

GENERIC · POWERTRAIN

# P20DC

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P20DC

### Exhaust Aftertreatment Fuel Supply Control Stuck Closed

P20DC indicates that the powertrain control module has commanded the exhaust aftertreatment fuel supply control valve to open, but the circuit or component feedback indicates the valve remains stuck closed. This prevents diesel fuel or reductant from being injected into the exhaust system for regeneration or catalyst heating, which can lead to incomplete aftertreatment and derate strategies.

| 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 if the fault triggers a derate strategy.
- Increased frequency of active regeneration cycles or failure to complete regeneration.
- A sulfur or diesel exhaust odor from the tailpipe due to incomplete aftertreatment.
- Possible rough running or misfire if the fault affects fuel delivery to the exhaust system.
- No driver-perceptible change in performance in many cases, with only the warning lamp as evidence.

#### Common causes, most likely first

- 1 A failed exhaust aftertreatment fuel supply control valve that is mechanically stuck closed.
- 2 An open or shorted electrical circuit in the valve control wiring or connector.
- 3 A blown fuse or faulty relay supplying power to the control valve circuit.
- 4 A stuck-closed condition caused by carbon buildup or debris in the fuel supply passage.
- 5 A faulty powertrain control module driver circuit for the control valve.
- 6 Low fuel pressure or a restricted fuel supply line preventing valve actuation.
- 7 A failed exhaust aftertreatment fuel pressure sensor providing false feedback to the module.



## How to diagnose and fix it

- 1 Connect a scan tool and verify P20DC is active, then check for related codes and freeze-frame data.
- 2 Inspect the control valve connector and wiring for corrosion, chafing, or loose pins, and repair as needed.
- 3 Check the fuse and relay for the exhaust aftertreatment fuel supply circuit and replace any failed components.
- 4 Measure resistance and voltage at the control valve according to the manufacturer's specification to confirm electrical integrity.
- 5 Command the control valve open and closed with the scan tool while monitoring feedback to see if it responds.
- 6 If the valve does not respond, remove and inspect it for carbon or debris, clean or replace it as required.
- 7 Clear codes and perform a road test or regeneration cycle to confirm the repair and ensure the code does not return.

## When the valve is not the real culprit

- A stuck-closed valve is often misdiagnosed when the actual problem is a restricted fuel supply line or a weak lift pump that cannot deliver enough pressure to actuate the valve.  
Carbon buildup inside the exhaust aftertreatment fuel supply passage can mimic a failed valve, so cleaning the passage before replacing the valve can save unnecessary expense.
- The code can set intermittently due to a poor electrical connection that only fails under vibration or temperature extremes, so wiggle testing the harness while monitoring live data is essential.
- Some vehicles use a separate control module for the aftertreatment system, and a software calibration issue in that module can falsely report a stuck-closed valve.  
A failed exhaust aftertreatment fuel pressure sensor can cause the module to command the valve closed and set P20DC even when the valve itself is functioning correctly.

## Can I keep driving with P20DC?

You can usually drive the vehicle with P20DC set, but avoid long trips or heavy loads because the aftertreatment system may not regenerate properly and could lead to a more severe derate or catalyst damage. If the engine enters limp mode or you notice reduced power, have the fault diagnosed promptly.

## Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter for circuit testing
- Fuel pressure gauge
- Hand tools for connector and component removal
- Factory service information for circuit specifications and valve testing



### Reading P20DC

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>P</b>  | Powertrain: engine, transmission and emissions.                      |
| <b>2</b>  | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| <b>0</b>  | Fuel and air metering and auxiliary emission controls.               |
| <b>DC</b> | The exact fault within that area.                                    |

### Often seen with

**P20DD** Exhaust Aftertreatment Fuel Pressure Sensor Circuit · **P20DE** Exhaust Aftertreatment Fuel Pressure Sensor Circuit Range/Pe · **P20DF** Exhaust Aftertreatment Fuel Pressure Sensor Circuit Low · **P2453** Diesel Particulate Filter Pressure Sensor Circuit Range/Perf · **P2463** Diesel Particulate Filter Restriction - Soot Accumulation

### See it working

Watch the animated explainer [Excavator Simulator: Hydraulics You Can Operate](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p20dc/>

