



P1419 · Mazda

Split Air 2 Circuit

P1419 on a Mazda indicates that the powertrain control module (PCM) has detected an electrical fault in the split air 2 circuit, which typically controls a secondary air injection path or a variable intake air control solenoid. The PCM monitors the circuit for expected voltage or current and sets this code when the signal is out of range, indicating an open, short, or component failure.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Mazda specific	Medium	Intermediate	Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough idle or stumbling during cold starts due to incorrect air injection or intake tuning.
- Slightly reduced fuel economy or power delivery under certain load conditions.
- In some cases, a noticeable hissing or whistling sound from the engine bay if a hose is disconnected.
- Intermittent engine hesitation or surge while accelerating, especially when the engine is cold.

Common causes, most likely first

- 1 Failed split air control solenoid or vacuum switching valve.
- 2 Damaged, disconnected, or cracked vacuum hose in the split air circuit.
- 3 Corroded or loose electrical connector at the solenoid or PCM.
- 4 Open or shorted wire in the split air 2 circuit harness.
- 5 Carbon buildup or mechanical failure inside the air control valve or intake passage.
- 6 Faulty PCM driver circuit (rare but possible after other causes are ruled out).

How to diagnose and fix it

- 1 Inspect all vacuum hoses and electrical connectors in the split air circuit for cracks, looseness, or corrosion.
- 2 Use a scan tool to command the split air solenoid on and off and listen for a click, verifying actuator operation.
- 3 Measure resistance across the solenoid terminals and compare to the manufacturer's specification.
- 4 Check for battery voltage and ground at the solenoid connector with the key on, engine off.
- 5 Perform a wiggle test on the wiring harness while monitoring the circuit with a multimeter or scan tool to find intermittent faults.
- 6 If the solenoid fails electrical tests, replace it and clear the code to see if it returns.
- 7 If all components test good, trace the wires back to the PCM and check for continuity and shorts to ground or power.



Split Air Circuit Diagnostic Traps

- A common mistake is replacing the split air solenoid without first checking the vacuum supply; a cracked or disconnected hose will cause the same code and is far cheaper to fix.
- The split air system often only operates during cold starts, so a fault may not trigger the code until the engine is completely cold, leading to intermittent diagnosis.
- Carbon buildup in the air control valve can mimic an electrical failure by restricting movement; always verify mechanical operation before condemning the solenoid.
- On some Mazda models, the split air circuit shares a ground with other sensors, so a bad ground elsewhere can set P1419 along with unrelated codes.
- A faulty PCM is almost never the cause; focus on wiring and vacuum integrity before considering module replacement.

Can I keep driving with P1419?

You can generally continue driving with P1419, but avoid prolonged idling or heavy acceleration until the fault is repaired, as the engine may run less efficiently and emissions could increase. If the check engine light begins flashing or you notice severe performance loss, stop driving and seek professional diagnosis.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Hand vacuum pump
- Basic socket and wrench set
- Wiring diagram for the specific Mazda model

Reading P1419

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Mazda): its meaning depends on the make.
4	Auxiliary emission controls.
19	The exact fault within that area.

Often seen with

P1418 Fuel Level Sensor Signal Too High · **P1420** Secondary Air Injection Control Module Electrical Malfunction · **P1420** Fuel Tank Pressure Control Solenoid High Input · **P1418** Split Air 1 Circuit · **P1418** Secondary Air Injection System Relay A Control Circuit High · **P1420** Intake Air Low Pressure Switch Circuit Low Voltage · **P1418** Secondary Air Injection System Relay A Control Circuit High · **P1420** Intake Air Low Pressure Switch Circuit Low Voltage · **P1420** Secondary Air Valve Control Circuit Electrical · **P0171** System Too Lean (Bank 1) · **P0410** Secondary Air Injection System Malfunction · **P0411** Secondary Air Injection System Incorrect Flow

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-p1419/>

