

GENERIC · POWERTRAIN

P2039

OBD-II TROUBLE CODE

P2039

Reductant Injection Air Pressure Sensor Circuit Low Input

P2039 means the engine computer has detected a low input voltage on the reductant injection air pressure sensor circuit, which monitors the air pressure used to help spray diesel exhaust fluid into the exhaust. The computer expects a voltage signal within a specific range, and a low reading tells it the sensor circuit is shorted to ground, has excessive resistance, or the sensor itself has failed.

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

- Illuminated check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode triggered by the powertrain control module
- Driver information message warning of reductant system fault or service required
- Possible rough running or hesitation if the system enters a protective strategy
- In some vehicles, the engine may refuse to restart after shutdown once the fault is active

Common causes, most likely first

- 1 Failed reductant injection air pressure sensor sending a low voltage signal
- 2 Damaged or chafed wiring between the sensor and the powertrain control module, causing a short to ground
- 3 Corroded or loose electrical connector at the sensor or harness junction
- 4 Restricted or disconnected air supply line to the sensor, causing a false low-pressure reading
- 5 Failed reductant injection air pump or blocked air filter preventing pressure buildup
- 6 Internal fault in the powertrain control module driver circuit for the sensor



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data and sensor voltage reading with the key on and engine running
- 2 Visually inspect the sensor, connector, and wiring harness for chafing, corrosion, or loose pins
- 3 Check the air supply line and filter for blockage or disconnection, and verify the air pump operates
- 4 Measure sensor reference voltage and signal voltage at the connector with a multimeter and compare to specifications
- 5 Perform a wiggle test on the harness while watching live sensor data to catch intermittent wiring faults
- 6 Replace the reductant injection air pressure sensor if voltage remains low with a known-good signal circuit
- 7 Clear the code and complete a drive cycle to verify the repair and confirm the monitor runs to completion

What a low air pressure sensor reading really means

- A low signal voltage does not automatically condemn the sensor, because a shorted signal wire or a poor ground connection will produce the same reading and is far cheaper to fix.
Technicians often overlook the air pump and filter on this circuit, and a clogged filter can drop pressure enough to set P2039 without any sensor fault at all.
 - The reductant injection air pressure sensor shares its reference and ground circuits with other sensors on some platforms, so a fault in a shared wire can set this code alongside unrelated sensor codes.
 - After repairing the circuit, the powertrain control module may need a relearn or adaptation reset before the code will stay cleared, especially if the fault was present for multiple drive cycles.
- A weak battery or charging system that drops voltage during cranking can cause a momentary low signal that sets P2039 intermittently, so always verify system voltage before replacing parts.

Can I keep driving with P2039?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads and long trips because the computer may derate engine power or prevent a restart once the fault is active. If the check engine light is accompanied by a limp mode or a countdown to no-restart, stop driving and arrange service.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probing pins
- Wiring diagram for the reductant injection air pressure sensor circuit
- Hand tools for connector and sensor removal
- Compressed air or vacuum pump for testing the air supply line



Reading P2039

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

Often seen with

P2038 Reductant Injection Air Pressure Sensor Circuit Range/Perfor · **P2040** Reductant Injection Air Pressure Sensor Circuit High Input · **P2041** Reductant Injection Air Pressure Sensor Circuit Intermittent · **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/p2039/>

