

GENERIC · POWERTRAIN

P20CD

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P20CD

Exhaust Aftertreatment Fuel Injector A Control Circuit Low

P20CD indicates that the powertrain control module has detected an abnormally low voltage or current draw on the control circuit for the exhaust aftertreatment fuel injector, which is the injector that adds diesel fuel into the exhaust stream to raise temperature for the particulate filter or catalyst. The circuit is either shorted to ground, open, or the injector coil has failed, preventing the computer from properly commanding the injector.

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 protective strategies
- Exhaust aftertreatment system warning message on the dashboard
- Increased frequency of diesel particulate filter regeneration cycles or failure to complete a regeneration
- Possible rough running or misfire if the injector is shorted and affects shared power supply
- A stored freeze-frame showing the fault occurred during a regeneration request

Common causes, most likely first

- 1 Open or high-resistance wiring in the injector control circuit, such as a broken wire or corroded connector
- 2 Short to ground in the injector control circuit, often from chafed insulation against the frame or engine block
- 3 Failed exhaust aftertreatment fuel injector solenoid with an open or shorted coil
- 4 Loose or corroded electrical connector at the injector or at the powertrain control module
- 5 Internal driver failure inside the powertrain control module for that specific injector circuit
- 6 Blown fuse or relay that supplies power to the injector circuit, though this usually sets additional codes



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes plus freeze-frame data to confirm P20CD is the primary fault and not a secondary effect
- 2 Visually inspect the injector harness and connector for chafing, corrosion, moisture intrusion, or loose pins, and repair as needed
- 3 Measure the resistance of the exhaust aftertreatment fuel injector coil with a multimeter and compare to the manufacturer's specification
- 4 With the key on and injector disconnected, check for battery voltage at the power supply side of the injector connector using a multimeter or test light
- 5 Perform a voltage drop test on the ground side of the control circuit while commanding the injector on with a scan tool to detect excessive resistance
- 6 Disconnect the powertrain control module and check continuity and short-to-ground on the control wire between the module and the injector
- 7 If all wiring and the injector test good, substitute a known-good injector or test the control circuit with a noid light to verify the module driver is functioning

What the low circuit code really means

- A low circuit code does not automatically mean the injector is bad; a short to ground anywhere in the harness will set the same code and replacing the injector will not fix it.
- Many technicians overlook a corroded connector pin or a chafed wire behind the engine that only shorts when the engine moves under load, so a wiggle test while monitoring live data is essential.
- The exhaust aftertreatment fuel injector often shares a power supply with other components, so a blown fuse may set P20CD along with other codes and the root cause is the shared circuit.
- On some vehicles, a failed injector driver inside the powertrain control module will only show up as a low circuit code, and the module must be tested or replaced after all wiring is ruled out.
- This code can be set intermittently by water intrusion into the injector connector after a car wash or heavy rain, so always check for signs of moisture and dielectric grease contamination.

Can I keep driving with P20CD?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads and long trips because the aftertreatment system may not regenerate properly and can become clogged. If the engine enters limp mode or you notice excessive black smoke, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with live data and bidirectional control capability
- Digital multimeter with resistance, voltage, and continuity functions
- Test light or noid light for injector circuit testing
- Wiring diagram and connector pinout for the specific vehicle
- Basic hand tools for connector and harness access

Reading P20CD

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

Often seen with

P20BE Reductant Heater B Control Circuit Performance · **P20BF** Reductant Heater B Control Circuit Low · **P20C0** Reductant Heater B Control Circuit High · **P20CC** Exhaust Aftertreatment Fuel Injector A Control Performance · **P20CE** Exhaust Aftertreatment Fuel Injector A Control Circuit High

See it working

Watch the animated explainer [How a Refrigerator Works: The Cooling Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p20cd/>

