

CHARGING PROBS QUICK REFERENCE

A) CHARGE LIGHT STAYS ON (Voltmeter shows 12v or less)

- 1) ROTOR -
- A) Check winding continuity. Remove wires from brushholder. With a meter, probes on sliprings - reading $\pm 4 \Omega$,
 - B) Test again with probes on spade terminals, reading should be slightly higher.
 - C) Insulation test. One probe on engine. Test each slipring in turn, reading should be ∞ or very high!
 - D) NEW or REWOUND rotors may require energizing! see later

2) STATOR -

- A) Check winding continuity. Remove all wires. With a meter, check windings. Place one probe on terminal X and the other to each of the three (w.v.u) terminals on the block in turn. Reading $\pm 0.4 \Omega$

- C) Insulation test. One probe on stator body. Place other probe on each of the stator terminals in turn reading should be ∞ or v high.

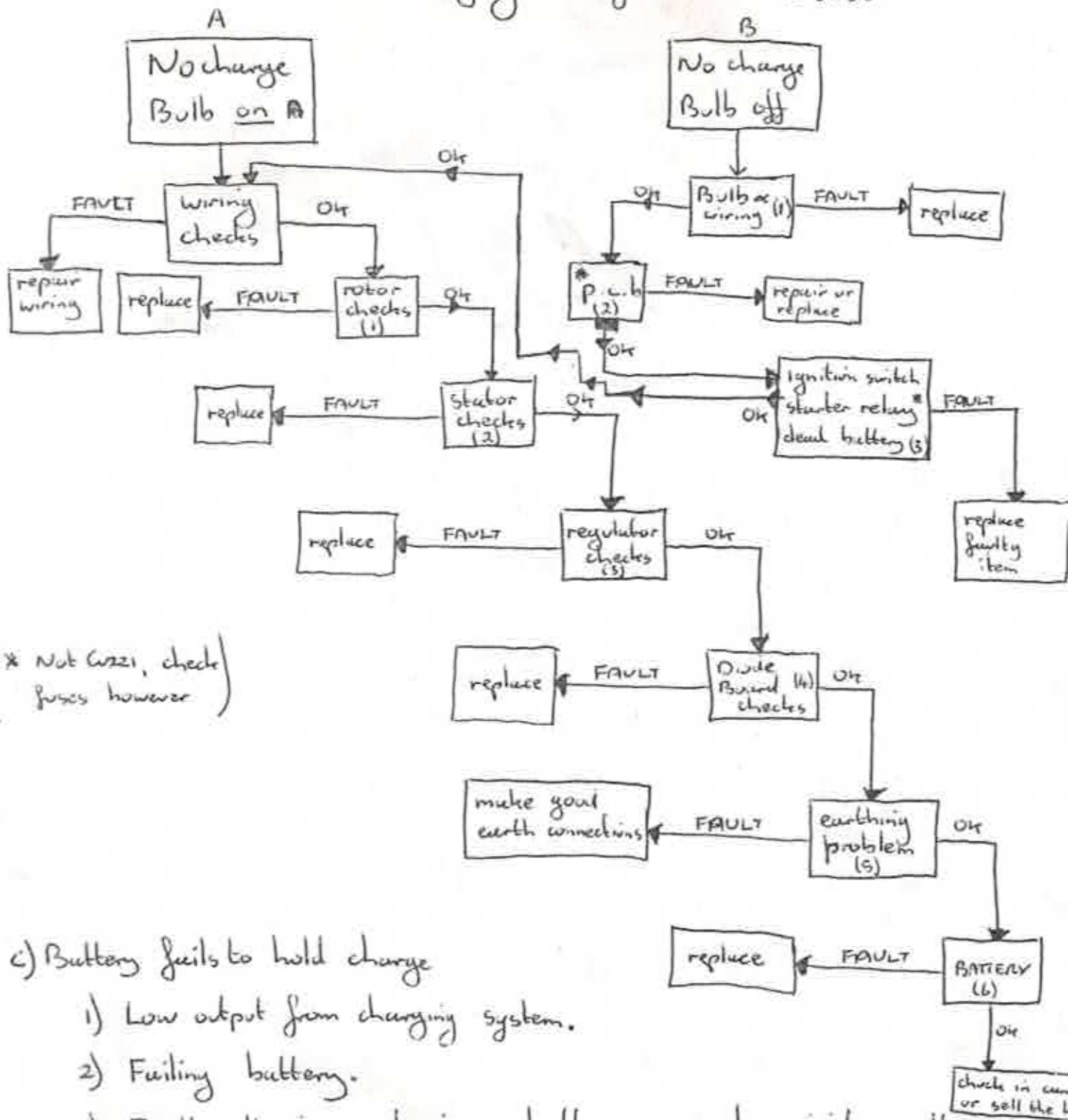
3) REGULATOR.

Remove plug from regulator place a jumper wire between blue and black terminals (BMW) (D+ and (Cuzzi pink/red and brown). If system now shows change at 2000 r.p.m regulator faulty.
DO NOT RIDE BIKE WITHOUT REGULATOR !!!! even a few miles.

4) DIODE BOARD

Check for burned out circuit board. Each diode can be checked with a meter. Each diode should show very low resistance in one direction, then with test leads reversed a very high resistance in the other. If a diode shows no or very high resistance regardless of test wire location it is faulty. Individual diode replacement is beyond the scope of most!

Charging - Definitive checklist



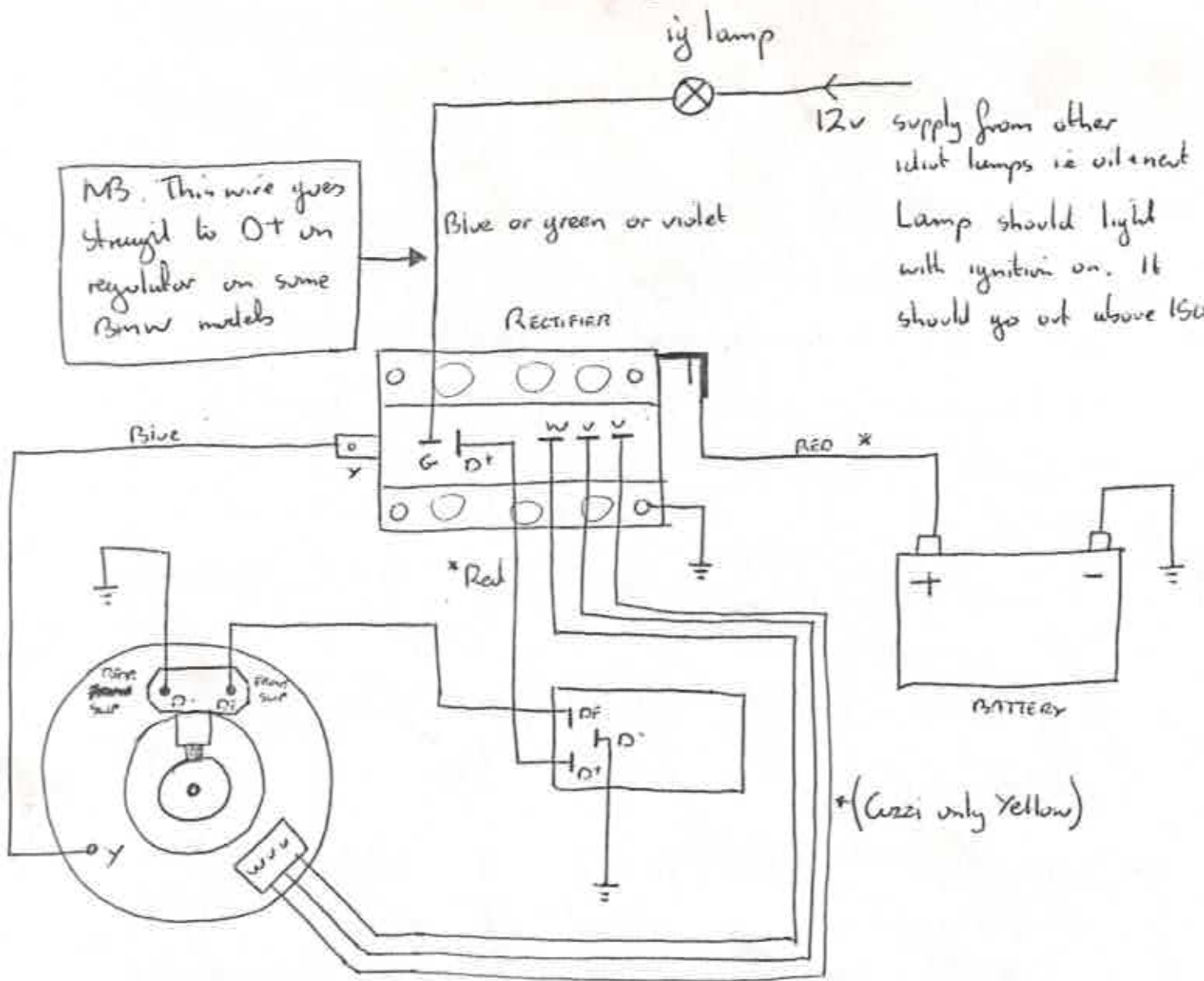
c) Battery fails to hold charge

- 1) Low output from charging system.
- 2) Failing battery.
- 3) Fault allowing a drain on battery even when ignition off.

Tests - see section C.

For problem 2 - have battery tested, or replace with a good known one.
 For problems 2 and 3, perform output tests. A good voltmeter and centre zero 30-0-30 Ammeter is needed.

General charge circuit (Cuzzi + BMW)

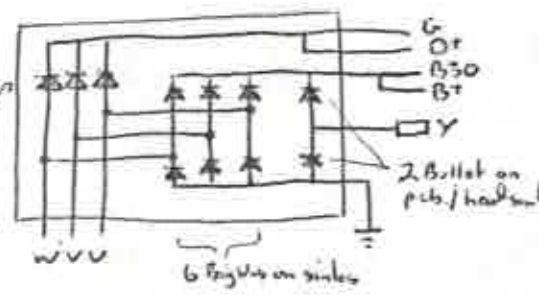


MB. This wire goes straight to O+ on regulator on some BMW models

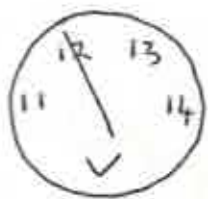
* Bm - Blue

Diode Brand Internal

3 unpaired



* via solenoid or start relay depending on model / make



ig on no other load.
Good battery
optimum 12.2v



engine running over 2500
no load.
optimum 13.8v



engine running over
2500 full load
optimum 12.5v

Energizing new or poorly stored rotors

Rotors which are new, or which have been stood for some time, especially on metal shelves or in steel tins may require a "flush" charge or re-energizing. Perform either of the following

- 1) Connect a wire to the +ve battery terminal and briefly touch the DF brushholder terminal. DO NOT HOLD ON FOR ANY LENGTH OF TIME OR THE ROTOR WINDING WILL FAIL. This effects a polarizing of the magnetic field of the rotor.
- 2) Connect a wire with a low wattage bulb such as a 5W pilot bulb in line to the +ve terminal of the battery, connect the other end to the brush terminal DF. Leave for a few minutes. It should be possible to suspend several large steel nails from the rotor whilst connected.

→ if either the regulator or pilot bulb wiring fails

This is a very good way of limping home provided ~~no~~ speed isn't a necessity. Do not exceed 2500 rpm or the battery will be cooked; also if the voltmeter shows over 14V put the lights on

B) NO CHARGE LIGHT with ignition ON

1) BULB - The bulb is an essential part of the rotor energizer circuit. Replace blown bulbs with the correct wattage.

If bulb is O.K. check the bulbholder.

2) P.C.B - Check p.c.b tracks for breaks and (NOT CRZ) continuity. Repair not practical - replace if faulty

3) Ignition switch / Starter relay / battery - Check, if faulty replace.

C) Low charge, or battery draining, Output Tests.

Locate, using the wiring diagram for your model, the main 12v feed. BMW R series usually from the starter relay, Crzzi's - Thin red wire on battery + terminal. Connect a 30 0 30 Ammeter between the terminal and feed wire. Connect a voltmeter across the battery.

1) Ignition off. Ammeter should show 0, Voltmeter 12v (+.6)

If ammeter shows a negative reading, then current is being drawn. Isolate the faulty circuit.

2) Ignition on, motor NOT running. Ammeter should show small negative reading, voltmeter 11 to 12.6v

3) Engine running - 1500rpm - Ammeter 0 or small positive reading, voltmeter 12.6 to 13.8

4) Running + lights on. Ammeter 5 to 10A positive, voltmeter 12 to 12.8 or better.

Any low readings show system is below par