

GENERIC · POWERTRAIN

P01E1

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01E1

Cylinder 12 Injection Timing Performance - Over Retarded

P01E1 indicates that the engine control module has detected the fuel injection timing for cylinder 12 is more retarded than the calibrated target during operation. The computer monitors crankshaft and camshaft position signals to calculate injection timing and sets this code when the measured timing deviates beyond an acceptable threshold toward retard.

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 power or sluggish acceleration under load
- Increased fuel consumption due to inefficient combustion
- Occasional engine stumble or hesitation during acceleration

Common causes, most likely first

- 1 Faulty or contaminated fuel injector for cylinder 12
- 2 Wiring harness damage or poor electrical connection at the cylinder 12 injector
- 3 Sticking or failing injection timing control solenoid (if equipped)
- 4 Engine control module software calibration issue or internal fault
- 5 Mechanical wear in the injection pump or timing components affecting cylinder 12
- 6 Low fuel pressure or restricted fuel flow to cylinder 12

How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related pending or history codes
- 2 Inspect the wiring and connector at the cylinder 12 fuel injector for corrosion or damage
- 3 Test the resistance and function of the cylinder 12 fuel injector and compare with other cylinders
- 4 Check fuel pressure and flow at the rail to rule out a supply issue
- 5 Perform a cylinder contribution test or injector balance test to isolate the faulty injector
- 6 If equipped, test the injection timing control solenoid and its circuit
- 7 Reprogram or replace the engine control module only after all other causes are ruled out



Cylinder 12 injection timing pitfalls

- A dirty or failing injector on cylinder 12 often causes this code without triggering a misfire code, so technicians may overlook the injector itself.
- The code can be set by a faulty camshaft or crankshaft position sensor signal that affects timing calculation for all cylinders, not just cylinder 12.
- On engines with variable valve timing, a stuck phaser or solenoid can retard injection timing indirectly and set P01E1.
- Always check for technical service bulletins (TSBs) for the specific vehicle, as some manufacturers have calibration updates that address false P01E1 settings.
- Do not replace the engine control module based solely on this code; wiring and injector issues are far more common causes.

Can I keep driving with P01E1?

You can usually drive the vehicle with this code, but avoid heavy acceleration or towing until it is diagnosed. Prolonged driving with retarded injection timing can lead to increased emissions, fuel dilution of the oil, and potential catalytic converter damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Fuel pressure gauge
- Noid light or injector test light
- Oscilloscope for signal analysis

Reading P01E1

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.
E1	The exact fault within that area.

Often seen with

P01E0 Cylinder 11 Injection Timing Performance - Over Advanced · **P01E2** Cylinder 12 Injection Timing Performance - Over Advanced · **P020C** Cylinder 3 Injection Timing · **P021E** Cylinder 11 Injection Timing · **P0300** Random/Multiple Cylinder Misfire Detected



See it working

Watch the animated explainer [How a Six-Speed Manual Gearbox Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01e1/>

