

GENERIC · POWERTRAIN

P06DD

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06DD

Engine Oil Pressure Control Circuit Performance/Stuck Off

P06DD indicates that the engine control module has commanded a specific oil pressure state through the variable displacement oil pump control circuit, but the actual oil pressure did not respond as expected, so the system is stuck in the low-pressure or 'off' position. The computer typically detects this by comparing the commanded pump state to the measured oil pressure from the oil pressure sensor and finding a sustained mismatch.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Low oil pressure warning light or message on the dashboard
- Engine may enter reduced power or limp mode to protect against low oil pressure
- Rough running or stalling in extreme cases if pressure drops too low
- Audible ticking or knocking from the engine if oil pressure is insufficient
- Poor fuel economy or increased oil consumption in some cases

Common causes, most likely first

- 1 Faulty oil pressure control solenoid (the actuator that varies pump displacement)
- 2 Wiring damage or corrosion in the oil pressure control circuit (open, short, or high resistance)
- 3 Sticking or failed variable displacement oil pump
- 4 Contaminated or degraded engine oil causing solenoid or pump malfunction
- 5 Faulty oil pressure sensor providing incorrect feedback to the ECM
- 6 Low oil level or incorrect oil viscosity
- 7 ECM software issue or internal driver fault (less common)



How to diagnose and fix it

- 1 Check engine oil level and condition; top off or change oil with the specified viscosity if needed
- 2 Inspect the oil pressure control solenoid connector and wiring for damage, corrosion, or loose pins
- 3 Test the oil pressure control solenoid with a multimeter for resistance and function according to manufacturer specifications
- 4 Measure actual oil pressure with a mechanical gauge and compare to the sensor reading to verify sensor accuracy
- 5 Command the oil pressure control solenoid with a scan tool and observe oil pressure response to confirm circuit operation
- 6 Replace the oil pressure control solenoid if faulty, then clear codes and retest
- 7 If the solenoid and circuit are good, inspect or replace the variable displacement oil pump as needed

Before replacing the oil pump

- A stuck-open or stuck-closed oil pressure control solenoid is far more common than a failed oil pump, so always test the solenoid first.
- Dirty engine oil or sludge can clog the solenoid screen and cause it to stick, so an oil change may resolve the issue if caught early.
- The oil pressure sensor on some engines is prone to failure and can report false low pressure, leading to unnecessary pump replacement.
- Wiring harness chafing near hot exhaust components or sharp edges is a frequent hidden cause of circuit performance codes.
- Some vehicles require a relearn or calibration procedure after solenoid replacement, so consult the factory service information.

Can I keep driving with P06DD?

It is generally safe to drive short distances to a repair shop if the oil pressure warning light is not on and the engine sounds normal, but avoid heavy acceleration or towing. If the oil pressure light illuminates or the engine makes ticking or knocking noises, stop driving immediately and have the vehicle towed to prevent severe engine damage.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter
- Mechanical oil pressure gauge
- Socket and wrench set
- Factory service information or wiring diagrams



Reading P06DD

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
6	Computer and output circuits.
DD	The exact fault within that area.

Often seen with

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 · **P06DE** Engine Oil Pressure Control Circuit Stuck On

See it working

Watch the animated explainer [Fuel Trims Explained: Short-Term and Long-Term](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06dd/>

