

GENERIC · POWERTRAIN

**P20B6**

OBD-II TROUBLE CODE

## P20B6

# Reductant Metering Unit Heater Control Circuit Performance

P20B6 indicates that the powertrain control module (PCM) has detected a performance fault in the heater control circuit for the reductant metering unit, which is the injector that sprays diesel exhaust fluid (DEF) into the exhaust stream. The PCM commands the heater on to thaw or keep the DEF from freezing, and it monitors the circuit's electrical response; when the response does not match the expected current or voltage profile, it stores this code.

SYSTEM

**Powertrain**

CODE TYPE

**Generic (all makes)**

SEVERITY

**Medium**

FIX DIFFICULTY

**Intermediate**

AREA

**Fuel and air metering and auxiliary emission controls**

## Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- A pending or stored P20B6 code may be the only sign until the heater is needed in cold weather.
- In cold ambient temperatures, the vehicle may enter a reduced power or limp mode because DEF injection is inhibited.
- A driver information message such as 'DEF system fault' or 'Service exhaust fluid system' may appear.
- Longer crank times or a no-start condition in freezing weather if the DEF tank heater is inoperative and the fluid is frozen.
- Possible increased DEF consumption or poor DEF dosing if the heater performance affects metering unit temperature.

## Common causes, most likely first

- 1 Failed reductant metering unit heater element (open or shorted internal heater).
- 2 Damaged, chafed, or corroded wiring or connector terminals in the heater control circuit.
- 3 Blown fuse or fusible link supplying power to the reductant metering unit heater.
- 4 Poor ground connection for the heater circuit, causing excessive voltage drop.
- 5 Faulty heater control driver inside the PCM or a separate heater control module.
- 6 DEF contamination or crystallization on the heater element, causing abnormal current draw.
- 7 Extreme cold weather causing the DEF to freeze and the heater to draw current outside the expected range.



## How to diagnose and fix it

- 1 Scan all modules for codes and record freeze-frame data to confirm when and under what conditions P20B6 set.
- 2 Inspect the reductant metering unit heater circuit wiring and connectors for damage, corrosion, or loose pins; repair as needed.
- 3 Check the heater circuit fuse and supply voltage at the reductant metering unit connector with the key on.
- 4 Measure the resistance of the heater element across its terminals and compare to the manufacturer's specification; replace the metering unit if out of range.
- 5 Perform a voltage drop test on the ground circuit and repair any excessive resistance.
- 6 Command the heater on with a scan tool and verify current draw and circuit response; if the circuit is good but the PCM does not control it, diagnose the PCM or control module.
- 7 Clear codes and perform a road test or heater activation test to confirm the repair and ensure the code does not return.

## Heater circuit checks before parts replacement

- A common misdiagnosis is replacing the reductant metering unit when the real fault is a corroded connector or chafed wire that only acts up in cold, wet weather.
- The heater circuit often shares a fuse or relay with other DEF system components, so a blown fuse may be caused by a short elsewhere in the harness rather than the heater itself.
- P20B6 can set intermittently if the DEF has crystallized around the heater element, causing a temporary high current draw that clears after the heater warms the fluid.
- Some vehicles require a relearn or adaptation reset after heater circuit repairs, and skipping this step can cause the code to reappear even with a good repair.
- The PCM may set this code only after a specific number of failed heater activation cycles, so a single clear may not be enough to confirm the fix.

## Can I keep driving with P20B6?

You can generally continue driving with P20B6 if the vehicle runs normally, but avoid long trips in freezing conditions because a failed heater can prevent DEF injection and lead to derate or no-start. Address the fault promptly to avoid more severe DEF system codes and potential limp mode.

## Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter with resistance and voltage drop capability
- Wiring diagram and connector pinout for the reductant metering unit
- Fuse puller and test light
- Heat gun or controlled heat source for cold-weather testing (optional)



### Reading P20B6

- 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.
- B6** The exact fault within that area.

### Often seen with

**P20B5** Reductant Metering Unit Heater Control Circuit/Open · **P20B7** Reductant Metering Unit Heater Control Circuit Low · **P20B8** Reductant Metering Unit Heater Control Circuit High · **P20B9** Reductant Heater A Control Circuit/Open · **P20BA** Reductant Heater A Control Performance

### 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/p20b6/>

