



P1441 · BMW

Leakage Diagnostic Pump Control Open Circuit

P1441 on a BMW means the digital motor electronics (DME) has detected an open circuit in the control wire for the leak diagnosis pump, which is the pump used for evaporative emission system testing. The computer commands the pump on and monitors the electrical circuit, and it sees no current flow or an unexpected voltage on the control side, so it flags the circuit as open.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	Low	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- A stored fault code in the DME memory that may be intermittent or permanent.
- Possible slight fuel odor if the leak diagnosis pump is not running during self-tests.
- Failure of the evaporative emission system monitor to complete, which can prevent other monitors from running.
- In rare cases, a rough idle or driveability issue if the open circuit affects shared power or ground circuits.
- No obvious performance change because the leak diagnosis pump only operates during specific key-off tests.

Common causes, most likely first

- 1 Broken or chafed wire in the leak diagnosis pump control circuit, often near the pump connector or where the harness flexes.
- 2 Corroded or loose electrical connector at the leak diagnosis pump, allowing an open circuit under vibration.
- 3 Failed leak diagnosis pump with an open internal winding or control module.
- 4 Open circuit in the shared power or ground supply to the leak diagnosis pump, including blown fuse or bad relay.
- 5 Damage to the DME connector pins or internal driver circuit for the pump control, though this is less common.
- 6 Rodent damage to the wiring harness leading to the leak diagnosis pump.
- 7 Aftermarket alarm or remote start installation that tapped into the pump circuit and left an open connection.



How to diagnose and fix it

- 1 Clear the fault code and perform a road test with key-off cycles to see if P1441 returns, confirming whether the open circuit is intermittent.
- 2 Inspect the leak diagnosis pump connector and wiring for corrosion, loose pins, or chafing, repairing as needed.
- 3 Check the fuse and relay that supply power to the leak diagnosis pump, replacing any failed components.
- 4 Measure resistance of the leak diagnosis pump control circuit from the DME connector to the pump connector to verify continuity and identify an open.
- 5 Command the leak diagnosis pump on with a scan tool and listen for pump operation; if it does not run, test the pump directly with fused power and ground.
- 6 If the pump runs when powered directly but not under scan tool control, test the control wire back to the DME for an open or short, and inspect DME pins.
- 7 Replace the leak diagnosis pump if it fails the direct power test, then clear codes and verify the evaporative system monitor completes.

What the leak diagnosis pump circuit hides

- A common mistake is replacing the leak diagnosis pump immediately, but the code specifically flags the control circuit, so the pump itself may be fine and the open is often in the wiring or connector.
- The leak diagnosis pump only runs during key-off self-tests, so a failed pump or open circuit may not produce any driveability symptoms and the driver may never notice a change.
- Intermittent P1441 codes often trace to a connector that is not fully seated or has corroded pins, especially on older BMWs where the pump is exposed to road splash.
- A blown fuse for the leak diagnosis pump can be caused by a shorted pump, so always check the fuse and the pump winding before replacing a fuse and calling it fixed.
- The DME may set P1441 if the control circuit is open, but a short to ground or a short to power can set different codes, so do not assume an open circuit without testing continuity and voltage.

Can I keep driving with P1441?

You can continue driving with P1441 because the leak diagnosis pump only affects evaporative emission testing and does not impact engine performance or safety. Avoid ignoring the light for long, as the fault prevents the evaporative system monitor from running and could mask a real fuel vapor leak.

Tools that help

- OBD-II scan tool with BMW-specific software or a capable generic scan tool
- Digital multimeter with continuity and voltage measurement
- Fused jumper wires for direct pump testing
- Wire terminal removal tools for connector pin repair
- Factory service information or wiring diagrams for the leak diagnosis pump circuit



Reading P1441

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (BMW): its meaning depends on the make.
- 4** Auxiliary emission controls.
- 41** The exact fault within that area.

Often seen with

P1442 EGR Valve Position Sensor Signal Too High · **P1442** Fuel Level Sensor Circuit Range Performance · **P1442** EVAP Vacuum Switch High Voltage During Ignition On · **P1442** Secondary Air Injection System Monitor Circuit High Voltage · **P1442** EVAP Vacuum Switch High Voltage During Ignition On · **P1442** Leakage Diagnostic Pump Control Circuit Signal Low · **P0440** Evaporative Emission Control System Malfunction · **P0442** EVAP System Leak Detected (Small) · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak)

See it working

Watch the animated explainer [How Misfire Detection Works: Crankshaft Speed](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/bmw-p1441/>

