

GENERIC · POWERTRAIN

P077E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P077E

Transmission Fluid Temperature Measurement System Multiple Sensor Correlation

P077E indicates that the transmission control module has detected a disagreement between multiple transmission fluid temperature sensors, or between a sensor and a calculated model, beyond the allowed tolerance. The computer compares readings from two or more sensors and flags the code when their correlation falls outside the expected range for a set time.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other symptoms.
- Harsh or delayed shifting as the transmission enters a fail-safe strategy.
- Erratic torque converter clutch operation or shudder during light acceleration.
- Incorrect fluid temperature reading on a scan tool, sometimes showing an implausible value.
- In rare cases, the transmission may default to a fixed gear or limit engine power.

Common causes, most likely first

- 1 Faulty transmission fluid temperature sensor, either internal or external, providing a skewed signal.
- 2 Damaged or corroded wiring or connector at one of the temperature sensors.
- 3 Low or contaminated transmission fluid affecting heat transfer and sensor correlation.
- 4 Internal transmission mechanical issues causing uneven heating that the sensors detect.
- 5 A software calibration issue in the transmission control module (TCM) requiring an update.
- 6 Failed TCM or a fault in its internal processing of sensor signals.



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data and all transmission fluid temperature sensor readings to identify which sensor is out of range.
- 2 Inspect the transmission fluid level and condition; top off or replace fluid if it is low or contaminated.
- 3 Check the wiring and connectors at each temperature sensor for damage, corrosion, or loose pins.
- 4 Perform a resistance test on each temperature sensor and compare to the manufacturer's specification.
- 5 If a sensor is faulty, replace it according to service information, then clear codes and verify the correlation returns to normal.
- 6 Check for technical service bulletins (TSBs) or software updates for the TCM that address sensor correlation issues.
- 7 If all sensors and wiring test good, diagnose the TCM and internal transmission components as the remaining possibilities.

Why multiple temperature sensors disagree

- A common oversight is assuming the code always means a failed sensor, but low fluid level or a restricted cooler can cause uneven temperatures that trigger the correlation fault.
- Some vehicles use a calculated fluid temperature model instead of a second sensor, so the code can set when the model and the actual sensor drift apart due to a software calibration issue.
- Corroded pins in a connector often cause intermittent correlation faults that do not appear during a simple resistance check; a wiggle test while monitoring live data is more reliable.
- After replacing a sensor, the TCM may need a relearn or adaptation reset before the code stays cleared, which technicians sometimes miss.
- A failing thermostat or cooling system issue can affect transmission fluid temperature indirectly, leading to correlation faults that are not caused by the transmission itself.

Can I keep driving with P077E?

You can usually drive the vehicle to a repair shop, but avoid heavy loads or aggressive acceleration because the transmission may be in a fail-safe mode. If shifting becomes harsh or the vehicle enters limp mode, stop driving and seek professional diagnosis.

Tools that help

- OBD-II scan tool with live data and transmission module access
- Digital multimeter for resistance and voltage checks
- Infrared thermometer to verify fluid temperature independently
- Service information for sensor specifications and wiring diagrams
- Basic hand tools for connector and sensor access



Reading P077E

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 7** Transmission.
- 7E** The exact fault within that area.

Often seen with

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 · **P0714** Transmission Fluid Temperature Sensor 'A' Circuit Intermitte · **P077D** Output Shaft Speed Sensor 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/p077e/>

