

GENERIC · POWERTRAIN

P01DA

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01DA

Cylinder 8 Injection Timing Performance - Over Advanced

P01DA indicates that the engine control module (ECM) has detected the fuel injection timing for cylinder 8 is more advanced than the commanded value during a self-test of the injection system. The ECM compares the actual injector opening event to the expected timing and sets this code when the deviation exceeds a calibrated threshold, typically under specific operating conditions.

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-like shudder, especially when the engine is cold
- Reduced engine performance or hesitation during acceleration
- Increased fuel consumption due to inefficient combustion
- Possible black smoke from the exhaust if the over-advanced timing causes incomplete burn
- In some cases, the engine may enter limp mode to protect the injectors and pistons

Common causes, most likely first

- 1 Faulty fuel injector for cylinder 8, such as a sticking nozzle or solenoid
- 2 Wiring harness damage or poor electrical connection at the cylinder 8 injector
- 3 Contaminated engine oil or fuel affecting injector response time
- 4 Failed or failing fuel injection pressure regulator causing erratic timing
- 5 Engine control module (ECM) software calibration issue or internal fault
- 6 Mechanical wear in the high-pressure fuel pump or injector hold-down components
- 7 Air in the fuel system from a leak or recent service



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 cylinder 8 injector electrical connector and wiring for corrosion or damage
- 3 Perform a fuel system pressure test and check for air leaks or restrictions
- 4 Use a diagnostic scan tool to monitor injection timing parameters and compare to specifications
- 5 Test the cylinder 8 injector with a multimeter and an injector balance test if applicable
- 6 Check for technical service bulletins (TSBs) or ECM software updates from the manufacturer
- 7 If all else fails, replace the cylinder 8 injector and retest the system

Over-Advanced Timing Isn't Always the Injector

- A clogged fuel filter or weak lift pump can cause low fuel pressure that the ECM misinterprets as over-advanced injection timing, leading to this code without any injector fault.
- On many common-rail diesel engines, this code often appears after a fuel filter change if the system is not properly primed, introducing air that disrupts timing.
- The ECM may set P01DA due to a faulty camshaft or crankshaft position sensor signal, as these sensors provide the reference for injection timing calculations.
- Technicians sometimes replace the cylinder 8 injector only to find the real problem is a chafed wire in the harness near the engine mount, so always perform a wiggle test.
- This code can be triggered by using the wrong engine oil viscosity, which affects the response time of hydraulic injectors and can mimic a mechanical failure.

Can I keep driving with P01DA?

You can drive the vehicle with P01DA, but avoid heavy acceleration and towing until the fault is diagnosed, as prolonged over-advanced injection timing can lead to piston damage or injector failure. If the engine runs roughly or enters limp mode, seek service promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Fuel pressure test kit
- Injector balance tester
- Wiring diagram and service information



Reading P01DA

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

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P0093** Fuel System Leak Detected - Large Leak · **P01D9** Cylinder 8 Injection Timing Performance - Over Retarded · **P01DB** Cylinder 9 Injection Timing Performance - Over Retarded · **P0208** Injector Circuit/Open - Cylinder 8

See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01da/>

