

## AFS (ADAPTIVE FRONT LIGHTING SYSTEM) CONTROL MODULE

id091800012900

### Purpose

- The AFS control module calculates the target optical axis based on the vehicle height signal and outputs the target optical axis signal to the headlight leveling actuator.

### Function

- The AFS control module performs control of the AFS and headlight auto leveling.

### Automatic configuration function

- When the ignition is switched ON (engine off or on) after the AFS control module is replaced, the AFS control module reads the vehicle specification information sent via CAN communication from the instrument cluster, and stores the vehicle specification information.

### On-board diagnostic function

- The AFS control module is equipped with an on-board diagnosis function which records DTCs in the event of a malfunction.

### Malfunction detection function

- Detects malfunctions of the AFS and the headlight auto leveling related parts.

### Display Function

- If any malfunction is detected, the AFS OFF indicator light in the instrument cluster flashes to notify the driver of a system malfunction.

### Operation

- For the AFS control module operation, refer to HEADLIGHT AUTO LEVELING SYSTEM and AFS (ADAPTIVE FRONT LIGHTING SYSTEM).

### Fail-safe

DTC No.	Fail-safe function
B1041:14	<ul style="list-style-type: none"><li>The swivel actuator is moved to the center.</li><li>The headlight leveling actuator is stopped at the position when the malfunction is determined.</li></ul>
B1041:54	<ul style="list-style-type: none"><li>The swivel actuator is moved to the center.</li><li>The headlight leveling actuator is stopped at the position when the malfunction is determined.</li></ul>
B1044:01	<ul style="list-style-type: none"><li>The swivel actuator is moved to the center.</li><li>The headlight leveling actuator is stopped at the position when the malfunction is determined.</li></ul>
B10A3:86	<ul style="list-style-type: none"><li>The swivel actuator (LH) is stopped at the position when the malfunction is determined.</li><li>The swivel actuator (RH) is moved to the center.</li><li>Control of the headlight auto leveling system is continued with the headlight leveling actuator positioned -0.6° from where the malfunction is determined.</li></ul>
B10A3:87	<ul style="list-style-type: none"><li>The swivel actuator (LH) is stopped at the position when the malfunction is determined.</li><li>The swivel actuator (LH) is moved to the center, or the swivel actuators (LH) and (RH) are moved to the center.</li><li>Control of the headlight auto leveling system is continued with the headlight leveling actuator positioned -0.6° from where the malfunction is determined.</li></ul>
B10A4:86	<ul style="list-style-type: none"><li>The swivel actuator (RH) is stopped at the position when the malfunction is determined.</li><li>The swivel actuator (LH) is moved to the center.</li><li>Control of the headlight auto leveling system is continued with the headlight leveling actuator positioned -0.6° from where the malfunction is determined.</li></ul>
B10A4:87	<ul style="list-style-type: none"><li>The swivel actuator (RH) is stopped at the position when the malfunction is determined.</li><li>The swivel actuator (RH) is moved to the center, or the swivel actuators (LH) and (RH) are moved to the center.</li><li>Control of the headlight auto leveling system is continued with the headlight leveling actuator positioned -0.6° from where the malfunction is determined.</li></ul>
C0051:86	<ul style="list-style-type: none"><li>The swivel actuator is moved to the center.</li><li>Control of the headlight auto leveling system is continued.</li></ul>
U0001:88	<ul style="list-style-type: none"><li>The swivel actuator is moved to the center.</li><li>The headlight leveling actuator is stopped at the position when the malfunction is determined.</li></ul>
U0100:00	<ul style="list-style-type: none"><li>The swivel actuator is moved to the center.</li><li>The headlight leveling actuator is stopped at the position when the malfunction is determined.</li></ul>
U0131:00	<ul style="list-style-type: none"><li>The swivel actuator is moved to the center.</li><li>Control of the headlight auto leveling system is continued.</li></ul>
U0140:00	<ul style="list-style-type: none"><li>The swivel actuator is moved to the center.</li><li>The headlight leveling actuator is stopped at the position when the malfunction is determined.</li></ul>

<b>DTC No.</b>	<b>Fail-safe function</b>
U0155:00	<ul style="list-style-type: none"> <li>• The swivel actuator is moved to the center.</li> <li>• Control of the headlight auto leveling system is continued.</li> </ul>
U0320:09	<ul style="list-style-type: none"> <li>• The swivel actuator is moved to the center.</li> <li>• Control of the headlight auto leveling system is continued.</li> </ul>
U0420:68	<ul style="list-style-type: none"> <li>• The swivel actuator is moved to the center.</li> <li>• Control of the headlight auto leveling system is continued.</li> </ul>
U0423:68	<ul style="list-style-type: none"> <li>• AFS OFF switch error signal <ul style="list-style-type: none"> <li>— Control of the swivel actuator is continued with the AFS OFF switch fixed in the condition when the malfunction is detected.</li> <li>— Control of the headlight auto leveling system is continued.</li> </ul> </li> <li>• Ignition switch error signal <ul style="list-style-type: none"> <li>— Control of the AFS is continued with the ignition switched ON (engine on).</li> <li>— Control of the headlight auto leveling system is continued.</li> </ul> </li> <li>• Selector lever position (R position) (ATX)/Reverse (MTX) signal error <ul style="list-style-type: none"> <li>— The swivel actuator is moved to the center.</li> <li>— Control of the headlight auto leveling system is continued.</li> </ul> </li> <li>• Selector lever position (R position) (ATX)/Reverse (MTX) signal not determined <ul style="list-style-type: none"> <li>— Control of the swivel actuator is continued with the transaxle range sensor (ATX)/back-up light switch (MTX) fixed in the condition when the malfunction is determined.</li> <li>— Control of the headlight auto leveling system is continued.</li> </ul> </li> </ul>
U2005:86	<ul style="list-style-type: none"> <li>• The swivel actuator is moved to the center.</li> <li>• The headlight leveling actuator is stopped at the position when the malfunction is determined.</li> </ul>
U2300:54	<ul style="list-style-type: none"> <li>• Control of the AFS is continued.</li> <li>• Control of the headlight auto leveling system is continued.</li> </ul>
U2300:55	<ul style="list-style-type: none"> <li>• The swivel actuator is moved to the center.</li> <li>• The headlight leveling actuator is stopped at the position when the malfunction is determined.</li> </ul>
U2300:56	<ul style="list-style-type: none"> <li>• Control of the AFS is continued.</li> <li>• Control of the headlight auto leveling system is continued.</li> </ul>
U3000:42	<ul style="list-style-type: none"> <li>• The swivel actuator is moved to the center.</li> <li>• The headlight leveling actuator is stopped at the position when the malfunction is determined.</li> </ul>
U3000:49	<ul style="list-style-type: none"> <li>• RAM/ROM malfunction <ul style="list-style-type: none"> <li>— The swivel actuator is moved to the center.</li> <li>— The headlight leveling actuator is stopped at the position when the malfunction is determined.</li> </ul> </li> <li>• AFS function malfunction <ul style="list-style-type: none"> <li>— Not applicable</li> </ul> </li> <li>• CAN hardware malfunction <ul style="list-style-type: none"> <li>— The swivel actuator is moved to the center.</li> <li>— The headlight leveling actuator is stopped at the position when the malfunction is determined.</li> </ul> </li> </ul>
U3003:16	<ul style="list-style-type: none"> <li>• The swivel actuator is stopped at the position when the malfunction is determined.</li> <li>• The headlight leveling actuator is stopped at the position when the malfunction is determined.</li> </ul>
U3003:17	<ul style="list-style-type: none"> <li>• The swivel actuator is stopped at the position when the malfunction is determined.</li> <li>• The headlight leveling actuator is stopped at the position when the malfunction is determined.</li> </ul>