

GENERIC · POWERTRAIN

P20C0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P20C0

Reductant Heater B Control Circuit High

P20C0 indicates that the powertrain control module has detected an abnormally high voltage on the control circuit for reductant heater B, which is one of the heating elements used to keep diesel exhaust fluid from freezing. The computer expects the circuit to pull a predictable current when the heater is commanded on, 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 pending or stored P20C0 code with no drivability complaint in mild weather
- Extended crank times or a no-start condition in freezing temperatures if the heater cannot thaw the fluid
- A driver information message urging you to refill or service the diesel exhaust fluid system
- Reduced engine power or limp mode if the fault escalates and the module limits vehicle operation
- Possible failure of an emissions readiness monitor, preventing the vehicle from passing an inspection

Common causes, most likely first

- 1 Open or damaged wiring in the reductant heater B control circuit, such as a broken wire or corroded connector terminal
- 2 Failed reductant heater B element, typically an open heating coil inside the diesel exhaust fluid tank or line assembly
- 3 Short to battery voltage on the control circuit, often from chafed insulation against a grounded or powered component
- 4 Faulty reductant heater control module or relay that is stuck closed and feeding constant power to the heater
- 5 Corrosion or water intrusion at the heater connector, common on vehicles that operate in wet or salty environments
- 6 Poor ground connection for the heater circuit, causing the module to see an unexpected voltage on the control side
- 7 Internal driver failure inside the powertrain control module, though this is the least likely cause and should be confirmed last



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then record freeze-frame data to see the conditions when P20C0 set
- 2 Inspect the reductant heater B connector and harness for corrosion, chafing, or loose pins, and repair any obvious damage
- 3 Measure resistance across the heater element with a multimeter and compare it to the manufacturer's specification to confirm an open coil
- 4 Check for battery voltage on the control circuit with the key on and the heater commanded off, looking for an unexpected short to power
- 5 Test the heater control module or relay output with a bidirectional scan tool or a load test to verify it is switching correctly
- 6 Perform a voltage drop test on the ground circuit and repair any excessive resistance before condemning the heater
- 7 Replace the failed heater element or control module only after electrical tests confirm the fault, then clear codes and verify the repair with a road test

Why a high-voltage heater code is not always the heater

- A high-voltage code on a heater control circuit frequently comes from a short to power in the harness rather than a failed heater, so a resistance check alone can send you replacing a good part.
- Technicians often overlook the ground side of the circuit, and a corroded ground can make the module report a high voltage even though the heater element tests fine.
- Some vehicles set P20C0 only after a cold-soak period, so the code may not reappear during a warm shop visit and the freeze-frame data becomes the most reliable clue.
- A weak or failing battery can cause module voltage spikes that mimic a short to power, so always verify charging system health before chasing wiring.
- The reductant heater B circuit is separate from heater A, and a failure in one does not automatically mean the other is good, so test each circuit independently.

Can I keep driving with P20C0?

You can generally continue driving if the only symptom is a warning light and the outside temperature is above freezing, but avoid long trips in cold weather because a failed heater can let the diesel exhaust fluid freeze and trigger a derate. If the vehicle enters limp mode or shows a countdown to reduced power, have it diagnosed promptly.



Tools that help

- OBD-II scan tool with bidirectional control and freeze-frame capability
- Digital multimeter with resistance and voltage drop functions
- Wiring diagram and connector pinout for the reductant heater circuit
- Test light or load probe for circuit integrity checks
- Basic hand tools for connector and harness access

Reading P20C0

- 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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- C0** The exact fault within that area.

Often seen with

P20B9 Reductant Heater A Control Circuit/Open · **P20BA** Reductant Heater A Control Performance · **P20BF** Reductant Heater B Control Circuit Low · **P20C1** Reductant Heater C Control Circuit/Open · **P20C2** Reductant Heater C Control Circuit Performance

See it working

Watch the animated explainer [How a Supercharger Works: Roots Blower in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p20c0/>

