

P1510 · BMW

Idle Speed Control Valve Stuck

P1510 on BMW vehicles means the engine computer has detected that the idle speed control valve is stuck and cannot respond to commands to adjust idle speed. The computer monitors the valve's electrical circuit and the resulting idle quality, and when the valve fails to move as commanded, it sets this code and typically illuminates the check engine light.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	Medium	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

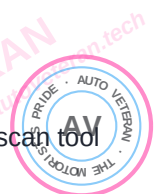
- Rough or erratic idle, often surging or dipping below normal RPM
- Engine may stall when coming to a stop or when the throttle is released
- Check engine light illuminated on the dashboard
- Poor fuel economy or hesitation during acceleration from idle
- Often no symptoms besides the warning light, especially if the valve is only partially stuck

Common causes, most likely first

- 1 Carbon buildup or sludge inside the idle speed control valve causing the pintle or rotor to stick
- 2 Failed idle speed control valve motor or internal electrical fault
- 3 Wiring damage or corroded connector at the idle speed control valve
- 4 Vacuum leaks or unmetered air entering the intake, confusing idle control
- 5 Faulty throttle position sensor or dirty throttle body affecting idle adaptation
- 6 Engine computer (DME) software issue or adaptation values out of range

How to diagnose and fix it

- 1 Scan all modules for fault codes and check freeze frame data to confirm the idle control valve is the primary fault
- 2 Inspect the idle speed control valve connector and wiring for corrosion, looseness, or damage
- 3 Remove the idle speed control valve and clean it with throttle body cleaner, checking for free movement of the internal pintle
- 4 Test the valve's resistance and function with a multimeter or by commanding it with a diagnostic tool
- 5 Check for vacuum leaks and inspect the throttle body for carbon buildup, cleaning if necessary
- 6 Replace the idle speed control valve if cleaning and testing show it is faulty
- 7 Clear adaptations and perform a throttle relearn or idle relearn procedure with a BMW-compatible scan tool



Why cleaning the idle valve often fixes P1510

- Carbon buildup inside the idle speed control valve is the most common cause on BMW engines, and a thorough cleaning frequently restores normal operation without replacement.
- A stuck idle valve can mimic a vacuum leak or a faulty throttle body, so technicians who replace the throttle body first often misdiagnose the problem.
- The idle speed control valve on many BMW engines is difficult to access, and a stuck valve may only act up when the engine is cold or after extended idling.
- Even after replacing the valve, the engine computer may need a relearn procedure to accept the new part, otherwise the code can return immediately.
- Wiring harness chafing near the intake manifold can cause intermittent P1510 without any valve fault, so always wiggle-test the harness while watching live data.

Can I keep driving with P1510?

You can usually drive the car to a repair shop, but avoid prolonged idling and be prepared for the engine to stall when you come to a stop. If the car stalls frequently or idles very rough, limit driving to low-speed roads and arrange repairs promptly.

Tools that help

- BMW-compatible OBD-II scan tool with live data and adaptation reset capability
- Digital multimeter for testing valve resistance and wiring continuity
- Throttle body cleaner and soft brushes for cleaning the valve
- Basic hand tools (screwdrivers, sockets, pliers) for removing the valve
- Vacuum gauge or smoke machine for checking intake leaks

Reading P1510

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.
10	The exact fault within that area.

Often seen with

P0171 System Too Lean (Bank 1) · **P0174** System Too Lean (Bank 2) · **P0505** Idle Control System Malfunction · **P0506** Idle Control System RPM Lower Than Expected · **P0507** Idle Control System RPM Higher Than Expected



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-p1510/>

