

BMW · POWERTRAIN

P1352

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1352 · BMW

Misfire During Start Cylinder 6

P1352 on BMW vehicles means the engine control module detected a misfire specifically on cylinder 6 during the engine start sequence, before normal closed-loop operation begins. The computer monitors crankshaft speed fluctuations during cranking and the first few combustion events, and flags this code when cylinder 6 fails to contribute its expected power. This is a start-specific misfire code, not a general running misfire, which narrows the diagnostic path considerably.

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
- Extended cranking time before the engine catches, especially on cold mornings
- A flashing or steady check engine light shortly after startup
- Audible popping or uneven exhaust note during the first few seconds of running
- Occasional hard start or stall right after ignition, particularly in damp or cold weather
- Often no symptoms besides the warning light when the misfire is intermittent and only logged during cranking

Common causes, most likely first

- 1 Faulty or fouled spark plug on cylinder 6, especially with incorrect gap or wear beyond the service interval
- 2 Failed ignition coil on cylinder 6 that breaks down under the higher load of cold-start enrichment
- 3 Leaking or clogged fuel injector on cylinder 6 causing an incorrect air-fuel mixture during cranking
- 4 Intake manifold gasket or vacuum leak near cylinder 6 that leans out the mixture only at low cranking speeds
- 5 Low compression on cylinder 6 from worn rings, a leaking valve, or a head gasket issue that shows up mainly when cold
- 6 Carbon buildup on the intake valves of cylinder 6, common on direct-injection BMW engines, disrupting cold-start mixture
- 7 Engine control module software or adaptation values that are out of range for cold-start fueling on that cylinder



How to diagnose and fix it

- 1 Scan all BMW-specific fault memory and freeze-frame data to confirm P1352 is current and not a stored history code from a previous repair
- 2 Inspect the cylinder 6 spark plug for fouling, wear, and correct gap, and replace it if it does not meet BMW specification
- 3 Swap the cylinder 6 ignition coil with a neighbouring cylinder and recheck for a misfire that follows the coil, confirming coil failure
- 4 Perform a fuel injector balance test or swap injectors between cylinders to see if the start misfire moves with the injector
- 5 Run a cold compression test and, if low, a cylinder leak-down test on cylinder 6 to rule out mechanical faults before parts replacement
- 6 Smoke-test the intake system for vacuum leaks near cylinder 6 and check the intake manifold gasket for signs of leakage
- 7 After repairs, clear adaptations and recheck cold-start behaviour over several key cycles to confirm the code does not return

Why cylinder 6 misfires only at startup

- A P1352 that never appears once the engine is warm often points to a coil or plug that only fails under the rich, high-load conditions of cold-start cranking, so a hot-engine misfire test will miss it.
- Technicians frequently replace all six coils when only cylinder 6 is flagged, but swapping the coil to another cylinder first proves the fault without unnecessary parts.
- Direct-injection BMW engines can develop carbon deposits on the back of the intake valves that cause a cold-start-only misfire on one cylinder, which a standard fuel injector cleaner will not fix.
- A weak battery or slow cranking speed can cause the engine control module to misjudge crankshaft speed fluctuations and set a false P1352, so always check battery health and cranking voltage before condemning ignition parts.
- This code can be stored alongside fuel trim or camshaft correlation codes when a vacuum leak or timing issue affects cylinder 6 disproportionately at low engine speeds.

Can I keep driving with P1352?

You can usually drive the car short distances to a workshop, but avoid hard acceleration and long trips until the misfire is diagnosed, because unburned fuel from a persistent misfire can overheat and damage the catalytic converter. If the check engine light flashes or the engine runs very rough, stop driving and arrange a tow.



Tools that help

- BMW-specific scan tool with live data and freeze-frame capability
- Spark plug socket and torque wrench
- Ignition coil puller or trim removal tool
- Compression tester and cylinder leak-down tester
- Smoke machine for intake leak testing
- Digital multimeter for checking coil and injector circuits

Reading P1352

P Powertrain: engine, transmission and emissions.

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

3 Ignition system and misfire.

52 The exact fault within that area.

Often seen with

P1345 Ignition Coil Output Stage 3 Short To Ground · **P1345** VVT Sensor Circuit Malfunction Bank 1 · **P1351** VVT Sensor Range Performance Problem Bank 2 · **P1351** Injection Sensor Circuit · **P1353** Ignition Coil B Primary Circuit · **P1345** No CMP or SGC Signal · **P1351** Ignition Diagnostic Monitor Signal Lost To PCM Or Out Of Ran · **P1345** No SGC Signal 1.6L · **P1353** IC Output High Pulse Detected When Grounded Cyl 3 · **P1345** Camshaft to Crankshaft Position Correlation Fault · **P1351** Ignition Control Circuit Voltage High · **P1353** Ignition Coil B Primary Circuit Fault · **P1351** Ignition Diagnostic Monitor Circuit Input Fault · **P1351** IC Circuit High Voltage · **P1353** IC Output High Pulse Detected When Grounded Cyl 3 · **P1345** CKP/CMP Correlation · **P1353** Misfire Cylinder 6 With Fuel Cut-off · **P1351** Misfire Cylinder 5 With Fuel Cut-off · **P1345** Misfire Cylinder 2 With Fuel Cut-off · **P0300** Random/Multiple Cylinder Misfire Detected · **P0306** Cylinder 6 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-p1352/>

