

BMW · POWERTRAIN

P1283

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1283 · BMW

Switching Solenoid for Air Assisted Injection Valves Bank 1 Control Circuit Electrical

P1283 on BMW vehicles indicates that the engine control module (DME) has detected an electrical fault in the control circuit for the bank 1 switching solenoid that operates the air-assisted injection valves. The computer monitors the solenoid's command wire for expected voltage or current behavior and flags the code when the circuit is open, shorted to ground, or shorted to power.

SYSTEM

Powertrain

CODE TYPE

BMW specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or unstable idle quality, especially when the engine is cold
- Slight hesitation or stumble during light-throttle acceleration
- Increased exhaust emissions that may cause a failed emissions inspection
- In rare cases, a faint clicking or buzzing noise from the solenoid area when the key is turned on

Common causes, most likely first

- 1 Failed switching solenoid for the air-assisted injection valves on bank 1
- 2 Damaged or corroded wiring harness connector at the solenoid
- 3 Open or shorted wire in the control circuit between the DME and the solenoid
- 4 Blown fuse or faulty relay supplying power to the solenoid circuit
- 5 Internal fault in the DME driver for that solenoid circuit
- 6 Oil or coolant contamination degrading the solenoid coil or connector



How to diagnose and fix it

- 1 Clear the code and perform a road test to confirm whether P1283 returns before replacing any parts
- 2 Visually inspect the solenoid connector and wiring for corrosion, chafing, or loose pins
- 3 Measure the solenoid coil resistance with a multimeter and compare it to the BMW specification for the engine
- 4 Check for battery voltage at the solenoid connector with the key on and verify the ground path
- 5 Backprobe the control wire at the DME and command the solenoid with a scan tool to check for a consistent signal
- 6 Repair or replace the faulty section of wiring harness or the solenoid itself as indicated by the tests
- 7 After repair, clear the code and verify the circuit operates correctly with a scan tool bidirectional test

What BMW technicians check before replacing the solenoid

- A loose or oil-soaked connector at the solenoid is a far more common cause of P1283 than a failed solenoid, so always inspect the plug before condemning the part.
- The DME driver for this circuit can be damaged by a shorted solenoid coil, so testing the coil resistance before installing a new DME prevents repeat failures.
- P1283 can set intermittently due to vibration or heat, and a wiggle test of the harness while monitoring live data often reveals the fault when a static resistance check looks fine.
- This code does not always mean the air-assisted injection system is mechanically broken; the solenoid may still function while the electrical feedback circuit is out of range.
- On some BMW engines, a weak battery or poor engine ground can cause false electrical codes including P1283, so verify charging system health before deep circuit testing.

Can I keep driving with P1283?

The vehicle is generally safe to drive with P1283 because the fault mainly affects emissions and idle quality, but avoid prolonged idling and schedule diagnosis soon to prevent secondary damage to the DME driver. If the engine runs rough or stalls, limit driving until the circuit is repaired.

Tools that help

- OBD-II scan tool with BMW-specific software and bidirectional control
- Digital multimeter with resistance and voltage measurement
- Wiring diagram for the specific BMW model and engine
- Backprobe kit or breakout box for testing the DME connector
- Torx and socket set for accessing the solenoid and harness



Reading P1283

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

Often seen with

P1284 Fuel Injection Air Control Valve Circuit Open · **P1285** Fuel Injection Air Control Valve Circuit Short To Ground · **P1286** Fuel Injection Air Control Valve Circuit Short To B+ · **P1284** Fuel Injection Pump Battery Voltage Out Of Range · **P1285** Accelerator Pedal Positioning Sensor 2 Circuit · **P1286** Accelerator Pedal Position (APP) Sensor 3 Performance · **P1284** Aborted KOER ICP Failure · **P1285** Cylinder Head Over Temp Sensed · **P1286** Fuel Pulse In Range But Lower Than Expected · **P1284** Fuel Injection Pump Battery Voltage Out Of Range · **P1285** Fuel Injection Pump Controller Always On · **P1286** Accelerator Pedal Position Sensor Supply Voltage Too High · **P1284** Switching Solenoid for Air Assisted Injection Valves Bank 1 · **P1285** Switching Solenoid for Air Assisted Injection Valves Bank 1 · **P0171** System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected

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-p1283/>

