

GM · POWERTRAIN

P1636

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1636 · GM

PCM Fault

P1636 on GM vehicles indicates that the powertrain control module (PCM) has detected an internal fault, typically a checksum error or memory corruption within its own circuitry. The PCM is the main computer managing engine and transmission functions, and this code means it has failed a self-test of its internal integrity.

SYSTEM

Powertrain

CODE TYPE

GM specific

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Computer and output circuits

Symptoms you may notice

- Illuminated check engine light or service engine soon light
- Often no symptoms besides the warning light
- Intermittent engine stalling or rough running
- Transmission shifting abnormally or entering limp mode
- Difficulty starting or no-start condition
- Erratic electrical behavior from other modules

Common causes, most likely first

- 1 Internal PCM failure (corrupted memory or processor fault)
- 2 Poor or intermittent power and ground connections to the PCM
- 3 Low system voltage or a weak battery causing the PCM to log internal errors
- 4 Aftermarket tuning or programming that corrupted PCM calibration
- 5 Water intrusion or corrosion at the PCM connectors
- 6 Failed PCM relay or blown fuse supplying the PCM

How to diagnose and fix it

- 1 Verify battery voltage and charge the battery if it is low, as low voltage can trigger false PCM internal codes
- 2 Inspect and clean the PCM power and ground connections, checking for corrosion or looseness
- 3 Check all fuses and relays that supply power to the PCM, replacing any that are faulty
- 4 Use a scan tool to clear the code and see if it returns immediately, which would indicate a hard fault
- 5 Perform a voltage drop test on the PCM ground circuit to ensure a solid ground
- 6 If the code persists after electrical checks, reprogram or replace the PCM with a new or remanufactured unit and perform the required relearn procedures



PCM internal faults are rarely just the module

- A weak battery or failing alternator can cause the PCM to log an internal fault code even when the PCM itself is healthy, so always rule out power supply issues first.
- Corroded or loose ground connections at the engine block or chassis can mimic a failing PCM and are a common missed cause.
- Aftermarket performance tuners or improper reprogramming can corrupt the PCM calibration and set P1636, so returning to stock software may resolve it.
- This code does not always mean the PCM is dead; it can be a stored history code from a past low-voltage event and may not return after clearing.
- On some GM models, water intrusion into the PCM connector or housing can cause intermittent internal faults that only appear in damp conditions.

Can I keep driving with P1636?

If the check engine light is on and the vehicle runs normally, you can drive cautiously to a repair shop, but avoid long trips or heavy loads. If the engine stalls, runs poorly, or the transmission shifts erratically, stop driving and have the vehicle towed to prevent safety risks.

Tools that help

- OBD-II scan tool with GM-specific software
- Digital multimeter
- Battery charger and load tester
- Test light
- Socket and wrench set for electrical connections

Reading P1636

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

Often seen with

P1635 Data Bus Powertrain Missing Message From Air Condition Contr · **P1637** Data Bus Powertrain Missing Message From Central Electronic · **P1637** CAN Link ECM ABS Control Module Circuit Network · **P1635** 5V Reference Voltage to Sensors Low · **P1637** Alternator Warning Lamp Control Signal · **P1635** Tire Axle Ratio Out of Acceptable Range · **P1635** Throttle Valve Adaptation Lower Mechanical Stop Not Adapted · **P1637** Throttle Valve Position Control Deviation · **P0601** Internal Control Module Memory Checksum Error · **P0602** Control Module Programming Error · **P0606** PCM Processor Fault



See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1636/>

