

## FAIL-SAFE CHART

### 1. Light control ECU (HID)

Trouble Area	Condition
High voltage circuit open	Lighting of the headlight stops, the condition is maintained until power is turned ON again (headlight dimmer switch OFF → ON).
Short between high voltage	Lighting of the headlight stops within 1 second and the condition is maintained until power is turned ON again (headlight dimmer switch OFF → ON).
Leakage between high voltage terminal and body ground	Lighting of the headlight stops, the condition is maintained until power is turned ON again (headlight dimmer switch OFF → ON).
Low light voltage	Lighting of the headlight stops, the condition is maintained until power is turned ON again (headlight dimmer switch OFF → ON).
High light voltage	Lighting of the headlight stops, the condition is maintained until power is turned ON again (headlight dimmer switch OFF → ON).
Bulb flashing	<ul style="list-style-type: none"> <li>The condition is maintained more than 60 seconds.</li> <li>Lighting of the headlight stops, the condition is maintained until power is turned ON again (headlight dimmer switch OFF → ON).</li> </ul>
Battery voltage high	As soon as the voltage comes within the range of operation voltage (9 to 16 V), the headlight comes on again.
Battery voltage low	Even when voltage goes from 9.5 V → 7.5 V, lighting condition is maintained. Lighting condition changes when voltage is too low (Below 6 V). As soon as the voltage comes back within the range of operation voltage (more than 9 V), the headlights come on again.

### 2. Headlight Leveling ECU Assembly

#### HINT:

The Headlight Leveling Control ECU performs fail-safe when detecting the following troubles.

Trouble Area	Condition	Warning indicator light
1. Headlight leveling actuator circuit is open	Stop leveling operation	Light up
2. Headlight leveling actuator circuit is short	Stop leveling operation	Light up
3. Vehicle speed sensor signal error	Controlling continues	Light up
4. Height control sensor signal level error	Stop leveling operation	Light up
5. Headlight leveling actuator high voltage	Stop leveling operation	Goes off
6. Pitch angle calculation error (w/ Air Suspension System)	Stop leveling operation	Light up

Recovery condition: Ignition switch off or signal level error cancellation.

### 3. Headlight Swivel ECU Assembly

#### HINT:

The Headlight Swivel ECU performs fail-safe when detecting the following troubles. The AFS OFF indicator light on the combination meter comes on at the same time.

Trouble Area	Headlight Leveling Motor	Swivel Motor	AFS OFF indicator light
Vehicle speed sensor signal malfunction	Controlling continues	Stops operation after returning to initial position	Blinks (*1)
Vehicle height signal malfunction	Stops operation after returning to initial position (Fail at higher than initial position) Stops at current condition (Fail at lower than initial position)	Stops operation after returning to initial position	Blinks (*1)
Leveling actuator malfunction	Stops at current condition	Stops operation after returning to initial position	Blinks (*1)

Trouble Area	Headlight Leveling Motor	Swivel Motor	AFS OFF indicator light
Steering sensor malfunction	Lowers by 0.8° than current position and then re-starts controlling	Stops at current condition and then returning to initial position after 10 seconds	Blinks (*1)
Communication signal malfunction	Controlling continues	Stops operation after returning to initial position	Blinks (*1)
Swivel actuator action malfunction	Lowers by 0.8° than initial position	Stops operation after returning to initial position (Stops at current condition when unable to operate)	Blinks (*1)
Swivel actuator communication signal malfunction	Lowers by 0.8° than initial position	Stops operation after returning to initial position (Stops at current condition when unable to operate)	Blinks (*1)

\*1: 1 Blinks/1 second