

GENERIC · POWERTRAIN

P055E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P055E

Oxygen Sensor Control Module System Voltage

P055E indicates that the powertrain control module (PCM) has detected an abnormal voltage condition within the oxygen sensor control module circuit, which is responsible for providing a stable reference voltage to the oxygen sensors. The PCM monitors this circuit and sets the code when the voltage falls outside the expected range for a calibrated period, often due to a wiring fault, poor connection, or a failing control module.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough engine idle or hesitation during acceleration if the voltage issue affects oxygen sensor readings.
- Decreased fuel economy as the PCM may default to a rich fuel mixture.
- Failed emissions test due to improper air-fuel ratio control.
- Intermittent stalling or surging, particularly when the engine is cold or under load.

Common causes, most likely first

- 1 Corroded, loose, or damaged electrical connectors at the oxygen sensor control module or oxygen sensors.
- 2 Open or shorted wiring in the oxygen sensor control module circuit, including chafed harnesses or broken wires.
- 3 Faulty oxygen sensor control module, often due to internal electronic failure.
- 4 Poor ground connection for the control module or oxygen sensor heater circuit.
- 5 Voltage supply issues such as a weak battery or faulty charging system affecting module operation.
- 6 Failed oxygen sensor itself, though less common, can sometimes cause voltage irregularities.



How to diagnose and fix it

- 1 Inspect and clean all connectors related to the oxygen sensor control module and oxygen sensors, looking for corrosion or loose pins.
- 2 Perform a visual inspection of the wiring harness for damage, chafing, or loose grounds, and repair as needed.
- 3 Use a digital multimeter to check for battery voltage and ground at the control module connector with the key on.
- 4 Test the oxygen sensor control module circuit for continuity and shorts to ground or power, following the manufacturer's wiring diagram.
- 5 Check the oxygen sensor heater circuit resistance and compare to specifications to rule out a faulty sensor.
- 6 If all wiring and connections are good, test the oxygen sensor control module by substituting a known-good unit or following diagnostic flow charts.
- 7 Clear the code and perform a road test to verify the repair, monitoring live data for oxygen sensor voltage stability.

Voltage Drop Tests Beat Guessing

- A common oversight is assuming the oxygen sensor itself is at fault, but the code specifically points to the control module circuit, so testing the module's power and ground is critical.
- Corrosion inside a connector can increase resistance without visible damage, so a voltage drop test under load is more reliable than a simple visual inspection.
- The oxygen sensor control module is sometimes integrated into the PCM, meaning a voltage fault could indicate a failing PCM rather than a separate module.
- Intermittent voltage spikes from a failing alternator or bad battery can trigger this code, so always check charging system health before replacing modules.
- A poor engine ground strap can cause voltage irregularities that affect multiple modules, not just the oxygen sensor control circuit.

Can I keep driving with P055E?

You can usually drive with P055E, but avoid prolonged driving because the fault can cause poor fuel economy and increased emissions, and if drivability symptoms appear, seek service soon to prevent damage to the catalytic converter.



Tools that help

- OBD-II scanner with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Test light
- Electrical contact cleaner
- Basic hand tools for connector and harness access

Reading P055E

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.
5E	The exact fault within that area.

Often seen with

P0130 O2 Sensor Circuit Malfunction (Bank 1 Sensor 1) · **P0135** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) · **P0150** O2 Sensor Circuit Malfunction (Bank 2 Sensor 1) · **P0161** O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 2)

See it working

Watch the animated explainer [How a Car Clutch Works: Diaphragm Clutch Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p055e/>

