



P056E

Cold Start Turbocharger/Supercharger Boost Control A Performance

P056E indicates that during a cold start, the engine computer detected that the turbocharger or supercharger boost control system did not achieve the expected boost pressure or response within a calibrated time window. The powertrain control module (PCM) monitors boost control actuator movement and manifold pressure during the first seconds after a cold start, and it sets this code when actual boost deviates from the commanded value beyond an acceptable threshold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode during the first few minutes of driving after a cold start
- Sluggish acceleration or delayed turbo spool-up when the engine is cold
- Audible whistling, hissing, or fluttering noises from the turbocharger area on cold starts
- Rough idle or hesitation immediately after a cold start
- Poor fuel economy or increased turbo lag throughout the drive cycle

Common causes, most likely first

- 1 Sticking or carbon-fouled turbocharger boost control actuator or variable-geometry turbo mechanism
- 2 Leaking or disconnected charge-air hose, intercooler pipe, or boost pressure sensor line
- 3 Faulty boost pressure sensor or manifold absolute pressure (MAP) sensor giving inaccurate readings
- 4 Wiring damage, corrosion, or loose connector at the boost control solenoid or actuator
- 5 Failed boost control solenoid or electronic actuator motor
- 6 Restricted turbocharger oil supply or carbon buildup causing slow actuator response on cold starts
- 7 Exhaust leak upstream of the turbocharger affecting boost response



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to confirm the cold-start conditions when P056E set
- 2 Inspect all charge-air hoses, intercooler connections, and vacuum lines for cracks, loose clamps, or disconnection
- 3 Check the boost control solenoid and actuator wiring for chafing, corrosion, and secure connection; perform a wiggle test while monitoring live data
- 4 Use a scan tool to command the boost control actuator through its full range and compare commanded versus actual boost pressure during a cold start
- 5 Test the boost pressure sensor and MAP sensor for accurate readings with key on, engine off, and compare to barometric pressure
- 6 Remove and inspect the turbocharger boost control actuator or variable-geometry linkage for carbon buildup or mechanical binding; clean or replace as needed
- 7 Perform a smoke test on the intake and exhaust system to locate hidden leaks that only appear under cold-start conditions

Cold-start boost faults that fool technicians

- A sticking variable-geometry turbo mechanism often moves freely when warm but binds on the first cold start, so the code may not reappear during a warm-bay inspection.
- A weak or failing battery can cause the boost control actuator to initialize incorrectly on cold starts, setting P056E without any mechanical fault in the turbo system.
- Carbon buildup on the turbo actuator vanes is a common root cause that many technicians miss because they replace sensors and solenoids without removing the actuator for inspection.
- The PCM may set P056E based on a calculated model rather than a direct sensor failure, so a perfectly functioning turbo can still trigger the code if the MAP sensor signal is biased.
- An exhaust leak before the turbocharger can reduce drive pressure on cold starts and mimic a failed boost control actuator, so always inspect the exhaust manifold and gaskets.

Can I keep driving with P056E?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration and sustained high-load driving until the fault is diagnosed, because a sticking boost control system can cause overboost or underboost conditions that may damage the turbocharger over time.



Tools that help

- OBD-II scan tool with live data and bidirectional control capability
- Vacuum pump and gauge
- Smoke machine for intake and exhaust leak testing
- Digital multimeter for wiring and sensor testing
- Mechanic's stethoscope or listening device for turbo noises
- Torque wrench and basic hand tools for actuator removal

Reading P056E

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.
6E	The exact fault within that area.

Often seen with

P0045 Turbo/Super Charger Boost Control Solenoid Circuit/Open · **P00AF** Turbocharger/Supercharger Boost Control A Module Performance · **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/p056e/>

