

BMW · POWERTRAIN

P1145

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1145 · BMW

Solenoid Valve Running Losses Control Circuit Electrical

P1145 on BMW vehicles indicates that the engine control module (DME) has detected an electrical fault in the circuit for the solenoid valve that controls running losses from the fuel tank ventilation system. The computer monitors the current flow through the valve and sets this code when the measured current is outside the expected range, either too high (short to ground) or too low (open circuit or short to power).

SYSTEM

Powertrain

CODE TYPE

BMW specific

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- A faint fuel or hydrocarbon odor around the vehicle, especially after refueling or when parked.
- Slight rough idle or hesitation in some cases if the valve is stuck open and unmetered air enters the intake.
- Increased evaporative emissions, which may be detected during an emissions inspection.
- In rare instances, a whistling or clicking noise from the engine bay if the solenoid is stuck or chattering.

Common causes, most likely first

- 1 Failed solenoid valve (open or shorted internal coil).
- 2 Damaged or corroded wiring harness connector at the valve.
- 3 Broken, chafed, or pinched wires between the DME and the solenoid valve.
- 4 Loose or corroded ground connection for the valve circuit.
- 5 Faulty DME driver circuit (rare but possible after other causes are ruled out).
- 6 Contamination or sludge in the valve causing mechanical sticking, which can overload the electrical circuit.



How to diagnose and fix it

- 1 Use a scan tool to confirm P1145 is active and check for related evaporative emission (EVAP) codes.
- 2 Visually inspect the solenoid valve connector and wiring for corrosion, damage, or loose pins.
- 3 Measure the resistance of the solenoid valve with a multimeter and compare to BMW specifications; replace if out of range.
- 4 Check for battery voltage at the valve connector with the key on and engine off, and verify the ground circuit integrity.
- 5 Perform a wiggle test on the wiring harness while monitoring the valve with a scan tool or multimeter to detect intermittent faults.
- 6 If wiring and valve are good, test the control signal from the DME; repair or replace the DME only as a last resort.
- 7 Clear the code and perform a drive cycle to verify the repair, ensuring the monitor runs and the code does not return.

Don't overlook the fuel tank breather valve

- The solenoid valve in question is often called the fuel tank breather valve or purge valve; a seized valve can cause both electrical and mechanical faults that set P1145.
- A sticking valve may test fine electrically when cold but fail when hot, so resistance checks should be done at operating temperature when possible.
- Corrosion inside the connector pins is a common cause on older BMWs, even when the valve itself is good, so always inspect the terminals closely.
- This code can be set by a momentary voltage spike or low battery, so check for a stable power supply and clear the code once to see if it returns before replacing parts.
- Do not confuse P1145 with P0440-series EVAP codes; P1145 is specific to the electrical circuit of the running losses valve, not the entire EVAP system.

Can I keep driving with P1145?

You can generally continue driving with this code because it does not affect engine performance or safety, but avoid ignoring it for long as it may increase emissions and could lead to a failed emissions test. Have the circuit inspected soon to prevent potential fuel vapor leaks.

Tools that help

- OBD-II scan tool with BMW-specific software
- Digital multimeter
- Wire probe set
- Electrical contact cleaner
- Basic hand tools (screwdrivers, socket set)



Reading P1145

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (BMW): its meaning depends on the make.
- 1** Fuel and air metering.
- 45** The exact fault within that area.

Often seen with

P0440 Evaporative Emission Control System Malfunction · **P0442** EVAP System Leak Detected (Small) · **P0444** EVAP Purge Control Valve Circuit Open · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak)

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-p1145/>

