

GENERIC · POWERTRAIN

P05E8

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P05E8

Engine Oil Bypass Valve Control Circuit/Open

P05E8 indicates that the powertrain control module has detected an open circuit or abnormal voltage in the engine oil bypass valve control circuit, which is used to regulate oil flow through the cooler or filter bypass path. The computer monitors the control wire for expected voltage changes when commanding the valve, and an open circuit prevents the valve from actuating as designed.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine performance or power derate in some vehicles as a protective measure
- Possible oil pressure warning light if the bypass valve fails to open or close correctly
- Rough running or stalling in extreme cases when oil temperature management is compromised
- Inability to clear the code with a scan tool, as the circuit fault remains active

Common causes, most likely first

- 1 Broken, chafed, or disconnected wire in the oil bypass valve control circuit
- 2 Corroded or loose electrical connector at the oil bypass valve solenoid
- 3 Failed oil bypass valve solenoid (open internal coil)
- 4 Open circuit inside the powertrain control module driver for the bypass valve
- 5 Blown fuse or relay supplying power to the bypass valve circuit (if applicable)
- 6 Engine oil contamination or sludge causing valve mechanical binding and circuit stress



How to diagnose and fix it

- 1 Verify battery voltage and inspect all fuses related to the engine oil bypass valve circuit
- 2 Visually inspect the bypass valve connector and wiring for damage, corrosion, or loose pins
- 3 Disconnect the valve and measure resistance across the solenoid coil to check for an open circuit
- 4 Backprobe the control wire at the valve and check for voltage or ground signal when commanded by the scan tool
- 5 Perform a wiggle test on the harness while monitoring circuit status to reveal intermittent opens
- 6 If the circuit tests good, command the valve with a scan tool and listen for actuation or check for mechanical movement
- 7 Replace the oil bypass valve solenoid if electrically open, then clear codes and verify the repair

Don't overlook the oil bypass valve wiring

- A common misdiagnosis is replacing the oil bypass valve when the real fault is a chafed wire near the exhaust manifold or a corroded connector pin.
This code can set intermittently due to vibration or heat, so a wiggle test of the harness while watching live data is often more revealing than a static resistance check.
- Some vehicles use the oil bypass valve for both pressure regulation and cooler flow control, so a failed valve may not trigger obvious driveability symptoms until oil temperature rises.
- An open circuit can be caused by a failed driver inside the powertrain control module, which is rare but should be ruled out after all wiring and valve tests pass.
Engine oil sludge or debris can mechanically jam the bypass valve, causing the solenoid to overheat and eventually open the circuit, so always check oil condition and service history.

Can I keep driving with P05E8?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads, towing, or sustained high-speed driving because the bypass valve may not regulate oil temperature or pressure correctly. If the oil pressure warning light illuminates, stop driving immediately and have the vehicle towed.

Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter for resistance and voltage measurements
- Backprobe pins or breakout leads for circuit testing
- Wire repair kit with crimpers and heat shrink
- Vehicle-specific service information for circuit diagrams and valve specifications



Reading P05E8

- 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.
- E8** The exact fault within that area.

Often seen with

P0524 Engine Oil Pressure Too Low · **P05E9** Engine Oil Bypass Valve Control Circuit Low · **P05EA** Engine Oil Bypass Valve Control Circuit High · **P05EB** Cold Start SCR NOx Catalyst Inlet Temperature Too Low · **P06DD** Engine Oil Pressure Control Circuit Performance/Stuck Off

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p05e8/>

