

VOLKSWAGEN · POWERTRAIN

P1520

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1520 · Volkswagen

Intake Manifold Changeover Valve 2 Circuit Open

P1520 on Volkswagen vehicles means the engine control module (ECM) has detected an open circuit in the wiring for the intake manifold changeover valve 2, which is the solenoid that controls the second runner flap in the intake manifold. The ECM commands the valve to move and monitors the electrical circuit; when it sees no current flow or an unexpected voltage, it sets this code and may disable the changeover function.

SYSTEM

Powertrain

CODE TYPE

Volkswagen specific

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illuminated check engine light, often with no other symptoms
- Slight loss of low-end torque or hesitation during acceleration
- Rough idle or unstable engine speed when cold
- Reduced fuel economy in some cases
- In rare instances, a faint clicking or buzzing from the intake area if the valve is stuck

Common causes, most likely first

- 1 Broken or corroded wiring to the changeover valve 2 solenoid
- 2 Failed changeover valve 2 solenoid (open coil)
- 3 Loose or disconnected electrical connector at the valve
- 4 Damaged pins in the valve connector or ECM connector
- 5 Open circuit in the shared power or ground circuit for the changeover valves
- 6 Intake manifold flap mechanism seized, overloading the valve and causing a circuit fault



How to diagnose and fix it

- 1 Clear the code and test-drive to confirm it returns; note any freeze-frame data
- 2 Visually inspect the changeover valve 2 connector and wiring for damage or corrosion
- 3 Measure resistance across the valve solenoid terminals and compare to specification
- 4 Check for battery voltage and ground at the valve connector with the key on
- 5 Continuity-test the wiring between the valve and the ECM, repairing any open or short
- 6 If the circuit is intact, command the valve with a scan tool and listen for actuation
- 7 Replace the changeover valve 2 solenoid if it fails electrical or functional tests, then clear codes and verify

What the changeover valve code hides

- A seized intake manifold flap can burn out the changeover valve solenoid, so always check that the flap moves freely before replacing the valve.
- The changeover valve 2 circuit often shares a power or ground path with other solenoids, so a single corroded splice can set multiple codes including P1520.
- Some technicians replace the valve only to find the connector pins have been pushed back, creating an open circuit that looks like a failed solenoid.
- This code can be stored intermittently by a momentary loss of connection over bumps, so a wiggle test of the harness while monitoring live data is essential.
- On certain Volkswagen engines, the changeover valve 2 is buried under the intake manifold, making a simple resistance check a labor-intensive job that should be planned carefully.

Can I keep driving with P1520?

You can usually continue driving with this code because it mainly affects intake tuning and does not cause a breakdown risk. Avoid heavy acceleration or towing until repaired, as the engine may feel less responsive and fuel economy could suffer.

Tools that help

- OBD-II scan tool with manufacturer-specific software
- Digital multimeter
- Wiring diagram for the vehicle
- Socket and ratchet set
- Torx or hex bit set for intake components
- Test light or jumper wires



Reading P1520

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

Often seen with

P1521 Intake Manifold Changeover Valve 2 Circuit Electrical Malfun · **P1523** Crash Signal From Airbag Control Unit Range Performance · **P1522** Intake Camshaft Control Bank 2 Malfunction · **P1519** Intake Camshaft Control Bank 1 Malfunction · **P1519** IAC Valve Circuit Failure · **P1523** VICS Solenoid Valve · **P1519** IAC Valve Circuit Failure · **P1519** Electronic Throttle Module Low Volts Communication Disable · **P1521** Transmission Engaged At High Throttle Angle · **P1522** Park Neutral To Drive Reverse At High RPM · **P1523** Electronic Throttle Control Throttle Return · **P1519** Intake Manifold Runner Control Stuck Open · **P1521** Transmission Engaged At High Throttle Angle · **P1522** Park Neutral To Drive Reverse At High RPM · **P1519** Electronic Throttle Module Low Volts Communication Disable · **P1523** Electronic Throttle Control Throttle Return · **P1522** A Camshaft Position Actuator Bank 2 · **P1523** A Camshaft Position Actuator Signal Low Bank 1 · **P1519** A Camshaft Position Actuator Bank 1 · **P0443** EVAP Purge Control Valve Circuit Malfunction

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/volkswagen-p1520/>

