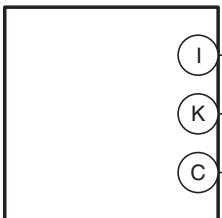
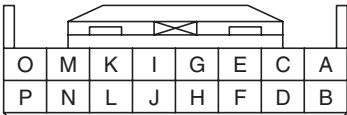
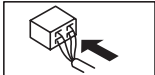
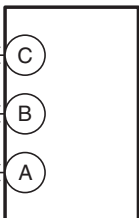

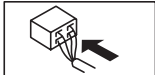


# DTC B1044:01 [ADAPTIVE FRONT LIGHTING SYSTEM (AFS)]

id09021n934200

<b>System malfunction location</b>	<b>Auto leveling sensor circuit malfunction</b>
<b>Detection condition</b>	<ul style="list-style-type: none"> <li>Auto leveling sensor circuit voltage of <b>0.25 V or less</b> or <b>4.75 V or more</b> is detected by AFS control module for <b>10 s or more</b> with the ignition switched ON (engine off or on).</li> </ul>
<b>Fail-safe</b>	<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>Possible cause</b>	<ul style="list-style-type: none"> <li>Auto leveling sensor connector or terminal malfunction</li> <li>AFS control module connector or terminal malfunction</li> <li>Short to ground in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>AFS control module terminal I and auto leveling sensor terminal C</li> <li>AFS control module terminal K and auto leveling sensor terminal B</li> <li>AFS control module terminal C and auto leveling sensor terminal A</li> </ul> </li> <li>Short to power supply in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>AFS control module terminal I and auto leveling sensor terminal C</li> <li>AFS control module terminal K and auto leveling sensor terminal B</li> <li>AFS control module terminal C and auto leveling sensor terminal A</li> </ul> </li> <li>Open circuit in wiring harness between the following terminals: <ul style="list-style-type: none"> <li>AFS control module terminal I and auto leveling sensor terminal C</li> <li>AFS control module terminal K and auto leveling sensor terminal B</li> <li>AFS control module terminal C and auto leveling sensor terminal A</li> </ul> </li> <li>Auto leveling sensor malfunction</li> <li>AFS control module malfunction</li> </ul>
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>AFS CONTROL MODULE</p>  <p>AFS CONTROL MODULE WIRING HARNESS-SIDE CONNECTOR</p>   </div> <div style="text-align: center;"> <p>AUTO LEVELING SENSOR</p>  <p>AUTO LEVELING SENSOR WIRING HARNESS-SIDE CONNECTOR</p>   </div> </div>	

## Diagnostic Procedure

Step	Inspection	Action	
1	<b>INSPECT AUTO LEVELING SENSOR CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Switch the ignition to off.</li> <li>• Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>• Disconnect the auto leveling sensor connector.</li> <li>• Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.</li> <li>• Is the connector normal?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 7.
2	<b>INSPECT AFS CONTROL MODULE CONNECTOR CONDITION</b> <ul style="list-style-type: none"> <li>• Disconnect the AFS control module connector.</li> <li>• Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.</li> <li>• Is the connector normal?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 7.
3	<b>INSPECT AUTO LEVELING SENSOR CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>• Verify that the auto leveling sensor and AFS control module connectors are disconnected.</li> <li>• Inspect for continuity between the following terminals (vehicle wiring harness side) and body ground. <ul style="list-style-type: none"> <li>— Auto leveling sensor terminal C</li> <li>— Auto leveling sensor terminal B</li> <li>— Auto leveling sensor terminal A</li> </ul> </li> <li>• Is there continuity?</li> </ul>	Yes	Repair or replace the wiring harness which is shorted to ground, then go to Step 7.
		No	Go to the next step.
4	<b>INSPECT AUTO LEVELING SENSOR CIRCUIT FOR SHORT TO POWER SUPPLY</b> <ul style="list-style-type: none"> <li>• Verify that the auto leveling sensor and AFS control module connectors are disconnected.</li> <li>• Connect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>• Switch the ignition ON (engine off or on).</li> <li>• Measure the voltage at the following terminals (vehicle wiring harness side). <ul style="list-style-type: none"> <li>— Auto leveling sensor terminal C</li> <li>— Auto leveling sensor terminal B</li> <li>— Auto leveling sensor terminal A</li> </ul> </li> <li>• Is the voltage <b>0 V</b>?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness which is shorted to power supply, then go to Step 7.

Step	Inspection	Action	
5	<b>INSPECT AUTO LEVELING SENSOR CIRCUIT FOR OPEN CIRCUIT</b> <ul style="list-style-type: none"> <li>• Verify that the auto leveling sensor and AFS control module connectors are disconnected.</li> <li>• Switch the ignition to off.</li> <li>• Disconnect the negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>• Inspect the wiring harness between the following terminals (vehicle wiring harness side) for continuity. <ul style="list-style-type: none"> <li>— AFS control module terminal I and auto leveling sensor terminal C</li> <li>— AFS control module terminal K and auto leveling sensor terminal B</li> <li>— AFS control module terminal C and auto leveling sensor terminal A</li> </ul> </li> <li>• Is there continuity?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the wiring harness which has an open circuit, then go to Step 7.
6	<b>INSPECT AUTO LEVELING SENSOR</b> <ul style="list-style-type: none"> <li>• Inspect the auto leveling sensor. (See AUTO LEVELING SENSOR INSPECTION.)</li> <li>• Is the auto leveling sensor normal?</li> </ul>	Yes	Go to the next step.
		No	Replace the auto leveling sensor, then go to the next step. (See AUTO LEVELING SENSOR REMOVAL/INSTALLATION.)
7	<b>VERIFY THAT REPAIRS HAVE BEEN COMPLETED</b> <ul style="list-style-type: none"> <li>• Reconnect all the disconnected connectors.</li> <li>• Reconnect the disconnected negative battery cable. (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (WITHOUT i-stop)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)</li> <li>• Clear the AFS control module DTCs using the M-MDS. (See CLEARING DTC [ADAPTIVE FRONT LIGHTING SYSTEM (AFS)].)</li> <li>• Switch the ignition ON (engine off or on) and wait for <b>10 s or more</b>.</li> <li>• Perform the DTC inspection for the AFS control module using the M-MDS. (See DTC INSPECTION [ADAPTIVE FRONT LIGHTING SYSTEM (AFS)].)</li> <li>• Is DTC B1044:01 displayed?</li> </ul>	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the AFS control module, then go to the next step. (See ADAPTIVE FRONT LIGHTING SYSTEM (AFS) CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Go to the next step.
8	<b>VERIFY IF OTHER DTCs DISPLAYED</b> <ul style="list-style-type: none"> <li>• Are any other DTCs displayed?</li> </ul>	Yes	Repair the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [ADAPTIVE FRONT LIGHTING SYSTEM (AFS)].)
		No	DTC troubleshooting completed.