

GENERIC · POWERTRAIN

P206D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P206D

Reductant Quality Sensor Circuit High

P206D indicates that the reductant quality sensor circuit has reported a voltage higher than the manufacturer's expected range for an extended period. The engine control module (ECM) monitors this sensor to verify that the diesel exhaust fluid (DEF) meets the required urea concentration, and a high signal typically points to a wiring short to voltage, a failed sensor, or a contaminated fluid that skews the reading.

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 check engine light, often accompanied by a message to service the emissions system
- No noticeable performance change in many cases, especially if the fault is intermittent
- Reduced engine power or limp mode if the ECM derates the vehicle to protect the aftertreatment system
- A driver information message indicating incorrect DEF quality or a DEF system fault
- Possible poor fuel economy or increased DEF consumption if the system attempts to compensate
- In rare cases, a no-start condition after the vehicle has been shut off and the fault is active

Common causes, most likely first

- 1 Reductant quality sensor internal failure causing a high voltage output
- 2 Short to voltage in the sensor signal circuit or a chafed harness rubbing against a power wire
- 3 Corroded, loose, or water-intruded connector at the sensor or ECM
- 4 Contaminated or incorrect diesel exhaust fluid (DEF) that alters the sensor's electrical response
- 5 Failed or failing ECM driver circuit for the reductant quality sensor
- 6 Aftermarket or incorrect DEF additive that damages the sensor element
- 7 Extreme cold weather causing DEF freezing and subsequent sensor damage



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then clear codes and verify whether P206D returns immediately or after a drive cycle.
- 2 Visually inspect the reductant quality sensor, its connector, and the wiring harness for damage, corrosion, or signs of fluid intrusion.
- 3 Test the sensor signal circuit for a short to voltage using a digital multimeter with the key on and the sensor disconnected.
- 4 Check the DEF quality with a refractometer to confirm the urea concentration is within specification before condemning the sensor.
- 5 Perform a resistance and voltage output test on the reductant quality sensor according to the manufacturer's service information.
- 6 If the sensor tests out of range, replace the reductant quality sensor and clear codes, then complete a DEF system relearn or adaptation reset if required.
- 7 If the wiring and sensor are good, test the ECM connector and circuit integrity, and replace the ECM only after confirming all other possibilities are eliminated.

What a high reductant quality signal really means

- A high signal voltage does not automatically mean the sensor is bad; a short to voltage in the harness often mimics a failed sensor and is missed when only the sensor is replaced.
- Contaminated DEF from a contaminated jug or a degraded batch can push the sensor reading high without setting a separate quality code, so always verify fluid quality before parts replacement.
- Some vehicles will not illuminate the check engine light for this code until the fault has been present for two consecutive drive cycles, so a single clear-and-drive may not be conclusive.
- The reductant quality sensor shares its reference voltage with other sensors on some platforms, so a fault in a related circuit can set P206D as a ghost code.
- Freezing temperatures can crack the sensor's internal element and cause a high voltage reading that only appears after a cold soak, making the fault intermittent and hard to reproduce in a warm shop.

Can I keep driving with P206D?

You can usually continue driving with P206D active, but avoid long trips or heavy loads because the ECM may eventually derate engine power to protect the aftertreatment system. If the vehicle enters limp mode or displays a countdown to no-start, schedule service immediately rather than continuing to drive.



Tools that help

- OBD-II scan tool with live data and code-clearing capability
- Digital multimeter with voltage and resistance functions
- DEF refractometer for testing urea concentration
- Manufacturer-specific service information for circuit testing and sensor specifications
- Basic hand tools for connector and sensor removal

Reading P206D

- P** Powertrain: engine, transmission and emissions.
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- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
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- 0** Fuel and air metering and auxiliary emission controls.
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- 6D** The exact fault within that area.

Often seen with

P206C Reductant Quality Sensor Circuit Low · **P206E** Intake Manifold Tuning (IMT) Valve Stuck Open (Bank 2)
 · **P207F** Reductant Quality Performance · **P20B9** Reductant Heater A Control Circuit/Open · **P20BA**
 Reductant Heater A Control Performance

See it working

Watch the animated explainer [How an Elevator Works: Traction Lift in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p206d/>

