

GENERIC · POWERTRAIN

P02CB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P02CB

Turbocharger/Supercharger B Underboost Condition

P02CB indicates that the engine control module has detected a lower-than-expected boost pressure from the second turbocharger or supercharger in a multi-stage forced induction system. The computer compares the actual boost pressure from the sensor circuit for turbocharger/supercharger B against the desired pressure and sets this code when the actual pressure falls short by a calibrated threshold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine power or a limp-home mode, especially under acceleration or load
- Sluggish acceleration and poor throttle response
- Audible whistling, hissing, or rushing air sound during acceleration
- Decreased fuel economy due to the engine running rich or the ECU limiting boost
- In rare cases, the engine may enter a reduced-power mode that limits vehicle speed

Common causes, most likely first

- 1 Split, cracked, or disconnected charge-air hose or intercooler pipe on the secondary turbocharger circuit
- 2 Faulty boost pressure sensor or a clogged sensor port for turbocharger B
- 3 Sticking or failed wastegate actuator or variable-geometry turbo mechanism on turbocharger B
- 4 Leaking or faulty boost control solenoid or vacuum lines for the secondary turbo system
- 5 Restricted intake or exhaust path for turbocharger B, such as a collapsed hose or blocked intercooler
- 6 Failed turbocharger B due to worn bearings, damaged compressor wheel, or seized shaft
- 7 Wiring or connector issues in the boost pressure sensor circuit for turbocharger B



How to diagnose and fix it

- 1 Inspect all charge-air hoses, clamps, and intercooler connections on the secondary turbo circuit for leaks or looseness
- 2 Test the boost pressure sensor for turbocharger B with a scan tool and compare its reading to a mechanical gauge
- 3 Check the wastegate actuator and variable-geometry linkage for free movement and correct operation
- 4 Verify the boost control solenoid and vacuum lines for turbocharger B are intact and functioning
- 5 Perform a smoke test on the intake system to locate hidden leaks
- 6 Inspect the turbocharger B compressor wheel and shaft for damage or excessive play
- 7 Repair or replace the faulty component and clear the code, then verify boost pressure meets specification during a road test

Common traps when diagnosing P02CB

- A boost leak on the secondary turbo circuit often produces no drivability symptoms until the engine is under heavy load, so a visual inspection alone can miss a split hose that only opens under pressure.
- The boost pressure sensor for turbocharger B can become contaminated with oil residue from the PCV system, causing a lazy or skewed signal that sets this code without any mechanical fault.
- Technicians sometimes replace the turbocharger B assembly when the real problem is a sticking wastegate actuator or a faulty boost control solenoid that is far cheaper to fix.
- This code can be set by a restricted exhaust or intake path that affects only the secondary turbo, such as a collapsed inner liner on a charge hose that looks fine from the outside.
- On vehicles with a variable-geometry turbocharger, carbon buildup on the vanes can prevent the turbo from producing commanded boost, mimicking a failed turbocharger.

Can I keep driving with P02CB?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration and sustained high-load conditions because the engine is running with reduced boost and may enter limp mode. Continued driving with a significant boost leak or failing turbocharger can lead to further damage or unsafe power loss.

Tools that help

- OBD-II scan tool with live data capability
- Mechanical boost pressure gauge
- Smoke machine for intake leak detection
- Vacuum pump and gauge
- Basic hand tools and socket set
- Digital multimeter for circuit testing



Reading P02CB

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 2** Fuel and air metering (injector circuits).
- CB** The exact fault within that area.

Often seen with

P0045 Turbo/Super Charger Boost Control Solenoid Circuit/Open · **P0234** Engine Overboost Condition · **P0299** Turbo/Supercharger Underboost · **P02CC** Cylinder 1 Fuel Injector A Offset Learning At Min Limit · **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/p02cb/>

