

SUBARU · POWERTRAIN

P1596

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1596 · Subaru

Automatic Transmission Diagnosis Input Signal Circuit High Input

P1596 on a Subaru means the Transmission Control Module (TCM) has detected an abnormally high voltage on the input signal circuit that carries the automatic transmission diagnosis signal. The TCM expects a specific voltage range from this circuit, and a high reading tells it the wire is likely shorted to power or the signal source is not pulling the line low as designed. This is a manufacturer-specific code, so it will not appear on every generic OBD-II scanner.

SYSTEM

Powertrain

CODE TYPE

Subaru specific

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The Check Engine Light or AT Oil Temp light illuminates steadily on the dashboard.
- The transmission may enter limp mode, holding a single gear or refusing to shift normally.
- Harsh or delayed shifts, especially when the transmission is cold or under light throttle.
- The instrument cluster may show a flashing AT Oil Temp warning or a transmission fault message.
- Often no symptoms besides the warning light, with the vehicle driving normally until the code is cleared.
- In some cases the engine may feel down on power because the TCM limits torque during a fault.

Common causes, most likely first

- 1 A short to voltage on the diagnosis signal wire between the TCM and the transmission harness, often from chafed insulation against a metal bracket.
- 2 A faulty transmission internal harness or solenoid pack connector that is allowing the signal line to be pulled high.
- 3 Corrosion or water intrusion in the main transmission connector, which can bridge pins and create a high-voltage condition.
- 4 A failed TCM that is misreading the input signal or has an internal driver fault on that circuit.
- 5 A poor ground connection for the TCM or transmission, causing the reference voltage to float high.
- 6 Aftermarket wiring or accessories tapped into the transmission harness that backfeed voltage onto the signal line.



How to diagnose and fix it

- 1 Connect a capable scan tool and confirm P1596 is current, then record freeze-frame data and check for related transmission codes before touching any wiring.
- 2 Inspect the transmission harness and connectors for chafing, corrosion, or water intrusion, paying close attention to areas near the battery and engine mounts.
- 3 Disconnect the TCM and the transmission connector, then measure resistance and voltage on the diagnosis signal circuit to check for a short to power.
- 4 Perform a voltage drop test on the TCM ground circuit and the transmission ground to rule out a floating reference voltage.
- 5 If the wiring checks out, substitute a known-good TCM or reflash the existing TCM with the latest Subaru calibration before condemning it.
- 6 Clear the code and perform a relearn or adaptation drive cycle, then verify the code does not return during a road test with live data monitoring.

What a high input signal really means

- A high input code does not automatically mean the TCM is bad; a chafed wire shorting to a 12-volt source is far more common on older Subaru models with high underhood heat cycles.
- The diagnosis signal circuit is often shared with other transmission sensors, so a fault in a neighbouring circuit can pull this line high and set P1596 without any problem in the diagnosis circuit itself.
- Water intrusion in the transmission connector after a car wash or deep puddle is a frequent cause that gets missed because the connector looks dry from the outside until it is unplugged.
- Clearing the code without repairing the short can allow the TCM to re-enter limp mode at speed, which is a safety concern on the highway.
- Some Subaru models require a TCM relearn after any connector repair, and skipping that step can make a correctly repaired car still shift poorly and store the code again.

Can I keep driving with P1596?

You can usually drive the car to a shop if the transmission still shifts and the warning light is steady, but avoid highway speeds and heavy loads because the TCM may drop into limp mode without warning. If the transmission is already stuck in one gear or the AT Oil Temp light is flashing, stop driving and have the vehicle towed.

Tools that help

- Subaru-capable scan tool with live transmission data
- Digital multimeter with back-probe pins
- Wiring diagram for the specific Subaru model and year
- Trim removal tools for accessing the TCM and harness
- Contact cleaner and dielectric grease for connector repairs



Reading P1596

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Subaru): its meaning depends on the make.
- 5** Vehicle speed, idle control and auxiliary inputs.
- 96** The exact fault within that area.

Often seen with

P1595 Automatic Transmission Diagnosis Input Signal Circuit Low In · **P1595** Speed Control Solenoid Circuit Open Or Shorted · **P1595** Speed Control Solenoid Circuit Open Or Shorted · **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 an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/subaru-p1596/>

