

GENERIC · POWERTRAIN

P202F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P202F

Reductant/Regeneration Supply Control Circuit Range/Performance

P202F indicates that the powertrain control module (PCM) has detected an out-of-range condition in the reductant or regeneration supply control circuit, which typically manages diesel exhaust fluid (DEF) or a similar reductant for emissions control. The PCM monitors the circuit's voltage or current and sets this code when the signal falls outside the expected range for the operating conditions, indicating a performance fault rather than a complete failure.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	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 may be activated to protect the emissions system.
- A message on the driver information center indicating low DEF, incorrect DEF quality, or a service emissions system warning.
- Increased DEF consumption if the system is over-injecting due to a control fault.
- Rough running or hesitation if the reductant injection affects combustion, though this is less common.
- Possible no-start condition if the vehicle is programmed to prevent operation when the reductant system is faulty.

Common causes, most likely first

- 1 Faulty reductant supply pump or control module, leading to incorrect current draw or voltage feedback.
- 2 Damaged or corroded wiring harness or connectors in the reductant supply control circuit.
- 3 Clogged or restricted reductant filter or supply line, causing the pump to work outside normal parameters.
- 4 Failed reductant pressure or temperature sensor providing erroneous feedback to the PCM.
- 5 Software calibration issue in the PCM that misinterprets normal circuit signals.
- 6 Contaminated or frozen DEF causing the pump to draw excessive current or fail to build pressure.
- 7 Internal short or open in the reductant injector solenoid affecting circuit performance.



How to diagnose and fix it

- 1 Perform a visual inspection of the reductant supply circuit wiring and connectors for damage, corrosion, or loose pins.
- 2 Check the DEF level and quality using a refractometer; top off or replace fluid if contaminated.
- 3 Use a scan tool to command the reductant pump on and observe live data for voltage, current, and pressure to identify anomalies.
- 4 Test the reductant supply pump and control module with a multimeter to verify resistance and voltage drop against manufacturer specifications.
- 5 Inspect and replace the reductant filter and check for restrictions in the supply line if pressure readings are low.
- 6 Verify the integrity of the reductant pressure sensor and its wiring, replacing if readings are erratic.
- 7 If all hardware checks pass, reprogram the PCM with the latest calibration and retest the system.

Reductant Circuit Faults Often Misdiagnosed

- A weak or failing reductant pump can set P202F without completely failing, so technicians who only check for outright pump failure may miss a performance issue.
- Contaminated DEF from using the wrong fluid or allowing water intrusion is a frequent cause that is overlooked when focusing solely on electrical faults.
- The code can be triggered by a simple loose ground connection for the reductant control module, which is often missed during harness inspections.
- Some vehicles require a specific relearn or adaptation procedure after repairing the reductant system, and skipping it can cause the code to return immediately.
- P202F may be stored alongside other reductant system codes, but diagnosing it in isolation without checking related circuits can lead to unnecessary part replacement.

Can I keep driving with P202F?

It is generally safe to drive with P202F for a short period, but avoid long trips or heavy loads until diagnosed, as the vehicle may enter limp mode or fail emissions testing. If the check engine light flashes or severe power loss occurs, stop driving and seek professional service.

Tools that help

- OBD-II scan tool with live data and bidirectional control capabilities
- Digital multimeter for circuit testing
- Refractometer for DEF quality testing
- Hand tools for connector and component removal
- Manufacturer-specific diagnostic software for advanced testing



Reading P202F

- 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.
- 2F** The exact fault within that area.

Often seen with

P202E Reductant Injection Valve Circuit Range/Performance (Bank 1 · **P2030** Fuel Fired Heater Performance · **P2031** Exhaust Gas Temperature Sensor Circuit (Bank 1 Sensor 2) · **P2032** Exhaust Gas Temperature Sensor Circuit Low (Bank 1 Sensor 2) · **P2033** Exhaust Gas Temperature Sensor Circuit High (Bank 1 Sensor 2

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p202f/>

