

# Stator And Regulator Test Record

Open, shorted, or plausible. Three states that need no reference figure and catch most real failures.

## BEFORE YOU START

Petrol vapour ignites, batteries produce hydrogen, ignition and charging circuits carry enough energy to hurt, and a machine on a stand can fall. Work outdoors or with the door open, disconnect the battery before probing anything you are not deliberately measuring live, and never run an engine in a closed space. This sheet helps you observe and record.

## DO THESE TWO THINGS FIRST OR EVERY READING BELOW IS WORTHLESS

Check the earths, especially the engine-to-frame strap, and make sure the battery is charged enough to crank properly. A corroded earth produces exactly the symptoms of a failed charging system, and a flat battery makes every voltage reading meaningless. Both are free and both have their own sheets in this library.

## TESTING A STATOR WITHOUT A SPECIFICATION

Unplug the stator connector first, so you are testing the component and not the whole circuit. Then look for absolutes rather than for a number.

| TEST                               | WHAT YOU ARE LOOKING FOR             | WHAT IT MEANS                                                                       |
|------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------|
| Each winding to each other winding | Continuity, low resistance           | Open circuit means a broken winding. That is a definite failure                     |
| Each winding to the engine case    | No continuity at all                 | Any continuity to earth means the insulation has failed. That is a definite failure |
| Output with the engine running     | AC volts that rise with engine speed | No rise means it is not generating, whatever the resistance says                    |

## WHAT THIS METHOD CATCHES, AND WHAT IT DOES NOT

Open circuit and short to earth are absolutes — no reference figure needed, and between them they account for most stator failures. What it will not catch is a winding that has partly failed and still reads plausible. That exists, and this method will miss it. We would rather tell you that than print a resistance figure that condemns good parts, which is what the numbers circulating for these machines do.

## TESTING A REGULATOR BY BEHAVIOUR

Measure DC volts at the battery terminals. The direction of change is the diagnosis.

| WHAT THE METER DOES                 | WHAT THAT TELLS YOU                                                            |
|-------------------------------------|--------------------------------------------------------------------------------|
| No rise at all when revved          | Nothing is reaching the battery. Stator, regulator, or the wiring between them |
| Rises clearly and then levels off   | Charging and regulating. This part is doing its job                            |
| Climbs and keeps climbing past 15 V | Not regulating. Stop — this destroys batteries and blows bulbs                 |

- ☐ Battery getting hot, venting, or smelling of sulphur  
Corroborates overcharging
- ☐ Bulbs blowing repeatedly
- ☐ Regulator body extremely hot after a short run
- ☐ Regulator's own earth clean and tight  
These fail from poor earthing more often than internally

**THE THING THAT FAILS MORE OFTEN THAN EITHER COMPONENT**

The wiring where the loom leaves the engine case. It moves with the engine every time the suspension works, it is close to heat, and it passes an edge. A chafed wire there gives exactly the symptoms of a failed stator and costs nothing to repair. Check it before condemning anything, and check it along its whole length rather than at the ends.

- ☐ Loom intact where it exits the engine case
- ☐ No rubbing where it passes the frame or the swingarm
- ☐ Connector clean and dry inside, not green with corrosion
- ☐ No melted insulation anywhere near the exhaust
- ☐ Connector pins tight in their housings, not pushed back

**READINGS**

| WHAT WAS TESTED | BETWEEN WHICH POINTS | READING | OPEN / SHORT / PLAUSIBLE |
|-----------------|----------------------|---------|--------------------------|
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BATTERY, ENGINE OFF

RUNNING, REVVED

DID IT RISE?

**WRITE DOWN WHAT YOU SAW, NOT WHAT YOU CONCLUDED**

The observation is recoverable later and the conclusion is not. "Wheel would not spin more than half a turn" is still useful in a month. "Brake problem" is not, because you will not remember what made you think so.

**Need to work out what you actually own?**

The Scooter Parts Registry is a free public record of the Chinese factories behind US-market scooters, ATVs and go-karts — brand, engine family, VIN prefix, factory and related machines. No account, no email.

[thescooterparts.com/identify](https://thescooterparts.com/identify)