

GENERIC · POWERTRAIN

P07CB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P07CB

Transmission Fluid Thermostat Performance

P07CB indicates that the transmission fluid thermostat is not performing as expected, meaning the powertrain control module (PCM) has detected that the transmission fluid temperature is not rising or stabilizing within the predicted range during warm-up. The PCM monitors the thermostat's effect by comparing transmission fluid temperature behavior against a modeled profile, and it sets this code when the actual temperature deviates from the expected value for a calibrated period.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Transmission

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other noticeable symptoms.
- Transmission may enter limp mode or exhibit harsh shifting if the fluid temperature remains too low or too high.
- Poor fuel economy because the transmission fluid does not reach optimal operating temperature.
- Delayed or erratic torque converter clutch engagement when the fluid is not at the correct temperature.
- In cold climates, the transmission may shift abnormally firm until the fluid warms up.
- In some cases, the driver may notice a burning smell if the thermostat is stuck closed and the fluid overheats.

Common causes, most likely first

- 1 A faulty transmission fluid thermostat that is stuck open, stuck closed, or slow to respond.
- 2 Low transmission fluid level or contaminated fluid affecting temperature response.
- 3 A malfunctioning transmission fluid temperature sensor providing inaccurate readings to the PCM.
- 4 Wiring damage, corrosion, or loose connectors in the thermostat or sensor circuit.
- 5 A restriction in the transmission cooler lines or cooler itself, altering fluid flow and temperature.
- 6 An engine coolant thermostat that is stuck open, preventing the transmission fluid from warming up through the cooler.
- 7 A PCM calibration issue or internal PCM fault, though this is less common.



How to diagnose and fix it

- 1 Check the transmission fluid level and condition; top off or replace fluid if it is low or degraded.
- 2 Use a scan tool to monitor transmission fluid temperature (TFT) and compare it to actual fluid temperature with an infrared thermometer to verify sensor accuracy.
- 3 Inspect the transmission fluid thermostat and its wiring for physical damage, corrosion, or loose connections.
- 4 Test the thermostat operation by observing TFT changes during warm-up; a thermostat that never opens or closes at the specified temperature is suspect.
- 5 Check for stored codes in the engine control module (ECM) related to coolant temperature, as a faulty engine thermostat can affect transmission warm-up.
- 6 If the thermostat is faulty, replace it and clear the codes; verify the repair by test-driving and monitoring TFT.
- 7 If the sensor or wiring is faulty, repair or replace as needed, then perform a relearn or calibration procedure if required.

Don't overlook the engine thermostat

- A stuck-open engine coolant thermostat is a commonly missed cause of P07CB because it prevents the transmission fluid from reaching normal operating temperature through the cooler circuit.
- The code can set even when the transmission fluid thermostat is functioning correctly if the transmission fluid temperature sensor is biased and reporting incorrect values.
- Many technicians replace the transmission fluid thermostat without first verifying the actual fluid temperature with an infrared thermometer, leading to misdiagnosis.
- P07CB can be triggered by a restricted transmission cooler, which mimics a thermostat fault by preventing proper fluid flow and temperature regulation.
- On some vehicles, the transmission fluid thermostat is integrated into the cooler line assembly, so a leak or restriction in that assembly can set this code without a standalone thermostat failure.

Can I keep driving with P07CB?

You can generally drive with P07CB, but avoid heavy towing or aggressive driving until the fault is repaired, as incorrect transmission fluid temperature can lead to poor shift quality and long-term transmission damage. If the transmission enters limp mode or you notice slipping or overheating, stop driving and seek professional diagnosis.

Tools that help

- OBD-II scan tool with live data capability
- Infrared thermometer
- Digital multimeter
- Basic hand tools (wrenches, sockets, screwdrivers)
- Fluid pump or drain pan for transmission fluid service



Reading P07CB

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

Often seen with

P0128 Coolant Thermostat (Coolant Temperature Below Thermostat Reg · **P0710** Transmission Fluid Temperature Sensor Circuit Malfunction · **P0711** Transmission Fluid Temperature Sensor 'A' Circuit Range/Perf · **P07CA** Intermediate Shaft Speed Sensor C Circuit High · **P07CC** Transmission Mode Switch C Circuit Low

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/p07cb/>

