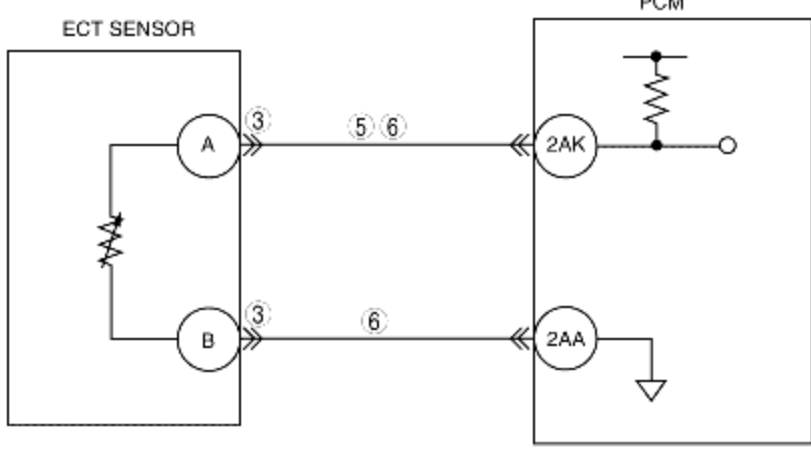
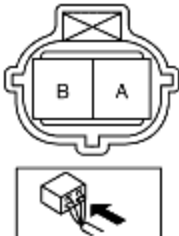
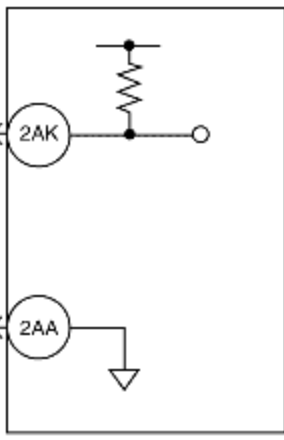



## DTC P0117 [LF]

B3E010201084W13

DTC P0117	ECT sensor circuit low input
<b>DETECTION CONDITION</b>	<ul style="list-style-type: none"> <li>The PCM monitors the ECT sensor signal at PCM terminal 2AK. If the PCM detects the ECT sensor voltage <b>below 0.2 V</b>, the PCM determines that the ECT sensor circuit has malfunction.</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 condition during first drive cycle.</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>ECT sensor malfunction</li> <li>Connect or terminal malfunction</li> <li>Short to ground in wiring harness between ECT sensor terminal A and PCM connector terminal 2AK</li> <li>Short each wiring harness ECT signal circuit and ECT ground circuit</li> <li>PCM malfunction</li> </ul>
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>ECT SENSOR</p>  <p>ECT SENSOR WIRING HARNESS-SIDE CONNECTOR</p>  </div> <div style="text-align: center;"> <p>PCM</p>  <p>PCM WIRING HARNESS-SIDE CONNECTOR</p>  </div> </div>	

### 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.
	<b>VERIFY RELATED REPAIR INFORMATION AVAILABILITY</b>	Yes Perform repair or diagnosis according to the available repair information.

2	<ul style="list-style-type: none"> <li>• Verify related service repair information availability.</li> <li>• Is any related repair information available?</li> </ul>		• If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
3	<b>INSPECT TERMINAL BENT</b> <ul style="list-style-type: none"> <li>• Turn the ignition switch off.</li> <li>• Disconnect the ECT sensor connector.</li> <li>• Inspect for bent of ECT sensor terminals A and B (part-side).</li> <li>• Is there any malfunction?</li> </ul>	Yes	Repair or replace the terminal, then go to Step 7.
		No	Go to the next step.
4	<b>CLASSIFY ECT SENSOR MALFUNCTION OR WIRING HARNESS MALFUNCTION</b> <ul style="list-style-type: none"> <li>• Connect the WDS or equivalent to DLC-2.</li> <li>• Access ECT PID.</li> <li>• Verify ECT value when disconnecting ECT sensor connector.</li> <li>• Does the ECT value change?</li> </ul>	Yes	Replace the ECT sensor, then go to Step 7.
		No	Go to the next step.
5	<b>INSPECT ECT SIGNAL CIRCUIT FOR SHORT TO GROUND</b> <ul style="list-style-type: none"> <li>• Turn the ignition switch off.</li> <li>• Inspect continuity between ECT sensor terminal A (wiring harness-side) and body ground.</li> <li>• Is there continuity?</li> </ul>	Yes	Repair or replace the wiring harness for short to ground, then go to Step 7.
		No	Go to the next step.
6	<b>INSPECT IAT CIRCUIT FOR SHORT WIRING HARNESSES</b> <ul style="list-style-type: none"> <li>• Inspect for continuity between ECT sensor terminal A and B (wiring harness-side).</li> <li>• Is there continuity?</li> </ul>	Yes	Repair or replace the wiring harness for short, then go to the next step.
		No	Go to the next step.
7	<b>VERIFY TROUBLESHOOTING OF DTC P0117 COMPLETED</b> <ul style="list-style-type: none"> <li>• Make sure to reconnect all disconnected connectors.</li> <li>• Clear the DTC from the PCM memory 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.
8	<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.