

P1361 · Mazda

Ignition Coil B Secondary Circuit

P1361 on a Mazda means the powertrain control module (PCM) has detected an abnormal condition in the secondary circuit of ignition coil B, which is the high-voltage side that fires the spark plug. The PCM monitors the coil's feedback signal and flags the code when the expected voltage pattern is missing or out of range, indicating a misfire risk on the affected cylinder.

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

Symptoms you may notice

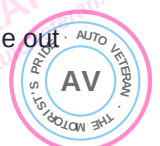
- Check engine light illuminated, often with no other noticeable symptoms at first
- Rough idle or engine shaking, especially when cold or under light load
- Noticeable misfire or hesitation during acceleration
- Reduced fuel economy and a slight loss of power
- Flashing check engine light under hard acceleration in severe cases
- A faint burnt smell or visible arcing near the coil pack in rare instances

Common causes, most likely first

- 1 Failed ignition coil B (open or shorted secondary winding)
- 2 Worn or fouled spark plug on the affected cylinder increasing coil stress
- 3 Damaged or corroded coil connector or harness wiring
- 4 Faulty ignition coil capacitor or noise suppressor shared with the coil circuit
- 5 PCM driver circuit fault or poor ground at the coil mounting point
- 6 Moisture intrusion into the coil boot or connector causing secondary voltage leakage

How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P1361 is active and not a ghost code
- 2 Inspect coil B connector, boot, and spark plug well for corrosion, oil, or moisture
- 3 Swap coil B with a known-good coil from another cylinder and see if the misfire follows the coil
- 4 Measure secondary resistance of coil B and compare to the manufacturer's specification
- 5 Check spark plug condition and gap on the affected cylinder, replacing if worn or fouled
- 6 Perform a wiggle test on the coil harness while watching live misfire counters
- 7 If the coil and wiring test good, scope the PCM driver signal or substitute a known-good PCM to rule out internal driver failure



What Mazda coil B codes often hide

- A bad spark plug or excessive plug gap is a common root cause that gets missed when technicians replace the coil without checking the plug first.
- Oil leaking into the spark plug well from a failed valve cover gasket can short the coil boot and set P1361 even when the coil itself tests fine.
- On some Mazda engines, a failing ignition coil capacitor shared across the coil circuit can mimic a coil B failure and will set the code again after replacement.
- P1361 can be stored intermittently by a loose coil connector that only loses contact during engine vibration, so a static resistance test may pass.
- Do not assume the PCM is faulty until coil, plug, and harness are ruled out, because PCM driver failures are rare compared to coil and plug wear.

Can I keep driving with P1361?

You can usually drive short distances to a repair shop, but avoid hard acceleration and sustained high-speed driving because a persistent misfire can overheat the catalytic converter. If the check engine light is flashing, stop driving and have the vehicle towed.

Tools that help

- OBD-II scan tool with live misfire and freeze-frame data
- Digital multimeter with resistance and voltage measurement
- Spark plug socket and torque wrench
- Ignition coil removal tool or pry bar
- Insulated spark tester
- Oscilloscope for secondary ignition waveform analysis

Reading P1361

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



Often seen with

P1362 Cylinder 3 Ignition Circuit Short To B+ · **P1362** TDC1 Sensor No Signal · **P1362** Ignition Coil C Secondary Circuit · **P1362** Ignition Coil Cylinder 2 No Activation · **P1362** TDC1 Sensor No Signal · **P1362** IC Cylinder 2 Not Toggling After Enable · **P1362** Ignition Coil C Secondary Circuit Malfunction · **P1362** IC Cylinder 2 Not Toggling After Enable · **P1362** Misfire During Start Cylinder 11 · **P0300** Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 Misfire Detected · **P0302** Cylinder 2 Misfire Detected · **P0351** Ignition Coil A Primary/Secondary Circuit Malfunction

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/mazda-p1361/>

