

GENERIC · POWERTRAIN

P01D3

OBD-II TROUBLE CODE

## P01D3

# Cylinder 5 Injection Timing Performance - Over Retarded

P01D3 indicates that the engine control module (ECM) has detected the fuel injection timing for cylinder 5 is more retarded than the commanded value, meaning the injector is firing later than intended. The ECM compares the actual injection event timing to its target and sets this code when the deviation exceeds a calibrated threshold.

|            |                     |          |                |                       |
|------------|---------------------|----------|----------------|-----------------------|
| SYSTEM     | CODE TYPE           | SEVERITY | FIX DIFFICULTY | AREA                  |
| Powertrain | Generic (all makes) | Medium   | Intermediate   | Fuel and air metering |

## Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or misfire sensation, especially noticeable at low engine speeds
- Reduced engine power or sluggish acceleration
- Increased fuel consumption due to inefficient combustion
- Occasional engine stumble or hesitation during acceleration
- Elevated exhaust emissions, which may be detected during an emissions test

## Common causes, most likely first

- 1 Faulty or sticking fuel injector for cylinder 5
- 2 Wiring harness damage or poor electrical connection at the cylinder 5 injector
- 3 Contaminated or degraded engine oil affecting variable valve timing (VVT) operation
- 4 Failed VVT solenoid or phaser, causing incorrect camshaft timing
- 5 Low fuel pressure or restricted fuel flow to the injector
- 6 Engine control module (ECM) software calibration issue or internal fault



## How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related diagnostic trouble codes (DTCs) in the engine control system
- 2 Inspect the wiring and connector at the cylinder 5 fuel injector for corrosion, chafing, or loose pins
- 3 Perform a fuel injector balance test or swap the cylinder 5 injector with a known-good one to see if the code follows
- 4 Check engine oil condition and level, as dirty oil can affect VVT operation; replace oil and filter if due
- 5 Test the VVT solenoid for proper resistance and operation, and inspect the camshaft phaser for wear
- 6 Measure fuel pressure and compare to specification; repair any fuel delivery issues
- 7 If all mechanical and electrical checks pass, reprogram the ECM with the latest calibration or replace it if faulty

## Common Misdiagnosis Traps for P01D3

- A stuck or clogged injector is often replaced unnecessarily when the real cause is a faulty VVT solenoid that alters camshaft timing and skews injection timing calculations.  
The ECM may set P01D3 due to a software calibration issue, so always check for technical service bulletins (TSBs) before replacing hardware.
- Wiring problems at the injector connector can mimic a failed injector, so perform a wiggle test and continuity check before condemning the injector.
- Low oil pressure or sludge buildup can prevent the VVT phaser from responding correctly, leading to retarded injection timing without any injector fault.  
This code can be set by a marginal fuel pressure regulator that causes lean conditions, so always verify fuel pressure under load.

## Can I keep driving with P01D3?

You can usually drive the vehicle with this code, but avoid heavy acceleration and towing until it is repaired. Prolonged driving may lead to increased emissions, reduced fuel economy, and potential damage to the catalytic converter.

## Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Fuel pressure gauge
- Noid light or injector test light
- Basic hand tools (socket set, screwdrivers, pliers)



## Reading P01D3

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- D3** The exact fault within that area.

## Often seen with

**P0011** 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0087** Fuel Rail/System Pressure - Too Low · **P01D2** Cylinder 4 Injection Timing Performance - Over Advanced · **P01D4** Cylinder 5 Injection Timing Performance - Over Advanced · **P0305** Cylinder 5 Misfire Detected

## See it working

Watch the animated explainer [How a Helicopter Flies: Rotor and Tail in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01d3/>

