

GENERIC · POWERTRAIN

P00AF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P00AF

Turbocharger/Supercharger Boost Control A Module Performance

P00AF indicates that the powertrain control module (PCM) has detected a performance problem with the boost control module or actuator circuit for turbocharger/supercharger system A. The PCM commands a specific boost level and monitors the resulting pressure or actuator response, and it sets this code when the actual boost does not match the commanded value within calibrated limits.

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 limp mode, especially under acceleration or load
- Sluggish acceleration and poor throttle response
- Audible whistling, hissing, or rattling from the turbocharger area
- Decreased fuel economy or excessive black smoke from the exhaust
- Transmission may shift erratically or hold gears longer due to reduced engine torque

Common causes, most likely first

- 1 Faulty boost control solenoid or actuator (sticking, seized, or electrically failed)
- 2 Damaged, disconnected, or misrouted vacuum or pressure hoses to the wastegate or VNT mechanism
- 3 Carbon buildup or mechanical binding in the variable nozzle turbine (VNT) mechanism or wastegate linkage
- 4 Wiring harness damage (open, short, or chafed wires) between the boost control module and the PCM
- 5 Failed turbocharger/supercharger boost pressure sensor or MAF sensor providing inaccurate feedback
- 6 Exhaust leaks before the turbocharger or intake leaks after the compressor
- 7 Internal turbocharger damage (worn compressor or turbine, sticking vanes) causing inability to achieve commanded boost



How to diagnose and fix it

- 1 Inspect all vacuum and pressure hoses for cracks, disconnections, or misrouting; repair or replace as needed
- 2 Check the boost control solenoid/actuator for freedom of movement and correct electrical resistance; clean or replace if faulty
- 3 Test the wiring harness and connectors between the boost control module and PCM for continuity, shorts, and corrosion
- 4 Verify boost pressure sensor and MAF sensor readings with a scan tool against actual values; replace if inaccurate
- 5 Perform a boost leak test on the intake system and inspect for exhaust leaks before the turbocharger
- 6 Remove and clean the VNT mechanism or wastegate linkage to eliminate carbon binding; replace turbocharger if internal damage is found
- 7 Clear the code and perform a road test to confirm the repair, monitoring live boost data to ensure commanded and actual boost match

Boost control faults often misdiagnosed

- A sticking VNT mechanism or wastegate linkage is frequently the real cause, especially on higher-mileage engines, and can be freed up with cleaning rather than turbo replacement.
- The code can be set by a simple vacuum hose that has popped off or cracked, so always inspect the plumbing before condemning the turbocharger.
- Some vehicles require a relearn or adaptation procedure for the boost control actuator after replacement, and skipping this step will cause the code to return.
- An exhaust leak before the turbo or a restricted intake can mimic a boost control fault by preventing the turbo from spooling as commanded.
- The PCM may set P00AF even when the boost control module is functioning, if the feedback signal from the boost pressure sensor is skewed or intermittent.

Can I keep driving with P00AF?

The vehicle is usually safe to drive to a repair shop, but avoid heavy acceleration and sustained high-load conditions because the engine may enter limp mode and boost control is compromised. Prolonged driving with this fault can lead to turbocharger damage or reduced fuel economy.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Hand vacuum pump with gauge
- Digital multimeter
- Boost pressure gauge (mechanical or scan tool-based)
- Basic hand tools (screwdrivers, sockets, pliers)



Reading P00AF

- 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.
- AF** 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 · **P0234** Engine Overboost Condition · **P0299** Turbo/Supercharger Underboost · **P2563** Turbocharger Boost Control Position Sensor Circuit Range/Per

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/p00af/>

