

GENERIC · POWERTRAIN

P3494

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P3494

Cylinder 12 Exhaust Valve Control Performance

P3494 indicates that the powertrain control module has detected a performance fault in the exhaust valve control circuit for cylinder 12, typically on engines with variable valve timing or cylinder deactivation. The computer monitors the valve's electrical circuit and mechanical response, and it sets this code when the commanded valve state does not match the actual state within a calibrated time window.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

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
- Increased fuel consumption as the engine compensates for inefficient breathing
- Occasional stalling or hesitation when coming to a stop
- Audible ticking or tapping from the valve cover area if the valve control mechanism is worn

Common causes, most likely first

- 1 Faulty exhaust valve control solenoid or actuator on cylinder 12
- 2 Damaged or chafed wiring in the exhaust valve control circuit, including connector corrosion
- 3 Sticking or seized exhaust valve control mechanism due to sludge or carbon buildup
- 4 Failed oil control valve or low oil pressure affecting variable valve timing operation
- 5 Engine control module software calibration issue or internal fault
- 6 Worn camshaft lobes or rocker arm components specific to cylinder 12



How to diagnose and fix it

- 1 Verify battery voltage and inspect the exhaust valve control solenoid connector and wiring for damage or corrosion
- 2 Check oil level and condition, then perform an oil and filter change if the oil is dirty or low
- 3 Use a scan tool to command the exhaust valve control solenoid on and off while listening for actuator clicks
- 4 Measure resistance of the exhaust valve control solenoid and compare to manufacturer specifications
- 5 Perform a cylinder leak-down or compression test on cylinder 12 to rule out mechanical valve issues
- 6 Inspect and clean the oil control valve screen and passages if sludge is suspected
- 7 If all electrical and mechanical checks pass, reflash or replace the engine control module as a last resort

Why Cylinder 12 Exhaust Valve Codes Mislead

- A P3494 can be set by a simple oil pressure drop at idle, so always verify oil pressure with a mechanical gauge before condemning the solenoid.
- Many technicians replace the exhaust valve solenoid only to find the real problem is a clogged oil control valve screen that starves the actuator of oil.
- The code does not always mean the valve itself is faulty; a poor electrical ground or a weak battery can cause intermittent performance faults.
- On engines with cylinder deactivation, a P3494 may be accompanied by misfire codes for cylinder 12 that disappear when the engine is at operating temperature.
- After any repair, clear the code and perform a relearn or adaptation drive cycle, because some modules will not re-enable the exhaust valve control until the monitor runs successfully.

Can I keep driving with P3494?

You can usually drive with this code, but avoid heavy acceleration and prolonged idling until it is diagnosed, because continued operation with a faulty exhaust valve control can lead to catalytic converter damage or engine misfire.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter
- Mechanical oil pressure gauge
- Compression tester or cylinder leak-down tester
- Basic hand tools and socket set
- Wiring diagram and service information for the specific vehicle



Reading P3494

- P** Powertrain: engine, transmission and emissions.
- 3** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 4** Auxiliary emission controls.
- 94** 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 · **P3493** Cylinder 12 Exhaust Valve Control Circuit/Open · **P3495** Cylinder 12 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/p3494/>

