

GENERIC · POWERTRAIN

P203E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P203E

Reductant Level Sensor A Circuit Intermittent/Erratic

P203E indicates that the powertrain control module (PCM) has detected an intermittent or erratic signal from the reductant level sensor, which monitors the diesel exhaust fluid (DEF) level in the tank. The PCM expects a stable voltage or resistance reading that changes smoothly with the fluid level, but instead sees the signal jump, drop out, or behave unpredictably.

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 accompanied by a message to service the emissions system
- A DEF level gauge that fluctuates or reads incorrectly, sometimes showing full when the tank is low
- Driver information center warnings about low DEF or a speed-limited countdown, even when the tank is adequately filled
- The vehicle may enter limp mode or limit speed if the PCM cannot trust the level reading
- Often no symptoms besides the warning light, especially if the fault is intermittent and the level sensor otherwise works

Common causes, most likely first

- 1 Faulty reductant level sensor or sending unit inside the DEF tank
- 2 Damaged, chafed, or corroded wiring harness between the sensor and the PCM
- 3 Loose or contaminated electrical connector at the sensor or PCM
- 4 DEF fluid contamination or crystallization affecting sensor float movement
- 5 Internal PCM software glitch or faulty PCM driver circuit (less common)
- 6 Aftermarket or incorrect DEF cap causing pressure/vacuum issues that affect sensor readings (rare)



How to diagnose and fix it

- 1 Use a scan tool to retrieve all stored codes and freeze-frame data, then clear the code and test-drive to see if it returns
- 2 Visually inspect the DEF tank level sensor connector and wiring for damage, corrosion, or loose pins; repair as needed
- 3 Check the DEF fluid level and condition; top off with fresh DEF if low, and inspect for contamination or crystallization
- 4 Perform a resistance or voltage test on the level sensor circuit according to the manufacturer's procedure, comparing readings to specifications
- 5 If the sensor signal is erratic during a wiggle test, replace the reductant level sensor or sending unit
- 6 Verify powers and grounds at the PCM connector; repair any faults found
- 7 After repairs, clear codes and perform a DEF system relearn or adaptation reset if required, then verify the code does not return

Intermittent DEF Level Codes: Look Beyond the Sensor

- A common oversight is assuming the sensor is failed when the real problem is a chafed wire near the DEF tank filler neck or a corroded connector pin that only acts up on bumps.
- Crystallized DEF around the sensor float can cause erratic readings that mimic an electrical fault, so always inspect the tank interior when the sensor is removed.
- The PCM may set P203E as a companion code when the DEF level is actually stable but the ignition switch is cycled rapidly, causing a momentary signal dropout that is not a true failure.
- Some vehicles require a specific DEF fill procedure or sensor calibration after replacement; skipping it can leave the code stored even with a new sensor.
- Do not replace the PCM unless all wiring and sensor tests pass and the fault is proven to be internal to the controller, as misdiagnosis is costly.

Can I keep driving with P203E?

You can generally continue driving with P203E, but if the vehicle enters limp mode or shows a speed-limiting countdown, avoid highway driving and schedule service promptly. Do not ignore the code, because an erratic level reading can lead to an unexpected DEF run-dry and a derate event.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter for circuit testing
- Wiring diagram or service information for the specific vehicle
- Basic hand tools for connector and sensor access
- DEF refractometer to check fluid quality (optional but useful)



Reading P203E

- 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.
- 3E** The exact fault within that area.

Often seen with

P203B Reductant Level Sensor A Circuit Range/Performance · **P203C** Reductant Level Sensor A Circuit Low · **P203D** Reductant Level Sensor A Circuit High · **P204F** Reductant System Performance · **P20BD** Reductant Heater B Control Circuit/Open

See it working

Watch the animated explainer **V6 Engine Explained: 60° Bank and Firing Order** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p203e/>

