

Yes	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.
No	<a href="#">GO to U2.</a>

**U2: CHECK THE MECHANICAL GUARD SENSE CIRCUIT FOR SHORT TO HIGH VOLTAGE**

1	Reconnect the battery negative terminal.
2	Turn the ignition switch to the <b>ON</b> position.
3	Measure the voltage between PI42, pin 01 (BY) and GROUND.
Is the voltage greater than 10 volts?	
Yes	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.
No	<a href="#">GO to U3.</a>

**U3: CHECK THE MECHANICAL GUARD SENSE CIRCUIT FOR SHORT TO GROUND**

1	Turn the ignition switch to the <b>OFF</b> position.
2	Measure the resistance between PI42, pin 01 (BY) and GROUND.
Is the resistance less than 10,000 ohms?	
Yes	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.
No	<a href="#">GO to U4.</a>

**U4: CHECK THE MECHANICAL GUARD SENSOR POWER SUPPLY CIRCUIT**

1	Reconnect the ECM electrical connector, EM11.
2	Turn the ignition switch to the <b>ON</b> position.
3	Measure the voltage between PI42, pin 04 (UW) and GROUND.
Is the voltage less than 5 volts?	
Yes	REPAIR the power supply circuit. This circuit includes the ECM. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.
No	INSTALL a new mechanical guard sensor. CLEAR the DTC. TEST the system for normal operation.

**PINPOINT TEST V : DTC P1240, P1241, P1242; SENSOR REFERENCE VOLTAGE MALFUNCTION, HIGH/LOW VOLTAGE (THROTTLE SENSORS, FUEL TANK PRESSURE SENSOR)**

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
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**V1: CHECK THE REFERENCE VOLTAGE AT THE APP SENSOR/MECHANICAL GUARD SENSOR**

1	Disconnect the APP sensor electrical connector, PI42.
2	Turn the ignition switch to the <b>ON</b> position.
3	Measure the voltage between PI42, pin 04 (UW) and GROUND.
Is the voltage less than 5 volts?	
Yes	<a href="#">GO to V2.</a>
No	<a href="#">GO to V3.</a>

**V2: CHECK THE APP SENSOR/MECHANICAL GUARD SENSOR REFERENCE VOLTAGE CIRCUIT FOR HIGH RESISTANCE**

1	Disconnect the battery negative terminal.
2	Disconnect the ECM electrical connectors, EM10 and EM11.
3	Measure the resistance between PI42, pin 04 (UW) and EM10, pin 21 (UW).
4	Measure the resistance between PI42, pin 04 (UW) and EM11, pin 08 (UW).
Is either resistance greater than 5 ohms?	
Yes	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.
No	<a href="#">GO to V3.</a>

**V3: CHECK THE APP SENSOR/MECHANICAL GUARD SENSOR REFERENCE VOLTAGE CIRCUIT FOR SHORT TO HIGH VOLTAGE**

	<ol style="list-style-type: none"> <li>1 Reconnect the battery negative terminal.</li> <li>2 Turn the ignition switch to the <b>ON</b> position.</li> <li>3 Measure the voltage between PI42, pin 04 (UW) and GROUND.</li> </ol>
	<p>Is the voltage greater than 6 volts?</p> <p><b>Yes</b></p> <p>REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.</p> <p><b>No</b></p> <p><a href="#">GO to V4.</a></p>
<b>V4: CHECK THE APP SENSOR/MECHANICAL GUARD SENSOR REFERENCE VOLTAGE CIRCUIT FOR SHORT TO GROUND</b>	
	<ol style="list-style-type: none"> <li>1 Turn the ignition switch to the <b>OFF</b> position.</li> <li>2 Measure the resistance between PI42, pin 04 (UW) and GROUND.</li> </ol>
	<p>Is the resistance less than 10,000 ohms?</p> <p><b>Yes</b></p> <p>REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.</p> <p><b>No</b></p> <p><a href="#">GO to V5.</a></p>
<b>V5: CHECK THE REFERENCE VOLTAGE AT THE THROTTLE POSITION SENSOR</b>	
	<ol style="list-style-type: none"> <li>1 Reconnect the ECM electrical connectors, EM10 and EM11.</li> <li>2 Disconnect the TP sensor electrical connector, PI06.</li> <li>3 Turn the ignition switch to the <b>ON</b> position.</li> <li>4 Measure the voltage between PI06, pin 04 (UW) and GROUND.</li> </ol>
	<p>Is the voltage less than 5 volts?</p> <p><b>Yes</b></p> <p><a href="#">GO to V6.</a></p> <p><b>No</b></p> <p><a href="#">GO to V7.</a></p>
<b>V6: CHECK THE THROTTLE POSITION SENSOR REFERENCE VOLTAGE CIRCUIT FOR HIGH RESISTANCE</b>	
	<ol style="list-style-type: none"> <li>1 Turn the ignition switch to the <b>OFF</b> position.</li> <li>2 Disconnect the ECM electrical connectors, EM10 and EM11.</li> <li>3 Measure the resistance between PI06, pin 04 (UW) and EM10, pin 21 (UW).</li> <li>4 Measure the resistance between PI06, pin 04 (UW) and EM11, pin 08 (UW).</li> </ol>
	<p>Is either resistance greater than 5 ohms?</p> <p><b>Yes</b></p> <p>REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.</p> <p><b>No</b></p> <p><a href="#">GO to V7.</a></p>
<b>V7: CHECK THE THROTTLE POSITION SENSOR REFERENCE VOLTAGE CIRCUIT FOR SHORT TO HIGH VOLTAGE</b>	
	<ol style="list-style-type: none"> <li>1 Turn the ignition switch to the <b>ON</b> position.</li> <li>2 Measure the voltage between PI06, pin 04 (UW) and GROUND.</li> </ol>
	<p>Is the voltage greater than 6 volts?</p> <p><b>Yes</b></p> <p>REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.</p> <p><b>No</b></p> <p><a href="#">GO to V8.</a></p>
<b>V8: CHECK THE THROTTLE POSITION SENSOR REFERENCE VOLTAGE CIRCUIT FOR SHORT TO GROUND</b>	
	<ol style="list-style-type: none"> <li>1 Turn the ignition switch to the <b>OFF</b> position.</li> <li>2 Measure the resistance between PI06, pin 04 (UW) and GROUND.</li> </ol>
	<p>Is the resistance less than 10,000 ohms?</p> <p><b>Yes</b></p> <p>REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.</p> <p><b>No</b></p> <p><a href="#">GO to V9.</a></p>
<b>V9: CHECK THE REFERENCE VOLTAGE AT THE FUEL TANK PRESSURE SENSOR</b>	
	<ol style="list-style-type: none"> <li>1 Disconnect the FTP sensor electrical connector, FP01.</li> <li>2 Reconnect the ECM electrical connectors, EM10 and EM11.</li> <li>3 Turn the ignition switch to the <b>ON</b> position.</li> </ol>

4	Measure the voltage between FP01, pin 03 (UW) and GROUND.
Is the voltage less than 5 volts?	
<b>Yes</b>	
<a href="#">GO to V10.</a>	
<b>No</b>	
CHECK for DTCs associated with TP sensor, APP/mechanical guard sensor, or FTP sensor. INSTALL a new sensor as indicated by the DTC. CLEAR the DTC. TEST the system for normal operation.	

**V10: CHECK THE FUEL TANK PRESSURE SENSOR REFERENCE VOLTAGE CIRCUIT FOR HIGH RESISTANCE**

1	Disconnect the battery negative terminal.
2	Disconnect the ECM electrical connectors, EM10 and EM11.
3	Measure the resistance between FP01, pin 03 (UW) and EM10, pin 21 (UW).
4	Measure the resistance between FP01, pin 03 (UW) and EM11, pin 08 (UW).
Is either resistance greater than 5 ohms?	
<b>Yes</b>	
REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.	
<b>No</b>	
<a href="#">GO to V11.</a>	

**V11: CHECK THE FUEL TANK PRESSURE SENSOR REFERENCE VOLTAGE CIRCUIT FOR SHORT TO HIGH VOLTAGE**

1	Reconnect the battery negative terminal.
2	Turn the ignition switch to the <b>ON</b> position.
3	Measure the voltage between FP01, pin 03 (UW) and GROUND.
Is the voltage greater than 6 volts?	
<b>Yes</b>	
REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.	
<b>No</b>	
<a href="#">GO to V12.</a>	

**V12: CHECK THE FUEL TANK PRESSURE SENSOR REFERENCE VOLTAGE CIRCUIT FOR SHORT TO GROUND**

1	Turn the ignition switch to the <b>OFF</b> position.
2	Measure the resistance between FP01, pin 03 (UW) and GROUND.
Is the resistance less than 10,000 ohms?	
<b>Yes</b>	
REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.	
<b>No</b>	
CHECK for DTCs associated with TP sensor, APP/mechanical guard sensor, or FTP sensor. INSTALL a new sensor as indicated by the DTC. CLEAR the DTC. TEST the system for normal operation.	

**PINPOINT TEST W : DTC P1243; SENSOR REFERENCE GROUND MALFUNCTION (THROTTLE SENSORS, FUEL TANK PRESSURE SENSOR, ECT, IAT, IAT 2 SENSORS)**

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
<b>W1: CHECK THE SENSOR REFERENCE GROUND AT THE THROTTLE SENSORS</b>	
1	Disconnect the TP sensor electrical connector, PI06.
2	Measure the resistance between PI06, pin 01 (BG) and GROUND.
Is the resistance greater than 5 ohms?	
<b>Yes</b>	
<a href="#">GO to W2.</a>	
<b>No</b>	
<a href="#">GO to W3.</a>	
<b>W2: CHECK THE THROTTLE SENSOR REFERENCE GROUND CIRCUIT FOR HIGH RESISTANCE</b>	
1	Disconnect the ECM electrical connectors, EM10 and EM11.
2	Measure the resistance between PI06, pin 01 (BG) and EM10, pin 20 (BG).
3	Measure the resistance between PI06, pin 01 (BG) and EM11, pin 12 (BG).
Is either resistance greater than 5 ohms?	
<b>Yes</b>	
REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.	
<b>No</b>	
<a href="#">GO to W3.</a>	
<b>W3: CHECK THE SENSOR REFERENCE GROUND AT THE APP SENSOR/MECHANICAL GUARD SENSOR</b>	