

GENERIC · POWERTRAIN

P056D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P056D

Reductant Control Module System Voltage

P056D means the reductant control module has detected an abnormal voltage on its power or ground circuit, so the diesel exhaust fluid (DEF) dosing system may stop working. The module compares its supply voltage to expected limits and sets this code when the reading falls outside the calibrated range.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- A message on the dash warning that the DEF system is disabled or that the vehicle will be speed-limited after a countdown
- Rough running or reduced engine power if the module shuts down the dosing system
- Failed emissions readiness monitors or an inspection failure
- In some vehicles, the engine may enter limp mode or refuse to restart after the DEF tank is emptied

Common causes, most likely first

- 1 Weak or failing vehicle battery, or poor battery connections causing low system voltage
- 2 Corroded, loose, or damaged wiring or connectors at the reductant control module
- 3 Blown fuse or faulty relay supplying power to the reductant control module
- 4 High resistance in the module's ground circuit
- 5 Internal fault in the reductant control module
- 6 Charging system fault (alternator or voltage regulator) causing over- or under-voltage
- 7 Water intrusion or contamination in the module connector or harness



How to diagnose and fix it

- 1 Perform a battery and charging system test, including load test and alternator output check
- 2 Inspect and clean the reductant control module connectors and ground points, looking for corrosion or loose pins
- 3 Check all fuses and relays that feed the reductant control module and replace any that are blown or suspect
- 4 Measure voltage at the module's power and ground pins with the key on and engine running, comparing to battery voltage
- 5 Perform a voltage drop test on the power and ground circuits to find excessive resistance
- 6 If wiring and power supply are good, substitute a known-good module or perform module reprogramming per manufacturer procedure
- 7 Clear the code and verify the repair by running the vehicle through a complete drive cycle

Voltage faults often mimic module failure

- A weak battery is the most common root cause of P056D, and replacing the reductant control module without testing the battery first is a costly misdiagnosis.
- The code can set intermittently from a loose ground or corroded connector that only acts up under vibration or temperature changes, so wiggle tests and voltage-drop checks are essential.
- Some vehicles set this code when the charging system voltage spikes above 15 volts, so an alternator fault can be the real culprit even though the code points at the reductant module.
- A failed DEF heater or pump can draw excessive current and pull down the module's supply voltage, so check for other reductant codes before condemning the module.
- After repairing the voltage fault, the DEF system may need a scan-tool reset or a short drive cycle before the module will resume dosing and clear the warning.

Can I keep driving with P056D?

You can usually drive the vehicle short distances to a repair shop, but avoid long trips because the DEF system may be disabled and some vehicles will eventually limit speed or refuse to restart. Do not ignore the warning if a countdown to limp mode appears on the dash.

Tools that help

- Digital multimeter
- Battery load tester
- OBD-II scan tool with live data capability
- Fuse puller and test light
- Wire terminal cleaning tools and dielectric grease



Reading P056D

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 5** Vehicle speed, idle control and auxiliary inputs.
- 6D** The exact fault within that area.

Often seen with

P0560 System Voltage Malfunction · **P0562** System Voltage Low · **P0563** System Voltage High · **P208E** Reductant Injection Valve Stuck Closed (Bank 1 Unit 1) · **P20B9** Reductant Heater A Control Circuit/Open

See it working

Watch the animated explainer [How Drive-by-Wire Works: Electronic Throttle Body](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p056d/>

