

GENERIC · POWERTRAIN

P000E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P000E

Fuel Volume Regulator Control Exceeded Learning Limit

P000E indicates that the fuel volume regulator control system has exceeded its adaptive learning limit, meaning the engine control module can no longer compensate for the difference between commanded and actual fuel pressure or flow. The computer detects this when the long-term fuel trim or pressure regulator adaptation value stays pegged at its maximum or minimum allowed threshold for a calibrated period.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Intermittent or persistent rough idle or stumbling
- Reduced engine power or limp mode under load
- Poor fuel economy or rich/lean exhaust smell
- Hard starting or extended cranking, especially when cold
- Possible hesitation or surge during acceleration

Common causes, most likely first

- 1 Worn or contaminated fuel volume regulator solenoid or its electrical connector
- 2 Restricted fuel filter or clogged fuel lines reducing flow
- 3 Weak or failing high-pressure fuel pump not meeting commanded pressure
- 4 Leaking or sticking fuel injector causing pressure deviation
- 5 Faulty fuel pressure sensor sending inaccurate feedback to the ECM
- 6 Internal fuel pump wear or low fuel pump output
- 7 Corroded wiring or poor ground at the fuel volume regulator circuit



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data and fuel trim/adaptation values to confirm the code setting conditions
- 2 Inspect the fuel volume regulator connector and wiring for corrosion, chafing, or loose pins; repair as needed
- 3 Measure fuel pressure at the rail with a mechanical gauge and compare to specification
- 4 Replace the fuel filter and check for restricted fuel lines or a collapsed hose
- 5 Test the fuel volume regulator solenoid with a bidirectional scan tool to command pressure changes and observe response
- 6 Perform a fuel injector balance or leak-down test to rule out leaking injectors
- 7 If adaptation remains out of range after electrical and flow checks, replace the fuel volume regulator or high-pressure pump as indicated by test results

What the adaptation limit really tells you

- A P000E often sets because the fuel volume regulator is working correctly but the ECM has run out of adjustment range due to a mechanical fuel delivery issue such as a weak pump or restricted filter, so replacing the regulator first can be a costly misdiagnosis.
- The code can be triggered by a fuel pressure sensor that reads slightly off, causing the ECM to command the regulator to an extreme position that eventually exceeds the learning limit even though the regulator itself is fine.
- On many vehicles, the fuel volume regulator is integrated into the high-pressure fuel pump and cannot be serviced separately, so technicians should verify the part strategy before quoting a repair.
- Intermittent electrical faults at the regulator connector, such as a partially broken wire that opens when hot, can set P000E without any drivability complaint and may not reappear during a short test drive.
- After replacing the fuel volume regulator or pump, the ECM may need a fuel system adaptation reset or a relearn drive cycle before the code will clear and stay off.

Can I keep driving with P000E?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or sustained high-speed driving because the fuel system is already at its compensation limit. If the engine enters limp mode or stalls, stop driving and arrange a tow.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Fuel pressure test gauge kit
- Digital multimeter for circuit testing
- Factory service information for fuel system specifications
- Basic hand tools and fuel line disconnect tools



Reading P000E

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- 0E** The exact fault within that area.

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P0088** Fuel Rail/System Pressure - Too High · **P0090** Fuel Pressure Regulator 1 Control Circuit · **P0171** System Too Lean (Bank 1) · **P0172** System Too Rich (Bank 1)

See it working

Watch the animated explainer [How a Rotary Engine Works: Wankel in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p000e/>

