19/11/2007.

JG 12 VOLT ELECTRONIC REGULATOR
POSITIVE EARTH

1. This regulator replaces the Lucas and Miller regulators fitted to British machines.

2. It is neccessary to alter dynamo connection and fit unit as follows.

3. Fitting the unit

The unit must be securely fastened t the metal work of the bike, earthed through it studs. A suggested place is on the rear mudgaurd, under the seat, towards the front. Drill two holes, 0.25" diameter and 2" apart and fix the unit using the nuts and washers supplied. Remove any paint or rust from around the holes to ensure the unit is earthed through its studs.

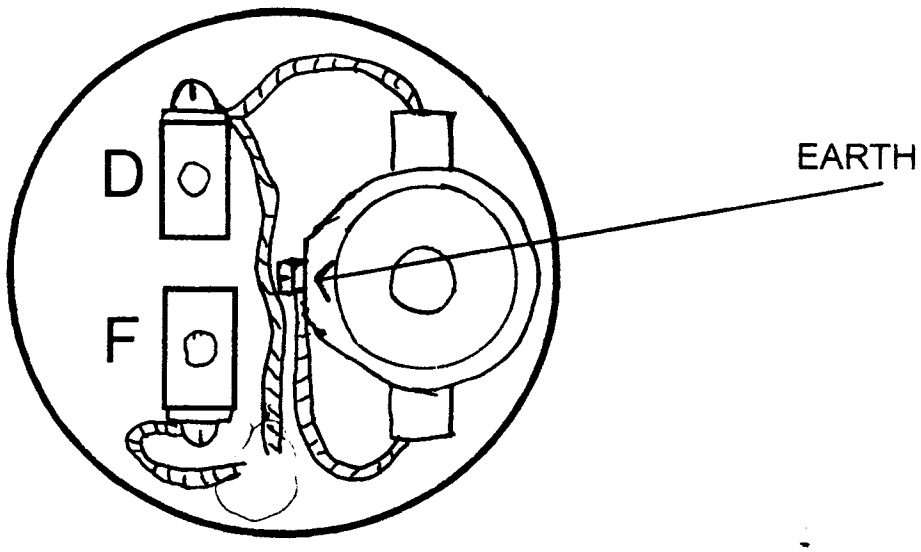
4. Setting up the Dynamo

The dynamo must be arranged to generate a Negative (-VE) voltage. The following procedures will ensure this:

Lucas Dynamo

1. Disconnect the Dynamo drive (i.e chain, sprocket, gear or belt)
2. Remove existing wiring and original cut out regulator
3. Remove Dynamo end cover, Re-connect field and brush leads as in figure 1.

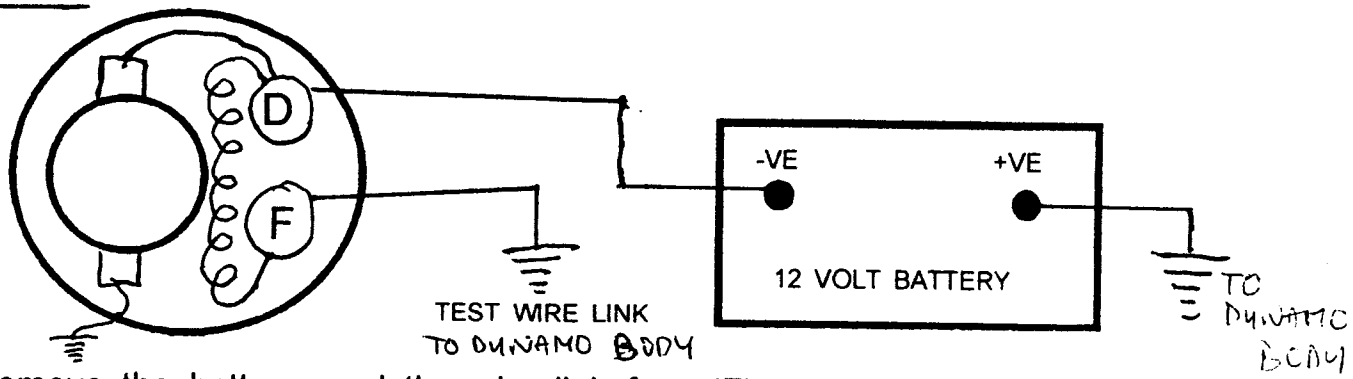
Figure 1



4. The procedure from here applies to both Lucas and Miller Dynamos.

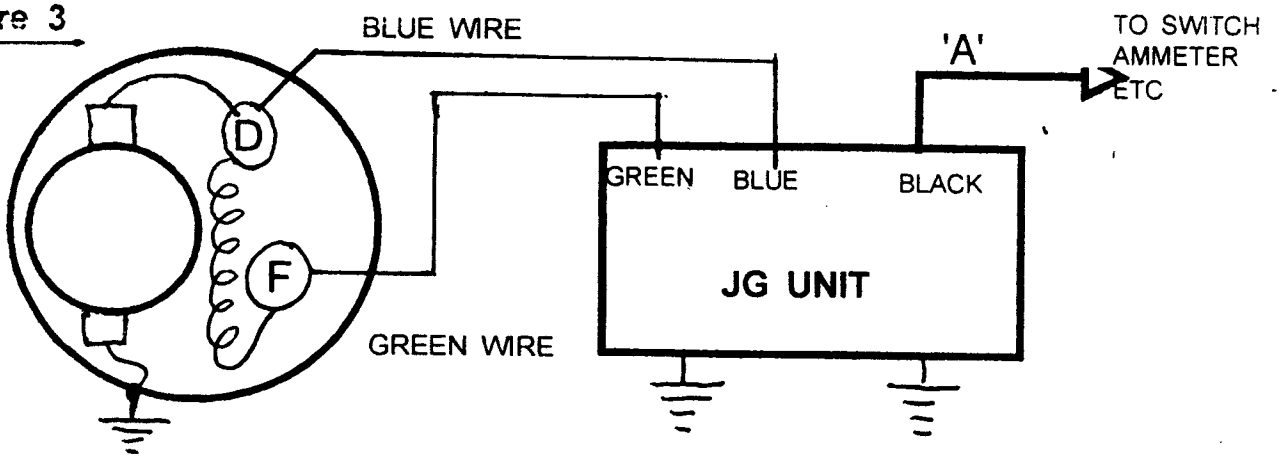
5. To test the dynamo for +VE EARTH connect a wire link from 'F' to earth. now connect a 12volt lead acid battery across the dynamo to run it as a motor.
The +VE of the battery must be connected to earth, and the -VE connected to 'D', see figure 2.
The dynamo must rotate in the same direction as it would be driven by the motorcyle.
If it rotates the wrong way, remove the battery, change over the two field leads, re-connect the battery (+VE to earth, -VE to 'D') and make sure the dynamo is rotating the correct way.

Figure 2



6. Remove the battery, and the wire link from 'F' to earth.
7. Re-connect the dynamo drive (i.e chain, sprocket, gear or belt) and connect the dynamo to the unit, preferably using a Blue and Green wire,
see figure 3. use 'snap' connectors at the unit end, and whatever the maker supplies at the dynamo end.

Figure 3



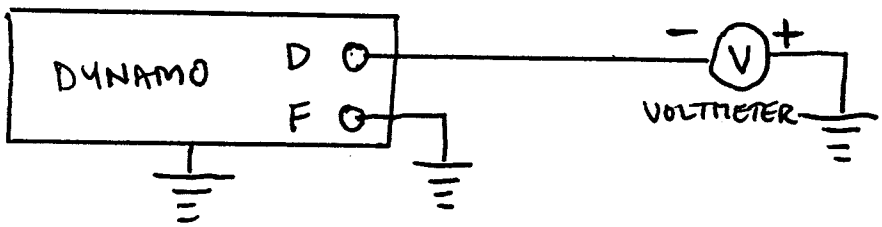
8. Sure that these connections are good, use spring washers under the nuts to ensure this, the unit must be fastened securely to the metalwork of the bike to ensure a good earth.

9. The bikes wiring can now be connected to the black lead of the unit this is th 'A' terminal.
MAKE SURE THAT THE BATTERY IS POSITIVE (+VE) EARTH.
if the bike was originally -VE earth, the ammeter will require its feed wires to be changed over, so that it reads discharge when the lights are on, with the engine not running.

TESTING DYNAMO FOR USE WITH J.G. UNIT

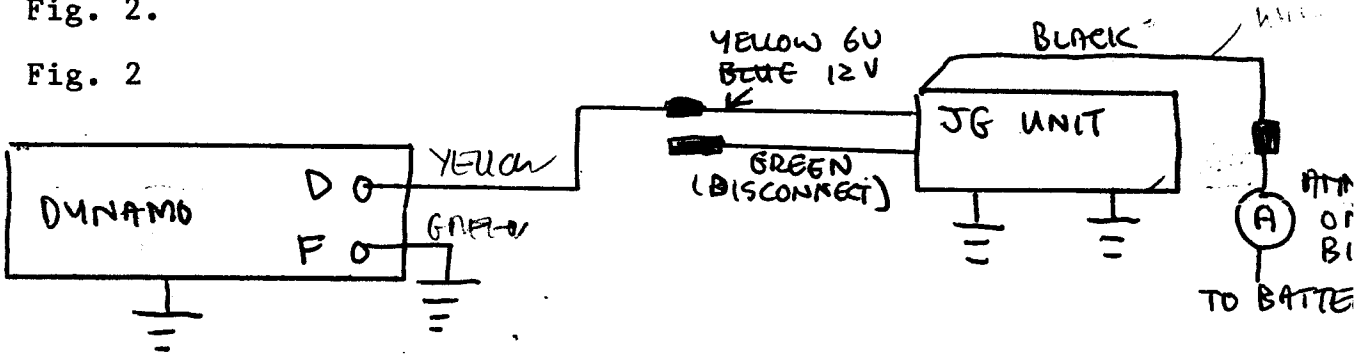
IMPORTANT - The Tests below are for POSITIVE EARTH J.G. Units. For NEGATIVE EARTH Units the voltmeter and battery connections should be reversed.
To test dynamo on machine with Regulator DISCONNECTED.

Fig. 1



Connect voltmeter as shown Fig. 1 and start bike. Voltage should rise to 15 - 20 volts at approx. 2000 rpm.
If this is okay, disconnect voltmeter. Connect J.G. Unit except for Green wire which must be disconnected as shown in Fig. 2.

Fig. 2



Run engine and current should rise with revs to maximum (6-8 amps)
NOTE: On 12 volt system run only for 10-20 seconds to avoid overheating on field coil.
If Test is okay, disconnect temporary earth wire to "F" and reconnect Green wire on J.G. Unit.
Run engine and ammeter should show charge. On fully charged battery this should regulate to approx. 1 - 2 amps.

CAUTION - Connecting Green wire on J.G. Unit whilst temporary earth wire is fitted to "F" can damage the J.G. Unit.