

GENERIC · POWERTRAIN

P20FF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P20FF

Reductant Control Module Performance

P20FF indicates that the reductant control module, which manages the diesel exhaust fluid (DEF) injection system, has detected an internal performance fault or has failed to meet expected operational parameters. The engine control module (ECM) sets this code when the reductant control module's self-diagnostics report a problem that prevents proper dosing of DEF into the exhaust stream.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reductant or DEF warning message displayed on the dashboard
- Reduced engine power or limp mode triggered by the ECM
- Increased DEF consumption or failure to inject DEF
- Rough running or poor fuel economy in some cases
- Failed emissions test due to incomplete readiness monitors

Common causes, most likely first

- 1 Faulty reductant control module (internal failure)
- 2 Corroded or damaged wiring or connectors at the reductant control module
- 3 Low or contaminated DEF fluid causing module performance issues
- 4 Failed DEF injector or pump affecting module feedback
- 5 Software corruption or outdated calibration in the reductant control module
- 6 Power or ground supply issues to the reductant control module



How to diagnose and fix it

- 1 Verify DEF fluid level and quality; top off or replace if contaminated
- 2 Inspect all wiring and connectors at the reductant control module for corrosion or damage
- 3 Check power and ground circuits to the reductant control module with a multimeter
- 4 Perform a scan tool reset and relearn procedure for the reductant control module
- 5 Update the reductant control module software if a newer calibration is available
- 6 Replace the reductant control module if internal failure is confirmed
- 7 Clear codes and perform a road test to verify repair

Reductant Module Faults Often Misdiagnosed

- A weak or failing battery can cause the reductant control module to set performance codes due to low voltage during startup.
- Corroded pins in the module connector are a common cause that is frequently overlooked during diagnosis.
- The code may be stored intermittently and not illuminate the check engine light until multiple drive cycles occur.
- Replacing the reductant control module without checking for software updates can lead to repeat failures.
- DEF contamination from using improper fluid or diluted solution can damage the module's internal sensors over time.

Can I keep driving with P20FF?

You can usually drive the vehicle with this code, but avoid long trips or heavy loads until diagnosed, as the ECM may eventually derate engine power. 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 bidirectional control and module programming capability
- Digital multimeter
- Wiring diagram for the reductant control module circuit
- Socket set and trim removal tools
- DEF refractometer or quality tester



Reading P20FF

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.
FF	The exact fault within that area.

Often seen with

P204F Reductant System Performance · **P205B** Reductant Tank Temperature Sensor A Circuit Range/Performanc · **P208B** Reductant Pump A Control Performance/Stuck Off · **P20E8** Reductant Pressure Too Low · **P20E9** Reductant Pressure Too High

See it working

Watch the animated explainer [Disc Brake Trainer: How Car Brakes Stop a Wheel](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p20ff/>

