

## Modifying Honda Regulator Rectifiers for use on a GS

The tools required to modify a Honda (Shindengen) RR for use on a GS are shown below. Some notes about the materials and tools shown:

1. The wire gauges are 14 gauge for Red and 16 gauge for Black.
2. The heat shrink tubing is  $\frac{1}{4}$ " (6mm) and  $\frac{3}{8}$ " (10 mm)
3. Solder is rosin core electrical type.
4. Connectors
  - a. Three 18-22ga male bullet connectors,
  - b. One 14-18ga male bullet connector,
  - c. Two 14-18ga blue female connectors,
  - d. One 14-18ga ring terminal.
5. Crimp on tool. Shown is from [Klein Tools](#) .
6. Soldering iron (25 to 45 watts)
7. Wire stripper
8. Heat gun
9. VOM (Volt, Ohm, Milliamp meter)



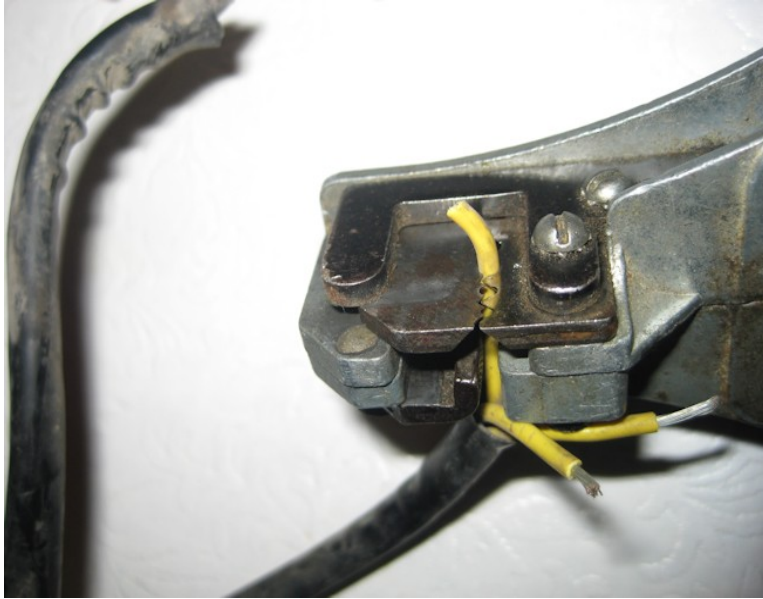
Clean the RR of any dirt or grease which hampers cooling.



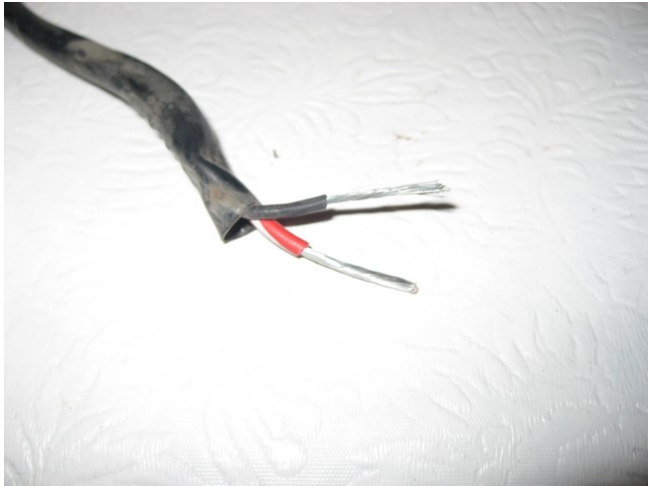
Cut off the connectors close to the end. Wear eye protection when cutting.



Strip the amount of insulation shown from the yellow wires.



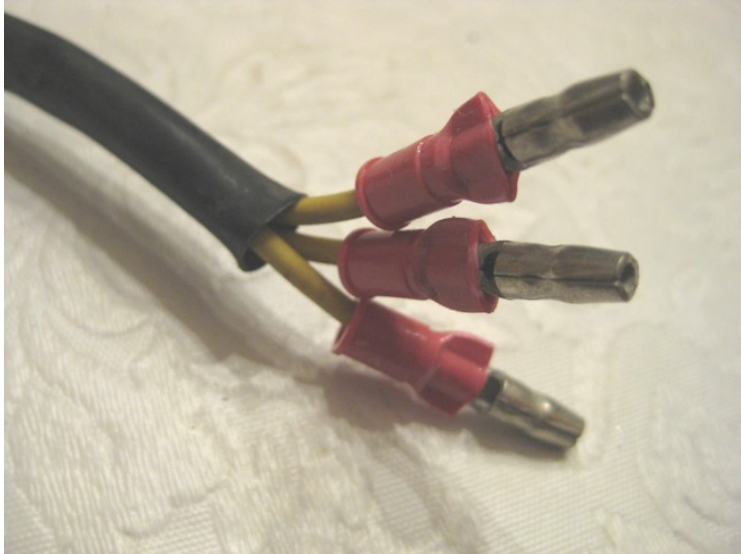
Pull the green wire from the tubing and remove approximately 1 inch of insulation from the red and black wires. Remove ½ inch of insulation from the green wire.



Crimp the ring terminal onto the green wire as shown leaving 1/8" exposed. Notice how the halves of the connector are positioned in the jaws, this gives the best crimp.

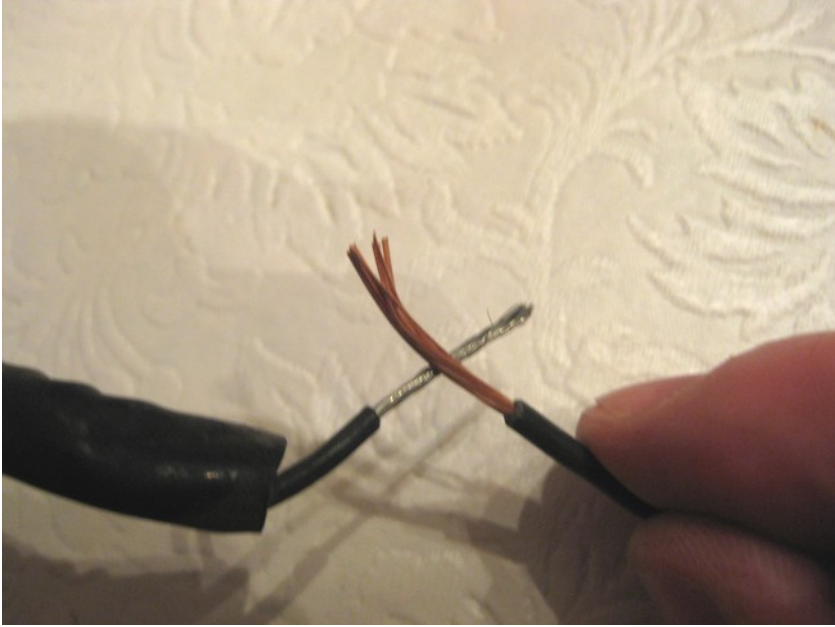


The crimp-on connectors are for plug in compatibility with the GS components.





Remove 1 inch of insulation from the 16ga black wire and position as shown.



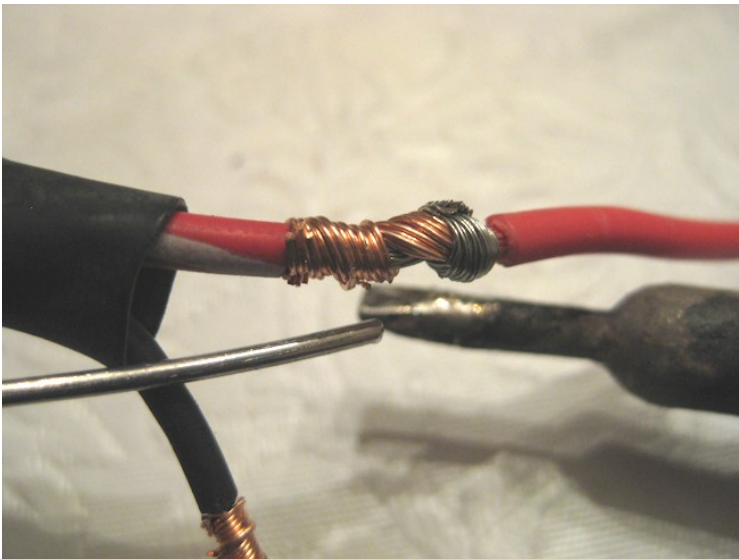
Twist the wires together to form a tight connection. Smooth down any loose ends.



Remove 1 inch of insulation from the red wire and repeat with the red lead from the RR.



Apply solder to the tip and the wires at the same time while holding the iron tip under the connection. Wear eye protection when soldering and be aware solder may drip from the connection onto the surface below.



The connection should be shiny with no copper or silver wire visible. There should be no spikes from the connection, if any are present trim with wire cutters.



Repeat the procedure for the black wires



Solder the small protruding wire on the crimped ring terminal. This is the most important ground connection on the motorcycle.



Cut lengths of heat shrink tubing as shown. The  $\frac{1}{4}$ " is 1 inch and the larger is 2 inches.

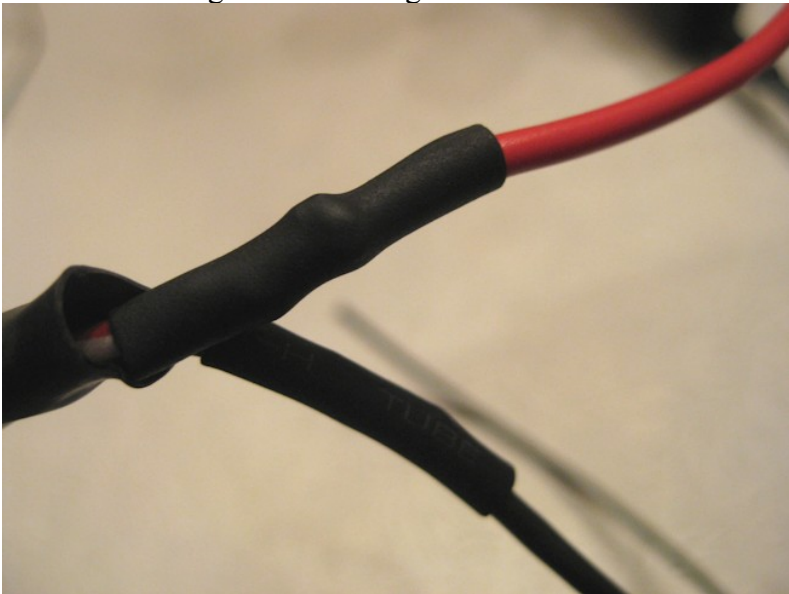




Position the tubing over the connections.



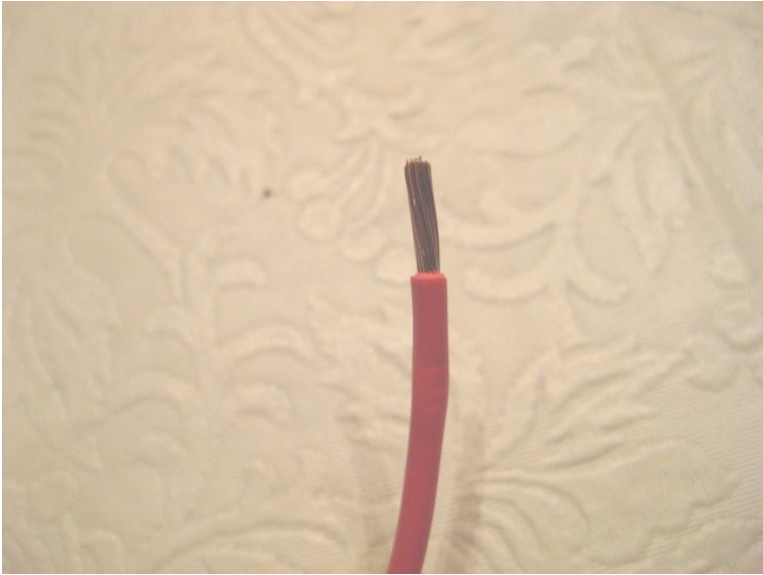
Shrink the tubing with the heat gun.



Position the large heat shrink as shown and shrink it to fit.



Remove  $\frac{1}{2}$ " from the red lead and insert into the blue 14-18Ga female connector.



Make sure the wire is inserted fully into the connector and crimp as shown.



Cut a 2 inch piece of black wire for the sense connection.



Strip the ends of the black lead and jumper wires as shown.



Insert the black lead and one end of the jumper into a blue male connector together. Twist the wires together once inserted and crimp.



Insert the male bullet onto the remaining wire and crimp.

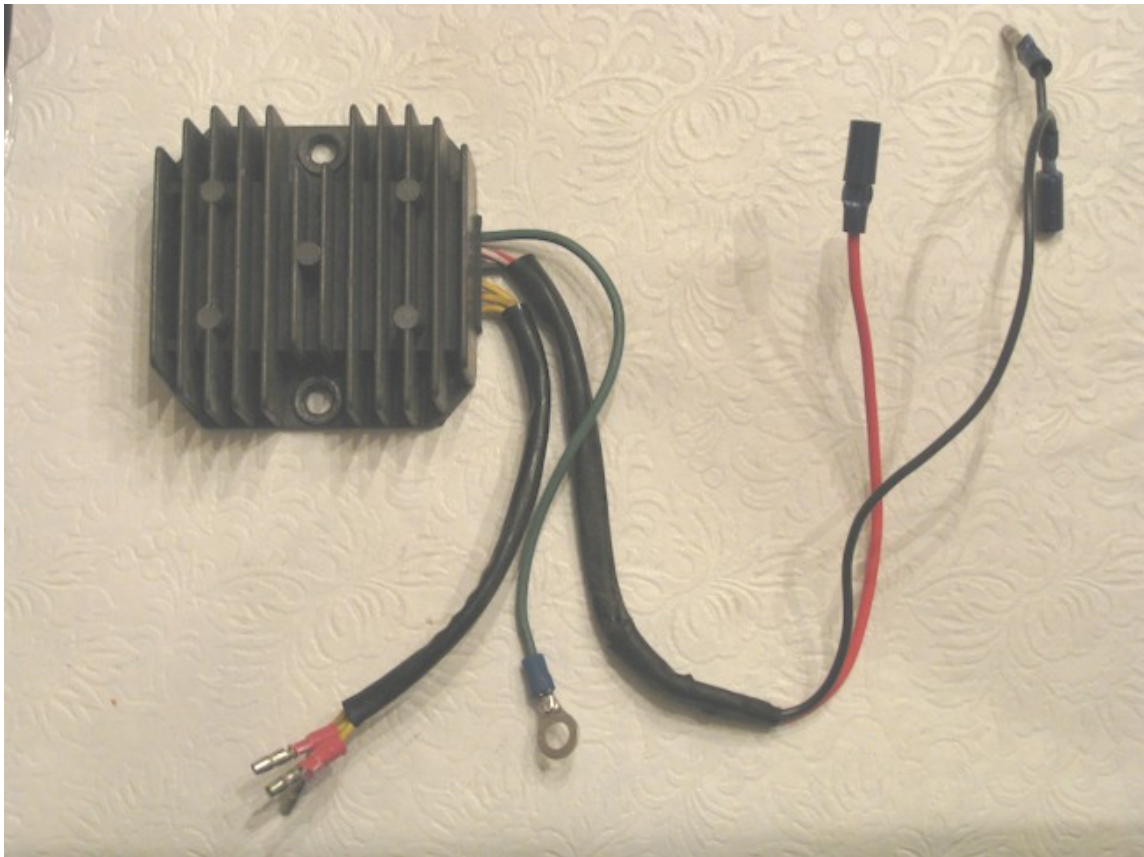




Finished sense wire lead assembly.



At this point you should have the completed product. The Red lead goes to the Fuse box as shown in the wiring diagram. Replace the matching bullet connectors on the bike since old, corroded brass connectors are a common problem whereas new alloy connectors are superior.



Full color wiring diagram for reference.

Notes:

1. If the stator is original 2 of the three wires will be white with either red or blue markings. The wires connect to the regulator in any order, there is no difference.
2. Older GS models had no fuse box, only inline fuses. It is critical to fuse the connection from the RR to the battery, use an inline fuse holder if connecting to the battery directly with a 15 A automotive fuse.
3. Connect the sense wire to the orange as shown while powering the rear brake light switch with the other connector. Verify the rear brake light works when done.
4. The ground tab should be made to the frame or negative battery terminal. Lengthen the ground lead just enough to reach a suitable grounding point.
5. The red and black leads can be lengthened according to need, route all wires carefully to prevent chaffing and damage. Use tie straps to secure connectors and wires.

