

GENERIC · POWERTRAIN

P20F5

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P20F5

Reductant Consumption Too High

P20F5 indicates that the engine control module has calculated the diesel exhaust fluid consumption rate and found it higher than the expected value for the distance traveled and conditions seen. The computer is not reporting a sensor failure directly, but rather that the measured reductant usage does not match its internal model, which usually points to an actual leak, an injector delivering too much fluid, or a faulty dosing strategy.

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

- Illuminated check engine light, often with no other noticeable symptoms
- Diesel exhaust fluid level dropping faster than normal between fill-ups
- White crystalline deposits around the DEF injector or exhaust pipe
- Exhaust fluid warning messages or countdown to speed limitation on some vehicles
- Slight ammonia odor from the exhaust or around the dosing area
- Reduced fuel economy or frequent requests to refill the DEF tank

Common causes, most likely first

- 1 External leak in the DEF tank, lines, or dosing injector
- 2 DEF injector stuck open or delivering excessive fluid due to internal failure
- 3 Faulty DEF pressure sensor or level sensor reporting incorrect values
- 4 Contaminated or diluted DEF causing the system to over-inject to meet NOx targets
- 5 Software calibration error in the dosing control module
- 6 Restricted or damaged DEF line causing pressure irregularities and over-delivery
- 7 Failed DEF pump or dosing module commanding excessive flow



How to diagnose and fix it

- 1 Inspect the entire DEF system for external leaks, including tank, lines, and injector area
- 2 Check DEF quality with a refractometer to rule out dilution or contamination
- 3 Monitor live data for DEF pressure, dosing quantity, and level sensor readings during a drive cycle
- 4 Perform a DEF injector flow test or remove and inspect the injector for sticking or deposits
- 5 Verify software calibration and update the dosing control module if a known issue exists
- 6 Replace the faulty DEF injector, pump, or sensor as indicated by diagnostic results
- 7 Clear codes and complete a drive cycle to confirm the consumption rate returns to normal

What the consumption calculation really means

- A P20F5 can be set by a DEF level sensor that reads high, causing the module to think fluid is being consumed faster than it actually is.
- Crystallized DEF at the injector tip often signals a small leak that only appears under pressure, so a visual inspection with the system energized is essential.
- Some vehicles set this code after a DEF refill with the engine running, which corrupts the learned consumption value until the monitor re-runs.
- A restricted DEF filter can cause pressure spikes that the pump compensates for by increasing delivery, mimicking an over-consumption fault.
- The code does not always mean the injector is bad; a biased NOx sensor can drive the system to dose more aggressively and trigger the same calculation error.

Can I keep driving with P20F5?

You can usually continue driving to a workshop, but avoid long trips and monitor the DEF level closely because continued over-consumption can lead to derate or speed limitation. Do not ignore the warning light, as running the tank dry will force a more severe limp mode.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- DEF refractometer
- Digital multimeter
- Pressure gauge for DEF system
- Inspection mirror and flashlight



Reading P20F5

- 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.
- F5** The exact fault within that area.

Often seen with

P207F Reductant Quality Performance · **P208E** Reductant Injection Valve Stuck Closed (Bank 1 Unit 1) · **P20B9** Reductant Heater A Control Circuit/Open · **P20E8** Reductant Pressure Too Low · **P20F4** Reductant Consumption Too Low

See it working

Watch the animated explainer [How a Starter Motor Works: Pre-Engaged Starter](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p20f5/>

