

GENERIC · POWERTRAIN

P005E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P005E

Turbocharger/Supercharger Boost Control B Supply Voltage Circuit Low

P005E indicates that the powertrain control module has detected a low supply voltage on the control circuit for boost control solenoid B, which is part of the turbocharger or supercharger wastegate or bypass valve system. The computer expects a steady voltage on the supply side of the circuit, and when that voltage drops below the calibrated threshold, it sets this code and may limit boost to protect the engine.

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

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine power or a limp-home mode, especially under acceleration
- Poor acceleration or sluggish throttle response due to limited boost
- Rough idle or hesitation if the solenoid is stuck open or closed
- Increased fuel consumption as the engine compensates for missing boost
- In some cases, a noticeable whistle or hissing sound from the turbocharger area if a related hose is disconnected

Common causes, most likely first

- 1 A faulty boost control solenoid B, such as an open or shorted internal coil
- 2 Damaged, corroded, or disconnected wiring or connector at the solenoid or PCM
- 3 High resistance in the supply voltage circuit, often due to a chafed wire or poor ground
- 4 A blown fuse or relay that feeds the boost control solenoid circuit
- 5 A failing powertrain control module (PCM) driver for that circuit, though this is less common
- 6 Engine vacuum or boost leaks that cause the solenoid to operate outside its expected voltage range
- 7 Aftermarket modifications or poor previous repairs to the boost control wiring



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then clear codes and test-drive to see if P005E returns
- 2 Visually inspect the boost control solenoid B, its connector, and the wiring harness for damage, corrosion, or loose pins
- 3 Check the fuse and relay that supply power to the boost control solenoid circuit and replace any blown fuse
- 4 Measure the supply voltage at the solenoid connector with the key on and engine off, comparing to battery voltage to identify a voltage drop
- 5 Perform a resistance test on the solenoid coil and compare to the manufacturer's specification to rule out an internal failure
- 6 Check for vacuum or boost leaks in the hoses connected to the wastegate or bypass valve, as leaks can affect solenoid operation
- 7 If all electrical checks pass, test the PCM driver circuit with a noid light or oscilloscope, and replace the PCM only if the driver is confirmed faulty

Don't overlook the supply circuit ground

- A low supply voltage code often results from a poor ground connection rather than a failed solenoid, so always check the ground circuit for the boost control solenoid before condemning the part.
- The code can be set by a momentary voltage dip during cranking if the battery is weak, so a battery load test and charging system check should be part of the diagnosis.
- Aftermarket boost controllers or piggyback tuners that splice into the factory wiring are a frequent cause of this code, even if they were installed years ago and worked fine initially.
- A boost control solenoid that is mechanically stuck can draw higher current and cause a voltage drop on the supply circuit, mimicking a wiring fault.
- This code does not always mean the turbocharger itself is failing; the fault is isolated to the electrical control circuit for solenoid B, and the turbo may be perfectly healthy.

Can I keep driving with P005E?

You can usually drive the vehicle with this code, but expect reduced engine power and avoid heavy acceleration or towing until the fault is repaired. Prolonged driving with a boost control fault may increase fuel consumption and, in some cases, cause the engine to enter a limp-home mode that limits speed.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Test light or noid light
- Wire probing kit and electrical contact cleaner
- Hand tools for removing connectors and accessing the solenoid
- Vacuum pump with gauge for testing boost hoses and actuator

Reading P005E

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
0	Fuel and air metering and auxiliary emission controls.
5E	The exact fault within that area.

Often seen with

P0045 Turbo/Super Charger Boost Control Solenoid Circuit/Open · **P0046** Turbo/Super Charger Boost Control Solenoid Circuit Range/Per · **P005D** B Camshaft Profile Actuator A Control Stuck On Bank 2 · **P005F** Turbocharger/Supercharger Boost Control B Supply Voltage Cir · **P0234** Engine Overboost Condition

See it working

Watch the animated explainer [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p005e/>

