

BMW · POWERTRAIN

P1556

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1556 · BMW

A Camshaft Position Actuator Control Open Circuit Bank 1

P1556 on a BMW means the engine computer has detected an open circuit in the wiring that controls the bank 1 camshaft position actuator, which is the solenoid that adjusts intake cam timing. The computer commands the actuator to move, but the electrical feedback shows no current flow, so it flags the circuit as open and disables variable cam timing.

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 symptoms besides the warning light
- Rough idle or unstable engine operation, especially when cold
- Noticeable loss of low-end torque and sluggish acceleration
- Reduced fuel economy because the camshaft stays in its default position
- In rare cases, the engine may enter limp mode or stall when coming to a stop

Common causes, most likely first

- 1 Broken or chafed wire in the actuator harness, often near the connector or where the loom bends around the cylinder head
- 2 Corroded or loose electrical connector at the camshaft position actuator solenoid
- 3 Failed camshaft position actuator solenoid with an open internal coil
- 4 Blown fuse or relay that supplies power to the actuator circuit
- 5 Damaged engine control module (ECM) driver circuit, though this is uncommon
- 6 Oil contamination or sludge in the actuator connector causing high resistance and eventual open circuit



How to diagnose and fix it

- 1 Clear the code and test-drive to confirm it returns, then check for any related camshaft position sensor codes
- 2 Inspect the actuator connector and wiring for corrosion, loose pins, or chafed insulation, repairing as needed
- 3 Measure resistance across the actuator solenoid terminals; an open circuit (infinite resistance) confirms a failed solenoid
- 4 Check the fuse and relay that feed the actuator circuit, replacing any blown fuse or faulty relay
- 5 Supply battery voltage directly to the solenoid to verify it clicks and moves, confirming the mechanical function
- 6 If the solenoid tests good, back-probe the ECM connector and check for continuity on the control wire to rule out a break
- 7 Replace the camshaft position actuator solenoid if all wiring and power checks pass, then clear codes and verify the repair

What most technicians overlook on P1556

- A chafed wire inside the plastic loom near the front of the cylinder head is a common cause that a visual inspection from above often misses, so flex the harness while watching live data.
- The code can set intermittently when the engine is hot and the wire expands, so a cold resistance test may pass even though the circuit opens when warm.
- Oil leaking past the solenoid seal can wick into the connector and cause an open circuit that looks like a failed solenoid but is actually a wiring fault.
- On some BMW engines, a failing camshaft position sensor can set a companion code that masks the actuator circuit fault, so always check for stored pending codes.
- Replacing the actuator without checking the fuse and relay is a common misdiagnosis that leads to a repeat repair.

Can I keep driving with P1556?

You can usually drive the car short distances to a repair shop, but avoid aggressive acceleration and heavy load because the engine is running without variable cam timing. If the engine runs 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
- Wire probe set and back-probe pins
- Basic socket and ratchet set
- Electrical contact cleaner



Reading P1556

- 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.
- 56** The exact fault within that area.

Often seen with

P1557 Charge Pressure Positive Deviation · **P0010** 'A' Camshaft Position Actuator Circuit (Bank 1) · **P0011** 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0016** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A) · **P0340** Camshaft Position Sensor A Circuit Malfunction (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-p1556/>

