

GENERIC · POWERTRAIN

P20E1

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P20E1

Reductant Pressure Too Low

P20E1 indicates that the reductant pressure in the selective catalytic reduction (SCR) system is lower than the powertrain control module expects during operation. The computer monitors the pressure sensor in the reductant injection system and sets this code when the measured pressure falls below the commanded value for a calibrated time, often due to a weak pump, a leak, or a restriction.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

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
- Reduced engine power or limp mode triggered by the powertrain control module
- A message on the dashboard indicating low reductant pressure or a fault in the emissions system
- Rough running or hesitation if the system enters a protective strategy
- Increased diesel exhaust fluid (DEF) consumption in some cases due to the system trying to compensate

Common causes, most likely first

- 1 Low or empty diesel exhaust fluid (DEF) tank, or DEF that has frozen or degraded
- 2 Weak or failing reductant pump unable to build sufficient pressure
- 3 Clogged or restricted reductant filter or strainer
- 4 Leak in the reductant lines, injector, or pressure sensor fittings
- 5 Faulty reductant pressure sensor providing an inaccurate low reading
- 6 Kinked, pinched, or blocked reductant line preventing proper flow
- 7 Electrical issues such as damaged wiring or corroded connectors to the pump or sensor



How to diagnose and fix it

- 1 Check the DEF tank level and top off with the correct specification fluid if low
- 2 Inspect the reductant system for visible leaks, kinks, or damage to lines and fittings
- 3 Test the reductant pressure sensor and its wiring for proper signal and continuity
- 4 Replace the reductant filter or strainer if restricted, following the manufacturer's interval
- 5 Perform a commanded pump activation test with a scan tool to verify pump operation and pressure build-up
- 6 Replace the reductant pump if it fails to generate the specified pressure under command
- 7 Clear the code and perform a road test or drive cycle to confirm the repair and ensure the code does not return

Before you replace the reductant pump

- A low DEF level or degraded fluid is a common cause that is often overlooked because the system may not set a separate low-level code first.
- The pressure sensor can fail in a way that reports low pressure even when the pump is working correctly, leading to unnecessary pump replacement.
- Air pockets or air ingestion in the reductant lines after a refill or repair can cause temporary low-pressure codes that clear after proper priming.
- Extreme cold weather can cause DEF to freeze and temporarily block flow, setting a low-pressure code that may resolve once the vehicle warms up.
- A restricted DEF filter may not trigger a separate code but can cause low pressure at the injector, mimicking a failing pump.

Can I keep driving with P20E1?

It is generally safe to drive with P20E1 set, but the vehicle may enter limp mode or limit speed, so avoid long trips and heavy loads until the fault is repaired. Continued driving with low reductant pressure can lead to more extensive emissions system damage and increased repair costs.

Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter for electrical testing
- Pressure gauge suitable for reductant system pressures
- Basic hand tools for inspecting and replacing filters and lines
- Safety glasses and gloves for handling diesel exhaust fluid



Reading P20E1

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- E1** The exact fault within that area.

Often seen with

P20E2 Reductant Pressure Too High · **P20E3** Exhaust Gas Temperature Sensor 1/3 Correlation (Bank 1) · **P20E4** Exhaust Gas Temperature Sensor 2/3 Correlation (Bank 1) · **P20E5** Exhaust Gas Temperature Sensor 1/2 Correlation (Bank 2) · **P20E6** Reductant Injection Air Pressure Too Low

See it working

Watch the animated explainer [How a Padlock Works: Pin Tumbler Lock in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p20e1/>

