

GENERIC · POWERTRAIN

P020E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P020E

Cylinder 5 Injection Timing

P020E is a generic powertrain code that indicates the engine control module (ECM) has detected an abnormal condition with the fuel injection timing for cylinder 5. The ECM monitors the injector circuit and compares the commanded injection event to expected feedback; when the timing deviates from the calibrated value, it stores this code and illuminates the check engine light.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illuminated check engine light (malfunction indicator lamp) with no other noticeable symptoms
- Rough idle or misfire sensation, especially when the engine is cold
- Reduced engine performance or hesitation during acceleration
- Increased fuel consumption due to inefficient combustion
- Possible engine vibration or shaking at certain speeds
- In some cases, the engine may enter limp mode to protect the catalytic converter

Common causes, most likely first

- 1 Faulty fuel injector for cylinder 5 (internal short or mechanical failure)
- 2 Damaged or corroded electrical connector at the cylinder 5 injector
- 3 Wiring harness damage (open, short, or high resistance) between the ECM and injector
- 4 Failed engine control module (ECM) driver circuit for the injector
- 5 Low fuel pressure or restricted fuel supply affecting injection timing
- 6 Contaminated fuel or clogged injector screen causing erratic spray pattern
- 7 Mechanical engine issue such as a faulty lifter or camshaft affecting injector timing (on engines with mechanical injection pumps)



How to diagnose and fix it

- 1 Perform a visual inspection of the cylinder 5 injector connector and wiring for damage or corrosion
- 2 Use a scan tool to check for pending or stored codes and freeze-frame data related to injection timing
- 3 Test the injector resistance with a multimeter and compare to manufacturer specifications
- 4 Check fuel pressure and volume to rule out supply issues
- 5 Perform an injector balance test or use an oscilloscope to verify injector pulse width and timing
- 6 Swap the cylinder 5 injector with a known-good injector from another cylinder to see if the code follows
- 7 If the injector and wiring test good, diagnose the ECM driver circuit or replace the ECM as a last resort

Don't overlook the injector connector

- A loose or corroded connector at the cylinder 5 injector is a frequent cause that is often missed during visual inspections because the pins may look clean from the outside.
- This code can be set by a marginal injector that still functions but has a slightly delayed response time, which may not trigger a misfire code but will affect injection timing.
- On some vehicles, a weak battery or charging system issue can cause the ECM to misinterpret injector feedback and set P020E without any actual injector fault.
- Replacing the injector without checking the wiring harness resistance can lead to a repeat failure if the underlying issue is a chafed wire.
- P020E is often accompanied by other cylinder-specific codes (such as P0205 or P0305) that can help pinpoint whether the issue is isolated to cylinder 5 or part of a larger problem.

Can I keep driving with P020E?

You can usually drive the vehicle with P020E, but avoid aggressive acceleration and heavy loads because prolonged driving with incorrect injection timing can damage the catalytic converter and increase emissions. Have the fault diagnosed promptly to prevent secondary damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Fuel pressure gauge
- Oscilloscope (for advanced diagnostics)
- Basic hand tools (socket set, screwdrivers)
- Factory service information for wiring diagrams and specifications



Reading P020E

- 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).
- 0E** The exact fault within that area.

Often seen with

P0200 Injector Circuit Malfunction · **P0205** Injector Circuit/Open - Cylinder 5 · **P0305** Cylinder 5 Misfire Detected · **P2146** Fuel Injector Group 'A' Supply Voltage Circuit/Open · **P2149** Fuel Injector Group 'B' Supply Voltage Circuit/Open

See it working

Watch the animated explainer [How the EVAP System Works: Fuel Vapour and Leak Test](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p020e/>

