

GENERIC · POWERTRAIN

P00FA

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P00FA

Turbocharger Outlet Pressure Sensor A Circuit Low

P00FA means the engine computer has detected a low voltage signal from the turbocharger outlet pressure sensor A circuit, which measures the boost pressure leaving the turbocharger before the throttle body. The computer expects a voltage within a calibrated range for the current operating conditions, and the signal has fallen below the minimum threshold, indicating a short to ground, an open circuit, or a sensor that cannot report correctly.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	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 as the computer limits boost to protect the turbocharger
- Poor acceleration and sluggish throttle response, especially during merging or passing
- Rough idle or stalling in some cases if the faulty signal affects fuel and boost calculations
- A noticeable decrease in fuel economy because the computer may enrich the mixture unnecessarily
- In rare instances, black smoke from the exhaust if the computer over-fuels due to incorrect pressure data

Common causes, most likely first

- 1 A short to ground in the signal wire between the turbocharger outlet pressure sensor and the engine computer
- 2 An open circuit or high resistance in the sensor's signal or ground circuit, often due to a broken wire or corroded connector
- 3 A failed turbocharger outlet pressure sensor that cannot produce the correct voltage output
- 4 Contamination or blockage at the sensor port, such as oil sludge or carbon buildup, preventing accurate pressure reading
- 5 A faulty engine computer driver circuit, though this is less common than wiring or sensor issues
- 6 Water intrusion into the sensor connector or wiring harness causing corrosion and low signal voltage
- 7 Aftermarket modifications or poor previous repairs that damaged the sensor circuit



How to diagnose and fix it

- 1 Use a scan tool to verify P00FA is current and check for any related codes that might indicate a different root cause
- 2 Visually inspect the turbocharger outlet pressure sensor, its connector, and the wiring harness for damage, corrosion, or loose pins
- 3 Perform a voltage drop test on the sensor's ground circuit and check for reference voltage at the sensor connector with the key on
- 4 Back-probe the signal wire and compare the sensor's voltage output to the manufacturer's specification while exercising the throttle
- 5 Check the sensor port and intake tract for oil sludge or carbon blockage that could skew the pressure reading
- 6 If wiring and connectors are good, replace the turbocharger outlet pressure sensor with a quality part and clear the code
- 7 After repair, road-test the vehicle to confirm the code does not return and that boost pressure readings are within normal range

Why a low signal is not always the sensor

- A shorted or chafed signal wire against the engine block or exhaust shield is a frequent cause that mimics a failed sensor, so always inspect the harness routing before replacing parts.
- Oil contamination from a leaking turbocharger seal can coat the sensor element and cause a low voltage signal without any visible wiring damage.
- The turbocharger outlet pressure sensor is sometimes confused with the intake manifold pressure sensor, but they serve different locations and a mix-up during repair can set this code.
- A weak battery or charging system can cause momentary low reference voltage that triggers P00FA intermittently, so check system voltage before condemning the sensor.
- Aftermarket air intake or intercooler piping that alters the sensor mounting angle can cause oil pooling and false low readings, even though the sensor itself is healthy.

Can I keep driving with P00FA?

You can usually drive the vehicle with P00FA, but expect reduced power and possible limp mode, so avoid heavy acceleration, towing, or long uphill grades until the fault is repaired. If the check engine light flashes or you notice severe power loss, stop driving and seek professional diagnosis to prevent turbocharger damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter with back-probe pins
- Wire repair kit with heat-shrink connectors
- Basic hand tools for connector and sensor removal
- Manufacturer service information for voltage specifications



Reading P00FA

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

Often seen with

P00FB Turbocharger Outlet Pressure Sensor A Circuit High · **P00FC** Turbocharger Outlet Pressure Sensor A Intermittent/Erratic · **P0235** Turbocharger Boost Sensor A Circuit Malfunction · **P0236** Turbocharger Boost Sensor A Circuit Range/Performance · **P0299** Turbo/Supercharger Underboost

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/p00fa/>

