

GENERIC · POWERTRAIN

P0196

OBD-II TROUBLE CODE

P0196

Engine Oil Temperature Sensor Range/Performance

P0196 indicates that the powertrain control module has detected an abnormal signal from the engine oil temperature sensor circuit, typically a range or performance fault rather than a simple open or short. The computer compares the oil temperature sensor reading against expected values from other temperature sensors and operating conditions, and flags the code when the signal falls outside a plausible range or does not change as expected.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough running or poor fuel economy if the sensor reading is skewed enough to affect fuel and timing calculations
- Incorrect or erratic oil temperature gauge reading on vehicles equipped with a gauge
- Extended crank times or slight hesitation when starting from cold if the sensor reports implausible temperatures
- Possible reduced engine power or limp mode in some vehicles as a protective measure

Common causes, most likely first

- 1 Faulty engine oil temperature sensor itself, due to internal failure or contamination
- 2 Damaged or corroded wiring harness or connector at the sensor
- 3 Open or short circuit in the sensor signal or ground circuit
- 4 Poor electrical connection at the powertrain control module connector
- 5 Engine oil level too low or incorrect oil viscosity causing temperature readings outside expected range
- 6 Failed thermostat or cooling system issue affecting overall engine temperature
- 7 Rarely, a software calibration issue in the powertrain control module



How to diagnose and fix it

- 1 Verify engine oil level and condition, and confirm the correct viscosity is used
- 2 Inspect the engine oil temperature sensor connector and wiring for damage, corrosion, or loose pins
- 3 Use a scan tool to compare the oil temperature sensor reading with other temperature sensors when the engine is cold and after warm-up
- 4 Perform a resistance test on the sensor and compare to manufacturer specifications
- 5 Check for continuity and voltage drops on the sensor signal and ground circuits
- 6 If the sensor tests out of specification, replace it and clear the code
- 7 If wiring and sensor are good, diagnose the powertrain control module and its connectors

Oil temperature sensor faults often misdiagnosed

- A P0196 can be set by a sensor that is only slightly out of range, so comparing its reading to ambient temperature after a cold soak is a reliable quick test.
- Many technicians replace the sensor without checking the oil level or condition, yet low oil or the wrong viscosity can cause temperature readings that trigger this code.
- The engine oil temperature sensor shares its reference voltage and ground with other sensors on many vehicles, so a fault in a shared circuit can set P0196 along with other codes.
- On some vehicles, the oil temperature sensor is integrated into the oil level sensor or oil pressure sensor, making replacement more involved than expected.
- A P0196 does not always mean the sensor is bad; a stuck-open thermostat can cause the oil temperature to rise slower than the model expects, setting a performance code.

Can I keep driving with P0196?

You can usually continue driving with a P0196 code, but avoid heavy loads and sustained high speeds until the fault is diagnosed, because a skewed oil temperature signal can affect fuel delivery and engine protection strategies. If the engine oil warning light also illuminates or you notice unusual noises, stop driving and seek professional service.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Infrared thermometer
- Socket and ratchet set
- Wiring diagram for the specific vehicle



Reading P0196

- 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.
- 96** The exact fault within that area.

Often seen with

P0116 Engine Coolant Temperature Circuit Range/Performance · **P0117** Engine Coolant Temperature Circuit Low Input · **P0195** Engine Oil Temperature Sensor Malfunction · **P0197** Engine Oil Temperature Sensor Low · **P0198** Engine Oil Temperature Sensor High

See it working

Watch the animated explainer [Excavator Simulator: Hydraulics You Can Operate](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0196/>

