

GENERIC · POWERTRAIN

P2C14

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C14

B Camshaft Profile Actuator Position Sensor A Circuit Low Bank 1

P2C14 indicates that the powertrain control module (PCM) has detected a low voltage condition on the signal circuit of the Bank 1 'B' camshaft profile actuator position sensor. This sensor monitors the position of the camshaft profile actuator, which adjusts valve lift or timing to optimize engine performance and efficiency. A low signal voltage means the PCM cannot reliably determine the actuator's position, potentially affecting engine operation.

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
- Rough idle or unstable engine operation, especially when cold
- Reduced engine power or sluggish acceleration due to limited variable valve timing operation
- Decreased fuel economy as the engine defaults to a less efficient operating mode
- In rare cases, the engine may enter limp mode or stall when coming to a stop

Common causes, most likely first

- 1 Faulty camshaft profile actuator position sensor
- 2 Damaged or corroded wiring harness or connector at the sensor
- 3 Open or short to ground in the sensor signal circuit
- 4 Poor electrical connection at the PCM
- 5 Failed camshaft profile actuator (mechanical binding or internal fault)
- 6 Contamination or debris on the sensor or actuator components



How to diagnose and fix it

- 1 Perform a visual inspection of the sensor, connector, and wiring for damage or corrosion
- 2 Check for technical service bulletins (TSBs) or known issues for the specific vehicle make and model
- 3 Use a scan tool to monitor live data for the camshaft profile actuator position sensor and compare to commanded position
- 4 Measure resistance and voltage on the sensor signal circuit to verify low voltage condition
- 5 Test the sensor with a multimeter according to manufacturer specifications, replacing if out of range
- 6 Inspect the camshaft profile actuator for mechanical freedom and replace if binding or faulty
- 7 Repair or replace damaged wiring and clear the diagnostic trouble code (DTC), then verify the repair with a test drive

Don't overlook the actuator itself

- A low voltage code often results from a poor ground connection at the sensor or PCM, which can be easily overlooked when replacing parts.
The camshaft profile actuator position sensor may share a reference voltage circuit with other sensors, so a fault elsewhere can cause this code.
- Mechanical binding in the camshaft profile actuator can cause the sensor to read low voltage even when the sensor and wiring are good.
- After repairs, the PCM may require a relearn procedure for the camshaft profile actuator to restore proper operation.
This code can be set intermittently by water intrusion into the connector, so inspect for signs of moisture or corrosion.

Can I keep driving with P2C14?

It is generally safe to drive with this code as long as the engine is running smoothly and not in limp mode, but avoid aggressive acceleration or heavy loads until diagnosed. Prolonged driving with a faulty camshaft profile actuator system can lead to reduced fuel economy and potential damage to other valve train components.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools (socket set, screwdrivers)
- Electrical contact cleaner



Reading P2C14

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- 14** 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) · **P0016** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A) · **P2C15** B Camshaft Profile Actuator Position Sensor A Circuit High B · **P2C16** B Camshaft Profile Actuator Position Sensor B Circuit Bank 1

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/p2c14/>

