

BMW · POWERTRAIN

P1356

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1356 · BMW

Misfire During Start Cylinder 8

P1356 on a BMW means the engine control module detected a misfire specifically on cylinder 8 during the engine start phase, before the engine reaches normal operating speed. The computer monitors crankshaft speed fluctuations during cranking and flags this code when cylinder 8 fails to contribute its expected power pulse at startup.

SYSTEM

Powertrain

CODE TYPE

BMW specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Ignition system
and misfire

Symptoms you may notice

- Rough or stumbling idle immediately after cold start, often smoothing out once the engine warms up
- Extended cranking time before the engine fires, especially on cold mornings
- A noticeable shake or vibration from the engine bay during the first few seconds of running
- Often no symptoms besides the warning light, particularly if the misfire only occurs during the brief start window
- Occasional hesitation or stumble when accelerating from a stop after a cold start
- A flashing check engine light in severe cases where the misfire persists beyond startup

Common causes, most likely first

- 1 Faulty or fouled spark plug on cylinder 8, especially if the plug is original or has exceeded its service interval
- 2 Worn or cracked ignition coil on cylinder 8 that breaks down under the higher load of cold starting
- 3 Leaking or clogged fuel injector on cylinder 8 causing an incorrect air-fuel mixture during cranking
- 4 Intake manifold gasket leak near cylinder 8 allowing unmetered air into that runner during cold start
- 5 Low compression on cylinder 8 from worn piston rings, valve seat issues, or a sticking valve
- 6 Carbon buildup on the intake valves of cylinder 8, common on direct-injection BMW engines
- 7 Engine control module software or adaptation values that need updating or resetting for cold-start fueling



How to diagnose and fix it

- 1 Scan all modules for stored and pending fault codes, then check freeze-frame data to confirm the misfire occurred only during the start phase
- 2 Inspect the spark plug on cylinder 8 for fouling, incorrect gap, or wear, and replace it if it does not match the specified condition
- 3 Swap the ignition coil from cylinder 8 with a known-good coil from another cylinder and recheck for the code to see if the misfire follows the coil
- 4 Perform a fuel injector balance test or swap injectors between cylinders to determine if a leaking or clogged injector is the cause
- 5 Run a compression test and, if compression is low, follow up with a cylinder leak-down test to isolate valve or ring problems
- 6 Smoke-test the intake manifold and vacuum lines for leaks near cylinder 8, paying close attention to the intake gasket
- 7 Check for BMW technical service bulletins or software updates related to cold-start misfire and reflash the engine control module if applicable

Cold-start misfire traps on BMW V8s

- A P1356 that only appears on cold starts and clears once the engine warms up often points to carbon buildup on the intake valves rather than a failed ignition component, especially on direct-injection engines.
- Technicians sometimes replace all eight coils and plugs only to find the misfire returns because a slightly leaking injector on cylinder 8 is washing the plug during cranking.
- The code can be set by a weak battery or slow cranking speed that drops crankshaft signal quality, so always verify battery health and starter performance before condemning engine internals.
- BMW's misfire detection during start is sensitive to engine coolant temperature sensor readings, and a skewed sensor can cause the control module to deliver the wrong cold-start fuel mixture to cylinder 8.
- A P1356 stored alongside lean-bank codes often means an intake leak is affecting cylinder 8 more than others because of its position at the rear of the manifold where gaskets tend to fail first.

Can I keep driving with P1356?

You can usually drive the car if the misfire only occurs briefly at startup and the check engine light is steady, but avoid hard acceleration and long trips until the cause is found. If the light flashes or the engine runs rough continuously, stop driving and have the vehicle diagnosed to prevent catalytic converter damage.



Tools that help

- OBD-II scan tool with BMW-specific software for reading freeze-frame and misfire counter data
- Spark plug socket and torque wrench
- Ignition coil puller or trim removal tool
- Compression tester
- Smoke machine for intake leak testing
- Digital multimeter for checking injector resistance and wiring

Reading P1356

P Powertrain: engine, transmission and emissions.

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

3 Ignition system and misfire.

56 The exact fault within that area.

Often seen with

P1355 Cylinder 1 Ignition Circuit Open · **P1357** Cylinder 1 Ignition Circuit Short To Ground · **P1355** IC Output High Pulse Detected When Grounded Cyl 5 · **P1357** IC Output High Pulse Detected When Grounded Cyl 7 · **P1355** Ignition Coil D Primary Circuit Fault · **P1357** Ignition Diagnostic Monitor Pulswidth Not Defined · **P1355** IC Output High Pulse Detected When Grounded Cyl 5 · **P1357** IC Output High Pulse Detected When Grounded Cyl 7 · **P1355** Misfire Cylinder 7 With Fuel Cut-off · **P1357** Misfire Cylinder 8 With Fuel Cut-off · **P0171** System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0308** Cylinder 8 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-p1356/>

