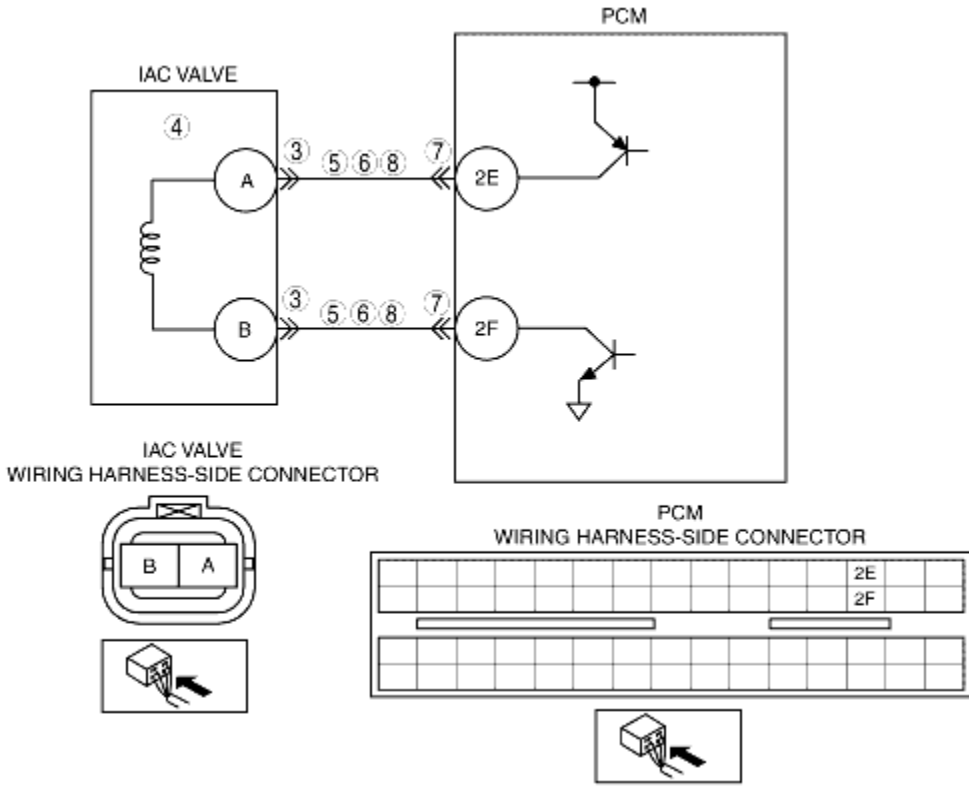


## DTC P0511 [LF]

B3E010201087W05

DTC P0511	IAC valve circuit problem
<b>DETECTION CONDITION</b>	<ul style="list-style-type: none"> <li>If the PCM detects that PCM terminal 2E voltage is above or below threshold* when the IAC control duty target is <b>within 16-30%</b>, the PCM determines that the IAC valve circuit has malfunction.</li> <li>*: Detected threshold value depends on battery voltage and IAC control signal duty value.</li> <li><b>Diagnostic support note</b></li> <li>This is a continuous monitor (CCM).</li> <li>The MIL illuminates if the PCM detects the above malfunction conditions in first consecutive drive cycles.</li> <li>PENDING CODE is available if the PCM detects the above malfunction condition.</li> <li>FREEZE FRAME DATA is available.</li> <li>The DTC is stored in the PCM memory.</li> </ul>
<b>POSSIBLE CAUSE</b>	<ul style="list-style-type: none"> <li>IAC valve circuit malfunction</li> <li>Short to ground in wiring harness between IAC valve terminal A and PCM terminal 2E</li> <li>Short to ground in wiring harness between IAC valve terminal B and PCM terminal 2F</li> <li>Open circuit in wiring harness between IAC valve terminal A and PCM terminal 2E</li> <li>Open circuit in wiring harness between IAC valve terminal B and PCM terminal 2F</li> <li>Short to power supply in wiring harness between IAC valve terminal A and PCM terminal 2E</li> <li>Short to power supply in wiring harness between IAC valve terminal B and PCM terminal 2F</li> <li>Poor connection of IAC valve connector or PCM connector</li> <li>PCM malfunction</li> </ul>
	

Diagnostic procedure

STEP	INSPECTION	ACTION

1	<b>VERIFY FREEZE FRAME DATA HAS BEEN RECORDED</b> • Has FREEZE FRAME DATA been recorded?	Yes	Go to the next step.
		No	Record the FREEZE FRAME DATA on the repair order, then go to the next step.
2	<b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b> • Verify related service repair information availability. • Is any related repair information available?	Yes	Perform repair or diagnosis according to the available repair information. • If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	<b>INSPECT POOR CONNECTION OF IAC VALVE CONNECTOR</b> • Turn the ignition switch off. • Disconnect IAC valve connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair or replace the terminal, then go to Step 9.
		No	Go to the next step.
4	<b>INSPECT IAC VALVE ELECTRICAL MALFUNCTION</b> • Inspect the IAC valve. (See <a href="#">IDLE AIR CONTROL (IAC) VALVE INSPECTION [LF]</a> .) • Is IAC valve normal?	Yes	Go to the next step.
		No	Replace IAC valve, then go to Step 9.
5	<b>INSPECT CONTROL CIRCUIT FOR SHORT TO POWER</b> • Turn the ignition switch to the ON position (Engine off). • Measure voltage between following terminal (wiring harness-side) and body ground:  - IAC valve terminal A - IAC valve terminal B  • Is the voltage <b>B+</b> ?	Yes	Repair or replace wiring harness, then go to Step 9.
		No	Go to the next step.
6	<b>INSPECT CONTROL CIRCUIT FOR SHORT TO GROUND</b> • Turn the ignition switch off. • Inspect for continuity between following terminals (wiring harness-side) and body ground:  - IAC valve terminal A - IAC valve terminal B  • Is there continuity?	Yes	Repair or replace the wiring harness, then go to Step 9.
		No	Go to the next step.
7	<b>INSPECT POOR CONNECTION OF PCM CONNECTOR</b> • Turn the ignition switch off. • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction?	Yes	Repair the terminal, then go to Step 9.
		No	Go to the next step.
8	<b>INSPECT CONTROL CIRCUIT MALFUNCTION FOR OPEN CIRCUIT</b> • Inspect for continuity following terminals (wiring harness-side):  - Between IAC valve terminal A and PCM terminal 2E - Between IAC valve terminal B and PCM terminal 2F	Yes	Repair or replace the wiring harness, then go to the next step.
		No	Go to the next step.

	• Is there continuity?		
9	<b>VERIFY TROUBLESHOOTING OF DTC P0511 COMPLETED</b> <ul style="list-style-type: none"> <li>• Make sure to reconnect all disconnected connectors.</li> <li>• Clear the DTC using the WDS or equivalent.</li> <li>• Start the engine.</li> <li>• Is the same DTC present?</li> </ul>	Yes	Replace the PCM, then go to the next step. (See <a href="#">PCM REMOVAL/INSTALLATION [LF]</a> .)
		No	Go to the next step.
10	<b>VERIFY AFTER REPAIR PROCEDURE</b> <ul style="list-style-type: none"> <li>• Perform the "After Repair Procedure". (See <a href="#">AFTER REPAIR PROCEDURE [LF]</a>.)</li> <li>• Are any DTC present?</li> </ul>	Yes	Go to the applicable DTC troubleshooting. (See <a href="#">DTC TABLE [LF]</a> .)
		No	Troubleshooting completed.