

GENERIC · POWERTRAIN

P3414

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P3414

Cylinder 2 Exhaust Valve Control Performance

P3414 is a manufacturer-specific code indicating that the powertrain control module has detected a performance issue with the exhaust valve control circuit for cylinder 2. The computer monitors the valve's response to commands and sets this code when the actual valve behavior does not match the expected timing or lift profile.

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

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or misfire sensation, especially when the engine is cold
- Reduced engine power or sluggish acceleration
- Increased fuel consumption
- Audible ticking or tapping from the valve cover area
- Failed emissions test due to increased hydrocarbon emissions

Common causes, most likely first

- 1 Faulty exhaust valve control solenoid or actuator
- 2 Wiring damage or poor electrical connection at the valve control connector
- 3 Sticking or seized exhaust valve mechanism due to carbon buildup or mechanical wear
- 4 Failed oil control valve or variable valve timing component affecting exhaust valve operation
- 5 Low engine oil level or degraded oil causing insufficient hydraulic pressure
- 6 Engine control module software calibration issue or internal fault



How to diagnose and fix it

- 1 Verify oil level and condition; top off or change oil if necessary
- 2 Perform a visual inspection of the exhaust valve control solenoid connector and wiring for damage or corrosion
- 3 Use a scan tool to command the exhaust valve actuator and observe response; compare with a known-good cylinder
- 4 Measure resistance and voltage at the solenoid according to manufacturer specifications
- 5 Check for mechanical binding by manually actuating the valve or using a vacuum gauge
- 6 Replace the exhaust valve control solenoid if electrical tests fail
- 7 If the solenoid and wiring are good, inspect the valve train for carbon buildup or mechanical faults and perform a decarbonization service or repair as needed

What most technicians overlook on P3414

- A stuck exhaust valve control solenoid often does not set a misfire code, so technicians may chase ignition or fuel issues first.
Oil sludge or infrequent oil changes can cause the solenoid to stick intermittently, setting P3414 without a hard failure.
- The code can be triggered by a faulty variable valve timing solenoid that shares the same oil circuit, so testing both is wise.
- Some vehicles require a relearn procedure after solenoid replacement; skipping it can cause the code to return immediately.
Exhaust valve control performance can be affected by exhaust backpressure; a clogged catalytic converter may mimic a solenoid fault.

Can I keep driving with P3414?

You can usually drive the vehicle with P3414, but avoid heavy acceleration or towing until it is repaired. Prolonged driving may lead to increased emissions, reduced fuel economy, and potential valve damage.

Tools that help

- OBD-II scan tool with bidirectional control
- Digital multimeter
- Vacuum gauge
- Oil pressure gauge
- Basic hand tools (socket set, screwdrivers)
- Service information for valve control specifications



Reading P3414

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

Often seen with

P0011 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0021** 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0302** Cylinder 2 Misfire Detected · **P3413** Cylinder 2 Exhaust Valve Control Circuit/Open · **P3415** Cylinder 2 Exhaust Valve Control Circuit Low

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/p3414/>

