

Rectifier-Regulator Installation

A great electrical system update is to replace your burned up rectifier or Zener diode with one of the new rectifier-regulator combination units, such as: Tynpanium, Podtronics, Sparx, or Boyer "Power Box". The following information applies to the installation of any of these newer type units and may improve your installation.

There are 2 things most owners want to achieve when installing one of the new rectifier-regulator units: 1) get good, tight electrical connections, and 2) connect to the existing harness in the best way possible. In my humble opinion, if you want excellent connections to your new rectifier-regulator unit, that are also easy to get at, and that you know go to the correct places in the harness, then unplug all the spade connectors from the stock rectifier and use those harness wires with their existing connectors. After all, your harness was designed to make those connections on those 4 wires, so why try to fix something that's not broken?



Fig 1: The suggested male spade connectors

I find the best way to do this is to tin (solder) the wire ends of the new rectifier-regulator unit. Then crimp on 4 covered male spade connectors. These should be the pink or red color to indicate they are sized for 16-gauge wire. You can get these at NAPA or any auto parts store. Then you'll simply plug the female spade connectors that exist on the harness into your male spade connectors on your new rectifier-regulator unit.

This installation method has numerous present and future advantages:

- It's very simple and quick
- It does not require cutting (destroying) the stock harness
- It makes disconnection for testing very easy
- It makes future unit replacement or upgrade easy
- It makes an excellent electrical connection (one of the very best)
- It makes returning the electrical system to stock possible

Plugging up the new rectifier-regulator in this way instead of "hard-wiring" may seem strange at first, but believe me these rectifier-regulator units can go bad too. The first time you have to troubleshoot the charging system without the ability to unplug one of these wires the advantages will become immediately obvious.

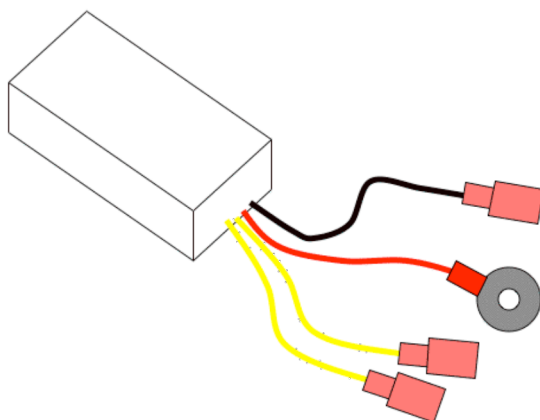


Fig 2: The prepared rectifier-regulator unit ready to install on a pre-1972

If your harness was made before about 1972, then you may not have the 4-prong rectifier. In that case, your RED ground lead coming from the harness would not have a spade connector, but a simple ring lug. The older Brit bikes used a 3-prong rectifier and depended on the rectifier bolt as the Positive connection point. In this case you would simply install a 1/4-inch ID ring lug to the ground lead of your new rectifier-regulator unit. You would then bolt the ring lug to the frame at the old rectifier mounting location.... being very sure to also bolt down the other RED wires that were also under the old rectifier. That bolt point is your “single point ground” and is very important to maintain. Be sure and use a stainless steel bolt at this position. See the GABMA tech article on “Grounding” for more information.

Harness Function	Harness Wire Color	Rectifier-Regulator Wire Color
AC	WHT/GRN	YELL
AC	GRN/YELL	YELL
Negative	BRN/BLU	BLK
Positive	RED	RED or BRN

Table 1: Common Lucas Wire Colors In Use Up To 1977

Positive Ground: If you want Positive ground then connect the box BLK to the harness BRN/BLU. Connect the box RED or BRN to the harness RED.

Negative Ground: If you want Negative ground, then connect the box BLK to the harness RED. Connect the box RED or BROWN to the harness BRN/BLU. You must then set the correct polarity on your ignition coils and/or Boyer ignition box to suit.

The new rectifier-regulator unit contains components that replace the zener diode function, so **do not** forget to disconnect the large 3/8-inch spade connector from the zener. Since the exposed connector can create havoc if it touches any surrounding metal, it is best to place a short piece of 1/2-inch heat shrink tubing over the unplugged connector to protect it.

Hope this helps!

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