Trouble Shooting Guide-Charging Systems

CHECK THE STATOR:

1. Disconnect the regulator from the stator at the terminal inside the crankcase.
2. Check for continuity between either stator pin and the crankcase. Continuity indicates that the stator is grounded and needs to be replaced.
3. Check the resistance between the stator pins. A reading of 0.1 to 0.2 ohms should be present. A lower reading requires that the stator be replaced.

CHECK THE OUTPUT:

1. Again disconnect the regulator, and connect a voltmeter set to AC volts across the stator terminals. With the engine running at 2000 rpm, that should be a reading of 32-40 AC volts. The output will increase or decrease 16-20 AC volts for every 1000 rpm.

CHECK THE CURRENT DRAW:

1. With all accessories, ignition, and headlamp high beam turned on, read the current draw.
2. The current draw should be at least 3.5 Amps lower than the output listed in the SPECIFICATIONS section of the Harley-Davidson service manual. You may have too many accessories drawing power for the system to handle.
3. Have the Battery Load Tested.

HOW DO I POLARIZE MY GENERATOR?

1. A generator that is not polarized will burn relay points, cause a dead battery, or damage to the generator.
2. Momentarily touch a jumper wire between the BAT and GEN terminals on the generator.

Test Procedure for Unilite® & E-Spark® for Motorcycles

With the Module wired to the coil like it's ready to run. Take the cap off and position the Module so you can see it. Turn the key on, test voltage on the negative side of the coil, which is where the green wire attaches to the coil.

To do this the Red lead from the voltmeter will go to the Green wire on the coil. The Black wire from the voltmeter will go to ground. Set the voltmeter for 12 volts DC.

With the ignition switch ON you should have about 12 volts. Then take a card or match book and place it in slot of the module to block the photo optics of the module (see pictures). The voltage should drop to 1-2 volts. Remember it's an infrared LED you won't see it.

If the test results are as follows the Module will need to be replaced:

(a) Voltage does not drop to 1-2 volts when optics blocked.

(b) Voltage always stays below 2 volts, blocked or not.

(c) Voltage only drops above 2 volts, the higher above 2 volts the weaker the spark.

Possible causes are:

- Faulty charging system: stuck or shorted regulator, bad ground, dead cell or defective battery, defective stator or generator.
- Faulty ignition switch, direct shorts in electrical system.
- Faulty starting system: starter drag.
- Trying to start motor with battery charger hooked up.
- Non-suppression spark plug wires (copper or stainless solid core wires). Spark plug wires must be Spiral Core or Graphite Core suppression wire.
- Welding on the Bike with Module still hooked up (unplug the white connector to the Module before welding).
- Improper coil, use 2-4 ohm coil (check installation instruction).

If you must replace the Module, replace it with Mallory Part #A605.

If after completing the test you still have questions 216-658-6429.



