

MAZDA · POWERTRAIN

P1718

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1718 · Mazda

Transmission Fluid Temperature Sensor Circuit

P1718 on Mazda vehicles indicates that the transmission control module (TCM) has detected an abnormal signal from the transmission fluid temperature (TFT) sensor circuit. The TCM monitors the sensor's voltage and flags this code when the reading falls outside the expected range for the current operating conditions, which can affect shift quality and torque converter lockup.

SYSTEM

Powertrain

CODE TYPE

Mazda specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Transmission

Symptoms you may notice

- Illumination of the check engine light or automatic transmission warning light
- Harsh or delayed gear shifts, especially when the transmission is cold
- Transmission may enter limp mode and stay in a single gear
- Torque converter clutch may fail to engage or disengage properly
- Often no symptoms besides the warning light, especially in early stages
- Poor fuel economy due to improper shift scheduling

Common causes, most likely first

- 1 Faulty transmission fluid temperature sensor
- 2 Damaged or corroded wiring harness or connector at the sensor
- 3 Open or short circuit in the sensor signal or ground circuit
- 4 Low or contaminated transmission fluid affecting sensor readings
- 5 Failed transmission control module (TCM) or internal circuit fault
- 6 Loose or improperly seated sensor in the valve body

How to diagnose and fix it

- 1 Verify transmission fluid level and condition; top off or replace fluid if needed
- 2 Inspect the TFT sensor connector and wiring for damage, corrosion, or loose pins
- 3 Measure the sensor's resistance with a multimeter and compare to Mazda specifications
- 4 Check continuity and voltage drop on the signal and ground circuits between the sensor and TCM
- 5 Replace the transmission fluid temperature sensor if resistance is out of range
- 6 Repair or replace damaged wiring or connectors as necessary
- 7 Clear the code and perform a road test to confirm the repair and ensure the code does not return



TFT Sensor Circuit Checks Before Replacement

- A low transmission fluid level can cause the TFT sensor to read incorrectly because the sensor may not be fully submerged, mimicking a sensor failure.
- Corrosion inside the connector at the transmission case is a common cause on older Mazdas, often overlooked when only the sensor is replaced.
- The TCM may set P1718 intermittently if the sensor signal is only slightly out of range, so a wiggle test of the harness while monitoring live data can reveal the fault.
- Replacing the TFT sensor without checking the ground circuit can lead to a repeat code if the ground path is compromised.
- On some Mazda models, the TFT sensor is integrated into the valve body harness, so a faulty sensor may require replacing the entire internal harness.

Can I keep driving with P1718?

You can usually drive with P1718, but avoid aggressive acceleration and towing until the fault is repaired, as the transmission may shift harshly or enter limp mode. If the transmission warning light is flashing or the car is stuck in one gear, stop driving and seek professional diagnosis.

Tools that help

- OBD-II scanner with live data capability
- Digital multimeter
- Mazda service information for resistance specifications
- Socket set and trim removal tools
- Transmission fluid level dipstick or scan tool for fluid temperature

Reading P1718

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Mazda): its meaning depends on the make.
7	Transmission.
18	The exact fault within that area.

Often seen with

P1719 Engine Torque Signal · **P1719** Skip Shift Solenoid Circuit Open Or Shorted · **P1719** Skip Shift Solenoid Circuit Open Or Shorted · **P0710** Transmission Fluid Temperature Sensor Circuit Malfunction · **P0711** Transmission Fluid Temperature Sensor 'A' Circuit Range/Perf · **P0712** Transmission Fluid Temperature Sensor 'A' Circuit Low · **P0713** Transmission Fluid Temperature Sensor 'A' Circuit High



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/mazda-p1718/>

