

GENERIC · POWERTRAIN

P3493

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P3493

Cylinder 12 Exhaust Valve Control Circuit/Open

P3493 indicates that the powertrain control module (PCM) has detected an open circuit or excessive resistance in the electrical path for the exhaust valve control solenoid on cylinder 12. This circuit is part of a variable valve timing or cylinder deactivation system that adjusts exhaust valve operation for efficiency and emissions, and the PCM sets the code when commanded current does not match expected values.

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 sensation, especially when the engine is cold or under light load
- Reduced engine power or sluggish acceleration due to improper exhaust valve timing
- Decreased fuel economy as the engine cannot optimize valve events
- In rare cases, a noticeable ticking or tapping noise from the affected cylinder bank

Common causes, most likely first

- 1 Failed exhaust valve control solenoid or actuator on cylinder 12
- 2 Damaged, chafed, or disconnected wiring harness at the solenoid connector
- 3 Corroded or loose electrical connector pins at the solenoid or PCM
- 4 Open circuit inside the solenoid coil due to heat and vibration fatigue
- 5 PCM internal driver failure for that specific circuit (less common)
- 6 Oil sludge or debris obstructing the solenoid, causing electrical resistance changes



How to diagnose and fix it

- 1 Perform a visual inspection of the solenoid connector and wiring for damage, corrosion, or loose pins
- 2 Measure the resistance of the exhaust valve control solenoid with a digital multimeter and compare to manufacturer specifications
- 3 Check for battery voltage at the solenoid connector with the key on and engine off to verify power supply
- 4 Test the control circuit from the PCM to the solenoid for continuity and short to ground
- 5 If the solenoid fails electrical tests, replace the exhaust valve control solenoid
- 6 Clear the code and perform a road test to verify the repair and ensure the monitor runs to completion
- 7 If the circuit tests good but the code persists, diagnose the PCM driver or consult a factory service manual for advanced testing

What a P3493 really tells you

- A P3493 is often set by a failing solenoid that still operates mechanically but has an intermittent open in its coil, so resistance tests may pass when cold and fail when hot.
Wiring harness damage near the exhaust manifold is a common cause that technicians miss because the insulation looks intact until the harness is flexed.
- The code does not always mean the solenoid is defective; a poor ground connection at the engine block can create excessive resistance on the control circuit.
- On engines with cylinder deactivation, a P3493 may be accompanied by a misfire code for cylinder 12, but the misfire is a symptom of the valve control fault, not a separate ignition issue.
Replacing the solenoid without checking for oil sludge in the oil control passages can lead to a repeat failure within a few thousand miles.

Can I keep driving with P3493?

You can usually drive the vehicle with a P3493, but avoid heavy acceleration and towing until the fault is repaired because the engine may enter a reduced-power mode. Prolonged driving with the code can lead to increased emissions and potential damage to the catalytic converter.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Factory service manual or wiring diagram
- Basic hand tools for connector and component access
- Test light or jumper wires for circuit testing



Reading P3493

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

Often seen with

P0011 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0300** Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 Misfire Detected · **P3492** Cylinder 12 Deactivation/Intake Valve Control Circuit High · **P3494** Cylinder 12 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/p3493/>

