

BMW · POWERTRAIN

P1351

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1351 · BMW

Misfire Cylinder 5 With Fuel Cut-off

P1351 on a BMW means the engine control module (DME) has detected a misfire on cylinder 5 severe enough to protect the catalytic converter by cutting fuel delivery to that cylinder. The DME monitors crankshaft speed fluctuations and, when the misfire rate exceeds a calibrated threshold, it disables the injector for cylinder 5 and stores this code.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	BMW specific	Medium	Intermediate	Ignition system and misfire

Symptoms you may notice

- The check engine light (CEL) illuminates, often flashing if the misfire is actively occurring
- Noticeable engine shaking or rough idle, especially when cold or under light load
- Reduced engine power and poor acceleration as the DME limits fuel to the affected cylinder
- A distinct sulfur or rotten-egg smell from the exhaust if unburned fuel reaches the catalytic converter
- Often no symptoms besides the warning light when the misfire is intermittent or only occurs under specific conditions

Common causes, most likely first

- Worn or fouled spark plug on cylinder 5 (most common on BMW engines with high mileage)
- Failed ignition coil for cylinder 5, a frequent failure point on BMW inline-six and V8 engines
- Leaking or clogged fuel injector for cylinder 5 causing an incorrect air-fuel mixture
- Vacuum leak at the intake manifold runner or gasket near cylinder 5, leading to a lean misfire
- Mechanical fault such as low compression from worn piston rings, a burned valve, or a failed hydraulic lifter
- Faulty crankshaft position sensor or damaged reluctor wheel causing erratic misfire detection
- Engine wiring harness damage or corroded connector at the cylinder 5 coil or injector



How to diagnose and fix it

- 1 Scan all stored codes and freeze-frame data with a BMW-capable scan tool to confirm P1351 and check for related misfire or fuel trim codes
- 2 Swap the ignition coil and spark plug from cylinder 5 with a known-good cylinder to see if the misfire follows the components
- 3 Inspect the spark plug for wear, oil fouling, or incorrect gap, and replace it if worn or damaged
- 4 Perform a compression test and cylinder leak-down test on cylinder 5 to rule out mechanical faults
- 5 Check for vacuum leaks around the intake manifold and inspect the injector seal and wiring connector at cylinder 5
- 6 Test the fuel injector for resistance and spray pattern, and clean or replace it if faulty
- 7 Clear the codes and perform a road test with live misfire data to verify the repair before returning the vehicle

Why cylinder 5 misfires are often misdiagnosed

- A P1351 code can be set by a faulty crankshaft position sensor or a damaged reluctor wheel even when the ignition and fuel systems are perfect, so always check sensor signals before replacing parts.
- BMW engines with direct injection are prone to carbon buildup on intake valves, which can cause a misfire on a single cylinder like number 5 without any ignition or fuel component being defective.
- The fuel cut-off strategy means that once the code is stored, the injector for cylinder 5 may be disabled, so simply clearing the code without fixing the root cause will often lead to the code returning within a few drive cycles.
- A vacuum leak at the intake manifold gasket can affect only one cylinder if the leak is localized, mimicking a bad coil or plug and leading to unnecessary replacement of ignition parts.
- On some BMW models, a failing battery or charging system can cause voltage drops that trigger false misfire codes, so always verify battery health and ground connections before deep diagnostics.

Can I keep driving with P1351?

You can drive the car a short distance to a repair shop if the check engine light is steady and the engine runs smoothly, but avoid heavy acceleration or sustained high speeds. If the light is flashing or the engine shakes violently, stop driving immediately to prevent catalytic converter damage from unburned fuel.

Tools that help

- BMW-specific OBD-II scan tool with live misfire data capability
- Digital multimeter for testing coils and injectors
- Compression tester and cylinder leak-down tester
- Spark plug socket and torque wrench
- Vacuum gauge or smoke machine for intake leak detection



Reading P1351

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (BMW): its meaning depends on the make.
- 3** Ignition system and misfire.
- 51** The exact fault within that area.

Often seen with

P1345 Ignition Coil Output Stage 3 Short To Ground · **P1350** Ignition Coil Power Output Stage 3 Open · **P1345** VVT Sensor Circuit Malfunction Bank 1 · **P1350** VVT Sensor Circuit Malfunction Bank 2 · **P1350** Injection Sensor Solenoid · **P1345** No CMP or SGC Signal · **P1345** No SGC Signal 1.6L · **P1345** Camshaft to Crankshaft Position Correlation Fault · **P1350** Ignition Control System · **P1345** CKP/CMP Correlation · **P1350** Ignition Control System · **P1345** Misfire Cylinder 2 With Fuel Cut-off · **P1350** Misfire During Start Cylinder 5 · **P0171** System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0305** Cylinder 5 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-p1351/>

