

SUZUKI · POWERTRAIN

P1510

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1510 · Suzuki

PCM Backup Power Supply Circuit Fault

P1510 on a Suzuki means the powertrain control module (PCM) has detected a fault in its backup power supply circuit, which is the separate feed that keeps the PCM's keep-alive memory alive when the ignition is off. The PCM monitors this circuit and sets the code when the backup voltage is out of range, typically because the memory backup fuse, wiring, or internal PCM backup circuit has failed.

SYSTEM

Powertrain

CODE TYPE

Suzuki specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The check engine light is on, and often there are no other symptoms besides the warning light.
- The engine may crank but not start, or start and stall immediately, if the PCM has lost its learned idle and fuel trim values.
- Poor idle quality or rough running right after startup while the PCM relearns its adaptive values.
- Intermittent no-start conditions that clear after the ignition is cycled or the battery is disconnected and reconnected.
- The radio presets, clock, or other memory functions may reset if the same backup feed is shared, though this varies by model.
- A completely dead battery after the vehicle sits for a day or two if the backup circuit is shorted internally.

Common causes, most likely first

- 1 Blown backup power fuse in the underhood or interior fuse box that feeds the PCM memory circuit.
- 2 Corroded, loose, or damaged battery terminal connections and the main battery-to-fuse-box cable.
- 3 Open or high-resistance wiring in the backup power circuit between the battery, fuse, and PCM connector.
- 4 A shorted or leaking backup power circuit that drains the battery when the ignition is off.
- 5 Failed PCM internal backup power supply, which is the least common but most expensive cause.
- 6 Aftermarket alarm, remote starter, or audio installation that tapped into the backup power feed and introduced a fault.
- 7 Water intrusion into the PCM connector or fuse box causing corrosion on the backup power pins.



How to diagnose and fix it

- 1 Check the backup power fuse first, both visually and with a multimeter, and replace it only after confirming the circuit is not shorted.
- 2 Inspect and clean the battery terminals and the main battery cables, then load-test the battery to rule out a weak battery.
- 3 Measure voltage at the PCM backup power pin with the ignition off and compare it to battery voltage; a drop of more than half a volt points to wiring resistance.
- 4 Disconnect the PCM connector and inspect the backup power pins for corrosion, pushed-back terminals, or water intrusion.
- 5 Perform a parasitic draw test with the ignition off to see whether the backup circuit is draining the battery.
- 6 If the fuse, wiring, and battery all check out, test the PCM backup circuit internally or substitute a known-good PCM to confirm internal failure.
- 7 Clear the code and verify the repair by cycling the ignition and confirming the backup voltage stays within specification.

What the backup power circuit really does

- Many technicians replace the PCM when the real fault is a blown backup fuse or a corroded terminal that was never checked, so always verify voltage at the PCM pin before condemning the module.
- A weak or failing battery can set P1510 on Suzuki vehicles because the PCM sees low backup voltage during cranking, so load-test the battery before chasing wiring.
- Aftermarket accessories that tap into the backup power feed are a common hidden cause, especially on older Suzuki models with alarm or remote-start installations.
- The code does not always mean the PCM is bad; it only reports that the backup voltage was out of range, which can be a temporary glitch from a battery disconnect or jump start.
- On some Suzuki models the backup power circuit shares a fuse with the clock and radio memory, so a blown fuse may also reset those memories and give a clue.

Can I keep driving with P1510?

You can usually drive the vehicle with P1510 set, but avoid long trips and repeated short starts until the backup circuit is repaired, because a failing backup feed can leave you with a no-start condition or a dead battery. If the engine cranks but does not start, do not keep cranking; have the vehicle towed or jump-started only after checking the fuse and battery connections.



Tools that help

- Digital multimeter
- Fuse puller and test light
- Battery load tester
- Parasitic draw tester (clamp meter)
- Socket set and terminal pick tools
- Suzuki service information or wiring diagram

Reading P1510

P Powertrain: engine, transmission and emissions.

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

5 Vehicle speed, idle control and auxiliary inputs.

10 The exact fault within that area.

Often seen with

P1600 Power Supply Terminal No 15 Low Voltage · **P1600** ECM BATT Malfunction · **P1600** PCM TCM Serial Communication Circuit Fault · **P1600** Serial Communication Link · **P1600** Loss Of KAM Power Circuit Open · **P1600** Loss Of Kam Power Circuit Open · **P1600** PCM Battery Loss / TCM Communication Loss · **P1600** Loss of KAM Power Open Circuit · **P0560** System Voltage Malfunction · **P0562** System Voltage Low · **P0600** Serial Communication Link Malfunction · **P0601** Internal Control Module Memory Checksum Error

See it working

Watch the animated explainer [How Coil-on-Plug Ignition Works: Coil and Spark Plug](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/suzuki-p1510/>

