

GENERIC · POWERTRAIN

P01D0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01D0

Cylinder 3 Injection Timing Performance - Over Advanced

P01D0 indicates that the engine control module has detected the fuel injection timing for cylinder 3 is more advanced than the commanded value during monitored conditions. The computer compares the actual injection event timing to the desired timing and sets this code when the deviation exceeds a calibrated threshold, typically indicating a mechanical or electrical fault in the cylinder 3 injector circuit or fuel system.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	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 when the engine is cold
- Reduced engine performance or hesitation during acceleration
- Increased fuel consumption due to inefficient combustion
- Possible black smoke or fuel odor from the exhaust if injection timing is severely advanced

Common causes, most likely first

- 1 Faulty or sticking cylinder 3 fuel injector
- 2 Wiring harness damage or poor electrical connection at the cylinder 3 injector
- 3 Contaminated fuel or clogged fuel filter affecting injector performance
- 4 Engine control module software calibration issue or internal fault
- 5 Mechanical wear in the high-pressure fuel pump or fuel rail affecting pressure delivery
- 6 Camshaft or crankshaft position sensor signal interference affecting timing calculation

How to diagnose and fix it

- 1 Perform a visual inspection of the cylinder 3 injector connector and wiring for damage or corrosion
- 2 Check fuel pressure and quality, including filter condition, to rule out supply issues
- 3 Use a scan tool to monitor injection timing parameters and compare commanded versus actual values
- 4 Swap the cylinder 3 injector with a known-good injector from another cylinder to see if the code follows
- 5 Test the injector circuit with a noid light or oscilloscope to verify proper pulse signals
- 6 Reflash or update the engine control module with the latest calibration if applicable
- 7 Replace the cylinder 3 fuel injector if electrical and fuel supply tests confirm it is faulty



Before replacing the cylinder 3 injector

- A dirty or failing mass airflow sensor can skew fuel delivery calculations and cause injection timing to appear over-advanced, so check its readings first.
- Low fuel pressure from a weak pump or clogged filter often mimics an injector fault, leading to unnecessary injector replacement.
- The code can be set by a loose ground connection at the engine block, which affects injector pulse timing; inspect grounds before condemning parts.
- On some vehicles, a faulty camshaft position sensor can cause the ECM to misjudge injection timing without setting a separate cam sensor code.
- After repairs, the adaptive learning values for injection timing may need to be reset with a scan tool to prevent the code from returning prematurely.

Can I keep driving with P01D0?

You can usually drive the vehicle with this code, but avoid heavy acceleration or towing until it is diagnosed, as prolonged driving with advanced injection timing can lead to increased emissions and potential engine damage over time.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Noid light or oscilloscope
- Fuel pressure gauge
- Basic hand tools for injector access

Reading P01D0

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.
D0	The exact fault within that area.

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P01D1** Cylinder 4 Injection Timing Performance - Over Retarded
 · **P0203** Injector Circuit Malfunction - Cylinder 3 · **P0261** Cylinder 1 Injector Circuit Low · **P0303** Cylinder 3 Misfire Detected



See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01d0/>

