

The A Reg

As often happens when a system fails the new bit is blamed or the part that we don't fully understand. From time to time we have an A Reg returned with the suspicion that it has failed. Often this is not so and another part of the charging system has failed. So an alleged A Reg failure needs to be investigated thoroughly.

Testing-First the alternator-This can be checked best with the use of a headlamp bulb (single filament is fine). Fit a pair of wires and clips to the bulb. Disconnect the alternator wiring from any bike wiring, with the wires easily accessible start the engine. Connect the bulb across any two wires; (using all three if you have them) the bulb should light each time. If the alternator is a 3 phase unit the light will be equal across all three options. If the alternator is a 6V RM19 there will be a difference between the windings but as long as you use all 3 wires to obtain an output the alternator is in good order. Final alternator check is to connect the bulb between any alternator wire and the machine earth. The bulb should NOT light. If the above tests prove good then there are no issues with the alternator.

If alternator is good and A Reg is good then the battery must charge. Provided the in-between wiring is in order.

Ammeters are not to be relied on with regard to assuring that you are charging the battery they can easily be miss wired as well. **The battery voltage is the real proof.** 12V battery should rise up to 14.4 V (ish) 6V to 7.2V a bit less with the lights on. But the voltage must rise above the battery at rest voltage.

Measuring-cheap digital meters tend to pick up ignition interference, hence give erroneous readings. A traditional analogue (moving pointer) or quality digital meter should be used.

IF you have a rising voltage but no charge on the Ammeter then there is a good chance (following a rewire) the ammeter is miss-wired, believe me!

If all else fails, you believe the alternator is good and wiring ok, then the fitting of a basic bridge rectifier can be useful. You should see the rising voltage (maybe up to 16/17V (no lights). But of course you will NOT have any regulation (missing Zener), so provided you do NOT go on a long ride with lots of revs then you will be ok. Keeping the lights on should keep your battery safe.

A Reg 1 This is a 12V battery charging unit that will handle the new 200W alternators (and of course lower power) The Lucas RM21, RM19 and earlier alternators.

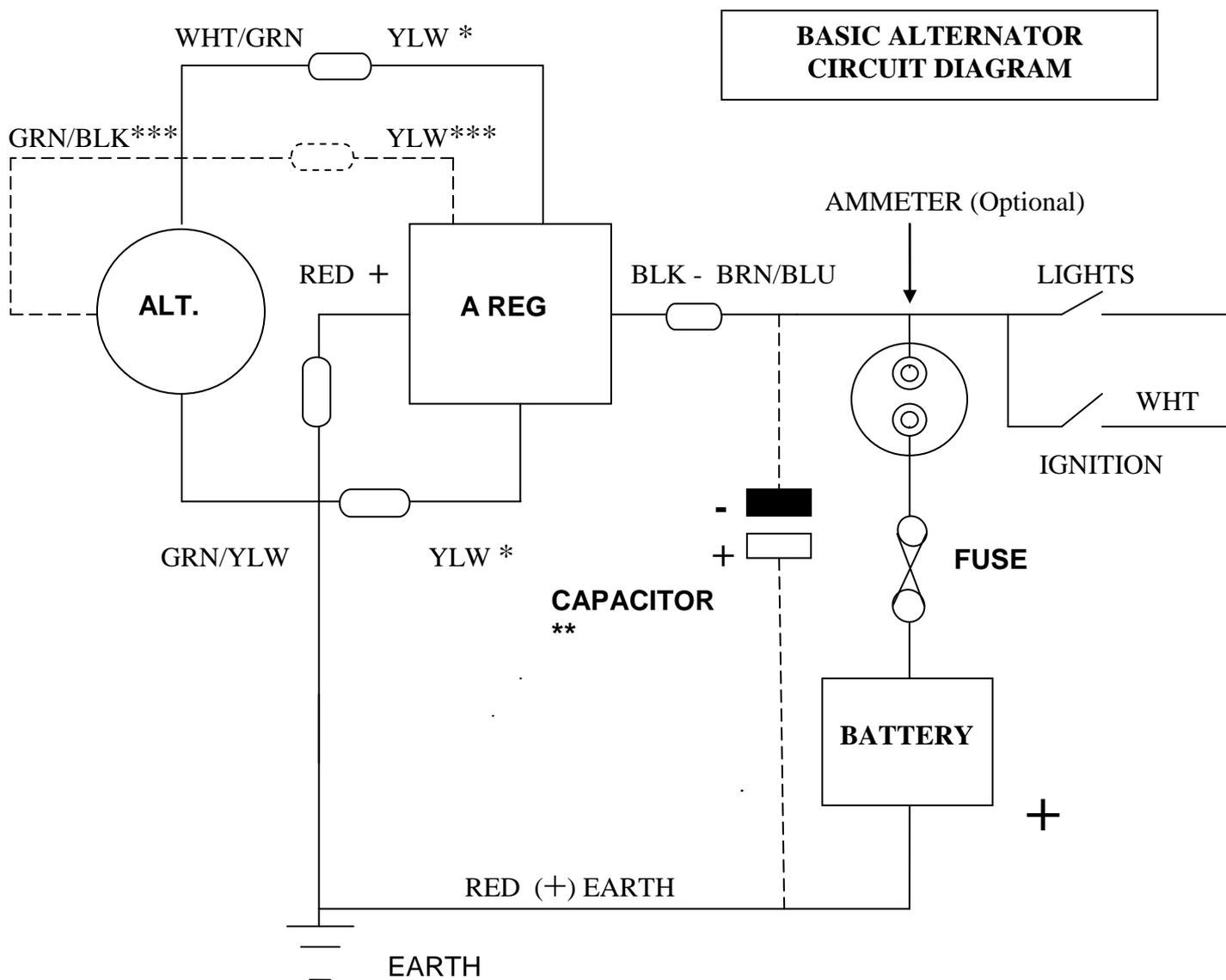
Identified by its 4 wires, 2 YELLOW-alternator. RED and BLACK-power to battery and the bike.

A Reg 6 This is exactly the same as the A Reg1 except that it is for 6V battery charging.

Identified by the 2 GREEN wires-alternators. RED and BLACK- power to battery and the bike.

A Reg 3 This is the 3 phase unit. It will handle up to the 200W of a Lucas RM24 unit and any similar configured alternator.

Identified by the 3 YELLOW wires-alternator. RED and BLACK-power to battery and the bike.



* Green for A REG SIX #

** The Capacitor is not essential unless you're running without a battery. But its Polarity connections are ESSENTIAL!

*** Three Phase alternator only. (9 pole pieces)

Note; If using an RM 19 or earlier number 3 wire Lucas alternator for 12V then you will connect the GREEN/BLACK to the GREEN/YELLOW to make a two wire alternator.

For Positive Earth use RED Earth cables.

For Negative Earth use BLACK Earth cables.