

GENERIC · POWERTRAIN

P05C6

OBD-II TROUBLE CODE

P05C6

Engine Coolant Pressure Sensor Circuit Intermittent/Erratic

P05C6 indicates that the engine control module (ECM) has detected an intermittent or erratic signal from the engine coolant pressure sensor circuit, meaning the voltage readings are jumping around or dropping out rather than staying steady. The ECM sets this code when the signal does not match expected values for a given operating condition over a period of time.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Intermittent coolant temperature gauge fluctuation or warning messages.
- Reduced engine performance or power derating if the ECM enters a protection mode.
- Possible overheating if the sensor fault masks a real low-coolant-pressure condition.
- Erratic cooling fan operation as the ECM misinterprets pressure data.
- A stored freeze-frame showing the fault occurred under specific load or temperature conditions.

Common causes, most likely first

- 1 A faulty coolant pressure sensor with an internal intermittent connection.
- 2 Damaged or chafed wiring in the sensor circuit, especially near hot or moving components.
- 3 Corroded or loose electrical connector pins at the sensor or ECM.
- 4 Poor ground connection for the sensor return circuit.
- 5 Coolant contamination or air pockets causing erratic pressure readings at the sensor.
- 6 A failing ECM driver circuit, though this is less common.



How to diagnose and fix it

- 1 Perform a visual inspection of the sensor, connector, and wiring for obvious damage or corrosion.
- 2 Use a scan tool to monitor live coolant pressure sensor voltage while wiggling the harness and connectors to catch intermittent faults.
- 3 Check the sensor reference voltage and ground at the connector with a multimeter, comparing to manufacturer specifications.
- 4 Test the sensor resistance or voltage output with a pressure gauge and compare to a known-good sensor.
- 5 Repair or replace any damaged wiring, terminals, or connectors, then clear the code and verify the repair.
- 6 If the sensor is faulty, replace it and bleed the cooling system properly to remove air pockets.
- 7 As a last resort, diagnose the ECM circuit or replace the ECM if all other possibilities are ruled out.

Intermittent faults hide in plain sight

- A loose ground or chafed wire often causes this code only when the engine is hot or vibrating, so a cold static test may pass.
The coolant pressure sensor is sometimes integrated into the expansion tank or radiator, making replacement more involved than a simple screw-in sensor.
- Air pockets in the cooling system can create pressure spikes that mimic a faulty sensor, so always bleed the system after any coolant work.
- This code can be set by a low coolant level or a failing water pump that causes pressure fluctuations, not just an electrical fault.
Do not replace the sensor without checking the connector pins for fretting corrosion, which is a common cause of intermittent signals.

Can I keep driving with P05C6?

You can usually drive with this code if the engine temperature gauge reads normal and there are no overheating symptoms, but avoid heavy loads or long trips until it is diagnosed. If the temperature gauge fluctuates or the engine overheats, stop driving and have the vehicle towed to prevent engine damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Cooling system pressure tester
- Wire piercing probes or back-probe kit
- Service information for wiring diagrams and sensor specifications



Reading P05C6

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 5** Vehicle speed, idle control and auxiliary inputs.
- C6** 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 · **P05C5** Engine Coolant Pressure Sensor Circuit High · **P05C7** Economy Mode Switch Circuit/Open

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/p05c6/>

