

GENERIC · POWERTRAIN

P006E

OBD-II TROUBLE CODE

P006E

Turbocharger/Supercharger Boost Control A Supply Voltage Circuit Low

P006E means the engine control module (ECM) has detected a low voltage condition on the supply circuit for the 'A' turbocharger or supercharger boost control solenoid. The ECM monitors the voltage on the control circuit and sets this code when the signal falls below the expected threshold, indicating an open circuit, short to ground, or a faulty solenoid.

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

- Illumination of the check engine light (CEL) on the dashboard.
- Often no symptoms besides the warning light, especially if the boost control solenoid defaults to a safe position.
- Reduced engine performance or power, particularly during acceleration.
- The engine may enter limp mode, limiting boost and RPM.
- Poor fuel economy or unusual transmission shift patterns.
- In some cases, a noticeable lack of turbocharger or supercharger boost.

Common causes, most likely first

- 1 Open or damaged wire in the boost control solenoid supply circuit (e.g., broken wire, corroded connector).
- 2 Short to ground in the supply circuit, possibly due to chafed insulation or moisture intrusion.
- 3 Faulty boost control solenoid (internal short or open coil).
- 4 Poor electrical connection at the solenoid or ECM connector (loose pins, corrosion).
- 5 Failed ECM driver for the boost control circuit (rare but possible).
- 6 Blown fuse or relay supplying power to the boost control solenoid (if applicable).
- 7 Aftermarket accessories or modifications tapping into the circuit and causing voltage drop.

How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes (e.g., P006D, P006F) to confirm the circuit fault.
- 2 Inspect the boost control solenoid connector and wiring for damage, corrosion, or loose pins; repair as needed.
- 3 Check the supply voltage at the solenoid connector with the key on, engine off; compare to battery voltage to identify an open circuit.
- 4 Test the solenoid resistance with a multimeter and compare to manufacturer specifications; replace if out of range.
- 5 Check for continuity and short to ground in the supply wire between the solenoid and ECM; repair any wiring faults.
- 6 If the circuit and solenoid test good, suspect the ECM; perform a thorough diagnostic before replacement.
- 7 Clear the code and test-drive the vehicle to verify the repair and ensure the code does not return.

Don't overlook the boost control solenoid

- A low voltage code on the boost control circuit is often caused by a simple wiring issue, such as a broken wire near the turbocharger where heat and vibration are common.
- The boost control solenoid may still function mechanically but have an electrical fault that only appears under certain conditions, so a resistance test alone may not be conclusive.
- This code can be set by a faulty ground connection for the solenoid, even if the power side of the circuit appears intact.
- Some vehicles use a PWM signal to control the solenoid; a low voltage code can be triggered by a shorted solenoid coil that draws excessive current and pulls the voltage down.
- After replacing a solenoid, always clear adaptive learning values and perform a relearn procedure if required by the manufacturer to avoid drivability issues.

Can I keep driving with P006E?

You can usually drive the vehicle with this code, but expect reduced engine performance and possible limp mode. Avoid heavy acceleration or towing until the fault is repaired, as the turbocharger or supercharger may not provide full boost, which can affect safety in merging or passing situations.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter (DMM)
- Wire repair kit (soldering iron, heat shrink, connectors)
- Electrical contact cleaner
- Vehicle-specific service information (wiring diagrams)



Reading P006E

- 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.
- 6E** 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 · **P006D** Barometric Pressure - Turbocharger/Supercharger Inlet Pressu · **P006F** Turbocharger/Supercharger Boost Control A 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/p006e/>

