#).
2. Remove driver assistance buzzer mounting screw.
3. Remove driver assistance buzzer.

INSTALLATION

Install in the reverse order of removal.

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WARNING SYSTEMS SWITCH

< REMOVAL AND INSTALLATION >

[DRIVER ASSISTANCE SYSTEM]

WARNING SYSTEMS SWITCH

Removal and Installation

INFOID:000000011450174

REMOVAL

1. Remove the instrument lower panel (LH). Refer to [IP-14. "Removal and Installation"](#).
2. Remove warning systems switch from instrument driver lower panel.

NOTE:

Warning systems switch and BCI switch are integrated.

INSTALLATION

Install in the reverse order of removal.

BCI SWITCH

Removal and Installation

INFOID:000000011450175

REMOVAL

1. Remove the instrument lower panel (LH). Refer to [IP-14, "Removal and Installation"](#).
2. Remove BCI switch from instrument driver lower panel.

NOTE:

BCI switch and warning systems switch are integrated.

INSTALLATION

Install in the reverse order of removal.

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