

GENERIC · POWERTRAIN

P20FE

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P20FE

Reductant Metering Unit 1 Performance

P20FE indicates that the powertrain control module (PCM) has detected a performance fault in the reductant metering unit for the selective catalytic reduction (SCR) system, which injects diesel exhaust fluid (DEF) into the exhaust. The PCM monitors the unit's ability to deliver the commanded amount of reductant and sets this code when the actual flow or pressure does not match expectations within a calibrated time frame.

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 triggered by the PCM to protect the SCR system.
- A message on the dashboard indicating low DEF level or a fault in the emissions system.
- Increased DEF consumption if the unit is over-delivering, or no DEF usage if under-delivering.
- Possible rough running or hesitation if the fault affects injection timing.
- In some cases, the vehicle may enter a countdown to a no-restart condition if the fault is severe.

Common causes, most likely first

- 1 Clogged or restricted DEF injector nozzle due to crystallized urea deposits.
- 2 Faulty reductant metering unit solenoid or internal valve failure.
- 3 Wiring harness damage or corroded connectors at the metering unit.
- 4 Low DEF quality or contamination causing poor injector performance.
- 5 Failed DEF pump or pressure sensor affecting delivery pressure.
- 6 PCM software calibration issue or faulty PCM driver circuit.
- 7 Exhaust system restrictions or backpressure affecting injector spray pattern.



How to diagnose and fix it

- 1 Verify DEF level and quality; top off with fresh DEF if low or contaminated.
- 2 Inspect the reductant metering unit and injector for external leaks, damage, or crystallization; clean or replace as needed.
- 3 Check electrical connectors and wiring for corrosion, chafing, or loose pins; repair or replace damaged sections.
- 4 Perform a commanded injector test with a scan tool to verify flow and pressure; compare to specifications.
- 5 Test the DEF pump and pressure sensor operation; replace if out of specification.
- 6 Check for exhaust restrictions that could affect injector performance; repair as necessary.
- 7 Reprogram the PCM with the latest calibration if a software issue is suspected, then clear codes and retest.

Common Misdiagnosis Traps for P20FE

- Crystallized DEF at the injector tip is frequently mistaken for a failed metering unit; cleaning the nozzle often resolves the code without parts replacement.
A weak DEF pump can cause low pressure that mimics a metering unit fault, so always verify pump output before condemning the unit.
- Poor DEF quality from contaminated or diluted fluid can trigger performance codes even when all hardware tests good; always check fluid quality first.
- Some vehicles set P20FE when the NOx sensor readings are implausible, leading technicians to replace the metering unit unnecessarily; review live data for NOx sensor rationality.
The code can be set by a PCM calibration issue that is fixed by a software update, so check for technical service bulletins before replacing hardware.

Can I keep driving with P20FE?

You can generally drive with P20FE, but avoid heavy loads and long trips until diagnosed, as the fault may escalate to reduced power or a no-restart condition. Monitor DEF level and address the issue promptly to prevent more severe emissions system damage.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter for electrical testing
- DEF refractometer to check fluid quality
- Hand tools for component removal and inspection
- Pressure gauge for DEF system testing



Reading P20FE

- 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.
- FE** The exact fault within that area.

Often seen with

P207F Reductant Quality Performance · **P20B9** Reductant Heater A Control Circuit/Open · **P20EE** NOx Catalyst Efficiency Below Threshold (Bank 1) · **P20F5** Reductant Consumption Too High · **P20F6** Reductant Injection Valve Stuck Open (Bank 1 Unit 1)

See it working

Watch the animated explainer [Master the Four-Stroke Engine Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p20fe/>

