

GENERIC · POWERTRAIN

P01E0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01E0

Cylinder 11 Injection Timing Performance - Over Advanced

P01E0 indicates that the powertrain control module (PCM) has detected the fuel injection timing for cylinder 11 is more advanced than the commanded value during self-test monitoring. The computer compares the actual injection event timing, often derived from crankshaft and camshaft position signals, against the expected timing and flags an error when the deviation exceeds a calibrated threshold.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

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, particularly noticeable at low engine speeds
- Reduced engine performance or sluggish acceleration under load
- Increased fuel consumption due to inefficient combustion
- Occasional engine knock or pinging under acceleration
- Hard starting or extended cranking in some cases

Common causes, most likely first

- 1 Faulty or contaminated fuel injector for cylinder 11 causing incorrect injection timing
- 2 Wiring harness damage or poor electrical connection at the cylinder 11 injector
- 3 Failed camshaft or crankshaft position sensor providing inaccurate timing signals
- 4 Sticking or malfunctioning variable valve timing (VVT) solenoid affecting injection timing
- 5 Engine control module (ECM) software calibration issue or internal fault
- 6 Mechanical timing chain or belt wear causing slight misalignment of cam and crank signals
- 7 Low fuel pressure or restricted fuel flow affecting injector performance



How to diagnose and fix it

- 1 Perform a visual inspection of the engine wiring harness and connectors at cylinder 11 injector for damage or corrosion
- 2 Use a scan tool to check for related diagnostic trouble codes (DTCs) and freeze frame data to understand operating conditions
- 3 Test the resistance and function of the cylinder 11 fuel injector and compare with other cylinders
- 4 Check fuel pressure and volume to rule out delivery issues
- 5 Inspect camshaft and crankshaft position sensors for signal integrity using an oscilloscope
- 6 Verify variable valve timing operation and inspect solenoid for sludge or malfunction
- 7 If all else fails, reflash or replace the ECM as per manufacturer procedures

Over-Advanced Timing Beyond the Injector

- A sticking variable valve timing solenoid can alter cam phasing and cause the PCM to perceive injection timing as over-advanced, even when the injector itself is fine.
Wiring issues at the injector connector often mimic injector failure; always perform a wiggle test and check for terminal tension before condemning the injector.
- The code may set intermittently due to a marginal camshaft position sensor that only acts up when hot; a cold sensor may test perfectly.
- Mechanical timing chain stretch on high-mileage engines can shift cam timing enough to trigger this code without any other drivability symptoms.
After repairs, the adaptive learning for injection timing may need to be reset with a scan tool to prevent recurrence of the code.

Can I keep driving with P01E0?

Driving with P01E0 is generally safe for short distances, but avoid aggressive acceleration or heavy loads until diagnosed, as prolonged over-advanced timing can lead to engine knock and potential damage. If the check engine light flashes or severe misfire occurs, stop driving and seek professional service immediately.

Tools that help

- OBD-II scan tool with live data and freeze frame capability
- Digital multimeter for electrical testing
- Oscilloscope for signal analysis
- Fuel pressure gauge
- Mechanic's stethoscope for listening to injector operation



Reading P01E0

- 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.
- E0** The exact fault within that area.

Often seen with

P0011 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0016** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A) · **P01DF** Cylinder 11 Injection Timing Performance - Over Retarded · **P01E1** Cylinder 12 Injection Timing Performance - Over Retarded · **P0300** Random/Multiple Cylinder Misfire Detected

See it working

Watch the animated explainer [How a Supercharger Works: Roots Blower in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01e0/>

