

GENERIC · POWERTRAIN

P0308

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0308

Cylinder 8 Misfire Detected

P0308 means the engine computer has detected a misfire on cylinder 8, the eighth cylinder in the engine's firing order, by monitoring crankshaft speed fluctuations. The powertrain control module (PCM) compares the acceleration of the crankshaft after each cylinder's power stroke and flags this code when cylinder 8 consistently contributes less power than expected.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Intermediate

AREA

Ignition system and misfire

Symptoms you may notice

- Often no symptoms besides the warning light, especially during light-throttle cruising
- Noticeable engine shake or vibration at idle that may smooth out as engine speed rises
- Reduced power and sluggish acceleration, particularly under load or when climbing hills
- A flashing check engine light during hard acceleration, indicating a misfire severe enough to damage the catalytic converter
- Rough running accompanied by a fuel smell from the exhaust if unburned fuel is passing through
- Poor fuel economy and, on some vehicles, a slight surge or stumble during steady-speed driving

Common causes, most likely first

- 1 Worn or fouled spark plug on cylinder 8, including incorrect gap or a plug that is the wrong heat range
- 2 Failed ignition coil or coil-on-plug boot on cylinder 8, often caused by oil or coolant contamination
- 3 Faulty or clogged fuel injector for cylinder 8, delivering too little or an uneven spray pattern
- 4 Vacuum leak or intake manifold gasket leak affecting the air/fuel mixture at cylinder 8 specifically
- 5 Low compression on cylinder 8 from worn rings, a burned valve, or a leaking head gasket
- 6 Damaged or chafed wiring to the cylinder 8 coil or injector, or a corroded connector
- 7 Mechanical valvetrain fault such as a collapsed lifter or worn camshaft lobe on cylinder 8



How to diagnose and fix it

- 1 Scan all stored and pending codes and record freeze-frame data to confirm the misfire is isolated to cylinder 8 and not accompanied by lean or rich codes.
- 2 Inspect the cylinder 8 spark plug and ignition coil, swapping the coil and plug with a neighbouring cylinder to see whether the misfire follows the component.
- 3 Perform a cylinder contribution or power balance test with a scan tool to verify which cylinder is actually misfiring before replacing parts.
- 4 Check fuel injector operation by listening with a stethoscope or performing an injector balance test, and inspect the injector connector and wiring for damage.
- 5 Run a compression test and, if compression is low, a cylinder leak-down test to rule out mechanical faults before chasing ignition or fuel problems.
- 6 Smoke-test the intake system for vacuum leaks and inspect the intake manifold gasket around cylinder 8 for signs of leakage.
- 7 Repair the confirmed fault, clear the codes, and road-test the vehicle through several drive cycles to verify the misfire counter stays at zero.

Why cylinder 8 misfires get misdiagnosed

- A P0308 on V8 engines with cylinder deactivation is frequently caused by a failed lifter or solenoid in the deactivation system rather than by ignition or fuel components, so check whether cylinder 8 is one of the deactivated cylinders.
- Oil leaking past the valve cover gasket into the spark plug well can ruin the coil boot on cylinder 8 and cause a misfire that returns shortly after replacing the coil unless the leak is fixed.
- A misfire counter can be triggered by a single event such as a low-fuel stumble or a rough road, so a P0308 that appears once and never returns may not indicate a real mechanical fault.
- Cylinder 8 is often the hardest cylinder to reach at the back of a transverse V6 or V8, and technicians sometimes skip the compression test, missing a burned exhaust valve that mimics an ignition fault.
- An exhaust leak or a failing catalytic converter on the bank feeding cylinder 8 can set a misfire code by altering oxygen sensor feedback, so inspect exhaust integrity before condemning ignition parts.

Can I keep driving with P0308?

Avoid driving with a flashing check engine light because raw fuel entering the exhaust can overheat and destroy the catalytic converter within minutes. If the light is steady and the engine runs smoothly, limit driving to a short trip to a repair shop and avoid heavy acceleration or towing.



Tools that help

- OBD-II scan tool with live misfire counter and freeze-frame capability
- Spark plug socket and torque wrench
- Compression tester and cylinder leak-down tester
- Fuel injector balance tester or stethoscope
- Smoke machine for intake leak detection
- Digital multimeter for checking coil and injector wiring

Reading P0308

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
3	Ignition system and misfire.
08	The exact fault within that area.

Often seen with

P0171 System Too Lean (Bank 1) · **P0174** System Too Lean (Bank 2) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 Misfire Detected · **P0307** Cylinder 7 Misfire Detected

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/p0308/>

