

GENERIC · POWERTRAIN

P0241

OBD-II TROUBLE CODE

P0241

Turbo/Super Charger Boost Sensor 'B' Circuit Low

P0241 means the engine computer has detected a low-voltage condition on the signal circuit from the turbocharger or supercharger boost sensor 'B', which is typically the sensor that monitors boost pressure after the intercooler or at the intake manifold. The computer expects a voltage within a calibrated range, and a sustained low reading tells it the sensor circuit is shorted to ground, has excessive resistance, or the sensor itself has failed.

SYSTEM Powertrain	CODE TYPE Generic (all makes)	SEVERITY Medium	FIX DIFFICULTY Intermediate	AREA Fuel and air metering (injector circuits)
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Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode because the computer limits boost when it cannot trust the sensor
- Poor acceleration or sluggish throttle response, especially during merging or passing
- Rough idle or hesitation if the faulty sensor reading also affects fuel delivery calculations
- Decreased fuel economy as the computer defaults to a rich or conservative fuel strategy
- In some vehicles, a message on the driver information display warning of a powertrain fault

Common causes, most likely first

- 1 Failed boost sensor 'B' itself, where the internal electronics no longer produce a valid voltage signal
- 2 Damaged or corroded wiring between the sensor and the engine computer, including chafed insulation or broken strands
- 3 Loose, dirty, or corroded electrical connector at the sensor or at the computer harness
- 4 A short to ground in the signal wire, often from rubbing against a metal bracket or heat shield
- 5 Water or oil intrusion into the sensor connector, common on vehicles with boost leaks or missing underbody panels
- 6 A faulty engine computer driver circuit, though this is rare compared to sensor and wiring faults
- 7 Incorrect sensor installed during a previous repair, such as a part with the wrong calibration



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data and live boost sensor 'B' voltage to confirm the low signal condition
- 2 Visually inspect the sensor, its connector, and the wiring harness for damage, corrosion, or contamination, and repair as needed
- 3 Back-probe the sensor connector and measure the reference voltage, ground, and signal voltage with the key on and engine off
- 4 Check the signal wire for continuity to ground and for excessive resistance between the sensor and the engine computer
- 5 Compare the boost sensor 'B' reading with a known-good mechanical boost gauge or with the manifold absolute pressure sensor reading
- 6 If the wiring and connectors are sound, substitute a known-good sensor of the same part number and clear the code to see if it returns
- 7 After any repair, clear the diagnostic trouble codes and perform a road test with several boost cycles to verify the fix

What the boost sensor signal really tells the computer

- A low signal code often sets because the sensor connector has filled with oil from a leaking turbocharger seal, which contaminates the pins and changes resistance without any visible wire damage.
- Technicians sometimes replace the boost sensor when the real problem is a clogged or restricted intercooler that causes a pressure drop the sensor correctly reports as low, so always verify actual boost pressure mechanically.
- The engine computer may use boost sensor 'B' for strategies beyond boost control, such as exhaust gas recirculation and diesel particulate filter regeneration, so a low signal can cause drivability complaints that seem unrelated to turbocharging.
- On some vehicles, a low signal on this circuit is caused by a poor ground shared with other sensors, and cleaning that ground point fixes the code without touching the boost sensor at all.
- A generic scan tool may show boost sensor 'B' voltage that looks plausible at idle but drops out only under load, so live data during a test drive is more reliable than a key-on reading alone.

Can I keep driving with P0241?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration and sustained high-load driving because the computer may be limiting boost and the engine could enter limp mode unexpectedly. If the check engine light begins flashing or you notice severe power loss, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probe pins
- Mechanical boost gauge or pressure tester
- Wiring diagram for the boost sensor circuit
- Contact cleaner and dielectric grease
- Basic hand tools for connector and sensor access

Reading P0241

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).
41	The exact fault within that area.

Often seen with

P0235 Turbocharger Boost Sensor A Circuit Malfunction · **P0236** Turbocharger Boost Sensor A Circuit Range/Performance · **P0237** Turbocharger Boost Sensor A Circuit Low · **P0238** Turbocharger Boost Sensor A Circuit High · **P0242** Turbo/Super Charger Boost Sensor 'B' Circuit High

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/p0241/>

