

GENERIC · POWERTRAIN

P202A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P202A

Reductant Tank Heater Control Circuit/Open

P202A indicates that the powertrain control module has detected an open circuit or abnormal voltage on the control circuit for the reductant tank heater, which is the heating element used to keep diesel exhaust fluid from freezing in cold weather. The computer monitors the commanded heater state against the expected current draw and sets this code when the circuit does not respond as designed, typically because of a broken wire, failed heater element, or poor connection.

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 P202A code with no drivability complaints in mild weather
- Extended crank times or a no-start condition in freezing temperatures if the heater is inoperative
- Reductant system-related warnings or messages on the driver information display
- Possible reduction in engine power or activation of limp mode if the fault escalates
- Increased diesel exhaust fluid consumption or poor selective catalytic reduction efficiency in cold climates

Common causes, most likely first

- 1 Open or damaged wiring in the reductant tank heater control circuit, such as a broken wire or corroded connector
- 2 Failed reductant tank heater element, typically an open internal circuit in the heating coil
- 3 Poor electrical connection at the heater or control module connector, including loose pins or water intrusion
- 4 Blown fuse or faulty relay that supplies power to the reductant tank heater circuit
- 5 Faulty reductant control module or powertrain control module driver circuit, though less common
- 6 Corrosion or damage to the heater circuit caused by exposure to road debris, salt, or urea leakage



How to diagnose and fix it

- 1 Perform a visual inspection of the reductant tank heater wiring and connectors for damage, corrosion, or loose pins
- 2 Check the fuse and relay that supply power to the reductant tank heater circuit and replace if faulty
- 3 Measure resistance across the heater element with a multimeter and compare to the manufacturer's specification to confirm an open circuit
- 4 Backprobe the control circuit at the heater connector and command the heater on with a scan tool to verify voltage and ground signals
- 5 Check for continuity and voltage drop on the control circuit between the heater and the control module to isolate an open or high-resistance wire
- 6 If the circuit and heater test good, diagnose the control module output driver or replace the module as required
- 7 Clear the code and perform a road test or actuation test to confirm the repair and ensure the heater operates correctly

What most technicians overlook on P202A

- A failed reductant tank heater often sets no drivability symptoms in warm weather, so the code may be overlooked until a cold snap causes a no-start or derate condition.
- The heater element can test good at room temperature but fail open when cold, so resistance checks should be repeated after chilling the component if the fault is intermittent.
- Water intrusion or urea crystal buildup in the heater connector is a common cause of an open circuit that a simple wiggle test may not reveal.
- Some vehicles use a pulse-width-modulated control signal for the heater, so a basic test light may give misleading results; a duty-cycle-capable meter or oscilloscope is needed.
- A weak or failing battery can cause the control module to set false open-circuit codes on heater circuits, so always verify battery condition and charging voltage first.

Can I keep driving with P202A?

You can generally continue driving in mild weather because the heater is only needed to prevent the reductant from freezing, but avoid long trips in freezing conditions until repaired. If the check engine light begins flashing or the vehicle enters limp mode, stop driving and seek service immediately.

Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter with resistance, voltage, and duty-cycle functions
- Wiring diagram and connector pinout for the reductant tank heater circuit
- Test light or logic probe for quick circuit verification
- Socket set and trim removal tools for accessing the reductant tank and connectors



Reading P202A

- 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.
- 2A** The exact fault within that area.

Often seen with

P202B Reductant Tank Heater Control Circuit Low · **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 [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p202a/>

