

GENERIC · POWERTRAIN

P209E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P209E

# Reductant Injection Air Pressure Sensor A/B Correlation

P209E indicates that the powertrain control module (PCM) has detected a correlation error between two reductant injection air pressure sensors, meaning the pressure readings from sensor A and sensor B do not agree within an expected tolerance. This fault typically occurs in the air-assisted reductant injection system used on some diesel vehicles to spray diesel exhaust fluid (DEF) into the exhaust stream.

|            |                     |          |                |                                                       |
|------------|---------------------|----------|----------------|-------------------------------------------------------|
| 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

- Illuminated malfunction indicator lamp (MIL) on the dashboard, often with no other noticeable symptoms.
- Reduced engine performance or limp mode if the fault escalates and the PCM limits reductant dosing.
- Possible rough idle or hesitation during regeneration events.
- A stored diagnostic trouble code (DTC) for reductant injection air pressure sensor correlation, sometimes accompanied by other pressure sensor codes.
- In rare cases, a slight increase in exhaust smoke or odor due to improper reductant injection.

## Common causes, most likely first

- 1 Faulty reductant injection air pressure sensor A or B, providing inaccurate or erratic readings.
- 2 Damaged or corroded wiring or connectors in the sensor circuit, causing intermittent signal loss.
- 3 Leaks or blockages in the air pressure lines or passages leading to the sensors.
- 4 A malfunctioning reductant injection air pump or control valve affecting pressure consistency.
- 5 Contamination or debris in the reductant injection air system, obstructing pressure signals.
- 6 A software issue or calibration error in the PCM, requiring a reflash or update.



## How to diagnose and fix it

- 1 Use a scan tool to retrieve all stored codes and freeze-frame data, then visually inspect the reductant injection air pressure sensors and their wiring for obvious damage.
- 2 Check the air pressure lines and fittings for leaks, cracks, or blockages, and repair or replace as necessary.
- 3 Perform a key-on engine-off test to compare sensor A and B readings with a scan tool; if they differ significantly, suspect a sensor or circuit fault.
- 4 Measure resistance and voltage on the sensor circuits according to the manufacturer's diagnostic procedure to isolate wiring or connector issues.
- 5 If wiring and connections are good, swap sensor A and B (if accessible) to see if the code changes or follows a sensor, indicating a faulty sensor.
- 6 Replace the faulty pressure sensor with a known-good unit, clear codes, and verify that the correlation error does not return after a test drive.
- 7 If the fault persists, check for PCM software updates or consult a dealer for advanced diagnostics, including possible PCM replacement.

## When sensors disagree, don't just replace them

- A common oversight is assuming both sensors are bad when the real problem is a single faulty sensor or a wiring issue that skews one reading, so always compare live data before condemning parts.
- The reductant injection air pressure system often shares components with the air suspension or turbocharger system on some vehicles, so a fault elsewhere can cause misleading pressure correlation codes.
- This code can be set by a simple loose connector or chafed wire that only acts up under vibration, so a wiggle test of the harness while monitoring sensor data is a valuable step.
- Some technicians replace the air pump unnecessarily when the actual cause is a clogged sensor port or a leaking line, so pressure testing the system is more reliable than parts swapping.
- After repairs, a relearn or adaptation drive cycle may be required for the PCM to accept the new sensor readings and turn off the light.

## Can I keep driving with P209E?

You can generally continue driving with this code if the vehicle runs normally, but avoid heavy loads or long trips until it is diagnosed, as prolonged driving with a reductant injection fault may lead to reduced engine power or increased emissions.

## Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Hand vacuum/pressure pump
- Basic hand tools (screwdrivers, socket set)
- Wiring diagram for the specific vehicle



## Reading P209E

- 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.
- 9E** The exact fault within that area.

## Often seen with

**P209F** Reductant Tank Heater Control Circuit Performance · **P20A0** Reductant Purge Control Valve A Circuit/Open · **P20A1** Reductant Purge Control Valve A Performance · **P20A2** Reductant Purge Control Valve A Circuit Low · **P20A3** Reductant Purge Control Valve A Circuit High

## See it working

Watch the animated explainer [How a Boxer Engine Works: Flat Engine Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p209e/>

