

GENERIC · POWERTRAIN

P01F0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01F0

Coolant Temperature Relapsed Below Diagnostic Monitoring Temperature

P01F0 indicates that the engine control module (ECM) has detected the engine coolant temperature relapsing below the diagnostic monitoring temperature after the engine has warmed up. The computer expects the coolant to stay hot once the thermostat opens, but the signal shows it dropping back down, which points to a cooling system or sensor issue rather than a simple cold-start problem.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Temperature gauge fluctuating or dropping while driving
- Poor heater performance or lukewarm air from the vents
- Increased fuel consumption due to the engine running in warm-up mode
- Rough idle or driveability issues when the engine is cold
- In rare cases, the engine may overheat if the fault is related to coolant flow

Common causes, most likely first

- 1 Faulty engine coolant temperature (ECT) sensor or damaged wiring
- 2 Sticking or prematurely opening thermostat
- 3 Low coolant level due to a leak or improper filling
- 4 Air pockets trapped in the cooling system after service
- 5 Defective coolant temperature sensor circuit connector or corrosion
- 6 Engine control module (ECM) software calibration issue or internal fault



How to diagnose and fix it

- 1 Check coolant level and inspect for leaks; top up and bleed the system if needed
- 2 Scan live data for ECT sensor readings and compare with actual coolant temperature using an infrared thermometer
- 3 Inspect the ECT sensor connector and wiring for corrosion, damage, or loose pins
- 4 Test the thermostat operation by monitoring coolant temperature rise during warm-up
- 5 Replace the ECT sensor if its resistance does not match specifications
- 6 Replace the thermostat if it opens too early or sticks open
- 7 Clear the code and verify the repair by performing a test drive with live data monitoring

Coolant temperature relapses that fool technicians

- A sticking thermostat that opens early can cause the coolant temperature to drop below the monitoring threshold without setting an overheating code, leading to a P01F0 instead.
- Air pockets in the cooling system after a coolant flush are a common cause of this code because they create localized hot spots that confuse the ECT sensor.
- The ECT sensor may pass a resistance test at room temperature but fail when hot, so testing it at operating temperature is essential.
- Some vehicles use a cylinder head temperature (CHT) sensor instead of an ECT sensor, and a faulty CHT sensor can set P01F0 even though the code description mentions coolant temperature.
- A weak or failing water pump can reduce coolant circulation enough to cause temperature fluctuations that trigger this code without obvious overheating.

Can I keep driving with P01F0?

You can usually drive with this code, but avoid long trips or heavy loads until it is diagnosed, because a cooling system fault can escalate to overheating and engine damage. Monitor the temperature gauge and stop if it climbs above normal.

Tools that help

- OBD-II scan tool with live data capability
- Infrared thermometer
- Digital multimeter
- Coolant refractometer or hydrometer
- Basic socket and wrench set
- Coolant pressure tester



Reading P01F0

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- F0** The exact fault within that area.

Often seen with

P0116 Engine Coolant Temperature Circuit Range/Performance · **P0117** Engine Coolant Temperature Circuit Low Input · **P0118** Engine Coolant Temperature Circuit High Input · **P0119** Engine Coolant Temperature Circuit Intermittent · **P0128** Coolant Thermostat (Coolant Temperature Below Thermostat Reg

See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01f0/>

