



P0520

Engine Oil Pressure Sensor/Switch Circuit Malfunction

P0520 means the engine control module has detected an abnormal signal on the circuit that connects it to the engine oil pressure sensor or switch, so it cannot trust the oil pressure reading. The computer is not directly measuring low oil pressure; it is flagging an electrical fault in the sensor, its wiring, or the circuit that feeds it.

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
- Oil pressure warning lamp or message on the dashboard, sometimes intermittently
- A gauge that reads zero, pegs high, or moves erratically if the vehicle has a real oil pressure gauge
- Reduced engine power or a limp mode on some vehicles as a protective strategy
- Rough running or stalling only if the fault is combined with an actual loss of oil pressure

Common causes, most likely first

- 1 Failed oil pressure sensor or switch, the most common cause
- 2 Damaged, corroded, or disconnected electrical connector at the sensor
- 3 Open or shorted wire in the signal or reference circuit between the sensor and the control module
- 4 Poor ground connection for the sensor or the engine block
- 5 Contaminated or sludged engine oil blocking the sensor port and skewing the reading
- 6 Internal fault in the engine control module, rare but possible after other causes are ruled out

How to diagnose and fix it

- 1 Check engine oil level and condition first, then verify the oil pressure sensor connector is fully seated and free of corrosion
- 2 Inspect the sensor wiring harness for chafing, broken strands, or heat damage along its routing
- 3 Use a scan tool to read live oil pressure sensor data and compare it with a mechanical oil pressure gauge reading
- 4 Test the sensor circuit with a multimeter for reference voltage, ground continuity, and signal return
- 5 Replace the oil pressure sensor or switch if the circuit tests good but the signal remains implausible
- 6 Clear the code and perform a road test to confirm the repair, then recheck for pending codes



What the oil pressure code really flags

- P0520 is an electrical circuit code, so a perfectly healthy engine with good oil pressure can set it purely from a bad connector or chafed wire.
- A mechanical oil pressure gauge test is the only way to prove whether the engine actually has low oil pressure or the sensor circuit is lying.
- Sludge or debris blocking the sensor port can mimic a failed sensor, so the port should be checked before condemning the part.
- Some vehicles use the same circuit for both a switch and a gauge, and a mismatch between the dash gauge and scan tool data points to a wiring fault rather than the sensor itself.
- After replacing the sensor, the code may remain stored until several clean drive cycles complete, so do not assume the new part failed.

Can I keep driving with P0520?

It is usually safe to drive a short distance to a repair shop if the oil level is correct and there are no unusual engine noises, but avoid hard acceleration and long trips. Stop driving immediately if the oil pressure warning lamp comes on solid or the engine starts knocking, because that indicates a real loss of oil pressure.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Mechanical oil pressure gauge
- Socket and wrench set
- Wire repair kit with crimp connectors and heat shrink

Reading P0520

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

Often seen with

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 · **P0524** Engine Oil Pressure Too Low · **P06DD** Engine Oil Pressure Control Circuit Performance/Stuck Off



See it working

Watch the animated explainer [Inline-Four Engine X-Ray: Firing Order 1-3-4-2](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0520/>

