

GENERIC · POWERTRAIN

P3437

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P3437

Cylinder 5 Exhaust Valve Control Circuit/Open

P3437 indicates that the powertrain control module (PCM) has detected an open circuit or excessive resistance in the electrical path controlling the exhaust valve for cylinder 5. This circuit typically operates a solenoid or actuator that varies exhaust valve timing or lift to improve efficiency and emissions, and the PCM sets the code when the commanded state does not match the feedback signal.

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 sensation, especially when the engine is cold
- Reduced engine power or sluggish acceleration under load
- Decreased fuel economy due to improper valve timing
- Intermittent hesitation or stumble during light-throttle cruising
- Failed emissions test due to increased exhaust emissions

Common causes, most likely first

- 1 Open or damaged wiring in the exhaust valve control circuit, such as a broken wire or corroded connector
- 2 Faulty exhaust valve control solenoid or actuator that has failed electrically
- 3 Poor electrical connection at the solenoid or PCM, including loose pins or water intrusion
- 4 Failed PCM driver for the exhaust valve control circuit, though this is less common
- 5 Mechanical binding or sticking of the exhaust valve mechanism, causing the actuator to draw excessive current or report an open circuit
- 6 Aftermarket or damaged components installed in the circuit that do not meet specifications



How to diagnose and fix it

- 1 Use a scan tool to verify P3437 is active and check for related codes or freeze-frame data
- 2 Inspect the wiring harness and connectors at the cylinder 5 exhaust valve solenoid for damage, corrosion, or looseness
- 3 Measure resistance of the exhaust valve control solenoid and compare to the manufacturer's specification
- 4 Check for voltage and ground signals at the solenoid connector while commanding the circuit on and off with the scan tool
- 5 Perform a continuity and short-to-ground test on the control circuit between the PCM and solenoid
- 6 If electrical tests pass, inspect the exhaust valve mechanism for binding or carbon buildup that could cause an open circuit under load
- 7 Replace the faulty solenoid, repair wiring, or reprogram/replace the PCM as indicated by test results, then clear codes and verify repair

When the wiring tests good but the code returns

- A common oversight is assuming the solenoid is defective when the real problem is a chafed wire inside the loom that only opens when the engine shifts under torque.
- The code can be set by a mechanical fault in the exhaust valve train that causes the actuator to overheat and fail electrically, so always inspect the valve mechanism after replacing a solenoid.
- Some vehicles use a shared power or ground circuit for multiple cylinder valve actuators, so a fault in one cylinder's wiring can affect others and set companion codes.
- Intermittent open circuits often leave no freeze-frame data, so a wiggle test of the harness while monitoring live data is more reliable than a static resistance check.
- Replacing the PCM without first verifying the control circuit can introduce new programming issues and is rarely the correct fix for this code.

Can I keep driving with P3437?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because the disabled exhaust valve control can cause poor performance and increased emissions. If the engine runs roughly or misfires, limit driving to prevent damage to the catalytic converter.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter with resistance and voltage measurement
- Wiring diagram for the specific vehicle
- Test light or logic probe
- Basic hand tools for connector and component access



Reading P3437

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

Often seen with

P0011 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0305** Cylinder 5 Misfire Detected · **P3435** Cylinder 5 Deactivation/Intake Valve Control Circuit Low · **P3436** Cylinder 5 Deactivation/Intake Valve Control Circuit High · **P3438** Cylinder 5 Exhaust Valve Control Performance

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/p3437/>

