

GENERIC · POWERTRAIN

P023D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P023D

Manifold Absolute Pressure - Turbocharger/Supercharger Boost Sensor A Correlation

P023D indicates that the engine control module has detected a disagreement between the manifold absolute pressure sensor and the turbocharger or supercharger boost sensor A during the same operating conditions. The computer compares these two pressure readings and sets the code when the correlation falls outside the expected range, which usually points to a sensor, wiring, or boost control issue rather than a mechanical failure inside the engine.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

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 limp mode triggered by the ECM to protect the turbocharger
- Hesitation or stumble during acceleration when boost pressure is expected
- Poor fuel economy or rough running if the pressure mismatch affects fuel delivery
- In rare cases, a slight whistling or hissing noise from the intake system if a leak is present

Common causes, most likely first

- 1 Faulty manifold absolute pressure sensor or boost pressure sensor A
- 2 Damaged, corroded, or loose wiring or connector at either sensor
- 3 Intake air leak between the turbocharger and the intake manifold, such as a split hose or loose clamp
- 4 Clogged or restricted boost pressure sensor port or tube due to carbon buildup
- 5 Sticking or failed turbocharger wastegate or variable geometry actuator affecting boost control
- 6 Engine control module software issue or, rarely, a failed ECM



How to diagnose and fix it

- 1 Perform a visual inspection of all intake and boost hoses for cracks, loose clamps, or disconnected lines
- 2 Use a scan tool to check live data for both manifold absolute pressure and boost pressure sensors and compare readings with key on, engine off and during revving
- 3 Check the sensor connectors and wiring for corrosion, chafing, or loose pins, and repair as needed
- 4 Remove and clean the boost pressure sensor port and tube to eliminate carbon blockage
- 5 Test the manifold absolute pressure sensor and boost pressure sensor with a multimeter or replace with a known-good unit for comparison
- 6 Inspect the turbocharger wastegate or variable geometry actuator for free movement and correct operation
- 7 If all else checks out, reprogram or replace the engine control module as a last resort

What the correlation code really tells you

- A P023D is often set by a simple intake leak that only appears under boost, so a smoke test of the intake system is more reliable than a visual inspection alone.
The code does not automatically mean the turbocharger is failing; many cases are resolved by cleaning the boost sensor port or replacing a \$30 sensor.
- On some vehicles, the manifold absolute pressure sensor and boost pressure sensor are the same part, and swapping them can quickly confirm a sensor fault.
- A dirty air filter or restricted intake can cause both sensors to read low and set a correlation code, so check the air filter and intake tract before condemning sensors.
After repairs, the ECM may need several drive cycles with steady boost to self-test and clear the code, so do not assume the fix failed if the light stays on immediately.

Can I keep driving with P023D?

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

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Hand tools for hose clamp and sensor removal
- Smoke machine for intake leak testing
- Vacuum/pressure gauge



Reading P023D

- 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).
- 3D** The exact fault within that area.

Often seen with

P0106 MAP/Barometric Pressure Circuit Range/Performance · **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

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/p023d/>

