

GENERIC · POWERTRAIN

P3439

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P3439

Cylinder 5 Exhaust Valve Control Circuit Low

P3439 indicates that the powertrain control module has detected an abnormally low voltage or current on the electrical circuit that controls the exhaust valve for cylinder 5. This circuit typically operates a solenoid or actuator that varies exhaust valve timing or lift, and a low condition means the PCM sees a short to ground, an open circuit, or a faulty actuator.

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, especially when the engine is cold
- Reduced engine power or sluggish acceleration due to improper exhaust valve timing
- Poor fuel economy as the engine management system reverts to a default strategy
- Occasional stalling or hesitation during light-throttle cruising
- Audible ticking or tapping from the valve cover area if the actuator is mechanically stuck

Common causes, most likely first

- 1 Damaged or disconnected wiring harness at the cylinder 5 exhaust valve actuator connector
- 2 Failed exhaust valve control solenoid or actuator on cylinder 5
- 3 Corroded or loose electrical connector pins at the actuator or PCM
- 4 Short to ground in the control circuit wiring between the PCM and the actuator
- 5 Faulty powertrain control module driver for the exhaust valve circuit
- 6 Internal mechanical binding of the exhaust valve or rocker arm causing excessive current draw



How to diagnose and fix it

- 1 Connect a scan tool and verify P3439 is current, then check for related circuit codes and freeze-frame data
- 2 Visually inspect the cylinder 5 exhaust valve actuator connector and wiring for chafing, corrosion, or loose pins
- 3 Measure resistance of the exhaust valve actuator solenoid and compare to the manufacturer's specification
- 4 Back-probe the control circuit at the PCM and check for a short to ground or an open circuit with a multimeter
- 5 Perform a voltage drop test on the power and ground sides of the actuator circuit under load
- 6 If wiring and actuator test good, substitute a known-good actuator or use a bidirectional scan tool to command the valve and observe circuit response
- 7 Repair or replace the faulty wiring, connector, actuator, or PCM as indicated by the test results, then clear codes and verify the repair

What a low exhaust valve circuit really means

- A low circuit code often results from a short to ground in the wiring rather than a failed actuator, so resistance checks at the connector can be misleading if the harness is still connected to the PCM.
Some engines use the exhaust valve control circuit to improve cold-start emissions and may set P3439 only during specific operating conditions, making intermittent faults difficult to reproduce in the shop.
- Technicians sometimes replace the exhaust valve actuator when the real problem is a corroded ground strap or a weak battery causing low system voltage that triggers the code.
- The PCM may command the exhaust valve to a default position when the circuit is low, so the driver may not feel a pronounced performance change even though the code is stored.
A mechanical binding in the exhaust valve train can increase current draw and set a low circuit code without any electrical fault, so always check for free movement of the valve mechanism.

Can I keep driving with P3439?

You can usually drive the vehicle with P3439 set, but avoid sustained high-speed or heavy-load driving because the engine may be running with a default exhaust valve strategy that can increase emissions and reduce power. Have the circuit inspected soon to prevent potential catalytic converter damage from incorrect valve timing.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter with back-probe pins
- Wiring diagram for the specific vehicle
- Socket set and trim removal tools for access
- Test light or load tester for circuit verification



Reading P3439

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

Often seen with

P0011 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0014** Exhaust Camshaft Position - Over-Advanced (Bank 1) · **P0305** Cylinder 5 Misfire Detected · **P3438** Cylinder 5 Exhaust Valve Control Performance · **P3440** Cylinder 5 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/p3439/>

