

GENERIC · POWERTRAIN

P01DB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01DB

Cylinder 9 Injection Timing Performance - Over Retarded

P01DB indicates that the engine control module has detected the fuel injection timing for cylinder 9 is more retarded than the commanded value during operation. The computer compares the actual injection event timing to the desired timing and sets this code when the deviation exceeds a calibrated threshold, typically due to a mechanical or electrical fault in the cylinder 9 injector circuit or fuel system.

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 noticeable at low engine speeds
- Reduced engine power or sluggish acceleration under load
- Increased fuel consumption due to inefficient combustion
- Occasional engine stumble or hesitation during acceleration
- Exhaust odor or slight black smoke if injection timing is severely retarded

Common causes, most likely first

- 1 Faulty or sticking cylinder 9 fuel injector
- 2 Wiring harness damage or poor electrical connection at the cylinder 9 injector
- 3 Clogged or restricted fuel passage within the cylinder 9 injector or rail
- 4 Failed injection timing control solenoid or actuator (on systems with variable timing)
- 5 Engine control module software calibration issue or internal fault
- 6 Low fuel pressure affecting injection timing consistency
- 7 Mechanical wear in the high-pressure fuel pump or timing components



How to diagnose and fix it

- 1 Connect a scan tool and verify P01DB is current, then check for related codes and freeze-frame data
- 2 Inspect the cylinder 9 injector electrical connector and wiring for corrosion, chafing, or loose pins
- 3 Measure injector resistance and compare to manufacturer specification to rule out an open or shorted coil
- 4 Perform a fuel pressure test and check for restrictions in the fuel supply to the cylinder 9 injector
- 5 Use a lab scope to compare injection timing signals between cylinder 9 and a known-good cylinder
- 6 If electrical and fuel checks pass, remove and bench-test or replace the cylinder 9 injector
- 7 After repair, clear codes and perform a relearn or adaptation procedure if required, then verify the code does not return

Cylinder 9 injection timing pitfalls

- A stuck or slow-responding injector often causes this code without setting a misfire code, so technicians who only look for misfires may miss the root cause.
- Wiring harness issues near the cylinder 9 injector are common on engines with high underhood temperatures, and a visual inspection alone may not reveal internal wire breaks.
- On engines with variable injection timing, a failing timing control solenoid can affect multiple cylinders, but cylinder 9 may be the first to set a code due to its position in the firing order.
- Fuel pressure that is marginally low can cause retarded injection timing on one cylinder without affecting others enough to set a fuel trim code.
- Replacing the injector without checking the electrical circuit or fuel pressure often leads to a repeat failure and unnecessary expense.

Can I keep driving with P01DB?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because prolonged driving with retarded injection timing can damage the catalytic converter and increase fuel dilution in the oil.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter for circuit and resistance testing
- Fuel pressure gauge
- Lab scope for injection timing signal analysis
- Factory service information for cylinder 9 injector specifications and testing procedures



Reading P01DB

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

Often seen with

P01D6 Cylinder 6 Injection Timing Performance - Over Advanced · **P01D7** Cylinder 7 Injection Timing Performance - Over Retarded · **P01D8** Cylinder 7 Injection Timing Performance - Over Advanced · **P01D9** Cylinder 8 Injection Timing Performance - Over Retarded · **P01DA** Cylinder 8 Injection Timing Performance - Over Advanced

See it working

Watch the animated explainer [How a Refrigerator Works: The Cooling Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01db/>

