

The Cautions On Cruise Control System Handing

- Pay attention to the precautions listed below when operating the cruise control system.
- Beware of the increase in speed when driving downhill with cruise control.

• If the vehicle speed gets too high, cancel the cruise control. Then, apply the engine brake by shifting down, in order to decelerate the vehicle.

- If the cruise control has been canceled, press the RESUME/+ switch to resume control. If the vehicle is being driven at a constant speed with cruise control, press the RESUME/+ switch to increase the speed (acceleration control).
- If the cruise control indicator light blinks while the vehicle is being driven under cruise control, turn the main switch OFF. Then, perform the set operation again.

• If you are unable to set a vehicle speed, or if it gets canceled immediately after you have set it, the cruise control system may be malfunctioning. This will not affect your ordinary driving, but you should take it to a dealer to have it inspected.

- Do not operate the vehicle under cruise control under any of the conditions listed below. Failure to observe this precaution may prevent the vehicle from operating at a speed that suits the road conditions or the wheels may spin, causing you to lose control of the vehicle, and lead to an unforeseen accident.

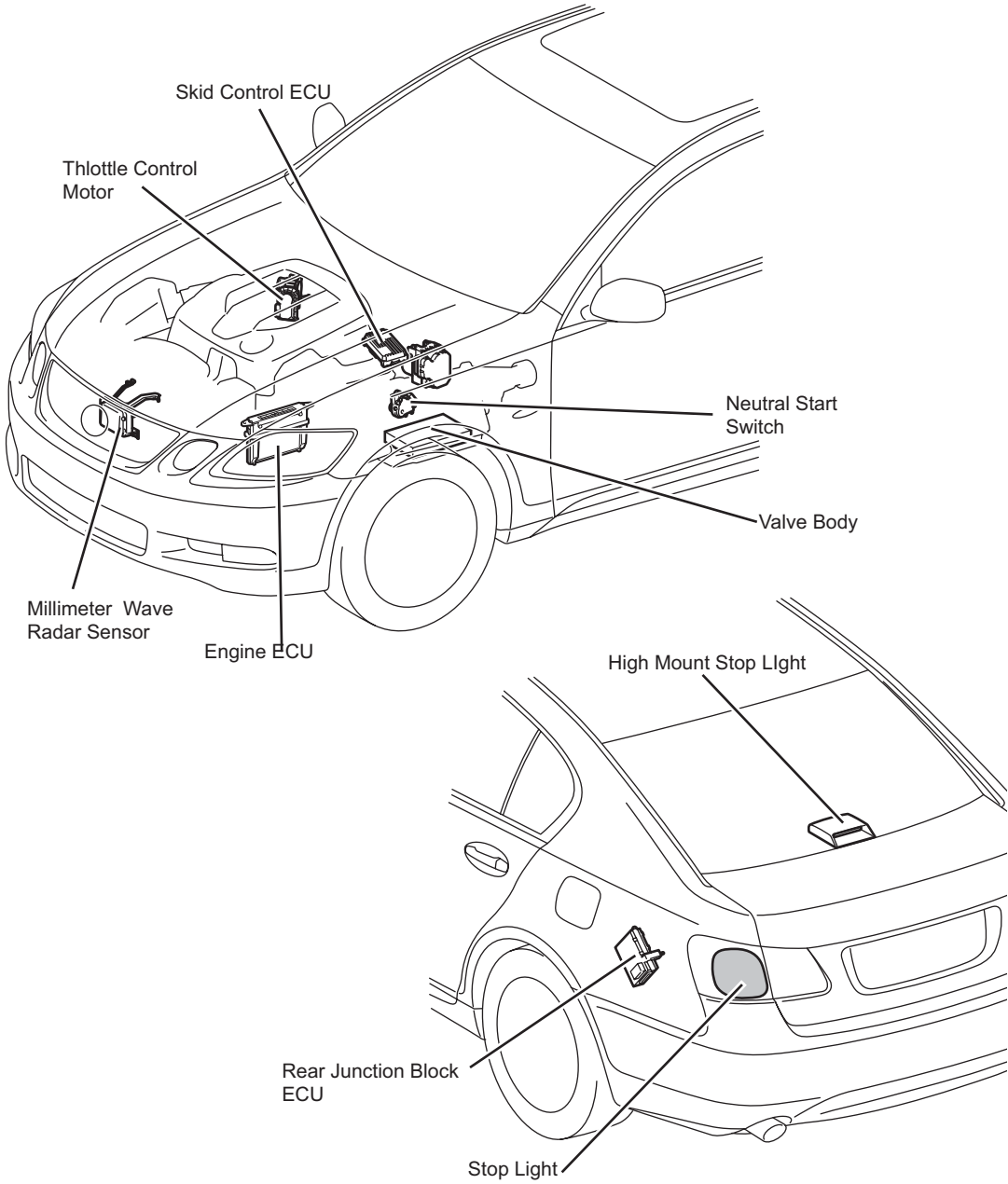
- Road with heavy traffic.
- Steep downhill.
- Sharp curve.
- Frozen or snow-covered road.
- Other slippery road surfaces.

Dynamic Radar Cruise Control System

- A "Dynamic radar cruise control system" is available on manufacturer's option*. Refer to the appendix at the end of this manual for details on the available models. In addition to the function to keep the driven speed constant, this system comprises a "vehicle-to-vehicle control" mode. This function recognizes and determines the lanes in which the vehicle ahead and the driven vehicle are present and allows the driven vehicle to follow the vehicle ahead by keeping the proper distance between the vehicles, proportionate to the vehicle speed.
- A millimeter wave radar sensor is used for detecting the distance to the vehicle ahead and the relative speed. To detect a vehicle ahead, this sensor transmits and receives millimeter waves, which are less vulnerable to the effects of foul weather.
- A "vehicle-to-vehicle distance selector switch" is used to set the vehicle-to-vehicle distance to three distances, long, medium, and short, in order to enable the vehicle to follow a vehicle ahead. This switch is installed on the steering wheel.
- The multi-information display in the combination meter indicates the operating state and the control mode of the radar cruise control system.
- If the driven vehicle gets too close to the vehicle ahead, the system automatically applies the brakes, thus enhancing the follow control performance during the vehicle speed control mode.
- The Dynamic radar cruise control system is controlled primarily by the engine ECU and the distance control ECU.

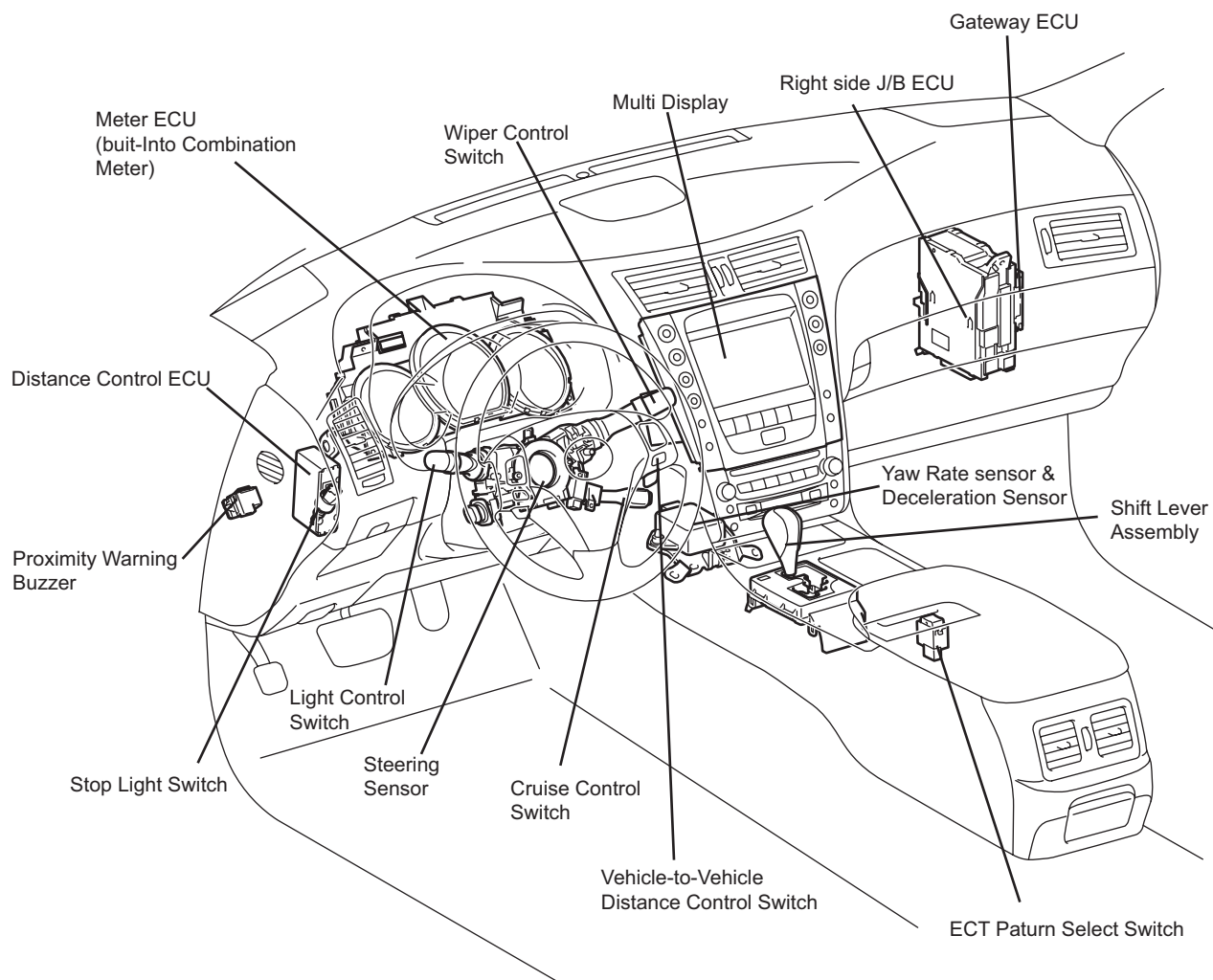
❖REFERENCE❖

* : Excluding the G.C.C country



Dynamic Radar Cruise Control System Main Components and Functions List - Part 1

Composition parts	Main function
Millimeter wave radar sensor	• Emits millimeter wave band radiowaves forward and receives the radiowaves that are reflected by the forward objects. It monitors the changes in the frequencies of the received radiowaves and scans them electronically to calculate the presence of a vehicle ahead in the same lane, the distance between the driven vehicle and the vehicle ahead, and their relative speed. Then, it outputs the resultant data to the distance control ECU.
Engine ECU	• Controls the functions of the Dynamic radar cruise control system. • Actuates the throttle control motor to accelerate or decelerate the engine. • Outputs the state of system control to the meter ECU.
Throttle control motor	• Adjusts the throttle valve to the target opening in accordance with the signals received from the engine ECU.
Valve body	• Contains a solenoid that shifts down or up in accordance with the signals provided by the engine ECU.
Skid control ECU	• Effects brake control in accordance with a signal received from the distance control ECU. • Sounds the approach warning buzzer in accordance with a signal received from the distance control ECU.
Neutral start switch	• Detects that the shift position has been moved from D to a position other than D, and outputs a control cancel signal to the engine ECU.
Rear junction block computer	• Turns the stoplight ON upon receiving the input of a stoplight illumination request signal from the right side J/B ECU.



Dynamic Radar Cruise Control System Main Components and Functions List - Part 2

Composition parts	Main function
Distance control ECU	• Determines the vehicle to follow in accordance with the data received from the radar sensor, and determines the acceleration rate to attain the target vehicle-to-vehicle distance. Then, outputs the brake control request and the approach warning buzzer request signals.
Cruise control switch (Integrated Main Switch/Operation Switch Type)	• Turns the main power supply of the Dynamic radar cruise control system ON or OFF (main switch). • When the driver operates the four-way switch (SET/-, RESUME/+, CANCEL, and MODE), it outputs the respective switch operation signals (vehicle speed setting/deceleration control, control resume/acceleration control, control cancel, and vehicle-to-vehicle control mode/constant control mode selector) to the distance control ECU (operation switch).
vehicle-to-vehicle distance control switch	• Changes the vehicle-to-vehicle distance setting for following a vehicle in the vehicle-to-vehicle control mode in three steps with each pressing of the switch, and outputs a switch operation signal to the meter ECU and the distance control ECU.
Stop light switch	• Detects that the driver has pressed the brake pedal, and outputs a control cancel signal to the engine ECU.
Steering sensor	• Detects the amount and direction of steering and outputs a steering angle signal to the Distance control ECU.
Proximity warning buzzer (common with VDIM Buzzer)	• When the distance to the vehicle driven ahead is reduced. The skid control ECU outputs a signal to sound the buzzer.
Meter ECU (built into combination meter)	• Causes the cruise operation/warning indicator light to turn ON, OFF, or blink in accordance with a signal received from the engine ECU. • Indicates the control state of the system and a description of a failure on the multi-information display in accordance with a signal received from the engine ECU.
Wiper Control Switch	• Outputs a HI or LO operation signal to the distance control ECU, which in turn, outputs a control cancel signal to the engine ECU.
Light Control Switch	• Outputs a taillight illumination signal to the engine ECU when the taillights are turned ON.
Right side J/B ECU	• Receives the input of a brake control signal from the skid control ECU, and outputs a stop-light illumination request signal to the rear junction block ECU.
Yaw rate sensor and Deceleration sensor	• Detects the yaw rate of the vehicle and outputs to the distance control ECU.
Shift Lever Assembly	• Detects the shift position "S" and the gear shift operation (up or down) and outputs a signal to the engine ECU.
ECT Pattern Select Switch	• Detects the ECT SNOW mode and outputs a control cancel signal to the engine ECU.
Gateway ECU	• Transmits and receives data mutually between the BEAN (Body Electronics Area Network) and the CAN (Controller Area Network).