

Symptom:**P0121-TP SENSOR VOLTAGE DOES NOT AGREE WITH MAP SENSOR****When Monitored and Set Condition:****P0121-TP SENSOR VOLTAGE DOES NOT AGREE WITH MAP SENSOR**

When Monitored: With the engine running and no MAP sensor or TPS DTC's set. Engine speed must be greater than 1600 RPM.

Set Condition: The PCM performs two separate tests. When the manifold vacuum is low, the TPS signal should be high. When the manifold vacuum is high, the TPS signal should be low. If the proper TPS voltage is not detected when the two conditions are met, a DTC will be set after 4 seconds.

POSSIBLE CAUSES

GOOD TRIP EQUAL TO ZERO
RESISTANCE IN (K7) MAP 5-VOLT SUPPLY CIRCUIT
(K7) MAP 5-VOLT SUPPLY CIRCUIT SHORTED TO GROUND
MAP SENSOR
RESISTANCE IN THE (K1) MAP SENSOR SIGNAL CIRCUIT
(K1) MAP SENSOR SIGNAL CIRCUIT SHORTED TO GROUND
RESISTANCE IN (K4) MAP SENSOR GROUND CIRCUIT
TP SENSOR OPERATION
RESISTANCE IN (K7) TP SENSOR 5-VOLT SUPPLY CIRCUIT
(K7) TP SENSOR 5-VOLT SUPPLY CIRCUIT SHORTED TO GROUND
THROTTLE POSITION SENSOR
RESISTANCE IN (K22) TP SENSOR NO.1 SIGNAL CIRCUIT
(K22) TP SENSOR NO.1 SIGNAL CIRCUIT SHORTED TO GROUND
RESISTANCE IN (K4) SENSOR GROUND CIRCUIT
PCM

DRIVEABILITY - GAS

P0121-TP SENSOR VOLTAGE DOES NOT AGREE WITH MAP SENSOR — Continued

TEST	ACTION	APPLICABILITY
1	<p>Check for any related TSBs.</p> <p>NOTE: Diagnose any TP Sensor or MAP component DTCs before continuing.</p> <p>NOTE: If the P0500 - No Vehicle Speed Signal is set along with this DTC, refer to the P0500 diagnostics before continuing.</p> <p>NOTE: The throttle plate and linkage should be free of binding and carbon build up.</p> <p>NOTE: Ensure the throttle plate is at the idle position.</p> <p>Ignition on, engine not running.</p> <p>NOTE: Repair any vacuum leaks that are present before continuing.</p> <p>With the DRBIII®, read DTCs and record the related Freeze Frame data.</p> <p>Is the Good Trip Counter displayed and equal to zero?</p> <p>Yes → Go To 2</p> <p>No → Refer to the INTERMITTENT CONDITION Symptom (Diagnostic Procedure).</p> <p>Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All
2	<p>Start the engine.</p> <p>With the DRBIII®, monitor the MAP Sensor voltage.</p> <p>Snap the throttle.</p> <p>Does the DRBIII® display MAP voltage from below 2.0 volts at idle to above 3.5 volts at WOT?</p> <p>Yes → Go To 3</p> <p>No → Go To 10</p>	All
3	<p>Ignition on, engine not running.</p> <p>With the DRBIII®, monitor the TP Sensor voltage while slowly pressing the accelerator pedal from the idle position to the wide open throttle position.</p> <p>Does voltage start at approximately 0.8 of a volt and go above 3.5 volts with a smooth transition?</p> <p>Yes → Refer to the INTERMITTENT CONDITION Symptom (Diagnostic Procedure).</p> <p>Perform POWERTRAIN VERIFICATION TEST VER - 5.</p> <p>No → Go To 4</p>	All
4	<p>Turn the ignition off.</p> <p>Disconnect the TP Sensor harness connector.</p> <p>Disconnect the PCM harness connectors.</p> <p>Measure the resistance of the (K7) 5-volt Supply circuit from the TP Sensor harness connector to the PCM harness connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 5</p> <p>No → Repair the excessive resistance in the (K7) 5-volt Supply circuit.</p> <p>Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All
5	<p>Measure the resistance between ground and the (K7) 5-volt Supply circuit at the TP Sensor harness connector.</p> <p>Is the resistance below 100 ohms?</p> <p>Yes → Repair the short to ground in the (K7) 5-volt Supply circuit.</p> <p>Perform POWERTRAIN VERIFICATION TEST VER - 5.</p> <p>No → Go To 6</p>	All

P0121-TP SENSOR VOLTAGE DOES NOT AGREE WITH MAP SENSOR —
Continued

TEST	ACTION	APPLICABILITY
6	<p>Connect the PCM harness connectors. Ignition on, engine not running. With the DRBIII®, monitor the TP Sensor voltage. Connect a jumper wire between the (K22) TP Sensor No.1 Signal circuit and the (K4) Sensor ground circuit in the Sensor harness connector. Does the DRBIII® display TP Sensor voltage from approximately 4.9 volts to below 0.5 of a volt?</p> <p>Yes → Replace the Throttle Position Sensor. Perform POWERTRAIN VERIFICATION TEST VER - 5.</p> <p>No → Go To 7</p> <p>NOTE: Remove the jumper wire before continuing.</p>	All
7	<p>Turn the ignition off. Disconnect the PCM harness connectors. Measure the resistance of the (K22) TP Sensor No.1 Signal circuit from the TP Sensor harness connector to the PCM harness connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 8</p> <p>No → Repair the excessive resistance in the (K22) TP Sensor No.1 Signal circuit. Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All
8	<p>Measure the resistance between ground and the (K22) TP Sensor No.1 Signal circuit from the TP Sensor harness connector. Is the resistance below 100 ohms?</p> <p>Yes → Go To 9</p> <p>No → Repair the short to ground in the (K22) TP Sensor No.1 Signal circuit. Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All
9	<p>Measure the resistance of the (K4) Sensor ground circuit from the TP Sensor harness connector to the PCM harness connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 16</p> <p>No → Repair the excessive resistance in the (K4) Sensor ground circuit. Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All
10	<p>Turn the ignition off. Disconnect the MAP Sensor harness connector. Disconnect the PCM harness connectors. Measure the resistance of the (K7) 5-volt Supply circuit from the MAP Sensor harness connector to the PCM harness connector. Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 11</p> <p>No → Repair the excessive resistance in the (K7) 5-volt Supply circuit. Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All

DRIVEABILITY - GAS

P0121-TP SENSOR VOLTAGE DOES NOT AGREE WITH MAP SENSOR — Continued

TEST	ACTION	APPLICABILITY
11	<p>Measure the resistance between ground and the (K7) 5-volt Supply circuit at the MAP Sensor harness connector.</p> <p>Is the resistance above 100k ohms?</p> <p>Yes → Go To 12</p> <p>No → Repair the short to ground in the (K7) MAP 5-volt Supply circuit. Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All
12	<p>Connect the PCM harness connector.</p> <p>Ignition on, engine not running.</p> <p>With the DRBIII®, monitor the MAP Sensor voltage.</p> <p>Connect a jumper wire between the (K1) MAP Sensor Signal circuit and the (K4) Sensor ground circuit in the Sensor harness connector.</p> <p>Cycle the ignition switch from off to on.</p> <p>Does the DRBIII® display MAP voltage from approximately 4.9 volts to below 0.5 of a volt?</p> <p>Yes → Replace the MAP Sensor. Perform POWERTRAIN VERIFICATION TEST VER - 5.</p> <p>No → Go To 13</p> <p>NOTE: Disconnect the jumper wire before continuing.</p>	All
13	<p>Turn the ignition off.</p> <p>Disconnect the PCM harness connectors.</p> <p>Measure the resistance of the (K1) MAP Sensor Signal circuit from the MAP Sensor harness connector to the PCM harness connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 14</p> <p>No → Repair the excessive resistance in the (K1) MAP Sensor Signal circuit. Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All
14	<p>Measure the resistance between ground and the (K1) MAP Sensor Signal circuit from the MAP Sensor harness connector.</p> <p>Is the resistance below 100 ohms?</p> <p>Yes → Go To 15</p> <p>No → Repair the short to ground in the (K1) MAP Sensor Signal circuit. Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All
15	<p>Measure the resistance of the (K4) Sensor ground circuit from the MAP Sensor harness connector to the PCM harness connector.</p> <p>Is the resistance below 5.0 ohms?</p> <p>Yes → Go To 16</p> <p>No → Repair the excessive resistance in the (K4) Sensor ground circuit. Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All

P0121-TP SENSOR VOLTAGE DOES NOT AGREE WITH MAP SENSOR —
Continued

TEST	ACTION	APPLICABILITY
16	<p>NOTE: Before continuing, check the PCM harness connector terminals for corrosion, damage, or terminal push out. Repair as necessary.</p> <p>Using the schematics as a guide, inspect the wire harness and connectors. Pay particular attention to all Power and Ground circuits.</p> <p>If there are no possible causes remaining, view repair.</p> <p>Repair</p> <p>Replace and program the Powertrain Control Module per Service Information.</p> <p>Perform POWERTRAIN VERIFICATION TEST VER - 5.</p>	All