

GENERIC · POWERTRAIN

P3418

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P3418

Cylinder 3 Deactivation/Intake Valve Control Performance

P3418 indicates that the powertrain control module detected a performance fault in the cylinder 3 deactivation or intake valve control circuit, meaning the engine cannot properly switch that cylinder's valve operation between full and deactivated modes. The computer monitors circuit voltage, current draw, or valve response time and sets this code when the expected change does not occur within the calibrated window.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or misfire-like shaking, especially when the engine transitions between cylinder modes
- Reduced engine power or a limp-home mode if the fault persists
- Audible ticking or tapping from the valve cover area during deactivation attempts
- Slightly worse fuel economy because the cylinder may stay active when it should deactivate
- Intermittent hesitation or stumble during light-throttle cruising

Common causes, most likely first

- 1 Faulty oil control solenoid or its electrical connector at the cylinder 3 deactivation rocker shaft
- 2 Sticking or mechanically binding deactivation rocker arm or intake valve actuator
- 3 Damaged or chafed wiring between the powertrain control module and the cylinder 3 solenoid
- 4 Low engine oil level or degraded oil preventing proper hydraulic actuation
- 5 Failed oil control valve screen or internal solenoid filter clogged with debris
- 6 Powertrain control module software calibration issue or internal driver fault
- 7 Collapsed or restricted oil gallery feeding the cylinder deactivation circuit



How to diagnose and fix it

- 1 Verify engine oil level and condition, then perform an oil and filter change if the oil is overdue or contaminated
- 2 Scan all modules for stored and pending codes, and check freeze-frame data for engine speed, load, and oil temperature at the time of the fault
- 3 Inspect the cylinder 3 oil control solenoid connector and harness for corrosion, chafing, or loose pins, and measure resistance against the manufacturer's specification
- 4 Command the cylinder deactivation solenoid on and off with a bidirectional scan tool while listening for a distinct click and watching for a change in engine roughness
- 5 Remove and bench-test the oil control solenoid for freedom of movement and clean or replace its filter screen if restricted
- 6 Check oil pressure at the deactivation gallery with a mechanical gauge and compare to specification to rule out internal oil supply problems
- 7 If electrical and hydraulic checks pass, inspect the rocker arm and intake valve actuator for mechanical binding or wear, and reflash the powertrain control module if a calibration update is available

Oil quality and hidden solenoid screens

- Many P3418 codes are set by degraded engine oil or a clogged solenoid filter screen rather than a failed solenoid, so a fresh oil change and screen cleaning often resolves the fault without parts replacement.
- A cylinder deactivation solenoid can pass a resistance test and still fail to actuate because the internal spool sticks intermittently when cold, so a cold-start command test is more revealing than a static ohm check.
- Technicians sometimes replace the rocker arm assembly when the real problem is a chafed wire in the harness near the valve cover, so always flex-test the harness while watching live solenoid current on the scan tool.
- This code can appear after a battery replacement or low-voltage event because the powertrain control module loses its learned deactivation adaptives, and a relearn drive cycle may clear it without any repair.
- An exhaust leak or a lazy oxygen sensor on the same bank can mimic a deactivation performance fault by corrupting the misfire and air-fuel monitors the module uses to validate cylinder 3 operation.

Can I keep driving with P3418?

You can usually drive the vehicle short distances at moderate speed, but avoid heavy acceleration and sustained highway cruising because a stuck deactivation valve can cause misfires and overheating of the affected cylinder. If the check engine light starts flashing or the engine runs very rough, stop driving and arrange a diagnosis.



Tools that help

- Bidirectional scan tool with cylinder deactivation command capability
- Digital multimeter with min/max recording
- Mechanical oil pressure gauge
- Basic hand tools and torque wrench
- Inspection mirror and bright flashlight
- Manufacturer service information for solenoid resistance and oil pressure specifications

Reading P3418

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

Often seen with

P0303 Cylinder 3 Misfire Detected · **P3400** Cylinder Deactivation System (Bank 1) · **P3410** Cylinder 2 Deactivation/Intake Valve Control Performance · **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/p3418/>

