



P1111 · Subaru

Atmospheric Pressure Sensor High Input

P1111 on a Subaru means the engine control module (ECM) has detected an abnormally high voltage signal from the atmospheric pressure sensor, which is typically integrated into the mass air flow (MAF) sensor or the manifold absolute pressure (MAP) sensor depending on the model. The ECM expects a voltage within a specific range that corresponds to current barometric pressure, and a high input indicates either a sensor fault, a wiring problem, or a reference voltage issue.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Subaru specific	Low	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough idle or poor engine performance if the sensor signal is far out of range.
- Reduced fuel economy due to incorrect air density calculations.
- Hesitation or stumble during acceleration, especially at high altitudes.
- In rare cases, the engine may enter limp mode or exhibit hard starting.

Common causes, most likely first

- 1 Faulty atmospheric pressure sensor (often part of the MAF or MAP sensor).
- 2 Open or shorted signal circuit in the sensor wiring harness.
- 3 Corroded or loose electrical connector at the sensor.
- 4 Failed ECM driver or internal fault (less common).
- 5 Contaminated sensor element from oil or debris.
- 6 Aftermarket air intake or modifications affecting sensor readings.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check live data for atmospheric pressure (should read near 14.7 psi at sea level).
- 2 Inspect the sensor connector and wiring for damage, corrosion, or loose pins.
- 3 Measure reference voltage (typically 5V) and ground at the sensor connector with the key on.
- 4 Compare the atmospheric pressure reading with a known good source (e.g., barometric pressure from a weather app) to confirm sensor accuracy.
- 5 Clean the sensor element with electronics cleaner if contamination is suspected (only if accessible and recommended).
- 6 Replace the faulty sensor (MAF or MAP) if voltage or readings are out of specification.
- 7 Clear the code and perform a road test to ensure the repair is successful.

Atmospheric sensor faults often misdiagnosed

- On many Subaru models, the atmospheric pressure sensor is built into the MAF sensor, so a P1111 may actually indicate a failing MAF sensor rather than a separate component.
- A high input code can be set by a poor ground connection at the sensor, which offsets the signal voltage upward, mimicking a sensor failure.
- Technicians sometimes replace the sensor only to find the connector pins are pushed back or corroded, so always perform a wiggle test while monitoring live data.
- Altitude changes can cause temporary out-of-range readings if the sensor is slow to respond, but a hard code typically indicates a permanent fault.
- Aftermarket air intakes that alter airflow can cause the ECM to misjudge atmospheric pressure, leading to this code even when the sensor is good.

Can I keep driving with P1111?

The vehicle is generally safe to drive with this code because the ECM uses other sensors for primary fueling, but you may experience reduced performance or fuel economy. Avoid sustained high-speed driving or heavy loads until the fault is repaired, as incorrect altitude compensation can affect engine management.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire probe set
- Electronics cleaner
- Basic hand tools (screwdrivers, socket set)



Reading P1111

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Subaru): its meaning depends on the make.
- 1** Fuel and air metering.
- 11** The exact fault within that area.

Often seen with

P0106 MAP/Barometric Pressure Circuit Range/Performance · **P0107** MAP/Barometric Pressure Circuit Low Input · **P0108** MAP/Barometric Pressure Circuit High Input · **P2227** Barometric Pressure Circuit Range/Performance · **P2228** Barometric Pressure Circuit Low

See it working

Watch the animated explainer [How a Starter Motor Works: Pre-Engaged Starter](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/subaru-p1111/>

