

GENERIC · POWERTRAIN

P2507

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2507

ECM/PCM Power Input Signal Low

P2507 indicates that the engine control module (ECM) or powertrain control module (PCM) has detected a low voltage on its main power input circuit, meaning the module is not receiving the steady battery voltage it needs to operate reliably. The computer sets this code when the voltage on the power feed drops below a calibrated threshold, often due to a poor connection, damaged wiring, or a failing power source.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Intermittent stalling or a no-start condition, especially in wet or cold weather
- Electrical accessories behaving erratically or dimming lights
- Rough running or misfires due to unstable module power
- Transmission shifting harshly or entering limp mode
- Multiple unrelated trouble codes stored in various modules

Common causes, most likely first

- 1 Corroded, loose, or damaged battery terminals and cables
- 2 Blown or failing fuse or fuse box corrosion in the ECM/PCM power circuit
- 3 Chafed, broken, or shorted power wire between the battery and the ECM/PCM
- 4 Failing ECM/PCM power relay or main relay
- 5 Weak or failing battery or alternator not maintaining proper voltage
- 6 Poor ground connection for the ECM/PCM or engine block
- 7 Internal fault in the ECM/PCM causing excessive current draw on the power input



How to diagnose and fix it

- 1 Perform a visual inspection of the battery terminals, cables, and grounds for corrosion or looseness; clean and tighten as needed.
- 2 Check the battery voltage and charging system output with a multimeter to rule out a weak battery or alternator.
- 3 Locate and test the fuse and relay that supply power to the ECM/PCM; replace any blown fuse or faulty relay.
- 4 Backprobe the ECM/PCM power input wire with a multimeter to measure voltage under load and compare to battery voltage; repair any excessive drop.
- 5 Inspect the wiring harness for chafing, pinched wires, or loose connectors between the battery and the ECM/PCM; repair or replace damaged sections.
- 6 Perform a voltage drop test on the ground circuit for the ECM/PCM to ensure a clean, low-resistance path to the battery negative.
- 7 If all external circuits test good, substitute a known-good ECM/PCM or perform a bench test to confirm an internal module fault before replacement.

Don't overlook the simple power supply

- A weak battery that still starts the engine can cause P2507 because the ECM/PCM requires a stable voltage during cranking and running, and a marginal battery may drop below the threshold intermittently.
- Corrosion inside a fuse box or a loose fuse can create enough resistance to set this code without blowing the fuse, so a visual check is not sufficient; always test with a multimeter.
- The ECM/PCM power input circuit often shares a ground with other sensors, so a bad ground can cause this code along with unrelated sensor codes, leading to misdiagnosis.
- Aftermarket accessories wired directly to the battery or ECM/PCM circuits can introduce voltage drops or noise that trigger P2507, so check for non-factory wiring.
- This code does not always mean the ECM/PCM is failing; in many cases, the module is the victim of a poor connection or failing power relay, so replace it only after all external circuits are verified.

Can I keep driving with P2507?

If the check engine light is on but the vehicle runs normally, you can drive cautiously to a repair shop, but avoid long trips or heavy electrical loads. If the engine stalls, idles poorly, or shows other electrical symptoms, stop driving and have the vehicle towed to prevent a breakdown or further damage.



Tools that help

- Digital multimeter
- Test light
- Fuse puller
- Socket set
- Wiring diagram
- Scan tool

Reading P2507

P	Powertrain: engine, transmission and emissions.
2	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
5	Vehicle speed, idle control and auxiliary inputs.
07	The exact fault within that area.

Often seen with

P0562 System Voltage Low · **P0563** System Voltage High · **P0600** Serial Communication Link Malfunction · **P2506** ECM/PCM Power Input Signal Range/Performance · **P2508** ECM/PCM Power Input Signal High

See it working

Watch the animated explainer [How Crank and Cam Position Sensors Work](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2507/>

