

GENERIC · POWERTRAIN

P016E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P016E

Closed Loop Fuel Pressure Control At Limit - Pressure Too High

P016E indicates that the powertrain control module has commanded the closed-loop fuel pressure control system to its maximum correction limit, yet the measured fuel pressure remains higher than the desired value. The computer detects this when the fuel pressure regulator or control actuator can no longer reduce pressure enough to meet the target, signaling a persistent over-pressure condition in the fuel system.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A strong raw fuel odor from the exhaust or engine bay due to rich operation
- Black smoke from the tailpipe under acceleration or idle
- Rough idle, misfires, or engine stumbling as excess fuel fouls spark plugs
- Reduced fuel economy and frequent refueling
- Difficulty starting when hot due to flooding or excessive fuel pressure

Common causes, most likely first

- 1 A stuck or failed fuel pressure regulator that cannot relieve excess pressure
- 2 A kinked, restricted, or blocked fuel return line preventing pressure bleed-off
- 3 A faulty fuel pressure control solenoid or actuator that remains stuck closed
- 4 A restricted fuel pressure sensor signal biasing the control loop, causing over-correction
- 5 A wiring fault or poor ground in the fuel pressure control circuit causing the actuator to stay energized
- 6 A mechanically stuck high-pressure fuel pump relief valve or internal pump fault
- 7 A powertrain control module calibration error or internal driver fault holding the control at its limit



How to diagnose and fix it

- 1 Connect a scan tool and verify P016E is current, then check for related fuel system codes and freeze-frame data
- 2 Inspect the fuel pressure sensor wiring and connector for corrosion, chafing, or loose pins, and verify reference voltage and ground
- 3 Measure actual fuel pressure with a mechanical gauge and compare it to the commanded and desired pressure values on the scan tool
- 4 Command the fuel pressure control actuator through the scan tool and observe whether pressure changes as commanded
- 5 Inspect the fuel return line for kinks, blockage, or a collapsed hose that would trap pressure
- 6 Test the fuel pressure regulator or control solenoid for sticking, diaphragm rupture, or incorrect resistance
- 7 If electrical and mechanical checks pass, reflash or replace the powertrain control module only after confirming all other inputs are correct

When the regulator is not the culprit

- A restricted fuel return line is frequently overlooked because the pressure regulator is replaced first, yet a crushed or internally collapsed return hose will hold pressure high no matter how many regulators are installed.
- The fuel pressure sensor can report a false high value even when actual pressure is correct, causing the control loop to drive to its limit and set P016E without any real over-pressure condition.
- On returnless fuel systems, the pressure control solenoid is pulse-width modulated, and a shorted driver circuit in the powertrain control module can hold the solenoid energized, mimicking a stuck regulator.
- A clogged fuel filter on the pressure side can cause pressure spikes upstream of the filter that the control system cannot regulate quickly enough, especially during deceleration.
- P016E does not always mean the fuel pressure is dangerously high at all times; it can be set by a transient spike during specific driving conditions that the control loop fails to manage.

Can I keep driving with P016E?

You can usually drive the vehicle short distances to a repair shop, but avoid hard acceleration and sustained high-speed driving because excess fuel pressure can foul spark plugs, damage the catalytic converter, and cause rich-running misfires. If you smell raw fuel or see black smoke, stop driving and have the vehicle towed to prevent fire risk or converter damage.



Tools that help

- OBD-II scan tool with bidirectional fuel system control capability
- Fuel pressure test gauge kit
- Digital multimeter for circuit and sensor testing
- Fuel line disconnect tools
- Factory service information for fuel pressure specifications and actuator tests

Reading P016E

- P** Powertrain: engine, transmission and emissions.
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- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
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- 1** Fuel and air metering.
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- 6E** The exact fault within that area.

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P0088** Fuel Rail/System Pressure - Too High · **P016F** Closed Loop Fuel Pressure Control At Limit - Pressure Too Lo · **P0172** System Too Rich (Bank 1) · **P0193** Fuel Rail Pressure Sensor Circuit High Input

See it working

Watch the animated explainer [How Variable Valve Timing Works: Cam Phaser and VVT Solenoid](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p016e/>

