



P001C

A Camshaft Profile Actuator A Control Circuit High Bank 1

P001C means the engine computer has detected a high-voltage condition on the control circuit for the bank 1 camshaft profile actuator, which is the solenoid that moves the camshaft to change valve lift or timing profile. The circuit is reading voltage above the expected range, so the computer cannot reliably command the actuator and has set this code.

SYSTEM Powertrain	CODE TYPE Generic (all makes)	SEVERITY Medium	FIX DIFFICULTY Intermediate	AREA Fuel and air metering and auxiliary emission controls
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Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or unstable engine speed when the actuator is commanded
- Reduced engine power or a limp-home mode in some vehicles
- Poor fuel economy or increased emissions
- Engine hesitation or stumble during acceleration
- Unusual engine noise or valve train rattle in severe cases

Common causes, most likely first

- 1 Damaged or chafed wiring in the actuator control circuit, causing a short to voltage
- 2 Failed camshaft profile actuator solenoid with an internal short
- 3 Corroded or loose electrical connector at the actuator or engine computer
- 4 Engine computer internal fault driving the control circuit high
- 5 Aftermarket or incorrect solenoid installed previously
- 6 Oil sludge or debris causing the actuator to stick and draw abnormal current



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P001C is the only related code
- 2 Inspect the actuator connector and wiring harness for damage, corrosion, or signs of shorting to voltage
- 3 Measure resistance and voltage on the control circuit at the actuator and compare to factory specifications
- 4 Test the actuator with a bidirectional scan tool to command it and observe circuit response
- 5 Check for technical service bulletins or software updates for the engine computer
- 6 Replace the camshaft profile actuator if testing confirms an internal short
- 7 Repair or replace the engine computer only after all other circuit tests pass

What the high-voltage reading really means

- A high-voltage code on an actuator control circuit often points to a short to voltage in the harness rather than a failed solenoid, so inspect wiring before replacing parts.
- Some vehicles set P001C when the engine computer detects an open circuit because the driver stage floats high, so an open circuit can mimic a short to voltage.
- Oil contamination or sludge can cause the actuator to stick and draw abnormal current, leading to a high-voltage code without any wiring fault.
- Aftermarket solenoids with incorrect resistance can trigger P001C even though they are new, so always compare resistance to the original part.
- The engine computer may need a software update or relearn procedure after actuator replacement to prevent the code from returning.

Can I keep driving with P001C?

You can usually drive the vehicle with P001C, but avoid heavy acceleration and sustained high speeds because the camshaft profile may not be controlled correctly, which can affect performance and emissions. Have the fault diagnosed soon to prevent potential damage to the actuator or engine computer.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools for connector and component access
- Test light or jumper wires for circuit testing



Reading P001C

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- 1C** The exact fault within that area.

Often seen with

P001B A Camshaft Profile Actuator A Control Circuit Low Bank 1 · **P001D** A Camshaft Profile Actuator A Control Circuit/Open Bank 2 · **P001E** A Camshaft Profile Actuator A Control Circuit Low Bank 2 · **P001F** A Camshaft Profile Actuator A Control Circuit High Bank 2 · **P0020** 'A' Camshaft Position Actuator Circuit (Bank 2)

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p001c/>

