

# **I know you know a lot about electricity and Lucas generators, but STOP. Read this first!**

**This regulator will ONLY work if:**

**The generator is wired properly,  
will motor in the same direction it will be driven by the engine  
and the field "flashed" for the proper battery polarity**

## **Model 6-PE 6 volt Positive Earth (Ground)**

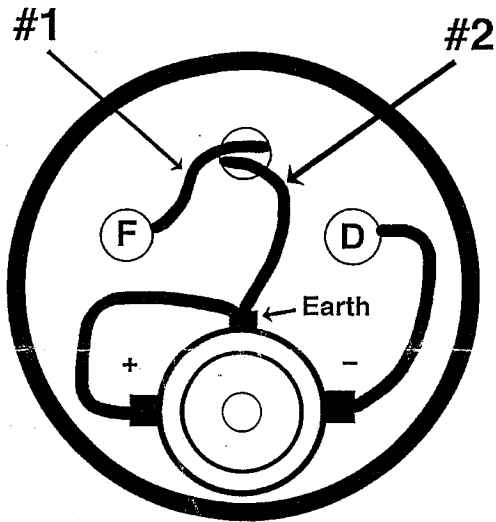
**Positive Earth (Ground) means that BOTH the battery and the PODtronics unit must be wired with the battery positive terminal, and PODtronics Red wire, connected to Earth (Ground)!!!!!!**

**STOP! READ ME FIRST!!!** This regulator is state of the art design, and uses state of the art components. We bench test them three times during production. The unit is designed to give years of dependable service.

**HOWEVER**, the unit can be permanently damaged if you connect the polarity of the battery, or the control box up, backwards. It takes less than a second to permanently damage the unit. The unit does have a way of protecting itself from this, but a 15 amp fuse MUST be installed in the black wire between the battery and the unit as shown in the diagram below. This is in addition to the regular fuse used between the battery and the wiring harness. You will note that the diagram calls for a 15 amp fuse in the black wire from the unit to the negative terminal of the battery.

### **Here's a check list of things you need to check:**

1. Check that you have the correct unit: - 6-PE. There should be a red label on the side and PE and a 6 should be stamped on the mounting bracket.
2. Check that the battery is wired with the Positive terminal going to the chassis Earth (ground).
3. If you are replacing your regulator in a working system you can skip to step 6. Otherwise you should do some test which is easiest if you remove the generator from the bike, or remove the drive gear or sprocket from the armature.
4. Check that the generator will motor in the same direction as it is being driven by the engine.
  - a. Do this by connecting a TEMPORARY jumper between the generator's terminal "D" and generator terminal "F".
  - b. With a pair of jumper wires attached to a battery, connect the positive lead to the generator body (Earth) and the Negative battery lead to the "D" terminal.
  - c. Doing this the generator should motor in the same direction as the engine turns it. If the generator motors in the wrong direction reverse either the field wires or the brush wires, but not both. As a side benefit you will also Flash the field to the correct polarity at the same time.
  - d. Remove the temporary jumper.
5. Once the generator motors the right way, and the field has been flashed, install the generator or replace the drive gear.
6. Checking generator output before connecting you PODtronics regulator.
  - a. With a volt-ohm meter (VOM) set at its lowest DC range, connect the VOM's positive lead to Earth and the negative lead to the "D" terminal. Start the bike. Run engine up to a bit over 1,000 rpm. You will need to see at least 0.7 volts (it can go as high as 1 1/2 volts) for the PODtronics unit to turn on. If you have 0.7 volts or more go to step b.
  - b. Connect a TEMPORARY jumper between the "F" and "D" terminals. With a VOM set to 20 volts DC connect the positive lead to Earth and the negative lead to the "D" terminal. Start the bike. You should see voltage increase with rpm. DO NOT EXCEED 10 volts as this can damage the generator. If you do not get 10 volts go to step c.
  - c. If you get a reading of 1 1/2 volts you probably have a bad armature. If you get a reading of 1/2 volt you probably have a bad field coil. If your VOM is showing a - (negative) before any of these readings the polarity of the generator is wrong. Repolarize see next page.

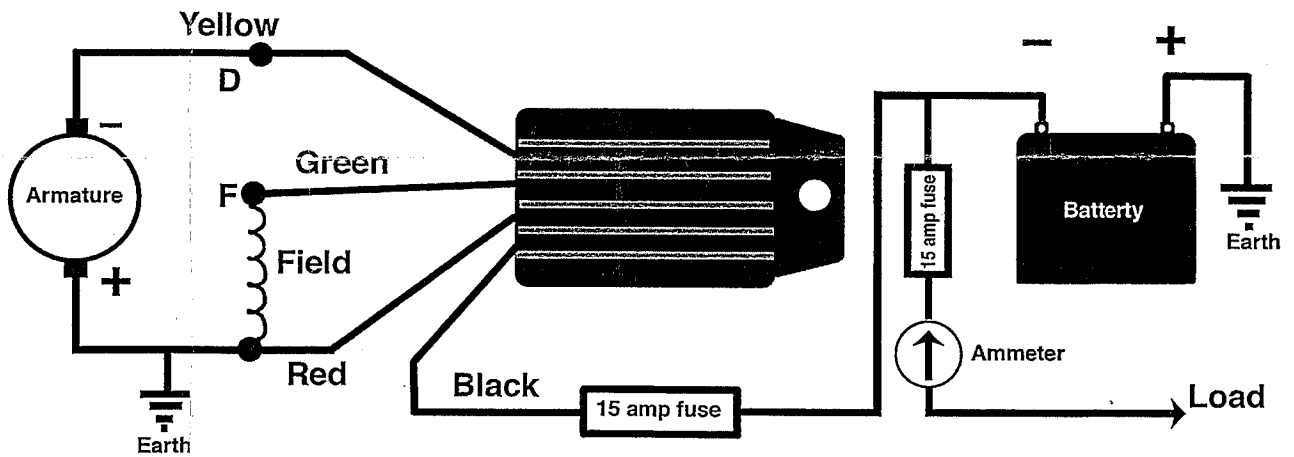


**Repolarize without motoring generator:** Disconnect the field wire (typically green) from the regulator. Ground positive battery terminal to generator body. Connect a jumper to the battery negative terminal. With the other end of the jumper scratch the generator field terminal the green wire was disconnected from.

**Note:**

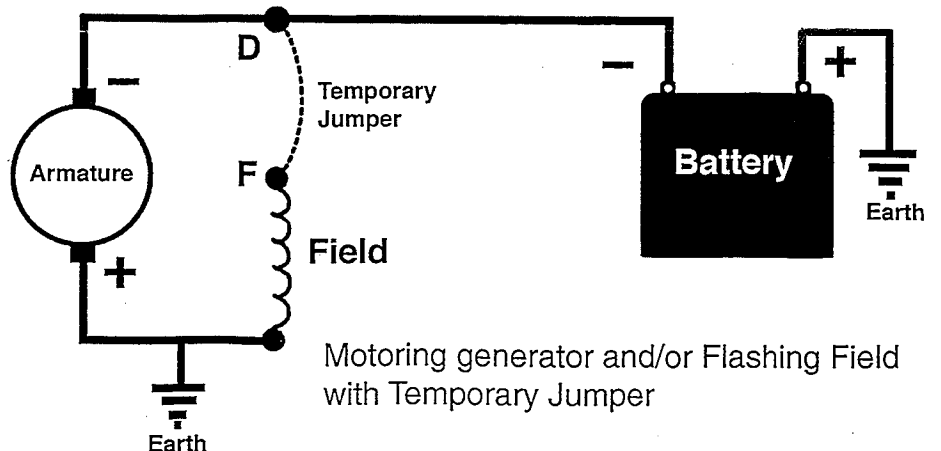
An original Lucas field coil will have a small yellow band slipped over one of the field wires. This is the field wire that should be grounded. If there is no yellow band it is typically the field wire coming out from the left side as viewed from the commutator end.

Illus. #A Standard Lucas Wiring for a Positive ground Triumph generator



**Things you will need:**

1. Volt Ohm Meter (VOM).
2. Fuse box with 15 amp fuse.
3. Couple jumper wires preferably with alligator clips.
4. 6 volt battery.
5. PODtronics 6 volt Positive Earth regulator.



Motoring generator and/or Flashing Field with Temporary Jumper