

GENERIC · POWERTRAIN

P060F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P060F

Internal Control Module Coolant Temperature Performance

P060F indicates that the engine control module (ECM) has detected an internal fault in its own coolant temperature signal processing circuit, not necessarily a problem with the coolant temperature sensor itself. The ECM compares its internal coolant temperature readings against expected values and sets this code when the calculated temperature is outside a plausible range or inconsistent with other sensor inputs.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Computer and output circuits

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Erratic or inaccurate temperature gauge readings on the dashboard
- Poor fuel economy or rough running when the engine is cold
- Cooling fan may run continuously or not at all
- Difficulty starting or stalling when the engine is cold
- In rare cases, the engine may enter limp mode or overheat

Common causes, most likely first

- 1 Faulty engine coolant temperature (ECT) sensor or its wiring
- 2 Poor electrical connection at the ECT sensor or ECM
- 3 Internal ECM fault affecting the coolant temperature processing circuit
- 4 Corroded or damaged wiring harness between the ECT sensor and ECM
- 5 Low coolant level or air pockets causing inaccurate temperature readings
- 6 Aftermarket or incorrect ECT sensor installed

How to diagnose and fix it

- 1 Check coolant level and inspect for leaks or air pockets in the cooling system
- 2 Perform a visual inspection of the ECT sensor and its connector for damage or corrosion
- 3 Test the ECT sensor resistance with a multimeter and compare to specifications
- 4 Check the wiring harness for continuity and shorts between the ECT sensor and ECM
- 5 Verify ECM software is up to date and check for any applicable technical service bulletins
- 6 If all external checks pass, diagnose the ECM internal circuit or replace the ECM as needed



Don't replace the ECM without checking these first

- A low coolant level or trapped air can cause the ECM to see implausible temperature changes and set P060F, so always pressure-test the cooling system before condemning the ECM.
- The ECT sensor on many vehicles shares a reference voltage with other sensors; a short in a related circuit can corrupt the coolant temperature signal and trigger this code.
- Aftermarket sensors with incorrect resistance curves are a common cause of P060F because the ECM's internal plausibility checks reject the signal.
- P060F can be set by a weak battery or poor ground connection that causes voltage spikes affecting the ECM's internal processing.
- Some vehicles require a relearn procedure after replacing the ECT sensor or ECM; skipping it can cause the code to return even after a correct repair.

Can I keep driving with P060F?

You can usually drive with P060F, but monitor the temperature gauge closely and avoid heavy loads or long trips until it is diagnosed. If the engine overheats or runs poorly, stop driving and seek professional help immediately.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Cooling system pressure tester
- Wiring diagram for the vehicle

Reading P060F

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

Often seen with

P0115 Engine Coolant Temperature Circuit Malfunction · **P0116** Engine Coolant Temperature Circuit Range/Performance · **P0117** Engine Coolant Temperature Circuit Low Input · **P0118** Engine Coolant Temperature Circuit High Input · **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/p060f/>

