

GENERIC · POWERTRAIN

P3410

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P3410

Cylinder 2 Deactivation/Intake Valve Control Performance

P3410 indicates that the powertrain control module (PCM) has detected a performance fault in the cylinder 2 deactivation or intake valve control circuit, meaning the valve did not respond as commanded during a self-test. The PCM monitors the circuit and valve response, and when the actual state does not match the commanded state within a calibrated time, it sets this code.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light, often with no other symptoms
- Rough idle or misfire-like shudder, especially when cylinder deactivation is active
- Reduced engine power or a limp-home mode in some vehicles
- Poor fuel economy or increased emissions
- Audible ticking or tapping from the valvetrain area
- Intermittent hesitation during light-throttle cruising

Common causes, most likely first

- 1 Faulty oil control valve (OCV) or solenoid responsible for cylinder 2 deactivation
- 2 Wiring damage (open, short, or chafed) in the deactivation solenoid circuit
- 3 Clogged oil passages or sludge preventing proper hydraulic actuation
- 4 Sticking or failed deactivation rocker arm or lifter
- 5 PCM software calibration issue or internal driver fault
- 6 Low engine oil level or incorrect oil viscosity affecting hydraulic operation
- 7 Connector corrosion or poor terminal tension at the solenoid or PCM



How to diagnose and fix it

- 1 Verify engine oil level and condition; top off or change oil if contaminated or incorrect viscosity
- 2 Perform a visual inspection of the deactivation solenoid connector and wiring for damage or corrosion
- 3 Use a scan tool to command the cylinder 2 deactivation solenoid on and off while listening for actuation and monitoring circuit feedback
- 4 Measure resistance and voltage at the solenoid and compare to manufacturer specifications
- 5 Check for stored PCM calibration updates and reflash if applicable
- 6 Remove and inspect the oil control valve for debris or sticking; clean or replace as needed
- 7 If electrical and hydraulic checks pass, perform a mechanical inspection of the deactivation rocker arm and lifter

Oil quality and circuit checks come first

- A low oil level or degraded oil is a common cause that is often overlooked because the engine may run fine otherwise.
The code can be set by a momentary glitch in the solenoid circuit that does not repeat, so always check for intermittent wiring faults before replacing parts.
- Some vehicles require a relearn or calibration procedure after solenoid replacement, and skipping it can cause the code to return.
- A stuck deactivation valve may not produce a noticeable misfire at idle because the engine runs on all cylinders; the fault may only appear during deactivation.
Aftermarket oil filters with poor anti-drainback valves can cause oil pressure fluctuations that trigger this code on some engines.

Can I keep driving with P3410?

You can usually drive the vehicle with this code, but avoid heavy acceleration and sustained high speeds until it is diagnosed, as prolonged operation with a faulty deactivation system may lead to catalytic converter damage or further engine wear.

Tools that help

- OBD-II scan tool with bidirectional control
- Digital multimeter
- Oil pressure gauge
- Basic hand tools (socket set, screwdrivers)
- Feeler gauges or vacuum gauge for mechanical checks



Reading P3410

- P** Powertrain: engine, transmission and emissions.
- 3** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 4** Auxiliary emission controls.
- 10** The exact fault within that area.

Often seen with

P0302 Cylinder 2 Misfire Detected · **P3400** Cylinder Deactivation System (Bank 1) · **P3401** Cylinder 1 Deactivation/Intake Valve Control Circuit/Open · **P3411** Cylinder 2 Deactivation/Intake Valve Control Circuit Low · **P3412** Cylinder 2 Deactivation/Intake Valve Control Circuit High

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/p3410/>

