

BMW · POWERTRAIN

P1524

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1524 · BMW

A Camshaft Position Actuator Signal High Bank 1

P1524 on BMW vehicles indicates that the engine control module (ECM) has detected an abnormally high signal voltage from the camshaft position actuator on bank 1. This typically means the actuator's feedback circuit is reporting a voltage above the expected range, which can affect variable valve timing performance.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	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 idle or engine misfire, particularly when cold
- Reduced engine performance or sluggish acceleration
- Poor fuel economy due to incorrect valve timing
- In rare cases, the engine may enter limp mode

Common causes, most likely first

- 1 Faulty camshaft position actuator solenoid (sticking or internally shorted)
- 2 Damaged or corroded wiring harness connector at the actuator
- 3 Open or short circuit in the signal wire between the actuator and ECM
- 4 Contaminated engine oil causing actuator malfunction
- 5 Failed ECM driver circuit for the actuator (less common)

How to diagnose and fix it

- 1 Perform a visual inspection of the actuator connector and wiring for damage or corrosion
- 2 Check the actuator's resistance and compare to BMW specifications
- 3 Measure signal voltage at the actuator connector with the key on and engine off
- 4 Verify oil quality and change engine oil if contaminated or overdue
- 5 Test the actuator with a known-good unit or use a bidirectional scan tool to command the actuator
- 6 Inspect the ECM connector and wiring for continuity and shorts
- 7 Replace the camshaft position actuator if all electrical tests pass



Common misdiagnosis traps for P1524

- A high signal voltage can be caused by a poor ground connection at the actuator, which is often overlooked during diagnosis.
- Engine oil sludge or debris can block the actuator's oil passages, leading to a high signal without any electrical fault.
- The code may be set intermittently due to a loose connector that only loses contact under vibration.
- Replacing the actuator without checking the wiring harness can lead to a repeat failure if the underlying issue is a chafed wire.
- On some BMW models, a software update to the ECM can alter the threshold for this code, so check for technical service bulletins.

Can I keep driving with P1524?

It is generally safe to drive with this code if the engine is running smoothly, but avoid aggressive acceleration or heavy loads until repaired. If the engine runs rough or enters limp mode, seek service immediately.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Basic hand tools (socket set, screwdrivers)
- Wiring diagram for the specific BMW model
- Oil pressure gauge (optional)

Reading P1524

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (BMW): its meaning depends on the make.
5	Vehicle speed, idle control and auxiliary inputs.
24	The exact fault within that area.

Often seen with

P1523 Crash Signal From Airbag Control Unit Range Performance · **P1525** Intake Camshaft Control Circuit Bank 1 Electrical Malfunction · **P1523** VICS Solenoid Valve · **P1523** Electronic Throttle Control Throttle Return · **P1525** Throttle Body Service Required · **P1523** Electronic Throttle Control Throttle Return · **P1525** Throttle Body Service Required · **P1523** A Camshaft Position Actuator Signal Low Bank 1 · **P1525** A Camshaft Position Actuator Control Open Circuit Bank 1 · **P0010** 'A' Camshaft Position Actuator Circuit (Bank 1) · **P0011** 'A' Camshaft Position - Timing Over-Advanced or System Performance · **P0012** 'A' Camshaft Position - Timing Over-Retarded (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/bmw-p1524/>

