

050307 R.G.M MOTORCYCLE WIRING KIT

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50	Assorted cable	
30	Brass bullets	Preferred type for long life and wet conditions
20	Single bullet connectors	
10	Double bullet connectors	
10	Spade terminals red equivalent	Use on smaller cable.
10	Spade terminals blue equivalent	Use on heavier cable.
20	Spade terminal sleeves	
1	Spade terminals large	Use on Zener diode.
1	Roll of loom tape	Use to bind harness together (stretch it).
1	Roll of adhesive tape	Use to fasten ends of above.
20	Cable ties small	
10	Cable ties medium	
10	Cable ties large	
20	Crimp bullets	
6	Assorted earth eyes	
	Sleeving heat shrink.	Use to protect in areas were chaffing may occur.
2	Emergency crimp Connectors	
1	Small spade terminal (use on 2 mc capacitor if fitted)	
2	Piggy back spade terminals	

To wire any alternator type motorcycle. (normally 12 volt +ve earth)

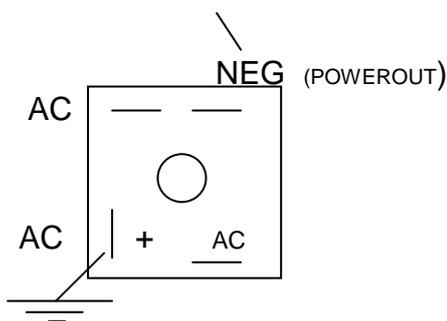
Alternator output wires are typically green/white, green yellow.

These wires are A.C. ie alternating, as they are alternating it does not matter which way round they are connected up. These wires go to the alternator terminals on the rectifier, typically marked with a wavy line. If you are using a solid state rectifier. If you are using the old Lucas multi plate type rectifier you should probably replace it, but meanwhile you connect to the two outermost terminals.

INSTRUCTIONS FOR SOLID STATE RECTIFIERS

Single Phase

Power out, to ignition switch, battery, Zener diode etc. Usually the centre terminal on old style rectifiers.



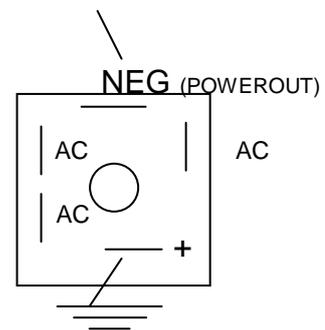
NOTES; Cases does not need to be earthed. Sketch is For positive earth, swop +/- connections for negative earth. AC= connect to alternator anyway round

To test alternator output, disconnect the alternator and with the engine running use an A.C. multi meter (our item number 895B) Output will vary depending on which stator you have and how good the rotor is, but as you blip the throttle it should climb up to 19-20 volts. The minimum acceptable rotor to stator air gap is .006", check all around with a feeler gauge. Rotors have a manufacturing date stamped on them, they will slowly loose output as they age. Having connected up the stator, now turn to the rectifier, old multi plate rectifiers are earthed through the centre bolt and must be securely bolted down and the correct polarity. Solid state ones are not polarity conscious.

INSTRUCTIONS FOR SOLID STATE RECTIFIERS

Three phase

Power output, to ignition switch, battery, Zener diode etc. Usually the centre Terminal on old style rectifiers



NOTES; case does not need to be earthed. Sketch is Positive earth, swop +/- connectors for negative earth. AC= connect to alternator any way round.

They should be bolted down with the centre hole and the + (or - if you prefer – earth) terminal connected via a short spade to earth eye lead to earth.

That now provides us with a usable D.C. output, this can now be tested if required, using our multi meter now set to D.C. Running the engine and blipping the throttle should produce around 15 volts or more. This output can now be used to run the ignition, lights, horn etc, either with or without a battery. The only other consideration is whether to regulate it or not. Basically you could if you had one of the original 120 watt stators and you were running the bike with an electronic ignition (which uses more current than the standard ignition) get away with using the battery as a heat sink, this will work ok indefinitely, especially if you could remember to put the lights on if you were on a long high speed run.

Perhaps a more reliable method would be to fit a Zenier diode (item number 513B). These need to be fitted to a flat aluminium plate with at least an area of 322" ie a square plate 4" x 4" and at least 1/8" thick. It can be anything, anywhere, so long as its flat, aluminium and secularly bolted down. If there is nothing convenient already on the bike then a small alloy plate mounted in the battery box will suffice. This diode should be connected with a large to small spade lead directly to either the – ve output from the rectifier or if more convenient both the –ve output from the rectifier and the diode lead can be connected to the – battery terminal. An alternative to the rectifier and Zenier diode system is the Boyer power box, (item number 593/595B). These come complete with there own instructions and wiring are very easy to fit.

Having sorted out the charging system the lead from the – battery terminal (or –ve rectifier terminal if no battery is fitted) is now used to power up lights, horn, ignition etc. It would be normal to now run this to a switch in order that you can be sure the system is isolated when not in use. A toggle switch can be mounted in the battery area, or one of the Lucas locking type switches can be used. A trick I have used on a Commando when keeping the wiring and electrical gear down to a minimum is to use the indicator switch (assuming of course that no indicators are fitted) one-way ignition only the other ignition and lights. The exact choice depends really on what you have to hand, and what the machine is fitted with.

NOTES

HORNS. These come in two variants, either single or twin terminal, single terminal horns earth through the body and therefore need a –ve supply. The twin terminal types can be supplied with a permanent –ve supply and will therefore sound when earthed. This can be useful if you are using an old bike and it is equipped only with an earth button.

INSTRUCTIONS FOR WIRING LUCAS 30552 4 POSITION IGNITION SWITCHES

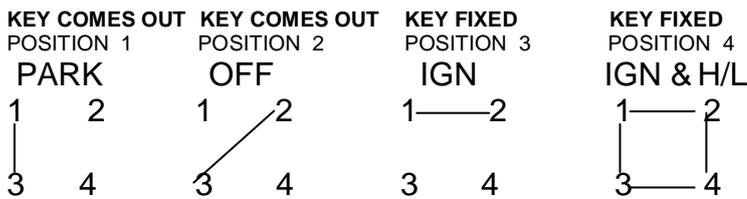
1 Identity wires, use a bulb & the power

1. Brown / blue = Power to switch
2. White =Power to ignition, horn, indicators (all daytime running)
3. Brown / green =Power to parking lights
4. Black / yellow =Power to lights

Identity positions Norton =

1. PARK Terminals 1 & 3 connected.
2. OFF. Terminals 1 isolated
3. IGN Terminals 1 & 2 connected.
4. IGN AND LIGHTS All 4 connected.

Matrix for Norton switch.



MK 3 = 1. Brown / blue
2. White
3. Brown / green
4. Blue / yellow

OLD 3 WIRE 47244 6 VOLT STATORS

These can be made to give 12 volts and used as above, join the green / yellow and green / black leads together, effectively then producing a two wire stator.

ZENER DIODES

These can be tested (with our multi meter). Set to check for continuity, the diode should only flow current in one direction.

STATORS

There are several different types, all with the same dimensions and a degree of interchangeability, as follows:

- 47205 Standard output (120 watt) two wire. 12 volt.
- 47204 6 volt 3 wire 120 watt output.
- 47244 3 phase 3 wire 180 watt output 12 volt.
- 47252 3 phase 3 wire 140 watt output 12 volt.
- 47194 High output (180 watt) 2 wire 12 volt.

All these stators are fully encapsulated with a nominal bore of 76 mm. Rotor O.D. is 74 mm so in theory there is plenty of running clearance. Anything that deviates from these sizes is obsolete and should be replaced. (There was an increase in size back in the early 60s)

EARTH

+ve or -ve debate. Most British bikes are +ve earth, all Commandos are, all Tridents are but some late Bonnies are -ve earth.

Solid state rectifiers, Boyer ignitions, Boyer power boxes, coils, alternators etc are not polarity conscious and can be wired up either way. Old multi plate rectifiers and Zener diodes are polarity conscious and must be connected correctly and of the correct polarity.

COLOUR CODING

Typically earth (+ve) will be red. Alternating Yellow / green or similar striped. Ignition power white, contact breaker Black/white Black/yellow, general power brown, but it does not matter, very early systems would have colour tagged wires where the ends only were marked with little coloured collars or even paint and all the cable was the same colour. Basically it does not really matter. The Harness diagram can be used for you to mark your own harness colours.