

DTC P0068

Circuit Description

The throttle position (TP) is compared to an expected throttle position based on engine load. The engine control module (ECM) determines engine load based on inputs from the mass air flow (MAF) and the manifold absolute pressure (MAP) sensors. If the ECM detects that the current load and throttle position are not consistent with the expected load and throttle position, DTC P0068 is set.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC P0068 Throttle Body Airflow Performance

Conditions for Running the DTC

- DTCs P0101, P0102, P0103, P0106, P0107, P0108, P0120, P0121, P0122, P0123, P0220, P0221, P0222, P0223, P0601, P0602, P0603, P0604, P0606, P0607, P1516, P2101 are not set.
- The engine speed is more than 600 RPM and less than 6,300 RPM.
- DTC P0068 runs continuously when the above conditions are met.

Conditions for Setting the DTC

The ECM detects that the throttle position and the indicated engine load do not correspond with the expected load and throttle position for less than 1 second.

Action Taken When the DTC Sets

- The control module illuminates the malfunction indicator lamp (MIL) when the diagnostic runs and fails.
- The control module records the operating conditions at the time the diagnostic fails. The control module stores this information in the Freeze Frame and/or the Failure Records.
- The control module commands the TAC system to operate in the Reduced Engine Power mode.
- A message center or an indicator displays Reduced Engine Power.
- Under certain conditions the control module commands the engine OFF.

Conditions for Clearing the MIL/DTC

- The control module turns OFF the malfunction indicator lamp (MIL) after 3 consecutive ignition cycles that the diagnostic runs and does not fail.
- A current DTC, Last Test Failed, clears when the diagnostic runs and passes.

© 2010 General Motors Corporation. All rights reserved.

- A history DTC clears after 40 consecutive warm-up cycles, if no failures are reported by this or any other emission related diagnostic.
- Clear the MIL and the DTC with a scan tool.

Diagnostic Aids

- Inspect the throttle blade for being broken, bent, or missing.
- Any condition that can cause the MAF, MAP, and TP sensors to be shifted in value at the same time may cause this DTC to set.
- Inspect the harness of the MAF sensor to verify that it is not routed too close to the following components:
 - Any aftermarket accessories--Refer to [Checking Aftermarket Accessories](#) .
 - The secondary ignition wires or coils
 - Any solenoids
 - Any relays
 - Any motors
- A skewed or stuck engine coolant temperature (ECT) or intake air temperature (IAT) sensor will cause the calculated models to be inaccurate and may cause this DTC to run when it should not.
- A steady or intermittent high resistance of 15 ohms or more on the ignition 1 voltage circuit will cause the MAF sensor values to be skewed high by up to 60 g/s, and may cause this DTC to set. A high resistance will cause a driveability concern before this DTC sets.
- The BARO that is used by the control module to calculate the air flow models is initially based on the MAP sensor at key ON. When the engine is running, the control module will continually update the BARO value near wide open throttle using the MAP sensor and a calculation. A skewed MAP sensor will cause the calculated mass air flow value to be inaccurate and may result in a no start condition. With the ignition ON and the engine OFF, the MAP Sensor parameter varies with the altitude. 101 kPa is the approximate value near sea level. This value will decrease by approximately 3 kPa for every 305 meters (1,000 feet) of altitude.
- A high resistance on the low reference circuit of the MAP sensor may skew the sensor value and may cause this DTC to set.
- A short to battery voltage on the 5-volt reference circuit of the MAP sensor may cause this DTC to set.
- If the condition is intermittent refer to [Testing for Intermittent Conditions and Poor Connections](#) .

Step	Action	Value (s)	Yes	No
Schematic Reference: Engine Controls Schematics				
Connector End View Reference: Engine Control Module Connector End Views or Engine Controls Connector End Views				
1	Did you perform the Diagnostic System Check - Vehicle?	--	Go to Step 2	Go to Diagnostic System Check - Vehicle
2	Are DTCs P0101, P0102, P0103, P0106, P0107, P0108, P0120, P0121, P0122, P0123, P0220, P0222, P0223, P1516, P2101, P2119,	--	Go to Diagnostic Trouble Code	

	P2176 also set?		(DTC) List - Vehicle	Go to Step 3
3	1. Observe the Freeze Frame/Failure Records for this DTC. 2. Turn OFF the ignition. 3. Start the engine. 4. Operate the vehicle within the Conditions for Running the DTC. You may also operate the vehicle within the conditions that you observed from the Freeze Frame/Failure Records. Did the DTC fail this ignition?	--		Go to Testing for Intermittent Conditions and Poor Connections
4	Inspect for the following conditions: • Vacuum hoses for splits, kinks, and proper connections as shown on Vehicle Emission Control Information label • Any type of leak or restriction • Air leaks at the throttle body mounting area and the intake manifold sealing surfaces • Restrictions in the air intake system, including filter Did you find and correct the condition?	--		Go to Step 12 Go to Step 5
5	Important: Observe the throttle position (TP) sensors 1 and 2 angle parameter with a scan tool. 1. Start the engine. 2. Apply accelerator pedal slightly and record TP 1 and 2 angles. 3. Turn OFF the ignition. Is the difference between TP sensor 1 angle and TP sensor 2 angle less than the specified value?	3%		Go to Step 10 Go to Step 6
6	Test the TP sensor 1 5-volt reference circuit for high resistance. Refer to Circuit Testing and Wiring Repairs . Did you find and correct the condition?	--		Go to Step 12 Go to Step 7
7	Test the TP sensor low reference circuit for high resistance. Refer to Circuit Testing and Wiring Repairs . Did you find and correct the condition?	--		Go to Step 12 Go to Step 8
	Test the TP sensor 1 signal circuit for high resistance. Refer to Circuit Testing and Wiring			

8	Repairs . Did you find and correct the condition?	--	Go to Step 12	Go to Step 9
9	Test the TP sensor 2 signal circuit for high resistance. Refer to Circuit Testing and Wiring Repairs . Did you find and correct the condition?	--	Go to Step 12	Go to Step 10
10	Inspect the throttle body for the following conditions: • A loose or damaged throttle blade • A broken throttle shaft Did you find a condition?	--	Go to Step 11	--
11	Replace the throttle body assembly. Refer to Throttle Body Assembly Replacement . Did you complete the replacement?	--	Go to Step 12	--
12	1. Clear the DTCs with a scan tool. 2. Turn OFF the ignition for 30 seconds. 3. Start the engine. 4. Operate the vehicle within the Conditions for Running the DTC. You may also operate the vehicle within the conditions that you observed from the Freeze Frame/Failure Records. Did the DTC fail this ignition?	--	Go to Step 3	Go to Step 13
13	Important: More than one throttle actuator control (TAC) system-related DTC may set. This is due to the many redundant tests run continuously on this system. Locating and repairing one individual condition may correct more than one DTC. Be aware of this when reviewing Captured Info. Observe the Capture Info with a scan tool. Are there any DTCs that have not been diagnosed?	--	Go to Diagnostic Trouble Code (DTC) List - Vehicle	System OK