

GENERIC · POWERTRAIN

P3433

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P3433

Cylinder 5 Deactivation/Intake Valve Control Circuit/Open

P3433 indicates that the powertrain control module (PCM) has detected an open circuit or excessive resistance in the control circuit for the cylinder 5 deactivation/intake valve, which is part of a variable displacement or cylinder deactivation system. The PCM commands the valve to change state and monitors the circuit for expected voltage or current feedback; when the signal falls outside the expected range, it sets this code and may disable the deactivation feature.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or misfire-like shudder when the engine transitions between full and reduced displacement modes
- Reduced fuel economy because the cylinder deactivation system is disabled
- Slight loss of power or sluggish acceleration under light load
- Audible ticking or tapping from the valve cover area if the control valve is stuck
- In rare cases, a pending misfire code for cylinder 5 may accompany the P3433

Common causes, most likely first

- 1 Damaged, chafed, or disconnected wiring in the cylinder 5 deactivation valve control circuit
- 2 Failed cylinder 5 deactivation/intake valve solenoid or actuator
- 3 Corroded or loose electrical connector at the valve or PCM
- 4 Open circuit inside the valve body or internal harness
- 5 PCM driver circuit failure (less common)
- 6 Oil sludge or debris blocking the valve, causing mechanical binding that mimics an electrical open



How to diagnose and fix it

- 1 Inspect the wiring harness and connector at the cylinder 5 deactivation valve for damage, corrosion, or looseness; repair as needed
- 2 Check for technical service bulletins (TSBs) or software updates for the deactivation system that may address false or nuisance P3433 codes
- 3 Measure resistance of the deactivation valve solenoid with a multimeter and compare to specification; replace the valve if out of range
- 4 Perform a voltage drop test on the control circuit while commanding the valve on and off with a scan tool to confirm an open or high resistance
- 5 Check the valve for mechanical binding or sludge buildup; clean or replace the valve body if necessary
- 6 If all external circuits and the valve test good, test the PCM driver circuit and replace the PCM only as a last resort

Don't overlook the simple wiring fault

- A loose or corroded connector at the deactivation valve is a frequent cause of P3433 that is often missed when technicians jump straight to replacing the valve.
- The code can be set by a mechanical issue such as sludge blocking the valve, which causes the solenoid to draw abnormal current and trip the open-circuit monitor.
- Some vehicles may set P3433 intermittently due to vibration or heat-related wire chafing, so a wiggle test while monitoring live data is essential.
- Replacing the deactivation valve without checking the PCM software version can lead to a repeat failure if a known calibration update is available.
- P3433 does not always mean the valve itself has failed; the circuit includes the PCM, wiring, and connectors, so a systematic electrical diagnosis is required.

Can I keep driving with P3433?

You can usually continue driving with P3433 because the engine will default to full displacement and remain driveable, but avoid heavy towing or aggressive acceleration until the fault is repaired. Prolonged driving with the system disabled may reduce fuel economy and could lead to secondary misfire codes if the valve is mechanically stuck.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools (socket set, screwdrivers)
- Test light or jumper wires



Reading P3433

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

Often seen with

P0305 Cylinder 5 Misfire Detected · **P3400** Cylinder Deactivation System (Bank 1) · **P3430** Cylinder 4 Exhaust Valve Control Performance · **P3431** Cylinder 4 Exhaust Valve Control Circuit Low · **P3432** Cylinder 4 Exhaust 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/p3433/>

