

MAZDA · POWERTRAIN

P1364

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1364 · Mazda

Ignition Coil Primary Circuit

P1364 on Mazda vehicles indicates that the powertrain control module (PCM) has detected an abnormal condition in the primary circuit of an ignition coil, which is the low-voltage side that the PCM uses to trigger the coil. The PCM monitors the coil primary circuit for expected voltage and current behavior when the ignition is on and while the engine is running, and it sets this code when the circuit does not respond as commanded, pointing to an open, short, or excessive resistance in the coil primary or its wiring.

SYSTEM

Powertrain

CODE TYPE

Mazda specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Ignition system and misfire

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Engine misfire or rough running, especially under acceleration or load
- Noticeable loss of power and reduced fuel economy
- Shaking or vibration from the engine bay that feels like a dead cylinder
- Difficulty starting or an engine that stalls shortly after startup
- A flashing check engine light in severe cases, indicating a misfire that can damage the catalytic converter

Common causes, most likely first

- 1 Failed ignition coil with an open or shorted primary winding
- 2 Damaged or corroded electrical connector at the ignition coil
- 3 Broken, chafed, or corroded wire in the coil primary circuit between the PCM and the coil
- 4 Poor ground connection for the ignition coil or engine block
- 5 Faulty powertrain control module (PCM) driver circuit for the coil, though this is less common
- 6 Ignition coil that has been contaminated by oil or moisture, leading to internal primary circuit damage



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P1364 is the only ignition-related code and to identify which coil or cylinder is affected.
- 2 Visually inspect the ignition coil, its connector, and the surrounding wiring for corrosion, oil contamination, or physical damage.
- 3 Measure the primary resistance of the suspect ignition coil with a digital multimeter and compare it to the manufacturer's specification.
- 4 Check for battery voltage at the coil primary connector with the key on and engine off, and verify the ground circuit has less than 0.1 volts of voltage drop.
- 5 Perform a wiggle test on the coil harness while monitoring coil primary voltage or misfire counters to reveal intermittent wiring faults.
- 6 If the circuit tests good, swap the suspect coil with a known-good coil from another cylinder and see if the misfire or code follows the coil.
- 7 Repair or replace the faulty coil, connector, or wiring as needed, then clear the code and verify the repair with a road test and live data review.

What Mazda techs check before replacing coils

- A loose or corroded coil connector often mimics a failed coil perfectly, so always inspect and clean the terminals before condemning the coil.
- Mazda coil primary circuits are sensitive to voltage drops in the ground circuit, and a poor engine ground can set P1364 without any coil fault at all.
- This code can be set by a faulty PCM driver, but that is rare; technicians who skip circuit testing frequently replace good coils and still have the code return.
- Oil leaking from a valve cover gasket into the spark plug well can degrade the coil primary over time, so check for oil contamination when the coil is removed.
- On some Mazda engines, a failing ignition coil may not produce a noticeable misfire until the primary circuit is nearly open, so the code can appear before the driver feels anything.

Can I keep driving with P1364?

You can usually drive the vehicle a short distance to a repair shop, but avoid heavy acceleration and long trips because a persistent misfire can overheat and damage 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 data and misfire counter capability
- Digital multimeter with resistance and voltage measurement
- Test light or logic probe for circuit testing
- Socket set and extension for coil removal
- Torque wrench for coil retaining bolts
- Contact cleaner and dielectric grease for connector service

Reading P1364

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

Often seen with

P0300 Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 Misfire Detected · **P0302** Cylinder 2 Misfire Detected · **P0351** Ignition Coil A Primary/Secondary Circuit Malfunction · **P0352** Ignition Coil B 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-p1364/>

