

BMW · POWERTRAIN

P1354

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1354 · BMW

Misfire During Start Cylinder 7

P1354 is a BMW-specific misfire code that the engine control module (DME) sets when it detects a misfire specifically during the engine start phase on cylinder 7. The DME monitors crankshaft speed fluctuations during cranking and the first few combustion cycles, and if cylinder 7 fails to contribute its expected power pulse, it flags this code and may illuminate the check engine light.

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

Symptoms you may notice

- Rough or stumbling idle immediately after a cold start, often smoothing out once the engine warms up
- A noticeable shake or vibration from the engine bay during the first few seconds of cranking
- Check engine light (CEL) illuminated, sometimes flashing if the misfire is severe
- Extended cranking time before the engine fires, or a brief stumble right after startup
- In some cases, no symptoms besides the warning light, especially if the misfire is intermittent
- Slight loss of power or hesitation when pulling away from a stop while the engine is still cold

Common causes, most likely first

- 1 Worn or fouled spark plug on cylinder 7, often due to oil or fuel deposits from extended service intervals
- 2 Faulty ignition coil on cylinder 7 that breaks down under the higher load of a cold start
- 3 Leaking or clogged fuel injector on cylinder 7, causing an incorrect air-fuel mixture during cranking
- 4 Vacuum leak at the intake manifold runner or gasket near cylinder 7, leaning out the mixture during start
- 5 Low compression on cylinder 7 from worn piston rings, valve seats, or a head gasket issue
- 6 Carbon buildup on the intake valves of cylinder 7, common on BMW direct-injection engines, disrupting cold-start mixture
- 7 Faulty engine coolant temperature sensor or wiring causing the DME to deliver an incorrect cold-start enrichment



How to diagnose and fix it

- 1 Scan all stored and pending fault codes with a BMW-capable scan tool and record freeze-frame data to confirm the misfire is isolated to cylinder 7 during start
- 2 Inspect the spark plug on cylinder 7 for wear, fouling, or incorrect gap, and replace it if it does not meet BMW specifications
- 3 Swap the ignition coil from cylinder 7 with a known-good coil from another cylinder and recheck for misfire migration after clearing codes
- 4 Perform a fuel injector balance test or swap injectors between cylinders to see if the misfire follows the injector
- 5 Check for vacuum leaks around the intake manifold and cylinder 7 runner using a smoke machine or carburetor cleaner while the engine idles
- 6 Run a compression test and, if low, a cylinder leak-down test on cylinder 7 to rule out mechanical faults before replacing ignition or fuel parts
- 7 If carbon buildup is suspected on a direct-injection engine, perform an intake valve cleaning service and re-evaluate the cold-start misfire

Cold-start misfire traps on BMW engines

- A P1354 that only appears on cold starts and disappears once warm often points to carbon buildup on the intake valves of direct-injection BMW engines, which is frequently missed because the misfire does not reproduce on a warm engine.
- Swapping the ignition coil and spark plug from cylinder 7 to another cylinder is the fastest way to see whether the misfire follows the part, but many technicians replace all coils prematurely without confirming the fault migration.
- The DME may set P1354 alongside fuel trim codes or a general random misfire code, and diagnosing only the companion code can lead to replacing the wrong component if the start-specific nature of P1354 is ignored.
- A weak battery or slow cranking speed can cause the DME to misjudge crankshaft speed fluctuations and set a false P1354, so always verify battery voltage and cranking RPM before condemning ignition or fuel parts.
- On some BMW engines, a leaking injector that drips fuel into cylinder 7 overnight can cause a rich misfire only on the first start of the day, which a standard running compression test will not reveal.

Can I keep driving with P1354?

You can usually drive the car short distances to a repair shop if the misfire is mild and only occurs at start, but avoid hard acceleration and long trips until it is diagnosed. If the check engine light flashes or the engine runs very rough, stop driving and have the vehicle towed to prevent catalytic converter damage.



Tools that help

- BMW-capable OBD-II scan tool with live data and misfire counter capability
- Digital multimeter for checking coil resistance and sensor wiring
- Compression tester and cylinder leak-down tester
- Smoke machine for intake vacuum leak detection
- Spark plug socket and torque wrench
- Fuel injector balance tester or scan tool with injector cut-off function

Reading P1354

P Powertrain: engine, transmission and emissions.

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

3 Ignition system and misfire.

54 The exact fault within that area.

Often seen with

P1355 Cylinder 1 Ignition Circuit Open · **P1356** Cylinder 1 Ignition Circuit Short To B+ · **P1355** IC Output High Pulse Detected When Grounded Cyl 5 · **P1356** IC Output High Pulse Detected When Grounded Cyl 6 · **P1355** Ignition Coil D Primary Circuit Fault · **P1356** Loss of Ignition Diagnostic Module Input to PCM · **P1355** IC Output High Pulse Detected When Grounded Cyl 5 · **P1356** IC Output High Pulse Detected When Grounded Cyl 6 · **P1355** Misfire Cylinder 7 With Fuel Cut-off · **P1356** Misfire During Start Cylinder 8 · **P0171** System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0307** Cylinder 7 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-p1354/>

