

BMW · POWERTRAIN

P1163

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1163 · BMW

Fuel Trim Adaptation Additive Per Ignition Bank 1 High

P1163 on a BMW means the engine computer (DME) has detected that the additive fuel trim adaptation for bank 1 has exceeded its positive limit during ignition-on adaptation. The DME is adding extra fuel at idle and low-load conditions because the engine is running leaner than expected, and it can no longer compensate within its programmed range.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough or unstable idle, sometimes accompanied by a slight shake
- Occasional hesitation or stumble when accelerating from a stop
- Slightly higher fuel consumption than normal
- In severe cases, a lean misfire code or reduced engine power
- Cold-start idle that hunts or flares before settling

Common causes, most likely first

- 1 Vacuum leak from a cracked or disconnected intake boot, intake manifold gasket, or vacuum hose
- 2 Faulty or dirty mass air flow (MAF) sensor reporting less air than actually enters the engine
- 3 Leaking intake manifold gasket or crankcase ventilation (CCV) valve diaphragm
- 4 Weak or failing fuel pump delivering insufficient volume at low demand
- 5 Clogged or restricted fuel filter (on models where it is serviceable)
- 6 Leaking or stuck-open fuel injector on bank 1 causing an imbalance
- 7 Faulty pre-catalyst oxygen sensor on bank 1 giving a false lean reading



How to diagnose and fix it

- 1 Use a scan tool to read live fuel trim data and confirm additive trim on bank 1 is above +10% at idle
- 2 Perform a visual inspection of all intake hoses, boots, and the CCV system for cracks or loose connections
- 3 Smoke-test the intake system to pinpoint vacuum leaks that are not visible
- 4 Clean the MAF sensor with approved cleaner and verify its readings against expected values
- 5 Check fuel pressure and volume at the rail, comparing against BMW specifications for the engine
- 6 Inspect bank 1 spark plugs and ignition coils for signs of lean misfire or fouling
- 7 Replace the pre-catalyst oxygen sensor on bank 1 if its signal is sluggish or biased lean

What additive trim reveals about bank 1

- Additive fuel trim affects the entire RPM range but is most visible at idle, so a high additive value almost always points to a vacuum leak or unmetered air rather than a fuel delivery problem.
- A failing crankcase ventilation valve on many BMW engines creates a hidden vacuum leak that sets P1163 without any visible cracked hose.
- Technicians sometimes replace the MAF sensor prematurely when a smoke test would have found a leaking intake manifold gasket in minutes.
- P1163 can be set by a lazy pre-catalyst oxygen sensor that reads lean even when the mixture is correct, so always cross-check with a second sensor or a wideband reading.
- After repairing the underlying fault, the additive adaptation must be cleared with a scan tool, otherwise the code may reappear until the DME relearns.

Can I keep driving with P1163?

You can usually drive the car short distances to a workshop, but avoid hard acceleration and sustained high-speed driving because a persistent lean condition can overheat the catalytic converter. If the engine idles roughly or misfires, stop driving and arrange a diagnosis.

Tools that help

- OBD-II scan tool with live data and fuel trim capability
- Smoke machine for intake leak detection
- Fuel pressure gauge
- MAF sensor cleaner
- Basic hand tools and socket set
- Digital multimeter for sensor circuit checks



Reading P1163

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

Often seen with

P1164 Fuel Temperature Sensor Range Performance · **P1164** HO2S11 Circuit Fault Bank 1 Sensor 1 · **P1164** HO2S11 Circuit Fault Bank 1 Sensor 1 · **P1164** HO2S Bank 2 Sensor 3 Rich Or High Voltage · **P1164** HO2S Bank 2 Sensor 3 Rich Or High Voltage · **P1164** Fuel Trim Adaptation Additive Per Ignition Bank 2 Low · **P0171** System Too Lean (Bank 1) · **P0174** System Too Lean (Bank 2) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 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-p1163/>

