

GENERIC · POWERTRAIN

P021D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P021D

Cylinder 10 Injection Timing

P021D indicates that the powertrain control module has detected an out-of-range condition in the fuel injection timing circuit or control strategy for cylinder number 10. The computer compares the commanded injection timing against the expected value or feedback signal 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 (injector circuits)

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 limp mode under load
- Increased fuel consumption due to incorrect injection timing
- Exhaust smoke or strong fuel odor from unburned fuel
- Hesitation or stumble during acceleration

Common causes, most likely first

- 1 Faulty fuel injector for cylinder 10, such as a sticking nozzle or internal electrical failure
- 2 Damaged or corroded wiring harness or connector at the cylinder 10 injector
- 3 Failed injection timing control solenoid or spool valve inside the high-pressure fuel pump
- 4 Contaminated or degraded engine oil affecting hydraulic injection timing components
- 5 Low fuel pressure or restricted fuel supply causing timing deviation
- 6 Faulty camshaft or crankshaft position sensor providing inaccurate timing reference
- 7 Engine control module software calibration issue or internal fault

How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then verify the freeze-frame data for P021D
- 2 Inspect the cylinder 10 injector connector and wiring for chafing, corrosion, or loose pins
- 3 Perform a resistance and waveform test on the cylinder 10 injector circuit
- 4 Check fuel pressure and volume against the manufacturer's specification
- 5 Test the injection timing control solenoid or spool valve for proper operation
- 6 Verify camshaft and crankshaft sensor signals with an oscilloscope for timing accuracy
- 7 If all electrical and hydraulic checks pass, reprogram or replace the engine control module as a last resort

Cylinder 10 timing faults often misdiagnosed

- A clogged or failing injector on cylinder 10 can set P021D without ever triggering a misfire code, so technicians who only look for misfires may miss the root cause.
- Oil quality and level are critical on engines with hydraulic injection timing; degraded oil can cause timing deviation that mimics a faulty injector.
- Wiring harness damage near the cylinder 10 injector is common on engines with tight routing, and a visual inspection often reveals chafed insulation.
- P021D can be set by a faulty camshaft position sensor even when the engine runs smoothly, because the computer uses that signal to calculate injection timing.
- Replacing the injector without checking fuel pressure or oil condition frequently leads to a repeat failure and the same code returning.

Can I keep driving with P021D?

You can drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or sustained high-speed driving because incorrect 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
- Oscilloscope for injector and sensor waveform analysis
- Fuel pressure gauge
- Factory service information for wiring diagrams and specifications

Reading P021D

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
2	Fuel and air metering (injector circuits).
1D	The exact fault within that area.

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P020A** Cylinder 1 Injection Timing · **P021C** Cylinder 9 Injection Timing · **P021E** Cylinder 11 Injection Timing · **P0300** Random/Multiple Cylinder Misfire Detected



See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p021d/>

