

GM · POWERTRAIN

P1187

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1187 · GM

Engine Oil Pressure Sensor Circuit Low Voltage

P1187 on GM vehicles means the engine control module (ECM) has detected an abnormally low voltage signal from the engine oil pressure sensor circuit. The ECM expects a voltage within a specific calibrated range that corresponds to actual oil pressure, and a reading below the minimum threshold for a set time triggers this code.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- Oil pressure warning light or message on the instrument cluster
- Oil pressure gauge reading low, pegged at zero, or fluctuating erratically
- Check Engine Light illuminated
- Engine may enter reduced power mode or fail-safe operation on some GM models
- Often no drivability symptoms besides the warning lights
- In rare cases, a chime or warning message about low oil pressure

Common causes, most likely first

- Faulty engine oil pressure sensor (common failure on GM engines)
- Damaged or chafed wiring in the sensor circuit, especially near hot exhaust components
- Corroded or loose electrical connector at the oil pressure sensor
- Poor ground connection for the sensor or ECM
- Low engine oil level or low oil pressure causing the sensor to read below normal range
- Failed ECM driver circuit for the oil pressure sensor (less common)

How to diagnose and fix it

- Check engine oil level and condition; top off or change oil if needed
- Inspect the oil pressure sensor connector and wiring for damage, corrosion, or looseness
- Use a scan tool to read live oil pressure sensor voltage and compare to mechanical gauge reading
- Test the sensor circuit with a multimeter for reference voltage, ground continuity, and signal voltage
- Replace the oil pressure sensor if voltage signal is incorrect and wiring is good
- Verify oil pressure with a mechanical gauge to rule out actual low oil pressure
- Clear codes and test-drive to confirm repair



What GM techs check before replacing the sensor

- A low oil level or worn oil pump can set P1187 even when the sensor is working perfectly, so always verify actual oil pressure with a mechanical gauge.
- The oil pressure sensor on many GM engines is located behind the intake manifold or near the oil filter housing, where heat and oil leaks commonly damage the connector and wiring.
- Corrosion inside the sensor connector pins is a frequent cause that a visual inspection alone may miss; gently wiggle the harness while watching live data on a scan tool.
- Some GM vehicles use the oil pressure sensor signal for variable valve timing or cylinder deactivation, so a faulty signal can cause driveability issues beyond a simple warning light.
- After replacing the sensor, the ECM may need a relearn or calibration procedure on certain models; check service information for the specific vehicle.

Can I keep driving with P1187?

If the oil pressure warning light is on and the gauge reads zero, stop driving immediately and check the oil level; continuing to drive with actual low oil pressure can destroy the engine. If the gauge shows normal pressure and only the Check Engine Light is on, you may drive cautiously to a repair shop, but avoid heavy loads and high speeds until diagnosed.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Mechanical oil pressure gauge
- Socket set and wrenches
- Electrical contact cleaner and dielectric grease

Reading P1187

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (GM): its meaning depends on the make.
1	Fuel and air metering.
87	The exact fault within that area.

Often seen with

P1188 Linear Oxygen Sensor Compensation Resistor Short To Ground · **P1188** O2 Sensor Heater Circuit Resistance · **P1188** Engine Oil Pressure Sensor Circuit High Voltage · **P1188** Calibration Memory Fault · **P1188** EOT Sensor Circuit High Voltage · **P1188** Fuel Control Bank 1 Sensor 1 · **P0520** Engine Oil Pressure Sensor/Switch Circuit Malfunction · **P0521** Engine Oil Pressure Sensor/Switch Circuit Range/Performance · **P0522** Engine Oil Pressure Sensor/Switch Circuit Low Voltage · **P0523** Engine Oil Pressure Sensor/Switch Circuit High Voltage

See it working

Watch the animated explainer [How Misfire Detection Works: Crankshaft Speed](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1187/>

