



P051D

Crankcase Pressure Sensor A Circuit High

P051D means the engine computer has detected an abnormally high voltage on the signal circuit from the crankcase pressure sensor, which is typically a three-wire sensor monitoring pressure inside the crankcase. The computer expects the signal voltage to stay within a calibrated range, and a sustained high reading indicates an open circuit, a short to voltage, or a sensor that is no longer reporting accurately.

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
- Rough running or unstable idle if the crankcase pressure reading is used for load or emissions control
- Oil leaks or excessive crankcase pressure noticed as oil mist around seals and gaskets
- A whistling or hissing noise from the engine bay caused by a blocked or leaking crankcase ventilation system
- Poor fuel economy or elevated emissions if the fault affects mixture adaptation
- In some vehicles, a reduced power or limp-home mode when the sensor signal is implausible

Common causes, most likely first

- 1 Open or damaged signal wire between the crankcase pressure sensor and the engine control module
- 2 Short to voltage on the signal circuit, often from chafed wiring near the engine block
- 3 Failed crankcase pressure sensor internally shorted or reading out of range
- 4 Corroded or loose electrical connector pins at the sensor or module
- 5 Blocked or restricted crankcase ventilation system causing real overpressure
- 6 Engine mechanical wear such as excessive blow-by from worn piston rings or a damaged PCV valve
- 7 Water or oil intrusion into the sensor connector causing signal corruption



How to diagnose and fix it

- 1 Connect a scan tool and record the crankcase pressure sensor voltage with key on, engine off, then compare to the manufacturer's expected range
- 2 Visually inspect the sensor connector and wiring harness for chafing, corrosion, or loose pins, and repair as needed
- 3 Backprobe the signal circuit at the sensor and at the module to check for an open or short to voltage with a multimeter
- 4 Check the sensor reference voltage and ground circuits to confirm the sensor is receiving proper power and ground
- 5 Test the crankcase pressure sensor with a hand vacuum/pressure pump and verify the signal voltage changes smoothly
- 6 Inspect the crankcase ventilation system for blockages, collapsed hoses, or a stuck PCV valve that could cause real overpressure
- 7 Replace the crankcase pressure sensor only after electrical and mechanical checks confirm it is the faulty component, then clear codes and verify the repair

What a high crankcase pressure code really means

- A high signal voltage often indicates an open circuit or a short to voltage rather than a failed sensor, so wiring checks should come before parts replacement.
- Real crankcase overpressure from a blocked PCV system or excessive blow-by can set this code even when the sensor and wiring are perfectly healthy.
- Some vehicles use the crankcase pressure sensor as part of the emissions control strategy, so a fault can affect mixture adaptation and trigger related codes.
- A sensor that reads high only when the engine is hot or under load may have an intermittent connection that a cold static test will not reveal.
- Clearing the code without repairing the underlying circuit or mechanical cause will usually result in the code returning within a few drive cycles.

Can I keep driving with P051D?

You can usually drive the vehicle short distances to a repair shop, but avoid sustained high-speed or heavy-load driving because real crankcase overpressure can damage seals and gaskets. If you notice oil leaks, smoke, or rough running, stop driving and have the vehicle inspected promptly.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Hand vacuum/pressure pump
- Wire probe set or backprobe pins
- Basic socket and wrench set

Reading P051D

- P** Powertrain: engine, transmission and emissions.
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- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
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- 5** Vehicle speed, idle control and auxiliary inputs.
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- 1D** The exact fault within that area.

Often seen with

P0171 System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P051C** Crankcase Pressure Sensor A Circuit Low · **P051E** Crankcase Pressure Sensor A Circuit Intermittent/Erratic · **P0521** Engine Oil Pressure Sensor/Switch Circuit Range/Performance

See it working

Watch the animated explainer [Master the Four-Stroke Engine Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p051d/>

