

GENERIC · POWERTRAIN

P053C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P053C

PCV Heater A Control Circuit High

P053C indicates that the powertrain control module has detected an abnormally high voltage on the control circuit for the positive crankcase ventilation heater, which is a small electric element that warms the PCV valve or its passage to prevent crankcase vapors from freezing in cold weather. The high voltage reading tells the computer that the circuit is likely open, shorted to power, or that the heater element itself has failed in a way that removes the normal voltage drop.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms besides the warning light
- Rough idle or a slight stumble when the engine is cold, especially in freezing temperatures
- A faint electrical burning smell or visible damage at the PCV heater connector
- Moisture or milky emulsion forming under the oil filler cap in cold climates due to poor crankcase ventilation
- In rare cases, a no-start condition in extreme cold if the heater circuit fault affects shared power supply circuits

Common causes, most likely first

- 1 Open heater element inside the PCV heater assembly, which is the most common cause
- 2 Damaged or disconnected electrical connector at the PCV heater, often from heat brittleness or road debris
- 3 Broken or chafed wire in the control circuit between the powertrain control module and the heater
- 4 Short to voltage on the control circuit, which can occur if the wire rubs against a power feed
- 5 Failed powertrain control module driver for the heater circuit, though this is less common
- 6 Corrosion or water intrusion in the connector causing high resistance that the module interprets as high voltage



How to diagnose and fix it

- 1 Inspect the PCV heater connector and wiring for visible damage, corrosion, or loose pins, and repair as needed
- 2 Measure the resistance of the PCV heater element with a multimeter and compare to the manufacturer's specification to confirm an open circuit
- 3 Check for battery voltage on the control circuit at the heater connector with the key on and the engine cold, looking for an unexpected constant power signal
- 4 Perform a voltage drop test on the ground side of the heater circuit to rule out a bad ground connection
- 5 Backprobe the control circuit at the powertrain control module and verify the module is commanding the heater on when cold; if not, diagnose the module or its inputs
- 6 Replace the PCV heater assembly if the element is open or the connector is damaged beyond repair
- 7 Clear the diagnostic trouble code and verify the repair by running the appropriate monitor or observing the heater circuit voltage with a scan tool

PCV heater faults that fool good technicians

- A high voltage code on a heater circuit often means the heater element is open, not that the module is supplying too much voltage, so replacing the module first is a costly misdiagnosis.
- The PCV heater is often integrated into the PCV valve or the crankcase breather hose, so a failed heater may require replacing the entire assembly rather than just a small element.
- In warm climates, the heater is rarely commanded on, so the code may set only during a cold-start self-test and the driver may never notice a drivability problem.
- A chafed wire that shorts to voltage can set this code intermittently, and the fault may not be present when the vehicle arrives at the shop, so a wiggle test of the harness is essential.
- Some vehicles use the PCV heater circuit as part of a broader cold-start emissions strategy, and a fault can cause the module to disable other cold-start functions, leading to secondary codes.

Can I keep driving with P053C?

The vehicle is safe to drive with P053C because the PCV heater only affects cold-weather crankcase ventilation and emissions, but avoid extended idling in freezing temperatures and have the circuit inspected soon to prevent moisture buildup in the crankcase.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire piercing probes or backprobe pins
- Service information for the specific vehicle's PCV heater circuit
- Basic hand tools for connector and component access



Reading P053C

- 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.
- 3C** The exact fault within that area.

Often seen with

P052E PCV Regulator Valve Performance · **P052F** Glow Plug Control Module 1 System Voltage · **P0530** A/C Refrigerant Pressure Sensor 'A' Circuit · **P053B** PCV Heater A Control Circuit Low · **P053D** PCV Heater A Performance

See it working

Watch the animated explainer [How a Wideband Air-Fuel Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p053c/>

