

DTC P0507

Circuit Description

The throttle actuator control (TAC) motor is controlled by the engine control module (ECM). The DC motor located in the throttle body drives the throttle plate. In order to decrease idle speed, the ECM commands the throttle closed reducing air flow into the engine and the idle speed decreases. In order to increase idle speed, the ECM commands the throttle plate open allowing more air to pass the throttle plate. If the actual idle RPM does not match the desired idle RPM within a calibrated time, this DTC sets.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC P0507 Idle Speed High

Conditions for Running the DTC

- DTCs P0068, P0101, P0102, P0103, P0107, P0108, P0112, P0113, P0117, P0118, P0120, P0121, P0122, P0123, P0171, P0172, P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0220, P0222, P0223, P0230, P0300, P0336, P0442, P0446, P0449, P0452, P0453, P0455, P0462, P0463, P1516, P2101, P2135, P2176 are not set.
- The engine is operating for at least 60 seconds.
- The engine coolant temperature (ECT) is more than 60°C (140°F).
- The intake air temperature (IAT) is more than -10°C (+14°F).
- The barometric pressure (BARO) is more than 65 kPa.
- The system voltage is between 9-18 volts.
- The vehicle speed is less than 1.6 km/h (1 mph).
- DTC P0507 runs continuously when the above conditions are met.

Conditions for Setting the DTC

- The actual idle speed is approximately 200 RPM greater than the desired idle speed.
- The above condition is present for 5 seconds.

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.

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- 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.
- 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.

Test Description

The number below refers to the step number on the diagnostic table.

2. This test determines whether the engine can achieve the commanded RPM. If the engine does not reach the commanded RPMs, the test determines whether the RPM is too high or too low.

Step	Action	Yes	No
<i>Schematic Reference:</i> Engine Controls Schematics			
<i>Connector End View Reference:</i> 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	<ol style="list-style-type: none"> 1. Start the engine. 2. Command the engine speed up to 1,500 RPM, down to 600 RPM, and up to 1,500 RPM with a scan tool. 3. Exit the engine speed control function. Does the engine speed correspond, within 100 RPM, with each command?	Go to Testing for Intermittent Conditions and Poor Connections	Go to Step 3
3	Inspect for the following conditions: <ul style="list-style-type: none"> • Vacuum leaks • Excessive deposits in the throttle body • A faulty positive crankcase ventilation (PCV) valve Did you find and correct the condition?	Go to Step 4	--
	<ol style="list-style-type: none"> 1. Clear the DTCs with a scan tool. 2. Turn OFF the ignition for 30 seconds. 3. Start the engine. 		

4	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 2	Go to Step 5
5	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