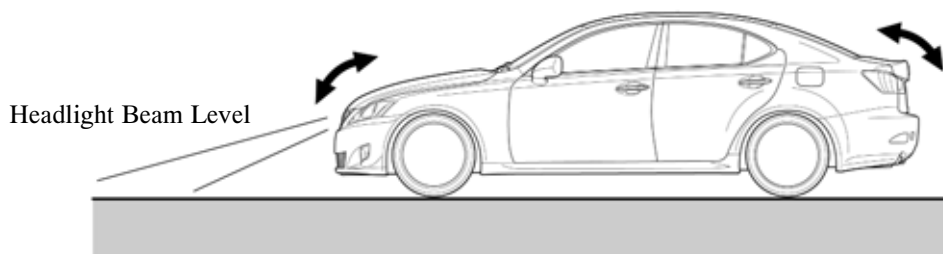


■ AUTOMATIC HEADLIGHT BEAM LEVEL CONTROL SYSTEM

1. General

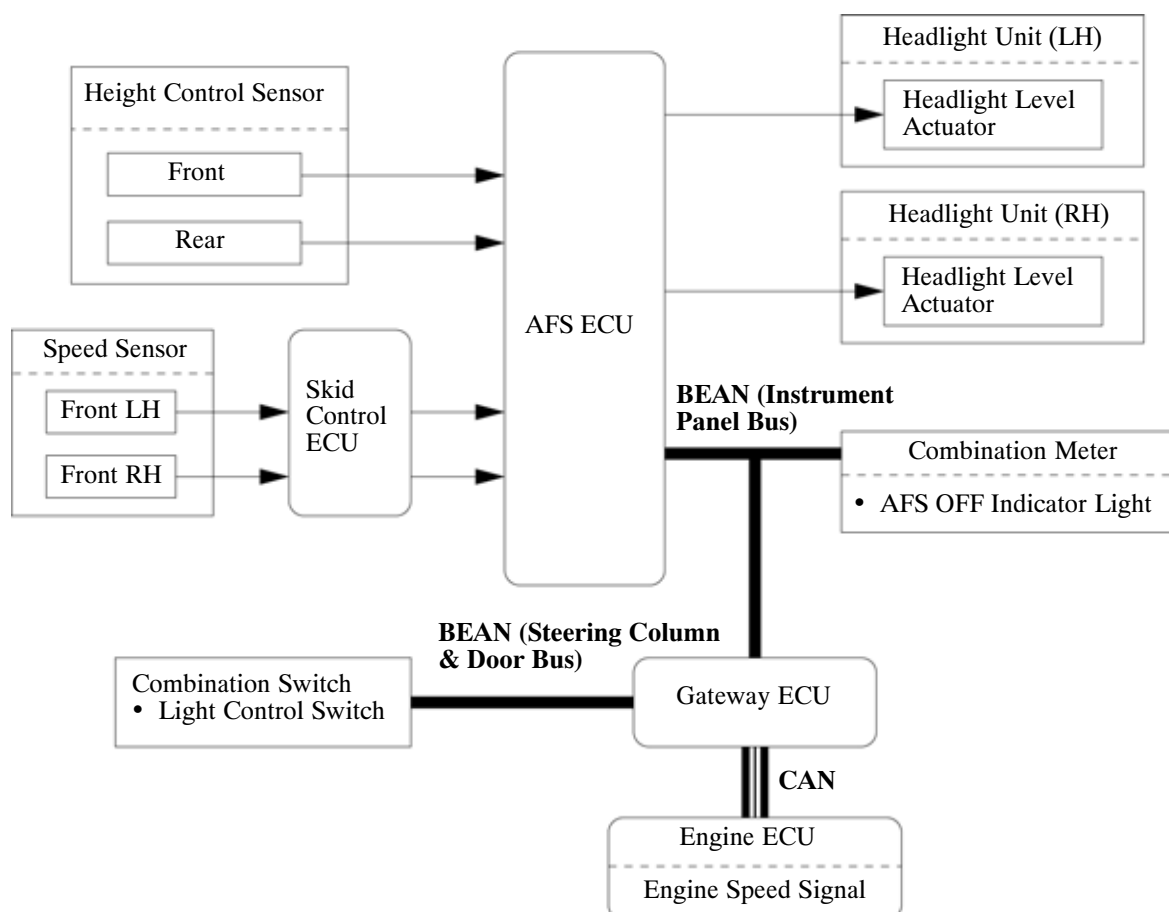
When the headlights are on, the automatic headlight beam level control system operates the headlight level actuator in accordance with movement of the vehicle.



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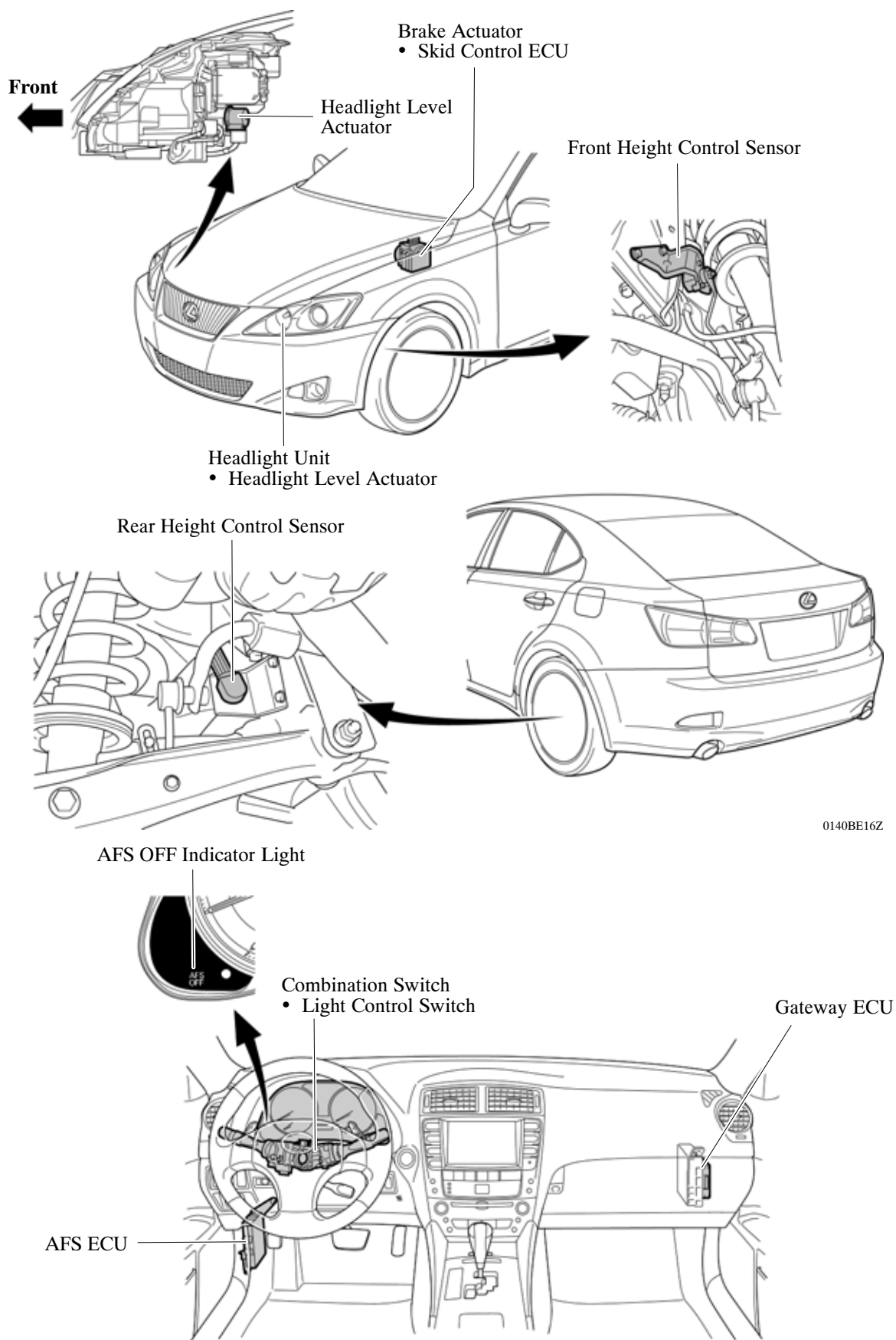
- The automatic headlight beam level control system mainly consists of the AFS ECU, front height control sensor, rear height control sensor, and two headlight level actuators. The AFS ECU controls the system.
- The ECU detects the movement of the suspension from the front and rear height control sensors and the vehicle speed from the front RH and LH speed sensors.
- The ECU then controls the headlight level actuator based on this information, in order to change the headlight reflector angle.

► System Diagram ◀



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2. Layout of Main Component



3. Function and Construction of Main Component

Component		Function and Construction
AFS ECU		- Based on the signals (front and rear height control sensors, front RH and LH speed sensors and engine speed), and this ECU detects the changes of the movement of the vehicle. - Based on the detected value, this ECU output control signal to the headlight level actuator. - This ECU provides initial set control and fail-safe function.
Headlight Unit	Headlight Level Actuator	- Based on the signals received from AFS ECU, each actuator moves the reflector in the headlight to vary its Lo beam. - This actuator uses a stepper motor to precisely regulate the angle of the reflector.
Height Control Sensors (Front and Rear RH)		Detects the movement of the vehicle.
Light Control Switch		Transmits the light control switch signal to the AFS ECU.
Skid Control ECU		Transmits the vehicle speed sensor signal to the AFS ECU.
Speed Sensors (Front RH and LH)		Detects the wheel speed signals and outputs these signals.
Combination Meter AFS OFF Indicator Light		Flashes to alert the driver when AFS ECU detects the malfunction in this system.

4. Initial Set Control

When the AFS ECU detects a vehicle speed of 1 km/h (0.6 mph) and the power source is turned IG-ON, the ECU executes the initial setting of the stepper motors.

5. Fail-Safe Function

If the AFS ECU detects a malfunction in the automatic headlight beam level control system, the AFS ECU effects fail-safe control. At the same time, the AFS ECU flashes the AFS OFF indicator light in order to inform the driver of the problem. For details, [see page BE-40](#).

6. Diagnosis

When the AFS ECU detects a malfunction in the automatic headlight beam level control system, the AFS ECU stores a DTC (Diagnostic Trouble Codes) of the malfunction in memory. The DTC can be read by use of the intelligent tester II. For details, see the LEXUS IS250 Repair Manual (Pub. No. RM0150E).