

SUBARU · POWERTRAIN

P1103

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1103 · Subaru

Pressure Sources Switching Solenoid Valve Circuit

P1103 on a Subaru means the engine control module (ECM) has detected an electrical fault in the circuit that controls the pressure sources switching solenoid valve, which is used to switch between intake manifold vacuum and atmospheric pressure for the pressure sensor. The ECM monitors the solenoid's command wire for expected voltage changes and sets this code when the signal is out of range, indicating an open, short, or excessive resistance in the circuit.

SYSTEM

Powertrain

CODE TYPE

Subaru specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough idle or unstable engine speed due to incorrect pressure sensor readings affecting fuel delivery.
- Reduced engine performance or hesitation during acceleration.
- Poor fuel economy as the ECM may default to a rich or inefficient fuel strategy.
- In some cases, a stored code may be the only sign, with no driveability issues at all.

Common causes, most likely first

- 1 Failed pressure sources switching solenoid valve (internal coil open or shorted).
- 2 Damaged or disconnected vacuum hoses leading to or from the solenoid, causing mechanical malfunction.
- 3 Corroded, bent, or pushed-back pins in the solenoid connector or ECM connector.
- 4 Broken, chafed, or shorted wires in the solenoid control circuit, often near the intake manifold or exhaust heat.
- 5 Contamination or blockage inside the solenoid valve from oil or carbon buildup.
- 6 A faulty ECM driver circuit, though this is rare and should be diagnosed last.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related pending or stored codes in other modules.
- 2 Inspect the solenoid valve and its vacuum hoses for cracks, disconnections, or blockage; replace hoses as needed.
- 3 Disconnect the solenoid connector and check for corrosion, tightness, and correct pin fit; clean or repair as necessary.
- 4 Measure the solenoid coil resistance with a multimeter and compare to the manufacturer's specification; replace the solenoid if out of range.
- 5 Check for battery voltage at the solenoid connector with the key on, and inspect the control wire for continuity to the ECM; repair any open or short.
- 6 If the circuit and solenoid test good, perform a functional test of the solenoid using a scan tool bidirectional control, if available.
- 7 Clear the code and test-drive the vehicle to confirm the repair; if the code returns, re-evaluate the ECM and wiring harness.

Don't overlook the vacuum hoses

- A split or disconnected vacuum hose at the pressure sources switching solenoid is a frequent cause of P1103 that is often missed because the electrical circuit tests fine.
- The solenoid is responsible for switching the pressure sensor between intake vacuum and atmospheric pressure, so a mechanical failure can set the code without any electrical fault.
- On some Subaru models, the solenoid is located under the intake manifold and is exposed to high heat and oil vapors, leading to coil failure or sticking valves.
- A dirty or clogged solenoid can sometimes be cleaned and restored, but replacement is usually more reliable if the coil resistance is out of spec.
- Do not replace the ECM until you have thoroughly tested the wiring harness and solenoid, as ECM failures are extremely rare and misdiagnosis is costly.

Can I keep driving with P1103?

You can generally continue driving with P1103, but avoid aggressive acceleration or heavy loads because the engine may run with incorrect pressure readings, leading to poor performance or increased emissions. Have the fault diagnosed soon to prevent potential damage to the catalytic converter from prolonged rich running.

Tools that help

- OBD-II scan tool with live data and bidirectional control capability
- Digital multimeter for resistance and voltage measurements
- Vacuum pump and gauge for testing solenoid operation
- Hand tools for removing and replacing the solenoid and hoses
- Wiring diagram for the specific Subaru model



Reading P1103

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

Often seen with

P1101 Oxygen Sensor Circuit Bank 1 Sensor 1 Voltage Too Low/Air Le · **P1102** Oxygen Sensor Heating Circuit Bank 1 Sensor 1 Voltage Too Lo · **P1101** Neutral Position Switch Circuit Malfunction M/T · **P1102** Pressure Sources Solenoid Valve Circuit Malfunction · **P1101** Traction Control Vacuum Solenoid Circuit Fault · **P1102** Traction Control Ventilation Solenoid Circuit Fault · **P1101** Mass Air Flow Sensor Circuit Out Of Self-Test Range · **P1102** Mass Air Flow Sensor Signal Inconsistent With Throttle Posit · **P1102** HO2S11 Heater Circuit High Voltage · **P1101** Mass Air Flow Sensor Out of Self-Test Range · **P0106** MAP/Barometric Pressure Circuit Range/Performance · **P0107** MAP/Barometric Pressure Circuit Low Input · **P0108** MAP/Barometric Pressure Circuit High Input

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/subaru-p1103/>

