

SUBARU · POWERTRAIN

P1120

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1120 · Subaru

Starter Switch High Input

P1120 on Subaru vehicles means the engine control module (ECM) has detected an abnormally high voltage on the starter switch input circuit, which it expects to be low when the starter is not engaged. The ECM uses this signal to know when the engine is cranking, and a high input when it should be low indicates a short to power, a faulty switch, or a wiring problem.

SYSTEM

Powertrain

CODE TYPE

Subaru specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air
metering

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the fault is intermittent
- Engine may crank but not start, or start and then stall immediately
- Intermittent no-crank condition where the starter does not engage
- Rough idle or hesitation after startup due to incorrect fuel and timing calculations
- Possible difficulty shifting out of park on automatic models if the switch is faulty

Common causes, most likely first

- 1 Faulty starter switch (ignition switch) internally shorted or sticking
- 2 Short to power in the starter signal wire between the switch and ECM
- 3 Corroded or damaged connector at the starter switch or ECM
- 4 Faulty neutral safety switch or clutch switch (on manual models) sending incorrect signal
- 5 Damaged ECM driver circuit (less common)
- 6 Aftermarket alarm or remote start system improperly wired into the starter circuit

How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data to confirm P1120 is current and not historical
- 2 Inspect the starter switch and its connector for corrosion, loose pins, or signs of overheating
- 3 Measure voltage on the starter signal wire at the ECM with the key off and on to check for a short to power
- 4 Disconnect the starter switch and recheck the signal voltage to isolate whether the switch or wiring is at fault
- 5 Check for aftermarket accessories tapped into the starter circuit and remove or repair as needed
- 6 If the switch is faulty, replace the starter switch and clear codes to verify the repair
- 7 If wiring is shorted, repair the harness and retest the circuit under cranking conditions



Starter Switch High Input: What Techs Miss

- A common misdiagnosis is replacing the starter motor when the real problem is a shorted starter switch or wiring, so always check the signal circuit first.
- Aftermarket remote start or alarm systems are frequently tapped into the starter wire and can backfeed voltage, setting P1120 without any factory component failure.
- On some Subaru models, a weak battery or poor ground can cause voltage spikes that mimic a high input, so load-test the battery and check grounds before condemning the switch.
- The ECM may set P1120 intermittently if the ignition switch is worn and makes poor contact internally, which can be hard to catch without wiggle-testing the harness while monitoring live data.
- P1120 does not always mean the starter circuit is completely dead; the vehicle may start and run normally while the code remains stored from a momentary glitch.

Can I keep driving with P1120?

If the engine starts and runs normally, you can drive to a repair shop, but avoid turning the key off and on repeatedly until the fault is fixed. If the engine cranks but does not start or stalls, do not drive and have the vehicle towed to prevent being stranded.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Test light
- Wire piercing probes or back probe pins
- Factory service information for wiring diagrams

Reading P1120

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

Often seen with

P1700 Vehicle Speed Sensor 2 Circuit Fault · **P1700** TCM Throttle Position Sensor Circuit Fault · **P1700** Throttle Position Sensor Circuit Malfunction AT · **P1700** Transmission Indeterminate Failure Failed To Neutral · **P1700** Transmission Indeterminate Failure · **P1700** Transmission system problems · **P0335** Crankshaft Position Sensor A Circuit Malfunction · **P0340** Camshaft Position Sensor A Circuit Malfunction (Bank 1) · **P0600** Serial Communication Link Malfunction · **P0850** Park/Neutral Switch Input Circuit



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-p1120/>

