



P1345 · BMW

Misfire Cylinder 2 With Fuel Cut-off

P1345 on a BMW means the engine control module (DME) has detected a misfire on cylinder 2 severe enough that it has temporarily cut fuel delivery to that cylinder to protect the catalytic converter from unburned fuel. The DME monitors crankshaft speed fluctuations and identifies which cylinder is not contributing power, then stores this code once the misfire exceeds a calibrated threshold.

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

Symptoms you may notice

- Illuminated check engine light, often accompanied by a flashing light under load if the misfire is active
- Noticeable engine shaking or rough idle, especially when cold or at low rpm
- Reduced power and sluggish acceleration because cylinder 2 is being fuel-cut
- A distinct exhaust note that may sound uneven or popping from unburned fuel in the exhaust
- Often no symptoms besides the warning light when the misfire is intermittent or only occurs under specific conditions

Common causes, most likely first

- 1 Worn or fouled spark plug on cylinder 2, especially on turbocharged BMW engines with direct injection
- 2 Failed ignition coil on cylinder 2, a common failure point on N20, N55, and B58 engines
- 3 Leaking or clogged fuel injector on cylinder 2, particularly on direct-injection engines prone to carbon buildup
- 4 Vacuum leak or intake air leak affecting cylinder 2 specifically, such as a cracked intake manifold gasket
- 5 Mechanical fault on cylinder 2 such as low compression from worn rings, a burned valve, or a failed head gasket
- 6 Faulty crankshaft position sensor or damaged reluctor wheel causing the DME to misidentify the misfiring cylinder
- 7 Wiring or connector issue at the cylinder 2 ignition coil or injector, including chafed harness or corroded pins



How to diagnose and fix it

- 1 Scan all stored and pending codes with a BMW-capable scan tool and record freeze-frame data to see when the misfire occurs
- 2 Swap the ignition coil from cylinder 2 to another cylinder and recheck misfire counters to see if the fault follows the coil
- 3 Inspect and replace the spark plug on cylinder 2, checking gap and electrode condition against BMW specifications
- 4 Perform a compression test and cylinder leak-down test on cylinder 2 to rule out mechanical failure before replacing ignition parts
- 5 Test the fuel injector on cylinder 2 for resistance, pulse signal, and spray pattern, and check for carbon buildup on direct-injection engines
- 6 Smoke-test the intake system and inspect vacuum lines and intake manifold gaskets for leaks that could affect cylinder 2
- 7 Check the crankshaft position sensor signal and reluctor wheel for damage if ignition and fuel delivery components test good

Why cylinder 2 misfires are often misdiagnosed

- A P1345 with fuel cut-off does not always mean the ignition coil is bad; on BMW direct-injection engines, a leaking injector can cause a rich misfire that mimics a weak spark.
- The DME may set P1345 even when the misfire is caused by a mechanical issue like low compression, so compression testing should precede parts replacement.
- Carbon buildup on intake valves in BMW direct-injection engines can cause cylinder-specific misfires that only appear at idle and clear at higher rpm.
- A failing crankshaft position sensor or damaged reluctor wheel can make the DME misidentify which cylinder is misfiring, leading to unnecessary replacement of good ignition components.
- After repairs, the fuel cut-off strategy may keep the misfire code stored until the DME completes several drive cycles, so clearing codes immediately can mask a persistent fault.

Can I keep driving with P1345?

Do not continue driving with an active misfire that is flashing the check engine light, because unburned fuel can overheat and destroy the catalytic converter. If the light is steady and the engine runs smoothly, limit driving to a short distance to a repair shop and avoid heavy acceleration or high loads.



Tools that help

- BMW-capable OBD-II scan tool with live misfire counter and freeze-frame data
- Spark plug socket and torque wrench
- Compression tester and cylinder leak-down tester
- Ignition coil puller and multimeter
- Smoke machine for intake leak testing
- Fuel injector tester and noid light

Reading P1345

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (BMW): its meaning depends on the make.

3 Ignition system and misfire.

45 The exact fault within that area.

Often seen with

P1340 CKP CMP Sensor Signals Out Of Sequence · **P1341** Ignition Coil Output Stage 1 Short To Ground · **P1342** Ignition Coil Power Output State 1 Short To B+ · **P1340** Igniter Circuit Malfunction No 8 · **P1340** Camshaft Position Sensor B Circuit · **P1341** Camshaft Position Sensor B Circuit Range Performance · **P1340** Camshaft Position Sensor B Circuit Malfunction · **P1340** Multiple Cylinder Misfire During Start · **P1341** Multiple Cylinder Misfire With Fuel Cut-off · **P1342** Misfire During Start Cylinder 1 · **P0300** Random/Multiple Cylinder Misfire Detected · **P0302** Cylinder 2 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-p1345/>

