

MAZDA · POWERTRAIN

P1783

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1783 · Mazda

Transmission Fluid Temperature High Input

P1783 on Mazda vehicles means the transmission control module (TCM) has detected an abnormally high transmission fluid temperature signal from the transmission fluid temperature sensor. The computer sets this code when the sensor voltage indicates the fluid has exceeded a safe operating threshold, often due to low fluid, a failing sensor, or cooling system problems.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Mazda specific	Medium	Intermediate	Transmission

Symptoms you may notice

- Transmission warning light or check engine light illuminated on the dashboard
- Harsh or delayed gear shifts, especially when the transmission is hot
- Transmission may enter limp mode, limiting vehicle speed and gear selection
- A burning smell or visible fluid leak under the vehicle
- Often no symptoms besides the warning light, especially in early stages

Common causes, most likely first

- Low transmission fluid level due to a leak or neglected maintenance
- Faulty transmission fluid temperature sensor or damaged wiring to the sensor
- Restricted transmission cooler or coolant flow problems causing overheating
- Sticking thermostat or low engine coolant level affecting transmission cooling
- Heavy towing or aggressive driving under high ambient temperatures
- Internal transmission wear generating excessive heat
- Incorrect fluid type or contaminated fluid reducing heat transfer

How to diagnose and fix it

- Check transmission fluid level and condition; top off or replace fluid as needed
- Inspect for leaks around the transmission pan, cooler lines, and seals
- Test the transmission fluid temperature sensor and its wiring for resistance and continuity
- Verify engine cooling system operation, including coolant level and thermostat
- Clean or replace the transmission cooler if restricted
- Clear the code and road test to confirm the fix, monitoring live temperature data



Why P1783 Often Isn't the Sensor

- A low fluid level from a slow leak is the most common cause of P1783, yet many technicians replace the temperature sensor first without checking fluid level.
- The transmission fluid temperature sensor is often integrated into the valve body harness, so a wiring fault can mimic a sensor failure and set this code.
- Engine cooling system problems, such as a stuck thermostat or low coolant, can cause the transmission to overheat because the transmission cooler relies on engine coolant flow.
- Driving with this code can lead to internal transmission damage if the fluid is genuinely overheating, so address it promptly even if the vehicle seems to drive normally.

Can I keep driving with P1783?

It is not safe to ignore P1783 because continued driving with overheated transmission fluid can cause internal damage. Avoid towing or heavy loads, and if the transmission warning light is on or shifts feel abnormal, stop driving and have the vehicle inspected.

Tools that help

- OBD-II scanner with live data capability
- Infrared thermometer
- Multimeter
- Transmission fluid level dipstick or scan tool for fluid level check
- Basic hand tools for inspection and sensor testing

Reading P1783

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

Often seen with

P1782 Engine Torque Reduction Short To B+ · **P1782** P/ES Circuit Out Of Self Test Range · **P0218** Transmission Over-Temperature Condition · **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-p1783/>

