

GENERIC · POWERTRAIN

P20C8

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P20C8

Reductant Heater D Control Circuit High

P20C8 means the engine control module has detected an abnormally high voltage on the control circuit for the reductant heater designated as D, which is part of the diesel exhaust fluid system. The computer commands the heater on or off and monitors the return signal, and a high voltage reading tells it the circuit is open, shorted to power, or the heater element itself has failed.

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
- A driver information message urging you to service the emissions system or refill the diesel exhaust fluid
- Reduced engine power or limp mode if the fault persists and the module derates the engine
- Longer than normal diesel exhaust fluid thaw times in freezing weather, which may delay exhaust treatment
- Possible rough running or increased exhaust smell if the heater failure prevents proper reductant dosing

Common causes, most likely first

- 1 Failed reductant heater element D, typically an open circuit inside the heater
- 2 Damaged or corroded wiring harness between the control module and the heater connector
- 3 Loose, backed-out, or corroded pins at the heater or module connector
- 4 Open circuit in the control circuit, such as a broken wire or failed splice
- 5 Short to voltage on the control circuit from chafed wiring
- 6 Internal driver failure in the reductant control module or engine control module
- 7 Blown fuse or relay supplying power to the heater circuit



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then record freeze-frame data for P20C8 and any companion codes
- 2 Inspect the reductant heater connector and wiring for corrosion, chafing, loose pins, or signs of overheating
- 3 Measure resistance across the heater element D and compare it to the manufacturer's specification to confirm an open or shorted heater
- 4 Check for battery voltage on the supply side of the heater circuit with the key on and the heater commanded on
- 5 Back-probe the control circuit at the module and verify the commanded signal matches the expected voltage, looking for an open or short to power
- 6 Perform a wiggle test on the harness while monitoring the control circuit voltage to expose intermittent faults
- 7 Replace the failed heater element or repair the wiring as needed, clear codes, and run the manufacturer's heater activation test to confirm the repair

What a high reductant heater code really means

- A high voltage reading on a heater control circuit most often indicates an open circuit rather than a short, so technicians who only look for shorts to power can miss a broken heater element or wire.
- The reductant heater is commanded on only under specific temperature and key-on conditions, so a fault may not appear during a quick scan unless the module is forced to run its heater test.
- Corrosion at the heater connector is a frequent cause on vehicles that see road salt and winter driving, and it can mimic a failed heater element during resistance testing.
- A failed reductant heater can prevent diesel exhaust fluid from thawing in cold weather, which may set related dosing or performance codes that distract from the original P20C8.
- Some control modules latch the heater circuit off after detecting a high voltage and will not retest until the code is cleared and the key cycle is completed, so clearing codes before diagnosis can hide an intermittent fault.

Can I keep driving with P20C8?

You can usually drive the vehicle with P20C8, but avoid long trips in freezing temperatures because the heater may not thaw the diesel exhaust fluid, which can lead to reduced power or a no-start condition. Have the fault diagnosed soon to prevent secondary emissions system damage and possible limp mode.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter with resistance and voltage measurement
- Back-probe kit or breakout leads
- Wiring diagram for the reductant heater circuit
- Heat gun or controlled temperature source for heater activation testing



Reading P20C8

- 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.
- C8** The exact fault within that area.

Often seen with

P20B9 Reductant Heater A Control Circuit/Open · **P20BA** Reductant Heater A Control Performance · **P20BD** Reductant Heater B Control Circuit/Open · **P20C6** Reductant Heater D Control Circuit Performance · **P20C7** Reductant Heater D Control Circuit Low

See it working

Watch the animated explainer [Four-Stroke Engine Notebook: The Otto Cycle Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p20c8/>

