

GENERIC · POWERTRAIN

P0029

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0029

Exhaust Valve Control Solenoid Circuit Range/Performance (Bank 2)

P0029 indicates that the powertrain control module (PCM) has detected an out-of-range or performance fault in the electrical circuit for the bank 2 exhaust valve control solenoid, which is part of the variable valve timing system on the exhaust camshaft. The computer monitors the solenoid's commanded current and the resulting camshaft position, and it sets this code when the circuit's resistance or response does not match expected values.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or engine misfire, especially when cold
- Reduced engine power or sluggish acceleration
- Poor fuel economy
- Intermittent stalling or hesitation during acceleration

Common causes, most likely first

- 1 Faulty bank 2 exhaust valve control solenoid (open or shorted coil)
- 2 Damaged or corroded wiring or connector at the solenoid
- 3 Engine oil sludge or debris clogging the solenoid screen or oil passages
- 4 Low engine oil level or degraded oil
- 5 Failed PCM driver for the solenoid circuit (rare)
- 6 Mechanical binding of the exhaust camshaft phaser



How to diagnose and fix it

- 1 Check engine oil level and condition; top off or change oil if needed
- 2 Inspect the solenoid connector and wiring for damage, corrosion, or loose pins
- 3 Measure the solenoid resistance with a multimeter and compare to specification
- 4 Test the solenoid circuit for power and ground with a test light or multimeter
- 5 Remove and clean the solenoid screen; replace if clogged or damaged
- 6 Swap the bank 2 exhaust solenoid with a known-good one to see if the code moves
- 7 If the circuit and solenoid test good, diagnose the PCM driver or camshaft phaser

Oil quality and solenoid screens matter

- A clogged solenoid screen from neglected oil changes is one of the most common causes of this code, and cleaning it often resolves the issue without parts replacement.
- The code can be set by a mechanical camshaft phaser problem even when the solenoid and wiring test perfectly, so do not overlook mechanical timing components.
- Intermittent wiring faults at the connector can mimic a failed solenoid, so wiggle-test the harness while monitoring live data.
- Using the wrong viscosity oil or extended oil change intervals can cause the solenoid to stick and set this code repeatedly.
- A failing bank 2 exhaust solenoid may not produce noticeable driveability symptoms until the camshaft phaser defaults to a fixed position.

Can I keep driving with P0029?

You can usually drive the vehicle with this code, but avoid aggressive acceleration and heavy loads until it is repaired, as prolonged driving with a faulty variable valve timing system can lead to poor fuel economy and potential catalytic converter damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Test light
- Socket set and wrench set
- Torque wrench
- Oil filler funnel and drain pan



Reading P0029

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- 29** The exact fault within that area.

Often seen with

P0011 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0016** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A) · **P0026** Intake Valve Control Solenoid Circuit Range/Performance (Ban · **P0027** Exhaust Valve Control Solenoid Circuit Range/Performance (Ba · **P0028** Intake Valve Control Solenoid Circuit Range/Performance (Ban

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/p0029/>

