

GENERIC · POWERTRAIN

P01E2

OBD-II TROUBLE CODE

P01E2

Cylinder 12 Injection Timing Performance - Over Advanced

P01E2 indicates that the engine control module has detected the fuel injection timing for cylinder 12 is more advanced than the commanded value during operation. The computer compares the actual injection event timing, often via crankshaft and camshaft position signals, to the desired timing and sets this code 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

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or misfire sensation, especially when the engine is cold
- Reduced engine performance or sluggish acceleration
- Increased fuel consumption
- Occasional hard starting or extended cranking
- Engine knock or pinging under load

Common causes, most likely first

- 1 Faulty fuel injector for cylinder 12, such as a sticking nozzle or internal leakage
- 2 Wiring harness damage or poor electrical connection at the cylinder 12 injector
- 3 Failed camshaft position sensor or crankshaft position sensor providing inaccurate timing signals
- 4 Sticking or contaminated oil control valve affecting variable valve timing on the bank containing cylinder 12
- 5 Engine control module software calibration issue or internal fault
- 6 Mechanical timing chain or belt wear causing incorrect cam-to-crank correlation
- 7 Low fuel pressure or restricted fuel supply affecting injection timing



How to diagnose and fix it

- 1 Perform a visual inspection of the cylinder 12 injector connector and wiring for chafing, corrosion, or loose pins
- 2 Use a scan tool to check for related camshaft and crankshaft position sensor codes and freeze-frame data
- 3 Measure the resistance of the cylinder 12 injector and compare it to the manufacturer's specification
- 4 Check fuel pressure and injector balance to rule out fuel delivery issues
- 5 Verify engine timing marks and inspect the timing chain or belt for wear or skipped teeth
- 6 Test the variable valve timing solenoid and oil control valve for proper operation
- 7 If all else checks out, reflash or replace the engine control module as a last resort

Before you replace the cylinder 12 injector

- A dirty or failing mass airflow sensor can skew fuel trim and indirectly cause injection timing deviations that set this code, so check fuel trims first.
- The code may be set by a momentary glitch in the camshaft position sensor signal that does not leave a permanent sensor code, so inspect the sensor wiring carefully.
- On engines with variable valve timing, a sludged oil control valve can retard or advance cam timing enough to trigger P01E2 without any other VVT codes.
- A weak battery or poor ground connection can cause the ECM to misinterpret timing signals, so always verify battery and ground integrity before condemning components.
- P01E2 is often misdiagnosed as a simple injector failure when the real cause is a stretched timing chain that has shifted cam timing on that bank.

Can I keep driving with P01E2?

You can drive the vehicle short distances to a repair shop, but avoid heavy acceleration and towing because advanced injection timing can lead to engine knock and potential damage. If the check engine light is flashing or the engine runs very poorly, stop driving and seek immediate professional diagnosis.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter for electrical tests
- Fuel pressure gauge
- Injector balance tester or oscilloscope
- Timing light or scan tool with cam/crank correlation function
- Basic hand tools for connector and component access



Reading P01E2

- 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.
- E2** 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) · **P01E1** Cylinder 12 Injection Timing Performance - Over Retarded · **P01E3** Engine Coolant Temperature Sensor 3 Circuit · **P0300** Random/Multiple Cylinder Misfire Detected

See it working

Watch the animated explainer [How a Starter Motor Works: Pre-Engaged Starter](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01e2/>

