

GENERIC · POWERTRAIN

P004A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P004A

# Turbocharger/Supercharger Boost Control B Circuit/Open

P004A indicates that the powertrain control module (PCM) has detected an open circuit or abnormal voltage condition in the control circuit for turbocharger or supercharger boost control solenoid B. This circuit is responsible for regulating the boost pressure produced by the forced induction system, and an open circuit prevents the PCM from commanding the solenoid to adjust boost levels.

| 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, often with no other noticeable symptoms
- Reduced engine power or a limp mode condition due to disabled boost control
- Poor acceleration and sluggish throttle response, especially at higher engine speeds
- Decreased fuel economy as the engine management system defaults to a safe boost level
- In some cases, a noticeable whistling or hissing noise from the turbocharger area if the solenoid fails to modulate properly

## Common causes, most likely first

- 1 Broken, chafed, or disconnected wiring in the boost control solenoid B circuit
- 2 Corroded or loose electrical connector at the boost control solenoid
- 3 Failed boost control solenoid B (open coil or mechanical failure)
- 4 Faulty powertrain control module (PCM) driver for the solenoid circuit, though rare
- 5 Boost control solenoid B circuit shorted to ground or power, causing an open-circuit detection
- 6 Contamination or blockage in the solenoid's pneumatic ports leading to electrical fault detection



## How to diagnose and fix it

- 1 Perform a visual inspection of the boost control solenoid B and its wiring harness for obvious damage, corrosion, or disconnection
- 2 Use a scan tool to command the solenoid on and off while listening for an audible click; no click suggests an electrical or mechanical fault
- 3 Measure resistance across the solenoid terminals with a multimeter and compare to the manufacturer's specification to check for an open coil
- 4 Check for battery voltage at the solenoid connector with the key on, and verify ground continuity on the ground circuit
- 5 Inspect the wiring between the solenoid and PCM for continuity and shorts to ground or power using a multimeter or oscilloscope
- 6 If the circuit tests good, substitute a known-good solenoid and clear the code to see if it returns
- 7 If all else fails, diagnose the PCM driver circuit or replace the PCM as a last resort after confirming all other possibilities

## Common misdiagnosis traps for P004A

- A stuck-open or seized boost control solenoid can set P004A even when the electrical circuit is intact, so always verify mechanical operation before replacing wiring or the PCM.
- Many technicians overlook a poor ground connection at the solenoid mounting bolt, which can mimic an open circuit and trigger this code intermittently.
- P004A is often stored alongside boost control circuit codes for other solenoids (such as P0045 or P0046) when a shared power or ground circuit fails, so check for multiple codes before condemning a single component.
- Aftermarket air intake or intercooler modifications can disturb the solenoid's pneumatic plumbing and cause the PCM to detect an open circuit indirectly through unexpected pressure readings.
- The PCM may set P004A as a failsafe when it detects an implausible pressure difference across the boost control system, not just a pure electrical open, so review freeze-frame data carefully.

## Can I keep driving with P004A?

You can generally continue driving with P004A, but the vehicle may enter limp mode or exhibit reduced power, so avoid heavy acceleration and towing until the fault is repaired. Prolonged driving with a disabled boost control system can lead to increased exhaust temperatures and potential damage to the turbocharger over time.



### Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wire probe set or back-probe kit
- Hand tools for connector and component access
- Oscilloscope (optional for advanced circuit analysis)

### Reading P004A

- 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.
- 
- 4A** 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 · **P0047** Turbo/Super Charger Boost Control Solenoid Circuit Low · **P0048** Turbo/Super Charger Boost Control Solenoid Circuit High · **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/p004a/>

