

GENERIC · POWERTRAIN

P3411

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P3411

Cylinder 2 Deactivation/Intake Valve Control Circuit Low

P3411 indicates that the powertrain control module (PCM) has detected a low-voltage condition on the control circuit for the cylinder 2 deactivation/intake valve, which is part of a variable valve timing or cylinder deactivation system. The PCM commands the valve to change state, but the circuit feedback indicates the voltage is below the expected threshold, so the system cannot reliably alter cylinder 2's intake valve operation.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough idle or misfire-like shuddering, especially when the engine transitions between full and deactivated cylinder modes.
- Reduced engine power or sluggish acceleration if the system defaults to a fail-safe mode.
- Poor fuel economy because the cylinder deactivation feature is disabled.
- In rare cases, a noticeable ticking or tapping noise from the affected cylinder head area.

Common causes, most likely first

- 1 Damaged, chafed, or disconnected wiring in the cylinder 2 deactivation/intake valve control circuit.
- 2 Corroded or loose electrical connector at the valve solenoid or PCM.
- 3 Failed cylinder 2 deactivation/intake valve solenoid (open or shorted coil).
- 4 Internal PCM driver circuit fault, though this is less common.
- 5 Low system voltage or a weak battery causing erratic solenoid operation.
- 6 Oil sludge or debris blocking the valve, causing it to draw excessive current and set a low-voltage code.



How to diagnose and fix it

- 1 Inspect the wiring harness and connector at the cylinder 2 deactivation/intake valve for damage, corrosion, or looseness; repair as needed.
- 2 Check battery voltage and charging system output to rule out low supply voltage affecting the control circuit.
- 3 Measure resistance of the valve solenoid and compare to manufacturer specifications; replace if out of range.
- 4 Backprobe the control circuit at the PCM and valve to check for voltage drops or shorts to ground with a multimeter.
- 5 Perform a functional test of the valve using a scan tool bidirectional control, if available, to confirm operation.
- 6 If the circuit and solenoid test good, suspect an internal PCM fault; consult factory service information for further diagnostics before replacement.

Don't overlook the simple electrical checks

- A low-voltage code often results from a poor ground connection rather than a failed solenoid, so inspect ground points near the cylinder head.
- Oil contamination in the connector can cause resistance changes that mimic a faulty valve, so always check for oil wicking through the harness.
- The code may set intermittently due to vibration or heat, so wiggle-test the harness while monitoring live data to catch intermittent faults.
- Replacing the solenoid without addressing a shorted wire will lead to a repeat failure, so always repair the root cause.
- Some vehicles use the same circuit for multiple cylinders, so a fault in one valve can affect others and set related codes.

Can I keep driving with P3411?

You can generally drive the vehicle with this code, but avoid heavy acceleration or towing because the cylinder deactivation system may be disabled and engine performance could be reduced. Prolonged driving with a misfire-like symptom can damage the catalytic converter, so have it diagnosed soon.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools (socket set, screwdrivers)
- Electrical contact cleaner and dielectric grease



Reading P3411

- P** Powertrain: engine, transmission and emissions.
- 3** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 4** Auxiliary emission controls.
- 11** 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 · **P3410** Cylinder 2 Deactivation/Intake Valve Control Performance · **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/p3411/>

