

GM · POWERTRAIN

P1681

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1681 · GM

Driver 5 Line 1

P1681 on GM vehicles indicates that the powertrain control module (PCM) has detected a fault on the serial data communication line it uses to talk to the electronic throttle control (ETC) module, often called driver 5 line 1. The PCM monitors this dedicated data circuit for expected messages and voltage levels, and it sets the code when the signal is missing, corrupted, or out of range, which can affect throttle response and other functions.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Professional	Computer and output circuits

Symptoms you may notice

- Illuminated check engine light or reduced power message on the dashboard
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Reduced engine power or limp mode with limited throttle response
- Rough idle or stalling when the communication loss affects idle control
- Inconsistent or delayed acceleration when pressing the accelerator pedal
- Other warning lights such as stability control or traction control may illuminate

Common causes, most likely first

- 1 Damaged, chafed, or corroded wiring on the driver 5 line 1 circuit between the PCM and the ETC module
- 2 Poor connection or loose pins at the PCM or ETC module connectors
- 3 Failed electronic throttle control (ETC) module or throttle body assembly
- 4 Internal fault in the powertrain control module (PCM) affecting the communication line
- 5 Electrical interference or a short to voltage or ground on the data line
- 6 Low battery voltage or poor grounds causing communication errors



How to diagnose and fix it

- 1 Inspect the battery state of charge and clean all engine and chassis grounds to rule out low-voltage communication faults
- 2 Visually inspect the driver 5 line 1 wiring harness between the PCM and ETC module for chafing, corrosion, or loose connectors
- 3 Disconnect the PCM and ETC module connectors and check for bent pins, pushed-out terminals, or water intrusion
- 4 Use a digital multimeter to check continuity and resistance on the driver 5 line 1 circuit, looking for opens or excessive resistance
- 5 Check for shorts to voltage or ground on the data line with the key on and modules disconnected
- 6 If wiring and connections are good, swap in a known-good ETC module or throttle body to test for a faulty module
- 7 If the fault persists after all other checks, diagnose or replace the PCM, followed by relearn and verification procedures

What most technicians miss on P1681

- A loose or corroded ground connection at the ETC module or PCM can mimic a failed module and set P1681 without any wiring damage on the data line itself.
- Intermittent P1681 codes often appear after battery replacement or jump-starting because voltage spikes disturb the communication line, so clear the code and test-drive before condemning parts.
- The driver 5 line 1 circuit is a dedicated serial data link, not the generic CAN bus, so a scan tool that only checks CAN communication may not reveal the fault.
- After replacing the ETC module or PCM, a throttle relearn or idle relearn procedure is required, and skipping it can cause the code to return immediately.
- A failing throttle body motor or position sensor can disrupt the data line and set P1681 even when the wiring tests perfectly, so always check for related throttle body codes.

Can I keep driving with P1681?

If the vehicle is in reduced power mode or the throttle response is unpredictable, avoid driving and have it towed to a repair shop. If the only symptom is a warning light and the car drives normally, you can drive cautiously to a service location, but avoid heavy acceleration or towing until the fault is repaired.

Tools that help

- OBD-II scan tool with GM-specific software for live data and code clearing
- Digital multimeter with back-probing pins for circuit testing
- Wiring diagram for the driver 5 line 1 circuit
- Terminal pick and electrical contact cleaner
- Battery load tester and charger



Reading P1681

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (GM): its meaning depends on the make.
- 6** Computer and output circuits.
- 81** The exact fault within that area.

Often seen with

P1682 A/T FI Signal A High Input · **P1680** Metering Oil Pump Failure · **P1682** Metering Oil Pump Failure · **P1683** Metering Oil Pump Temperature Sensor Circuit · **P1682** A/T FI Signal A High Input · **P1680** Driver 5 · **P1682** Ignition 1 Switch Circuit 2 · **P1683** Driver 5 Line 3 · **P1680** Clutch Released Switch Circuit Open Or Shorted · **P1682** Charging System Voltage Too Low · **P1683** Speed Control Power Relay Or Speed Control 12 Volt Driver Ci · **P2101** Throttle Actuator Control Motor Circuit Range/Performance · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1681/>

