

GENERIC · POWERTRAIN

P20FA

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P20FA

Reductant Pump B Control Circuit/Open

P20FA indicates that the powertrain control module (PCM) has detected an open circuit or loss of control on the reductant pump B circuit, which is part of the diesel exhaust fluid (DEF) injection system. The PCM commands the pump to run and monitors the circuit for expected voltage or current feedback; when the feedback is missing or out of range, it sets this code.

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 (malfunction indicator lamp).
- Often no symptoms besides the warning light, especially if the pump is only intermittently commanded.
- Reduced engine power or limp mode may be activated by the PCM as a protective strategy.
- A message on the driver information center indicating DEF system fault or service required.
- Possible rough running or poor fuel economy if the system enters a derate strategy.
- In some vehicles, the remote start or other convenience features may be disabled.

Common causes, most likely first

- 1 Open or damaged wiring in the reductant pump B control circuit, such as a broken wire or corroded connector.
- 2 Failed reductant pump B, including an open internal winding or seized motor.
- 3 Blown fuse or faulty relay that supplies power to the reductant pump B circuit.
- 4 Poor electrical connection at the pump harness connector or at the PCM connector.
- 5 PCM internal fault on the control circuit driver, though this is less common.
- 6 Contamination or corrosion in the DEF tank causing pump damage or circuit issues.
- 7 Aftermarket accessories or poor previous repairs that have compromised the circuit.



How to diagnose and fix it

- 1 Use a scan tool to verify the code and check for any related pending or history codes in the reductant system.
- 2 Inspect the reductant pump B harness and connectors for obvious damage, corrosion, or loose pins.
- 3 Check the fuse and relay that supply power to the reductant pump B circuit and replace if faulty.
- 4 Measure resistance and voltage on the control circuit at the pump connector to identify an open or short.
- 5 Command the pump on with a scan tool and observe live data to confirm whether the pump responds and whether the circuit feedback matches the command.
- 6 If the circuit tests good, remove the pump and bench-test it for proper operation and resistance.
- 7 Repair or replace the faulty wiring, connector, pump, or PCM as diagnosed, then clear codes and verify the repair with a test drive.

What the code does not always mean

- A P20FA does not automatically condemn the reductant pump; a simple chafed wire or corroded connector can set the same code.
Some vehicles use a separate control module for the DEF system, so the fault may lie in that module rather than the PCM.
- The pump may only be commanded under specific conditions, so an intermittent open circuit can be missed during a quick inspection.
- Aftermarket electrical accessories or poor previous repairs can introduce resistance or opens in the circuit that mimic a failed pump.
Always check for technical service bulletins (TSBs) for the specific vehicle, as some models have known harness routing issues that cause this code.

Can I keep driving with P20FA?

It is generally safe to drive with this code as long as the vehicle is not in limp mode, but the DEF system may be disabled and could lead to a derate if not repaired. Avoid long trips or heavy loads until the fault is corrected, and address the issue promptly to prevent more severe system damage.

Tools that help

- OBD-II scan tool with live data and bidirectional control capabilities
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools for connector and component access
- Test light or jumper wires for circuit testing



Reading P20FA

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

Often seen with

P20F9 Intake Manifold Runner Control Circuit Performance (Bank 2) · **P20FB** Reductant Pump B Control Performance/Stuck Off · **P20FC** Reductant Pump B Control Circuit Low · **P20FD** Reductant Pump B Control Circuit High · **P20FE** Reductant Metering Unit 1 Performance

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/p20fa/>

