



P00C5

Turbocharger/Supercharger B Turbine Overspeed

P00C5 indicates that the engine control module has detected the turbine wheel of turbocharger or supercharger 'B' spinning faster than the manufacturer's safe limit, based on the speed sensor signal for that unit. The code is set when the calculated or measured turbine speed exceeds the overspeed threshold for a calibrated time, often triggering a protective power reduction.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	High	Professional	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 triggered by the ECM to protect the turbocharger
- Audible whine or whistle from the turbocharger that rises in pitch with engine speed
- Black smoke or excessive exhaust smoke under acceleration due to overboost or rich mixture
- Loss of boost pressure or erratic boost gauge behavior if the ECM limits turbo operation
- Possible transmission harshness or delayed shifts as torque management intervenes

Common causes, most likely first

- 1 Faulty turbocharger speed sensor or damaged sensor wiring/connector
- 2 Sticking or failed variable geometry turbo (VGT) actuator or vanes, causing uncontrolled overspeed
- 3 Wastegate or bypass valve malfunction allowing excessive exhaust flow to the turbine
- 4 Boost control solenoid or vacuum line leak causing overboost and turbine overspeed
- 5 Restricted or leaking charge air cooler or intake piping altering boost dynamics
- 6 ECM calibration issue or software glitch misreporting turbine speed
- 7 Mechanical damage to the turbine wheel or bearing housing causing abnormal speed signals



How to diagnose and fix it

- 1 Connect a scan tool and verify P00C5 is current, then check for related boost and sensor codes
- 2 Inspect the turbocharger speed sensor and its wiring for damage, corrosion, or loose connections
- 3 Check vacuum lines and boost control solenoid operation with a vacuum pump and gauge
- 4 Test the wastegate or VGT actuator for free movement and correct calibration using a scan tool
- 5 Perform a boost pressure test to identify leaks or restrictions in the charge air system
- 6 Compare actual turbine speed data to manufacturer specifications under controlled conditions
- 7 If all external checks pass, follow OEM diagnostic flow for internal turbocharger inspection or replacement

Overspeed codes often misdiagnosed as turbo failure

- A sticking VGT actuator is a common cause of overspeed that many technicians overlook while replacing the turbocharger unnecessarily.
- Boost control solenoid faults can command maximum boost, driving turbine speed beyond limits without any mechanical turbo damage.
- The ECM may set P00C5 from a calculated speed model rather than a direct sensor, so a faulty sensor is not always the culprit.
- After repairs, the ECM may require a relearn or adaptation reset for the turbo actuator to prevent repeat overspeed codes.
- Exhaust system restrictions downstream of the turbo can alter pressure ratios and cause overspeed under load.

Can I keep driving with P00C5?

Driving with P00C5 is not recommended because continued overspeed can destroy the turbocharger and send debris into the engine. If you must move the vehicle, stay at low RPM and light throttle, and avoid any hard acceleration until the fault is repaired.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter for sensor and wiring checks
- Vacuum pump and gauge for boost control testing
- Boost pressure tester or smoke machine for intake leaks
- Oscilloscope for analyzing speed sensor signals



Reading P00C5

- 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.
- C5** The exact fault within that area.

Often seen with

P0045 Turbo/Super Charger Boost Control Solenoid Circuit/Open · **P00C6** Fuel Rail Pressure Too Low - Engine Cranking · **P0234** Engine Overboost Condition · **P0235** Turbocharger Boost Sensor A Circuit Malfunction · **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/p00c5/>

