

GENERIC · POWERTRAIN

P2C15

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C15

B Camshaft Profile Actuator Position Sensor A Circuit High Bank 1

P2C15 means the engine computer has detected an abnormally high voltage on the signal circuit from the Bank 1 'A' camshaft profile actuator position sensor, which monitors how far the variable valve lift mechanism has moved. The high voltage tells the computer that the sensor signal is outside its expected range, so the computer cannot trust the reported actuator position and may disable the variable valve lift system.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine power or a limp-home mode because the variable valve lift system is disabled
- Rough idle or poor engine performance at low speeds
- Decreased fuel economy due to the engine running with a fixed valve lift profile
- In rare cases, a no-start condition if the actuator is stuck in a position that prevents normal combustion

Common causes, most likely first

- 1 A short to voltage on the signal circuit between the camshaft profile actuator position sensor and the engine control module (ECM)
- 2 A faulty camshaft profile actuator position sensor internally shorted to voltage
- 3 Corroded, damaged, or loose electrical connectors at the sensor or ECM
- 4 A defective camshaft profile actuator that has failed mechanically and is forcing the sensor signal out of range
- 5 An open ground circuit for the sensor, causing the signal voltage to float high
- 6 A rare internal fault in the ECM driver circuit for the sensor



How to diagnose and fix it

- 1 Inspect the sensor connector and wiring for corrosion, chafing, or loose pins, and repair as needed
- 2 Measure the sensor reference voltage and ground at the connector with a digital multimeter to confirm the circuit integrity
- 3 Check the signal circuit for a short to voltage by disconnecting the sensor and ECM and measuring resistance to battery voltage
- 4 Test the camshaft profile actuator position sensor with a scan tool to see if the reported position changes smoothly through its range
- 5 If the sensor tests bad, replace the camshaft profile actuator position sensor and clear the code
- 6 If the circuit and sensor are good, command the actuator through its range with a scan tool and observe the sensor signal for erratic behavior
- 7 As a last step, substitute a known-good ECM only after all other tests pass, to rule out an internal ECM fault

What the high voltage really means

- A high voltage code on a position sensor often results from a poor ground rather than a short to power, because a floating ground pulls the signal voltage up.
- The variable valve lift system may be disabled by the ECM as a protective measure, so the engine can feel normal at higher rpm but sluggish at low rpm.
- Some vehicles use a shared reference voltage for multiple sensors, so a fault in another sensor on the same circuit can set this code as a ghost.
- After replacing the sensor, the ECM may need a relearn procedure for the actuator end stops, or the code will return immediately.
- A mechanical failure inside the actuator can damage the sensor over time, so always inspect the actuator for binding or debris before installing a new sensor.

Can I keep driving with P2C15?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration and towing because the variable valve lift system is disabled and the engine may lack power. If the engine runs very rough or stalls, stop driving and have it towed to prevent further damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Back probe pins or breakout box
- Basic hand tools for connector and sensor removal



Reading P2C15

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- 15** The exact fault within that area.

Often seen with

P0011 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0012** 'A' Camshaft Position - Timing Over-Retarded (Bank 1) · **P2C14** B Camshaft Profile Actuator Position Sensor A Circuit Low Ba · **P2C16** B Camshaft Profile Actuator Position Sensor B Circuit Bank 1 · **P2C17** B Camshaft Profile Actuator Position Sensor B Range/Performa

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/p2c15/>

