

2001 GMC Truck K 1500 Yukon 4WD V8-5.3L VIN T

Vehicle > ALL Diagnostic Trouble Codes (DTC) > Testing and Inspection > P Code Charts > P0507

P0507 (W/ ELECTRONIC THROTTLE CONTROL)

CIRCUIT DESCRIPTION

The electronic throttle control system uses various inputs from the Powertrain Control Module (**PCM**). This system uses these inputs in order to control the idle speed through serial data circuits to the Throttle Actuator Control (**TAC**) module. The DC motor, which is located on the throttle body, activates the throttle plate. In order to decrease idle speed, the TAC module commands the throttle closed reducing air flow into the engine and the idle speed decreases. In order to increase the idle speed, the TAC module commands the throttle plate open, allowing more air in order to bypass the throttle plate. If the actual idle RPM does not match the desired idle RPM within a calibrated time, this DTC will set.

CONDITIONS FOR RUNNING THE DTC

^ DTCs P0101, P0102, P0103, P0107, P0108, P0112, P0113, P0117, P0118, P0125, P0171, P0172, P0174, P0175, P0200, P0300, P0440, P0442, P0443, P0500, P0502, P0503, P1120, P1220, P1221, or P1441 are not set.

- ^ The engine is running for greater than **60 seconds**.
- ^ The Engine Coolant Temperature (**ECT**) is greater than **60°C (140°F)**.
- ^ The Intake Air Temperature (**IAT**) is greater than **-10°C (+14°F)**.
- ^ The BARO is greater than **65 kPa**.
- ^ The system voltage is between **9-18 volts**.
- ^ The vehicle speed is less than **1.7 km/h (1 mph)**.
- ^ The Accelerator Pedal Position (**APP**) sensor is at **0 percent**.

CONDITIONS FOR SETTING THE DTC

- ^ The actual idle speed is 200 RPM greater than the desired idle speed.
- ^ All of the above conditions present for **5 seconds**.

ACTION TAKEN WHEN THE DTC SETS

- ^ The control module illuminates the Malfunction Indicator Lamp (**MIL**) on the second consecutive ignition cycle that the diagnostic runs and fails.
- ^ The control module records the operating conditions at the time the diagnostic fails. The first time the diagnostic fails, the control module stores this information in the Failure Records. If the diagnostic reports a failure on the second consecutive ignition cycle, the control module records the operating conditions at the time of the failure. The control module writes the operating conditions to the Freeze Frame and updates the Failure Records.

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.
- ^ Use a scan tool in order to clear the MIL and the DTC.

TEST DESCRIPTION

Steps 1-6

DTC P0507 (w/ Electronic Throttle Control)			
Step	Action	Yes	No
Schematic Reference: Engine Controls Schematics			
1	Did you perform the Diagnostic System Check—Computers and Control Systems?	Go to <i>Step 2</i>	Go to Diagnostic System Check - Computers
2	<ol style="list-style-type: none"> 1. Set the park brake, and block the drive wheels. 2. Start the engine. 3. Turn OFF all accessories. 4. With the RPM control function of the scan tool, command the engine RPM to 1,500 RPM, to 500 RPM, and back to 1,500 RPM. 5. Exit the RPM control function. Did the engine speed stay within 200 RPM of the commanded RPM during the above test?	Go to <i>Step 3</i>	Go to <i>Step 4</i>
3	<ol style="list-style-type: none"> 1. Observe the Freeze Frame/Failure Records for this DTC. 2. Turn OFF the ignition for 30 seconds. 3. In order to operate the vehicle under the conditions which set the DTC, use the following information: <ul style="list-style-type: none"> • The data in the Freeze Frame/Failure Records • The parameters listed in the Conditions for Running in the DTC. Does the DTC set?	Go to <i>Step 4</i>	Go to Intermittent Conditions
4	Inspect for the following conditions: <ul style="list-style-type: none"> • Deposits in the throttle body • A faulty PCV valve Did you complete the repair?	Go to <i>Step 5</i>	—
5	<ol style="list-style-type: none"> 1. Use the scan tool in order to clear the DTCs. 2. Turn OFF the ignition for 30 seconds. 3. Start the engine. 4. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC run and pass?	Go to <i>Step 6</i>	Go to <i>Step 2</i>
6	With a scan tool, observe the stored information, Capture Info. Does the scan tool display any DTCs that you have not diagnosed?	Go to Diagnostic Trouble Code (DTC) List	System OK

- The number below refers to the step number on the diagnostic table.
2. This test determines if the engine can achieve the commanded RPM.

