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2018 Nissan Leaf Service and Repair Manual

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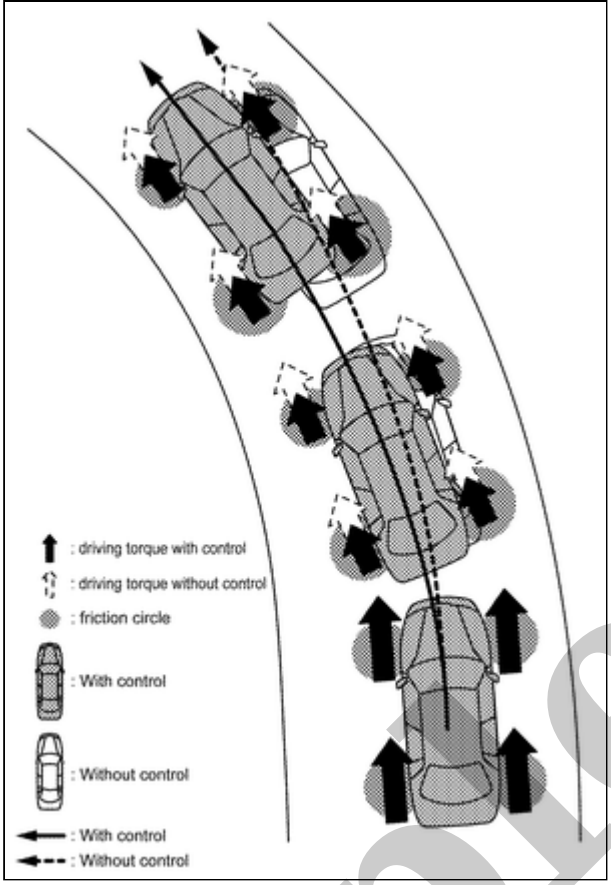

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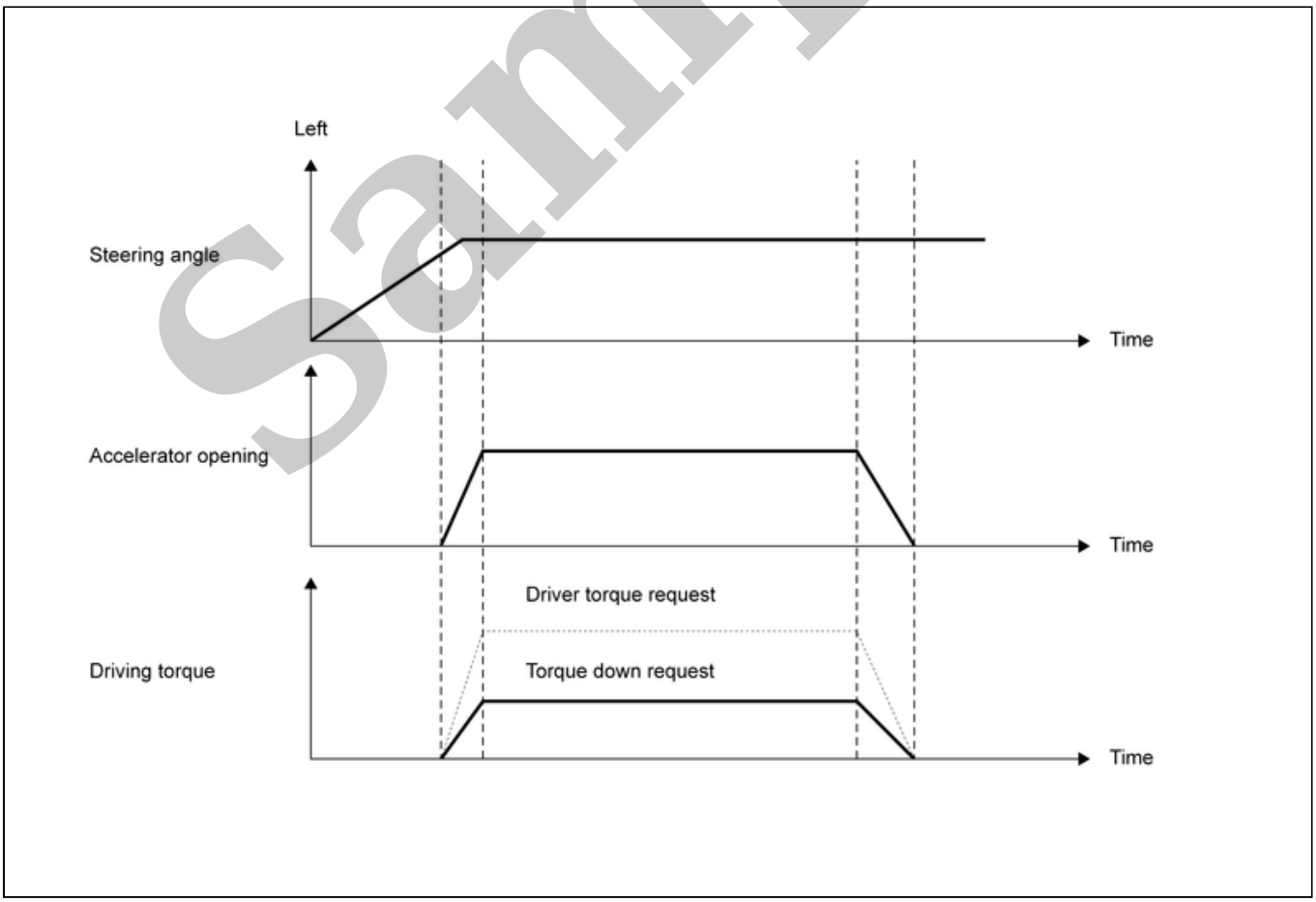
- The torque is controlled according to the steering operation condition of the driver and the cornering condition of the vehicle.



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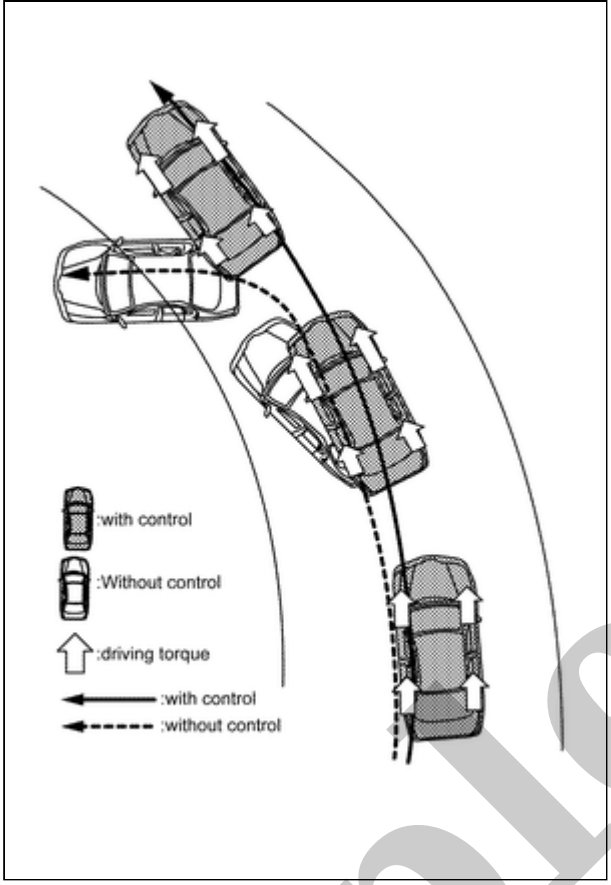
- Stable cornering at slippery road - Suppress the sudden vehicle behavior change due to tire slip by securing rear wheel grip force with increasing front driving force when oversteer occurs due to decrease of rear wheel grip force.



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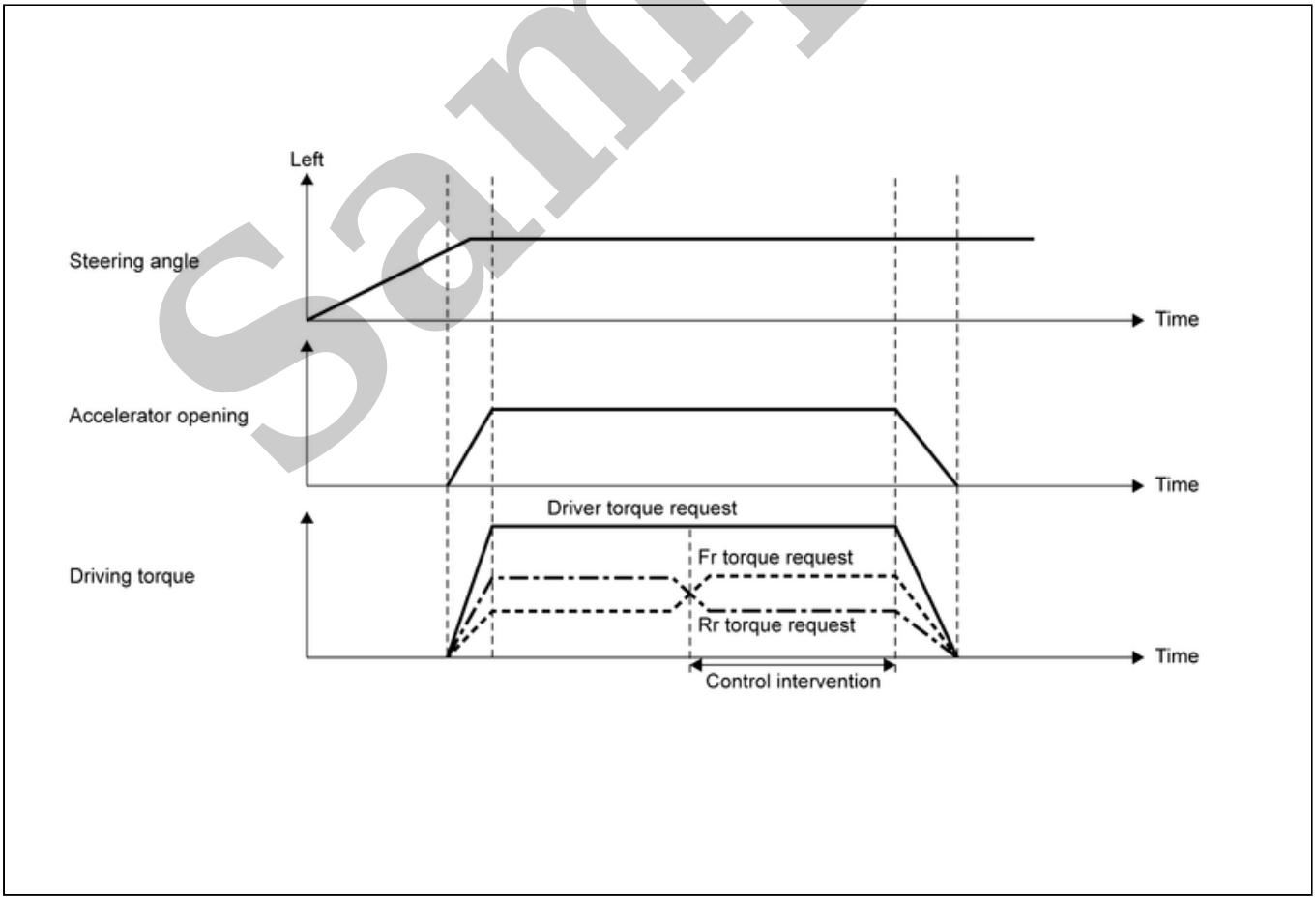
- The torque is controlled according to the steering operation condition of the driver and the cornering condition of the vehicle.



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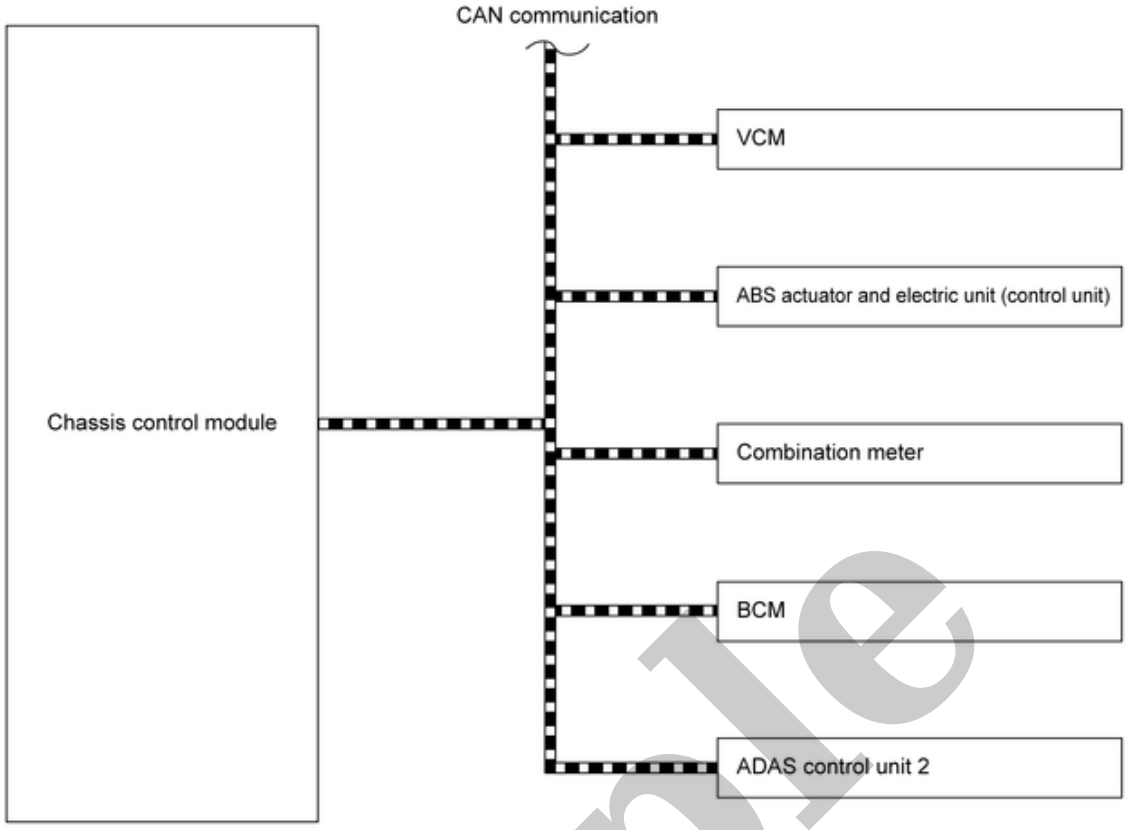
SYSTEM DIAGRAM



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INPUT SIGNAL AND OUTPUT SIGNAL

Major signal transmission between each unit via communication lines is shown in the following table.

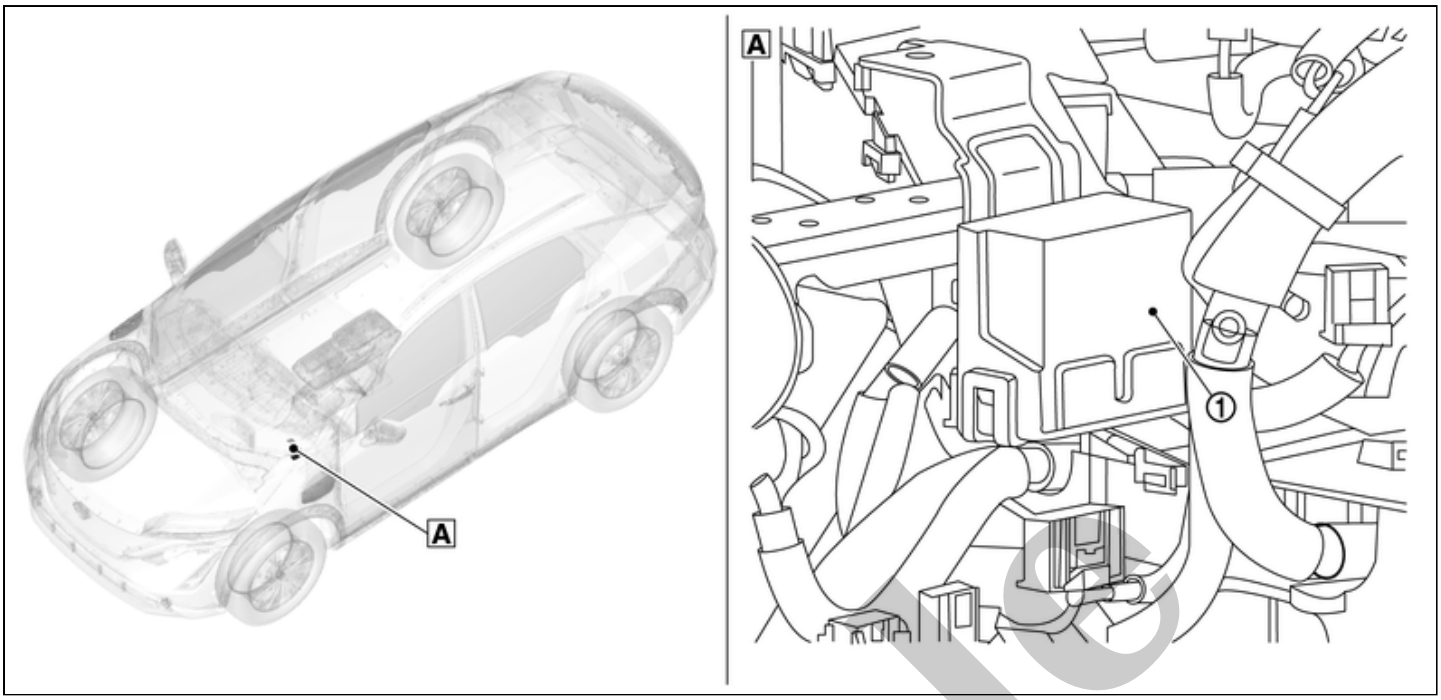
Component parts	Signal description
VCM	Mainly transmits the following signals to chassis control module via CAN communication. • Accelerator pedal position signal • Front wheel torque signal • Rear wheel torque signal • Estimate drive torque signal • Shift position signal Mainly receives the following signals from chassis control module via CAN communication. • Torque down request signal • Rear wheel torque correction request signal
ABS actuator and electric unit (control unit)	Mainly transmits the following signals to chassis control module via CAN communication. • Vehicle speed signal • Rear LH wheel speed signal • Front LH wheel speed signal

Component parts	Signal description
	• Rear RH wheel speed signal • Front RH wheel speed signal • Steering angle sensor signal • Side G sensor signal • Decel G sensor signal • Brake fluid pressure signal • Regenerative brake signal • VDC status signal • ABS operation signal • VDC operation signal • TCS operation signal • Driver brake signal • VDC OFF signal • ABS malfunction signal • TCS malfunction signal • VDC malfunction signal Mainly receives the following signals from chassis control module via CAN communication. • Brake torque request signal • Yaw moment request signal • Stop lamp cancel request signal
Combination meter	Mainly transmits the following signals to chassis control module via CAN communication. • Intelligent trace control setting signal Mainly receives the following signals from chassis control module via CAN communication. • Meter display signal
BCM	Mainly transmits the following signals to chassis control module via CAN communication. • Stop lamp malfunction signal
ADAS control unit 2	Mainly transmits the following signals to chassis control module via CAN communication. • Brake torque request signal • Yaw moment request signal

Component Parts Location

LHD models

SIEMD-7267315



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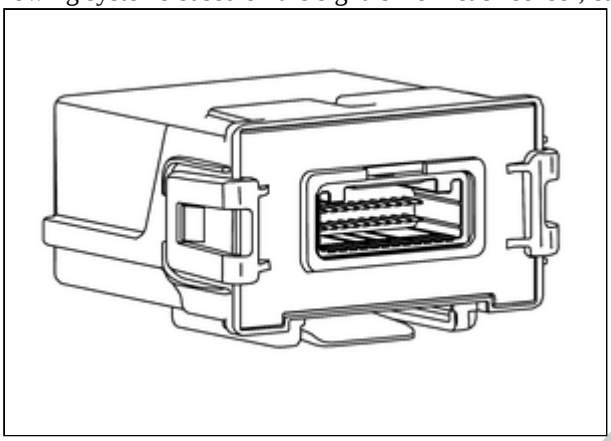
A	Back of instrument panel (LH side)				
1	Chassis control module				

SIEMD-7267318

FUNCTIONS WITHIN THE SYSTEM

Chassis control module controls the following systems based on the signals from each sensor, each switch, and each control unit.



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- Intelligent trace control function
- Automatic brake hold function
- e-Step function
- Drive mode selector function

INDIVIDUAL FUNCTIONS WITHIN THE SYSTEM

- Transmits the signals to each control unit via CAN communication.
- Receives the signals from each control unit via CAN communication

INDIVIDUAL OPERATION

- Intelligent trace control function: Refer to System Description.
- Automatic brake hold function: Refer to System Description.
- e-Step function: Refer to System Description.
- Drive mode selector function: Refer to System Description.

PARTS LOCATION

Refer to Component Parts Location.

SIEMD-7267333

APPLICATION ITEMS

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

Diagnosis mode	Description
Self Diagnostic Result	Display DTC which chassis control module memorizes
Data monitor	Displays chassis control module input/output data in real time
Active test	Enables an operational check of a load by transmitting a driving signal from the chassis control module to the load
Work support	**NOTE:** **Displays causes of automatic system cancellation occurred during system control**
ECU Identification	Displays chassis control module part number
Replace ECU	Write the vehicle specification when replacing chassis control module

SELF DIAGNOSTIC RESULT

Refer to DTC Index.

When "CRNT" is displayed on self-diagnosis result

- The system is presently malfunctioning.

When "PAST" is displayed on self-diagnosis result

- System malfunction in the past is detected, but the system is presently normal.

Freeze frame data (FFD)

When DTC is detected, a vehicle state shown below is recorded and displayed on CONSULT.

Item	Unit	Description
ODO/TRIP METER	km or mile	Displays the total mileage (Odometer value) of the moment a particular.
DTC occurrence Counter	—	Displays the number of times DTC is detected.
DTC LOCAL CODE	—	Displays but not used.
Battery voltage	V	Displays the 12V battery power supply voltage.
Accessory voltage	V	Displays the ACC power supply voltage.
Diag permission condition	Not permission / Permission / Abnormal	Displays the diagnosis status.
Chassis control	Off / On	Displays the displayed status

Item	Unit	Description
malfunction display		of chassis control warning.
Vehicle speed	km/h	Displays the vehicle speed.
Front right wheel speed	rpm	Displays the rotational speed of front RH tire.
Front left wheel speed	rpm	Displays the rotational speed of front LH tire.
Rear right wheel speed	rpm	Displays the rotational speed of front RH tire.
Rear left wheel speed	rpm	Displays the rotational speed of front LH tire.
Steering angle sensor	°	Displays the steering angle.
Decel G sensor	G	Displays the decel G.
Side G sensor	G	Displays the side G.
ACCELE PEDAL POSITION	%	Displays the accelerator pedal position.
Pressure sensor	bar	Displays the brake fluid pressure.
Electric throttle control status	—	Displays but not used.
Current shift position	—	Displays the shift position.
Stop lamp switch	Brake pedal not operation / Brake pedal operation 1 / Brake pedal operation 2 / Abnormal	Displays the brake pedal status.
Steering angle sensor	Calibration incomplete 1 / Calibration incomplete 2 / Malfunction / Calibration complete 1 / Calibration complete 2	Displays the calibration of steering neutral position status.
ABS	Inactive / Active	Displays the ABS function status.
ABS malfunction	Off / On	Displays the ABS function malfunction status.
TCS	Inactive / Active	Displays the TCS function status.
TCS malfunction	Off / On	Displays the TCS function malfunction status.
VDC	Inactive / Active	Displays the VDC function status.
VDC malfunction	Off / On	Displays the VDC function malfunction status.
VDC OFF switch status	Off / On	Displays the VDC function OFF setting status.
Firmware Over-The-Air status	Waiting / Receiving / Copying / Checking the vehicle status / Preparing to start / Switching / Rebooting / Checking the version / Configuration is running / Startup complete / Error1 / Canceling / Error2 / During rollback / Rollback complete	Displays the program update status.
Version before update	—	Displays the version before update.

Item	Unit	Description
Version after update	—	Displays the updated version.
Internal area 1 program updates counter	—	Displays the number of program updates.
Internal area 2 program updates counter	—	Displays the number of program updates.
Internal area 3 program updates counter	—	Displays the number of program updates.
Internal area 4 program updates counter	—	Displays the number of program updates.
AYC control status	—	Displays but not used.
Parking brake operation status	Release / Apply / Abnormal	Displays the electric parking brake system status.
Stop hold (VDC)	Release / Hold / Impossible	Displays the standstill status by ABS actuator and electric unit (control unit).
Front right wheel speed pulse (stop hold)	—	Displays the wheel speed pulse count on hold (front RH)
Front left wheel speed pulse (stop hold)	—	Displays the wheel speed pulse count on hold (front LH)
Rear right wheel speed pulse (stop hold)	—	Displays the wheel speed pulse count on hold (rear RH)
Rear left wheel speed pulse (stop hold)	—	Displays the wheel speed pulse count on hold (rear LH)
Intelligent cruise control status	Off / Operation / Stop / Wait / Suspend / Brake mode / Regulation / Driver override / Malfunction	Displays the status of intelligent cruise control function.
Automatic brake hold warning display request	No request / Request	Displays the status of automatic brake hold warning.
Automatic brake hold select status	OFF mode / AUTO mode	Displays the activation mode status of automatic brake hold function.
Automatic brake hold status 1	Inactive / Active	Displays the status of automatic brake hold function.
Automatic brake hold status 2	Inactive / Active	Displays the status of automatic brake hold function.
Electric parking brake active request (automatic brake hold)	No request / Request	Displays the activation request status of electric parking brake function by chassis control module.
Automatic brake hold stop hold request status 2	No request / Request	Displays the status of automatic brake hold activation request.
Automatic brake hold status 3	No request / Request	Displays the status of automatic brake hold function.