



P202B

Reductant Tank Heater Control Circuit Low

P202B indicates that the powertrain control module (PCM) has detected a low voltage condition on the control circuit for the reductant tank heater, which is part of the diesel exhaust fluid (DEF) system. The heater is designed to keep the DEF from freezing in cold temperatures, and a low circuit voltage means the PCM cannot properly command the heater on, potentially leading to frozen DEF and emissions system faults.

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 (malfunction indicator lamp).
- Often no symptoms besides the warning light, especially in warm climates.
- Possible reduced engine power or limp mode if the DEF system is disabled.
- In cold weather, the DEF may freeze, leading to a no-start condition or poor engine performance.
- A message on the driver information center indicating DEF system fault or service required.
- Increased DEF consumption or failure to meet emissions standards, which may trigger additional codes.

Common causes, most likely first

- 1 Open or shorted wiring in the reductant tank heater control circuit, including chafed or corroded wires.
- 2 Failed reductant tank heater element (open circuit or short to ground).
- 3 Poor electrical connection at the heater connector or PCM connector.
- 4 Blown fuse or relay supplying power to the heater circuit.
- 5 Faulty PCM driver for the heater control circuit (rare but possible).
- 6 Corrosion or damage to the heater circuit due to exposure to road debris or moisture.

How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in the reductant system.
- 2 Inspect the reductant tank heater wiring and connectors for damage, corrosion, or loose pins.
- 3 Check the fuse and relay for the reductant tank heater circuit and replace if blown or faulty.
- 4 Measure resistance of the heater element and compare to specifications; replace if out of range.
- 5 Test the control circuit for voltage and ground signals from the PCM; repair open or short as needed.
- 6 If all electrical checks pass, suspect the PCM and perform further diagnostics before replacement.



Cold weather DEF heater circuit pitfalls

- A low voltage code often results from a poor ground connection rather than a failed heater, so always check grounds first.
- The heater circuit may only be active below a certain temperature, so the code may not set in warm conditions, leading to misdiagnosis.
- Aftermarket DEF or contaminated fluid can cause heater element damage, so inspect the tank for contamination.
- The PCM may set this code if the heater circuit resistance is slightly out of spec, even if the heater still functions, so don't replace parts without testing.
- Related codes like P202A, P202C, or P202D may also be present, indicating a broader heater circuit issue.

Can I keep driving with P202B?

You can generally drive with this code, but avoid long trips in freezing temperatures because the DEF may freeze and cause the vehicle to enter limp mode. Have the system diagnosed promptly to prevent further emissions system damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the reductant heater circuit
- Basic hand tools for connector and component access

Reading P202B

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.
2B	The exact fault within that area.

Often seen with

P202A Reductant Tank Heater Control Circuit/Open · **P202C** Reductant Tank Heater Control Circuit High · **P202D** Reductant Leakage · **P20B9** Reductant Heater A Control Circuit/Open · **P20BA** Reductant Heater A Control Performance



See it working

Watch the animated explainer [EV Powertrain Trainer: How an Electric Car Drives](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p202b/>

