



P1722 · Subaru

Auto Trans Diagnosis Input Signal High Input

P1722 on a Subaru means the Transmission Control Module (TCM) has detected an abnormally high voltage on the input signal circuit that carries diagnosis data from the automatic transmission. The TCM expects this signal to switch between low and high states within a specific range, and a continuous high reading tells the module that the circuit is shorted to power, open, or that a connected component has failed.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Subaru specific	Medium	Professional	Transmission

Symptoms you may notice

- The Check Engine Light or Automatic Transmission warning light illuminates steadily on the dashboard.
- The transmission may enter limp mode, holding a single gear or refusing to shift normally.
- Harsh or delayed gear engagements when moving from Park or Neutral into Drive or Reverse.
- The tiptronic or manual shift function may stop responding, leaving the car in fully automatic mode.
- Often no symptoms besides the warning light, especially if the fault is intermittent and the TCM has not yet disabled adaptive shifting.

Common causes, most likely first

- 1 A damaged or corroded wiring harness between the transmission and the TCM, particularly where the loom passes near heat sources or sharp brackets.
- 2 A failed transmission internal input speed sensor or diagnosis signal sensor that is pulling the circuit voltage high.
- 3 Water intrusion into a transmission connector or the TCM connector, causing a short to voltage on the signal wire.
- 4 A faulty TCM that is misreading a normal signal or has an internal driver failure on the input circuit.
- 5 A poor ground connection at the transmission case or chassis, which can skew the reference voltage the TCM sees on the signal line.
- 6 Aftermarket electrical accessories tapped into the transmission harness, introducing voltage where it does not belong.



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data and any stored TCM codes before clearing anything, because the conditions at the time of failure guide every later test.
- 2 Inspect the transmission range sensor and the main transmission connector for corrosion, pushed pins, or water intrusion, then clean and reseal them with dielectric grease.
- 3 Back-probe the diagnosis input signal wire at the TCM connector and measure voltage with the key on, engine off, comparing the reading to the factory specification for your Subaru model.
- 4 Wiggle-test the harness section between the transmission and the TCM while watching live data or a multimeter to expose an intermittent short to voltage.
- 5 Check the transmission ground strap and the TCM ground pins for resistance above one ohm, and clean or replace any corroded ground point.
- 6 If the circuit tests good, substitute a known-good TCM only after confirming the signal sensor resistance and output match the service manual values.
- 7 Clear the codes and perform a relearn or adaptive shift reset as required by the Subaru service procedure, then road-test through all gears to confirm the code does not return.

What the diagnosis input signal really does

- Many technicians replace the transmission assembly when the actual fault is a chafed signal wire behind the battery tray or near the starter, so always trace the harness physically before condemning hard parts.
- A high input reading can be set by a completely normal sensor if the TCM reference voltage is pulled up by a short in an unrelated circuit sharing the same harness, so check for other codes on the same bus.
- Subaru TCMs on some models log P1722 as a pending code during low-voltage cranking, and the code may never return once the battery and charging system are healthy.
- The diagnosis input signal is not the same as the input speed sensor signal, and confusing the two circuits leads to replacing the wrong sensor and leaving the real short in place.
- After any repair, the TCM must see a clean ignition cycle and a full drive cycle before it will clear the limp mode, so a test drive that never reaches operating temperature can make a correct repair look unsuccessful.

Can I keep driving with P1722?

You can usually drive the car to a workshop if the transmission still engages forward and reverse gears, but avoid highway speeds and heavy loads because limp mode may limit you to a single gear. If the car refuses to move or slips badly, stop driving and arrange a tow to prevent internal transmission damage.



Tools that help

- Subaru-compatible scan tool with live transmission data and freeze-frame capability
- Digital multimeter with back-probe pins
- Factory service manual or wiring diagram for your Subaru model and year
- Dielectric grease and electrical contact cleaner
- Jack and axle stands or a lift for underbody harness inspection

Reading P1722

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (Subaru): its meaning depends on the make.

7 Transmission.

22 The exact fault within that area.

Often seen with

P1718 Transmission Fluid Temperature Sensor Circuit · **P1718** TFT Sensor In Range Failure High · **P0700** Transmission Control System Malfunction · **P0715** Input/Turbine Speed Sensor Circuit Malfunction · **P0720** Output Speed Sensor Circuit Malfunction · **U0100** Lost Communication With ECM/PCM A

See it working

Watch the animated explainer [How a Wideband Air-Fuel Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/subaru-p1722/>

