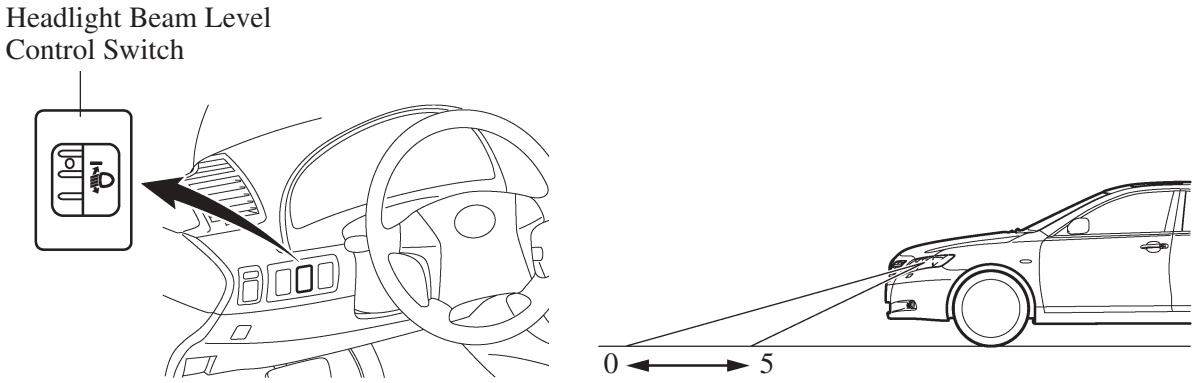
■HEADLIGHT BEAM LEVEL CONTROL SYSTEM

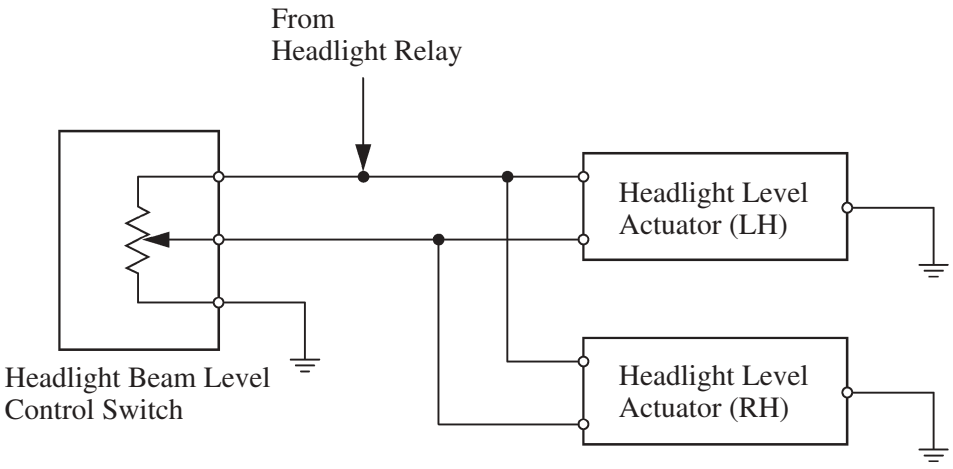
1. Manual Headlight Beam Level Control

When the vehicle posture is changed in accordance with the number (weight) of passengers and volume of luggage, this system enable to adjust the headlight beam level (5-step) of the headlights manually to the appropriate level controlled by headlight beam level control switch from driver. The beam level of the headlights can be adjusted with the actuators that are integrated in the headlight units.



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▶ Wiring Diagram ◀



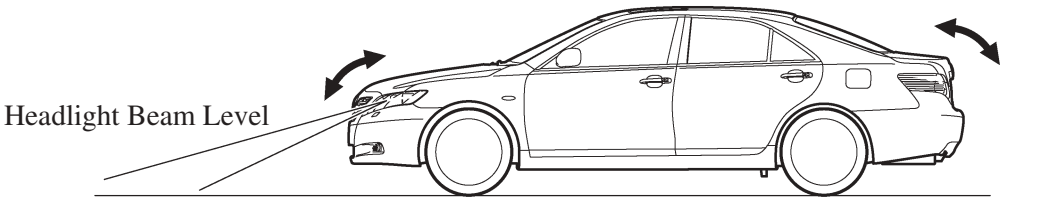
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2. Automatic Headlight Beam Level Control

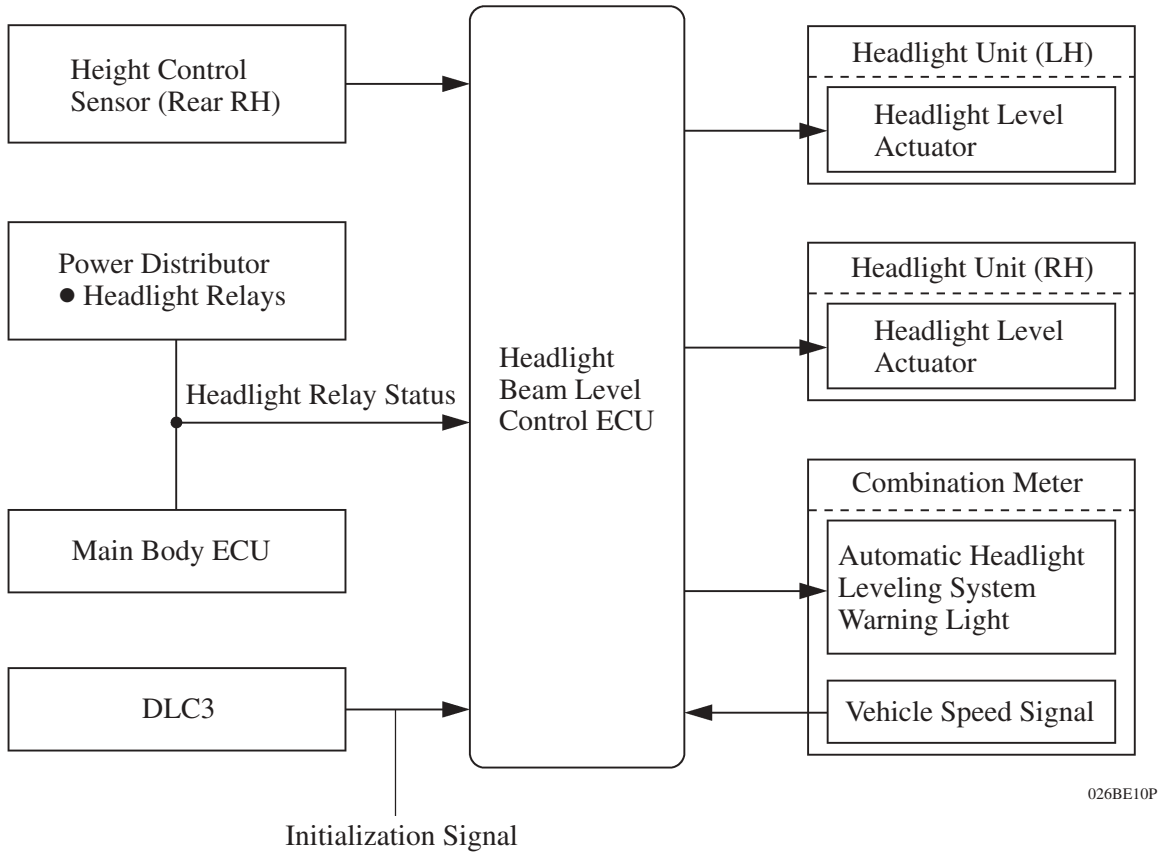
General

- When the vehicle is stationary and the headlights are on, the automatic headlight beam level control system operates the headlight level actuator in accordance with the amount of variation in the vehicle posture.
- The automatic headlight beam level control system mainly consists of the headlight beam level control ECU, rear height control sensor, and two headlight level actuators. The headlight beam level control ECU controls the system.
- The headlight beam level control ECU calculates changes in the vehicle posture based on signals from the height control sensor (rear RH) and combination meter (meter ECU).
- The ECU then controls the headlight level actuator based on this information, in order to change the headlight reflector angle.



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▶ System Diagram ◀

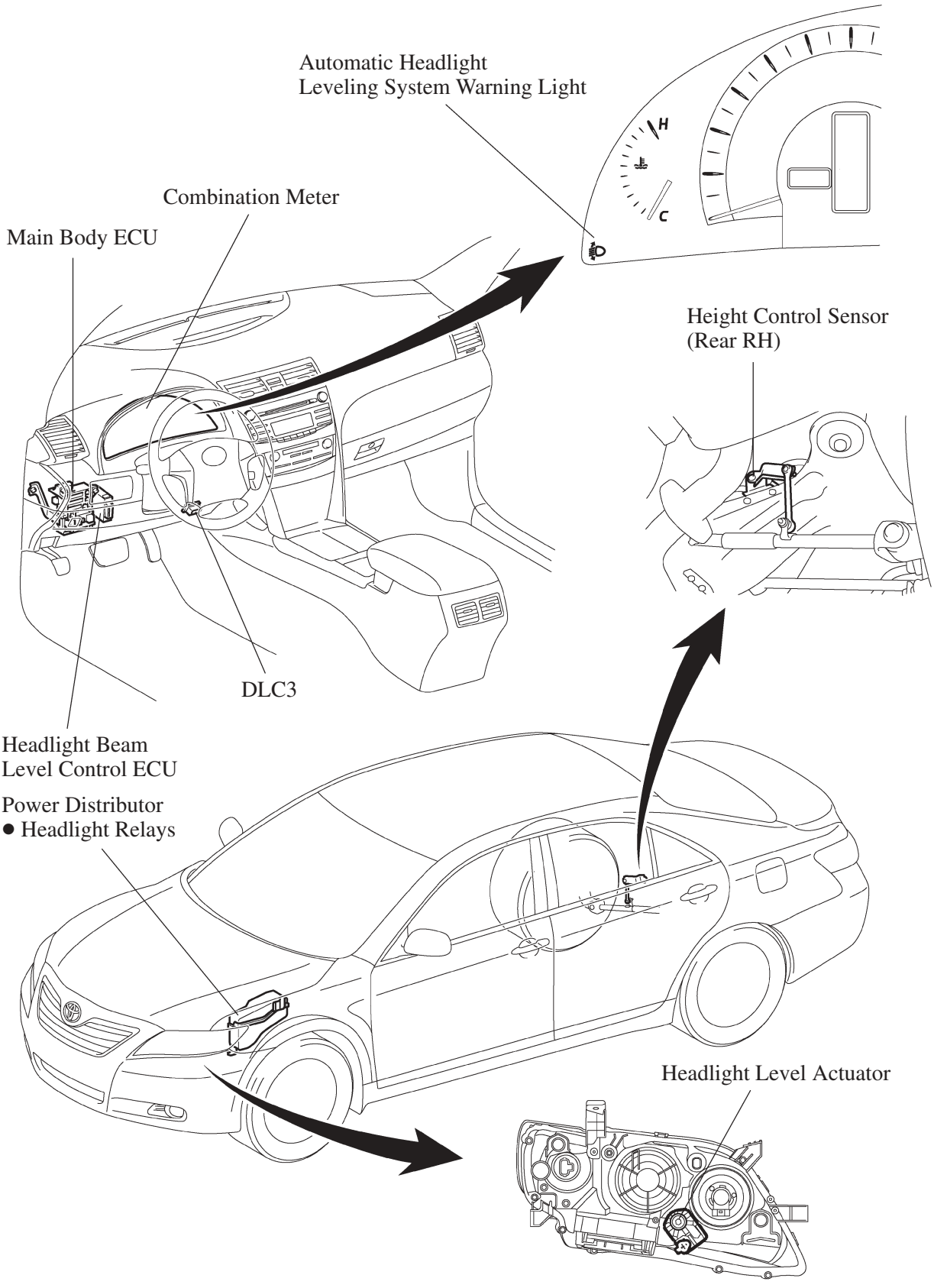


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Service Tip

If the headlight beam level control ECU is replaced, or the rear height control sensor is removed, the headlight beam level control ECU must be initialized.
For details, see the Camry Repair Manual (Pub. No. RM0260E).

Layout of Main Components



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Headlight Unit

Layout of Main Components

Components		Function and Construction
Headlight Beam Level Control ECU		● Based on the signals that are transmitted by the height control sensor and the combination meter, this ECU detects the amount of variation in the vehicle posture. ● Based on the detected value, this ECU outputs a control signal to the headlight level actuator. ● When the ECU detects a malfunction, it outputs a warning display request signal to the combination meter (meter ECU). ● This ECU provides initial set control and a fail-safe function.
Headlight Unit	Headlight Level Actuator	● Based on the signals received from the headlight beam level control ECU, the headlight level actuators move the reflectors in the headlights to vary their beams. ● These actuators use DC motors and precisely regulate the angles of the reflectors.
Height Control Sensor (Rear RH)		The height control sensor detects the amount of variation in the vehicle height, and outputs this information in the form of a signal to the headlight beam level control ECU.
Combination Meter		● Outputs the vehicle speed signal to the headlight beam level control ECU. ● If the system malfunctions, the combination meter (meter ECU) illuminates the automatic headlight leveling system warning light to alert the driver.

Fail-Safe

When any of the malfunctions below are detected, the headlight beam level control ECU stops transmitting output signals to the headlight level actuator, suspends headlight level control, and transmits a warning display request signal to the combination meter. On receiving this signal, the combination meter illuminates the automatic headlight leveling system warning light to alert the driver.

Item	Abnormality Detection Condition	Automatic Headlight Leveling System Warning Light
Height Control Sensor	● Abnormal height control sensor power source voltage (4.6 V or less) ● Abnormal height control sensor signal voltage (0.25 V or less, or 4.75 V or more)	ON
Power Source Voltage	Abnormal headlight beam level control ECU power source voltage (18.5 V or more, or 9 V or less)	OFF
Vehicle Speed	Excessive vehicle speed detected	OFF
ECU Reset During Driving	Headlight beam level control ECU reset while vehicle running (For example, headlight beam level control ECU power source circuit open momentarily)	OFF