

TRI-SPARK VR-0030 MOSFET regulator/rectifier Installation Instructions

The Tri-Spark Mosfet regulator is a cool running alternative to replace your Lucas rectifier and zener diode. Rated for up to 20 amps - for use with Lucas 10A and 16 A single phase (2 wire) alternators and Lucas 14.5 A three phase alternators. High efficiency compared to other regulators that run hot and waste power.

Regulates the charging voltage to 14.5 volts - suitable for 12 volt batteries.

Suits a variety of British Motorcycles such as Triumph, BSA, Norton, Enfield and Matchless.

1. Check the wiring of your bike. Is it positive or negative earth (ground)? Follow the appropriate instructions for your bike.
2. Disconnect your battery and make sure you don't reconnect it until the wiring is complete.
3. Disconnect the Lucas rectifier and zener diode and remove them from the bike.
4. Mount the regulator under the seat or behind the side cover in a location near the battery. The metal housing is not connected to positive or negative internally so there's no need to connect any wires to it.
5. Connect the Alternator wires (usually green/white and green/yellow for 2 wire alternators) to the yellow wires on the regulator. If your alternator has 3 wires connect all three. If it has 2 leave one yellow wire unconnected.
6. If your bike is positive earth connect the red wire to a good earth (ground). If it's negative earth connect the black wire to earth.
7. For positive earth connect the black wire to the live side of the battery. This is often the heavy brown/blue wire from the original rectifier connections. This should be the negative side of the battery after the fuse and before the ignition switch.

For negative earth connect the red wire to the live circuit - this should be the positive side of the battery after the fuse and before the ignition switch.

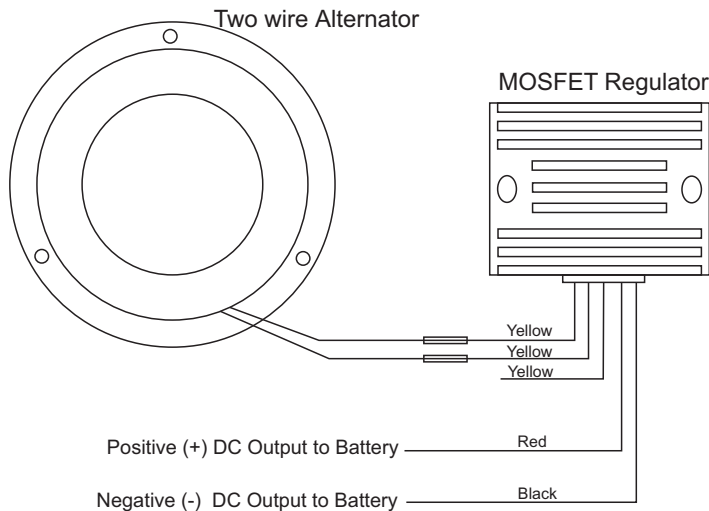
8. Check all connections paying attention to the polarity of the red and black before reconnecting the battery.

WIRING DIAGRAMS - NEXT PAGE

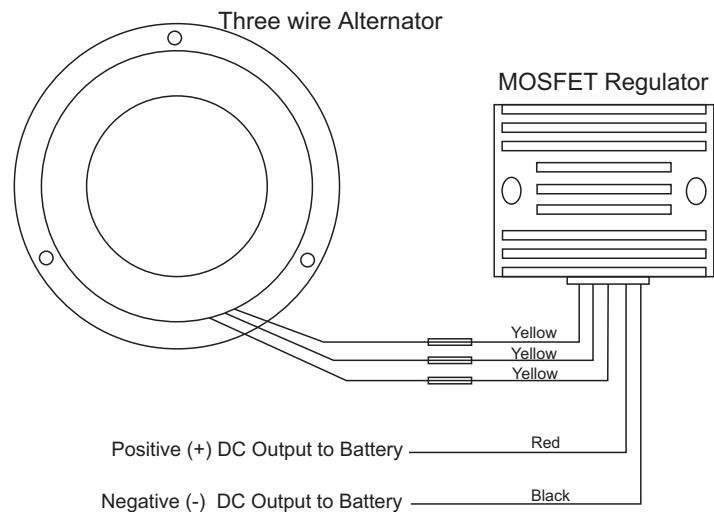
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Remember to disconnect the battery before making any changes to the bike's wiring

Two Wire Stator connection



Three Wire Stator connection



Testing the regulator - refer testing to an auto electrician

Apparent problems with the charging system are often simply caused by a dead battery. Have the battery load tested if in doubt.

With the engine running measure the voltage at the battery with a voltmeter. The battery voltage should increase as the revs are increased. The voltage should not increase above 14.5 volts as this is the regulation limit. A higher voltage indicates overcharging.

If the battery voltage does not increase when the revs increase it is not being charged. Check the stator connections and test its output. With the stator disconnected from the regulator check the output voltage with an AC voltmeter. It should develop around 30 volts AC across the output wires at 3000 RPM.