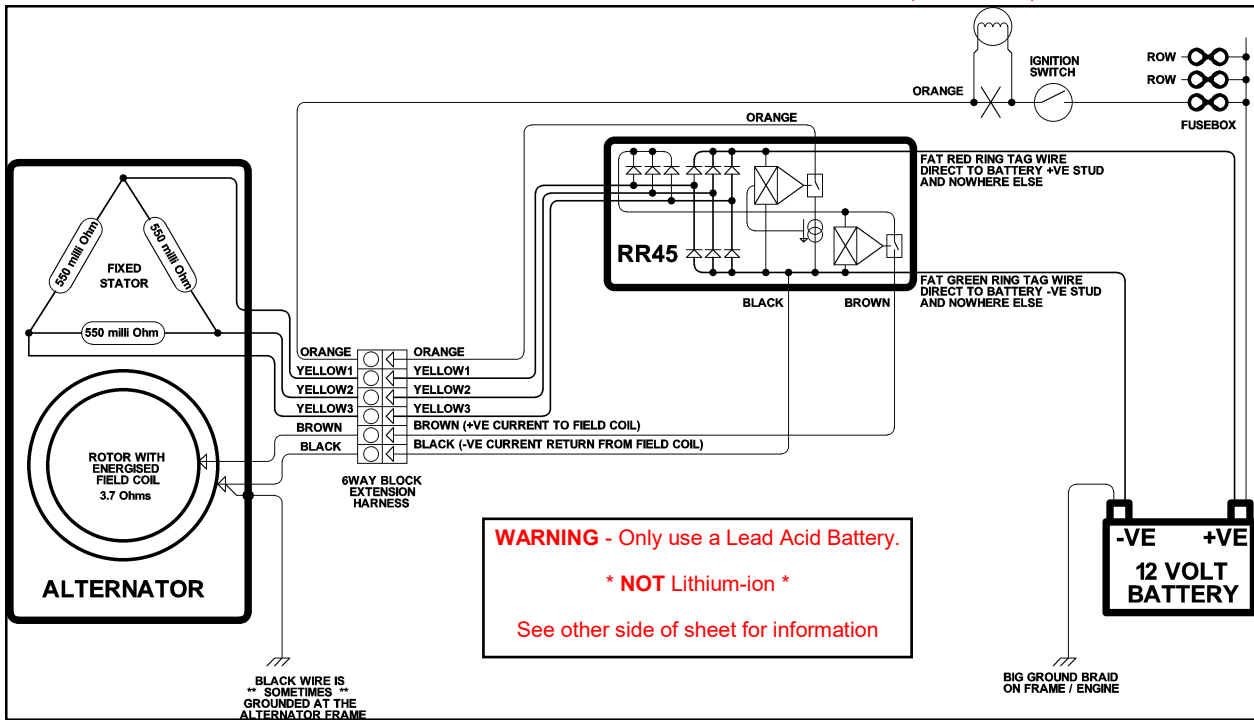


RR45 is a “high side switched” alternator controller and rectifier, designed for use with classic BMW boxer style bikes and Moto Guzzi bikes using Bosch alternators.

RR45

RR45 replaces both the original “diode board” and the original “regulator”.

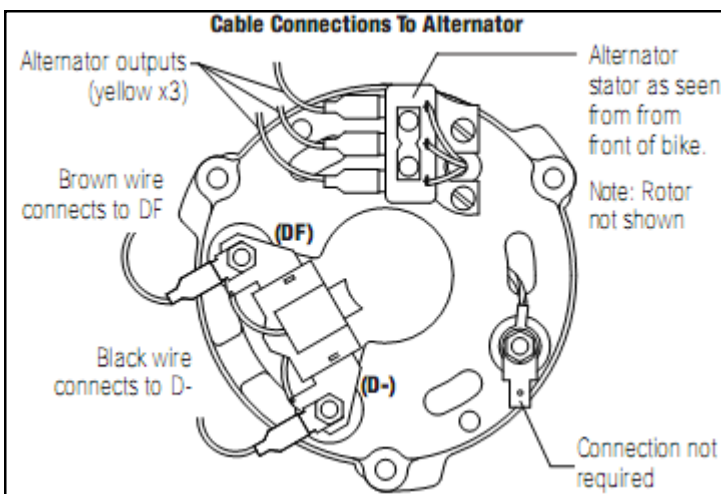
Optional
Charge Warning Lamp
Use 12Volt 2Watt ONLY, or link out with a plain wire if not required.



INSTALLATION:

The ORANGE wire must connect either directly to the switched +ve terminal on the back of the ignition switch, or optionally through the Charge Warning Lamp. The Charge Warning Lamp is optional. The RR45 must “sense” a threshold current of 120mA down the ORANGE wire before it will wake up from rest and go. The maximum current that the ORANGE wire can draw is around 150mA, this means that only the right size of Charge Warning Lamp will light brightly. A 1.2Watt bulb (100mA) is *too small*—RR45 will never start up, a 2Watt bulb (160mA) bulb is really good, a 3Watt bulb or bigger will work but will never light up fully. A plain piece of wire works very well.

The FAT RED & GREEN RING TAG WIRES must go directly to the battery +ve & ve studs, not via the fuse box nor the common frame ground, please.



EXPERT TROUBLESHOOTING:

1. Disconnect the skinny black & brown wires from the alternator field coil, leave the rest of the RR45 connected through the 6 way extension block.
2. Make up a “bulbtool” from a 55Watt headlamp bulb and 2 bits of wire.
3. Connect your DCVOLTMETER across the battery terminals.
4. With the engine running, connect the bulbtool from BATTERY +ve to ALTERNATOR BROWN WIRE. The bulbtool will “half light” allowing a controlled current of a couple or 3A to flow through the field coil, this should make the alternator stator pump out some big currents, the RR45 rectifier section should push out about

25ADC into the battery, you should hear the engine note change slightly and see the DC voltmeter across the battery jump up to about 14 or 16Volts.

BATTERY DATA SHEET

BATTERY TYPES TO USE WITH OUR REGULATOR/RECTIFIERS

ONLY Lead Acid Liquid electrolyte (acid + distilled water)
 Sealed Glass mat types – modern version
 Cyclon cell

NOT Lithium-ion (Li-ion) or any other Lithium chemistry.

NOT Nickel Cadmium (Ni-Cd), Nickel Metal Hydride (NiMH) or any other types now or in the future.

WHY ONLY LEAD ACID?

These have been used for over 100 years for automotive and motorcycle applications. Motorcycles are usually supplied with them from new and like the OEM regulator/rectifier was only designed to work with lead acid batteries.

Note Battery capacity Ah needs matching to the output of the charging system so do not use a car battery for any motorcycle or large motorcycle battery with a low output charging system.

WHY NOT LITHIUM-ION?

Requires very careful control of charging current and voltage – constant current with steady increase of voltage. Motorcycle charging systems have a wide range of voltage and current input completely unsuitable for Li-ion type. To overcome this problem manufacturers of Li-ion batteries for motorcycles have built in control electronics - but these are highly variable in operation and quality.

Lithium-ion batteries do not accept overcharge or either excessive current when charged or continued charging when fully charged. This can result in serious damage to the battery and consequential damage to the regulator/rectifier, worst case the battery can catch fire or even explode.

Not suitable for trickle charging.

With many varying environmental conditions which motorcycles are used; it is worth noting that Li-ion batteries will not charge below 0°C.

All warranty is void and we accept no liability for any damage or injury caused if a Lithium-ion battery, Nickel Cadmium (Ni-Cd), Nickel Metal Hydride (NiMH) or any other type other than lead acid now or in the future, is used.