

GENERIC · POWERTRAIN

P0093

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0093

Fuel System Leak Detected - Large Leak

P0093 indicates that the engine control module has detected a large pressure drop in the high-pressure fuel system, typically by comparing the commanded fuel pressure to the actual pressure measured by the fuel rail pressure sensor. The code is most commonly associated with diesel common-rail systems, where a significant leak causes the pressure to fall below the expected threshold, but it can also appear on some gasoline direct-injection engines.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light or service engine soon light, often with no other noticeable symptoms at first
- Reduced engine power or limp mode, especially under acceleration or load
- Rough running, misfiring, or stalling shortly after the code is set
- Difficulty starting or a no-start condition if the leak is severe
- Fuel odor or visible fuel seepage under the hood or beneath the vehicle
- Excessive fuel consumption or black smoke from the exhaust on diesel engines

Common causes, most likely first

- 1 Leaking fuel injector, particularly a stuck-open or internally leaking injector that bleeds pressure into the cylinder
- 2 Faulty fuel pressure relief valve or pressure regulator that opens too early and dumps pressure back to the tank
- 3 Cracked or leaking high-pressure fuel line, fitting, or rail connection
- 4 Weak or failing high-pressure fuel pump that cannot maintain commanded pressure under load
- 5 Clogged or restricted fuel filter causing a pressure drop that mimics a leak
- 6 Faulty fuel rail pressure sensor sending an inaccurate signal to the engine control module
- 7 Air intrusion into the fuel system from a loose connection or damaged seal, causing pressure loss



How to diagnose and fix it

- 1 Perform a visual inspection of the entire high-pressure fuel system for wet spots, fuel odor, or damaged lines and fittings
- 2 Check for stored freeze-frame data and review live fuel pressure readings against commanded pressure to confirm the leak
- 3 Test the fuel pressure relief valve and pressure regulator for proper operation and replacement if leaking internally
- 4 Perform a fuel injector leak-off or return-flow test to identify a leaking injector
- 5 Inspect and test the high-pressure fuel pump output and replace if it cannot meet pressure specifications
- 6 Replace the fuel filter if restriction is suspected and verify that pressure returns to normal
- 7 Clear the code and road-test the vehicle under load to confirm the repair and ensure the code does not return

Common misdiagnosis traps for P0093

- A leaking injector is the most frequent cause of P0093 on common-rail diesels, but many technicians replace the high-pressure pump first because the pressure drop points to it; always perform an injector leak-off test before condemning the pump.
- The fuel pressure relief valve can leak intermittently and only set the code under heavy load, so a static pressure test at idle may pass while the valve still causes a large leak during acceleration.
- On some gasoline direct-injection engines, P0093 can be triggered by a faulty fuel rail pressure sensor rather than an actual leak, so compare sensor readings with a mechanical gauge before replacing parts.
- Air entering the fuel system through a loose filter housing or damaged O-ring can cause a pressure drop that mimics a large leak, especially after recent fuel filter service.
- A restricted fuel filter can cause low pressure that the ECM interprets as a leak, so always check filter condition and service history before diving into high-pressure components.

Can I keep driving with P0093?

Do not continue driving with P0093 because a large fuel leak can cause stalling, loss of power, or a fire hazard, and it may damage the high-pressure fuel pump or injectors. Have the vehicle towed to a repair shop for diagnosis rather than risk a breakdown or safety hazard.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Fuel pressure test gauge kit for high-pressure systems
- Injector leak-off test kit
- Digital multimeter for testing sensors and wiring
- Basic hand tools and flare nut wrenches for fuel line fittings



Reading P0093

- 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.
- 93** 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 · **P0091** Fuel Pressure Regulator 1 Control Circuit Low · **P0092** Fuel Pressure Regulator 1 Control Circuit High

See it working

Watch the animated explainer [How Misfire Detection Works: Crankshaft Speed](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0093/>

