

GENERIC · POWERTRAIN

P01DE

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01DE

Cylinder 10 Injection Timing Performance - Over Advanced

P01DE indicates that the engine control module has detected the fuel injection timing for cylinder 10 is more advanced than the commanded value during its self-test. The computer compares the actual injector opening event to the expected timing and flags an over-advanced condition when the deviation exceeds a calibrated threshold.

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 power or hesitation during acceleration
- Increased fuel consumption due to inefficient combustion
- Occasional hard starting or extended cranking
- Audible pinging or knocking under load if the advanced timing causes detonation

Common causes, most likely first

- 1 Faulty fuel injector for cylinder 10, such as a sticking or leaking nozzle
- 2 Wiring harness damage or poor electrical connection at the cylinder 10 injector
- 3 Engine control module software calibration issue or internal fault
- 4 Contaminated engine oil affecting variable valve timing operation
- 5 Low fuel pressure or restricted fuel supply affecting injection timing
- 6 Worn timing chain or belt causing camshaft timing deviation
- 7 Failed camshaft position sensor or crankshaft position sensor providing inaccurate timing signals



How to diagnose and fix it

- 1 Connect a scan tool and verify P01DE is current, then check for related codes and freeze-frame data
- 2 Inspect the cylinder 10 injector connector and wiring for corrosion, chafing, or loose pins
- 3 Perform a fuel injector balance test or swap the cylinder 10 injector with a known-good one to see if the code moves
- 4 Check fuel pressure and volume against the manufacturer's specification
- 5 Verify engine oil condition and level, and inspect variable valve timing components if equipped
- 6 Use a lab scope to compare camshaft and crankshaft sensor signals for timing chain stretch
- 7 If all mechanical and electrical checks pass, reprogram or replace the engine control module as a last resort

Cylinder 10 injection timing over-advanced traps

- A dirty or failing mass airflow sensor can skew the calculated injection timing and set this code without any injector fault.
- The code may be stored intermittently due to a poor ground connection at the engine block, which affects injector driver operation.
- On engines with variable valve timing, a stuck oil control valve can alter cam phasing and cause the ECM to perceive over-advanced injection timing.
- Replacing the cylinder 10 injector without checking the fuel rail pressure can lead to a repeat code if low pressure is the real cause.
- Some aftermarket performance tuners alter injection timing tables and can trigger P01DE even when all hardware is functioning correctly.

Can I keep driving with P01DE?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing until the fault is diagnosed. Prolonged driving with over-advanced injection timing can lead to engine damage from detonation or overheating.

Tools that help

- OBD-II scan tool with live data and bidirectional controls
- Digital multimeter for circuit testing
- Fuel pressure gauge
- Lab scope for signal analysis
- Mechanic's stethoscope for injector listening
- Basic hand tools for injector removal and replacement



Reading P01DE

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.
DE	The exact fault within that area.

Often seen with

P0171 System Too Lean (Bank 1) · **P01DC** Cylinder 9 Injection Timing Performance - Over Advanced · **P01DD** Cylinder 10 Injection Timing Performance - Over Retarded · **P01DF** Cylinder 11 Injection Timing Performance - Over Retarded · **P0300** Random/Multiple Cylinder Misfire Detected

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01de/>

