

## DYNAMO REGULATOR 6/12 VOLT NEGATIVE EARTH

PRODUCT CODE: DRN



### APPLICATIONS:

- General purpose dynamo regulator, suitable for most classic/vintage motorcycle dynamos
- Replaces original Lucas/Miller mechanical cvc regulator
- **NEGATIVE EARTH ELECTRICS ONLY**

### SPECIFICATIONS:

- CONTINUOUS CURRENT (MAX): 12 Amps.
- WIRE LENGTHS: 150mm (approx.) from casing
- FIXING: One M5 stud, with spring washer & fixing nut
- CASE SIZE: 56mm x 33mm x 18mm deep
- TOTAL WEIGHT (INC. WIRES): 75gms. (approx.)

### **Important notes:**

This regulator is manufactured using high quality components. When installed and used correctly it will give years of reliable service. The unit is protected against voltage spikes from the dynamo or on the battery line, reverse polarity connection of the dynamo or battery, and against overload conditions by way of thermal overload control. It also tolerates short circuit of the output.

We strongly recommend fitting a fuse in the line from the regulator output (**A** terminal) and/or the battery live side of the ammeter. This will offer protection to the regulator and dynamo against some fault conditions that could occur.

Recommended fuse sizes (approx): 13A for 6 Volt electrics, or 10A for 12 Volt electrics.

**Converting to 12 volts** can offer benefits, e.g. brighter, lower cost bulbs, but requires increased dynamo speed over 6 volt operation. Charging may be insufficient during long periods of slow running. This can be helped by fitting a belt drive conversion to spin the dynamo faster. A Lucas E3L dynamo in good condition can safely output 80W or more.

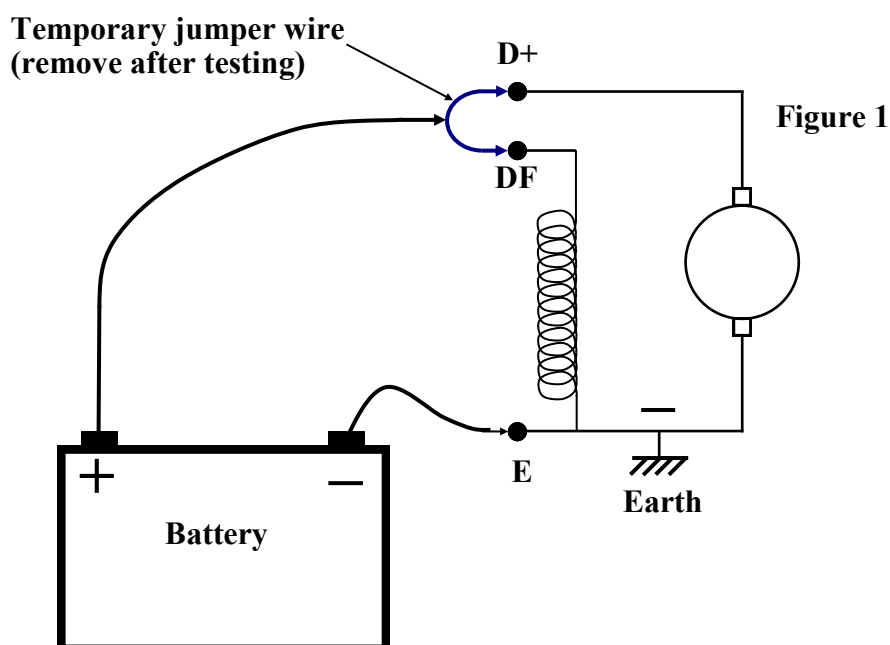
### FITTING INSTRUCTIONS:

To maintain originality, the dynamo regulator unit is small enough to fit inside a Lucas or Miller case, or it can be mounted on its own. Fixing is via a single M5 stud. The unit produces a very low level of heat, but if heavy continuous loading is expected we recommend mounting in a good flow of cooling air. The maximum safe continuous output current of the unit is 12 Amps, but note that if this current draw is prolonged the dynamo will be damaged.

Before fitting the regulator it would be useful to confirm that your dynamo is giving a good charge and of the correct polarity (see below). Seek qualified assistance if unsure.

## TESTING AND POLARISING THE DYNAMO:

1. Remove the dynamo from the motorcycle.
2. Connect a temporary jumper wire between the **D+** (dynamo positive output) and **DF** (dynamo field winding) terminals (see fig. 1).
3. Connect a wire from the negative terminal of a battery to the dynamo chassis.
4. Connect a wire from the positive terminal of the battery and touch it to the jumpered D+ and DF terminals.
5. The dynamo should act as a motor and turn in the same direction as the arrow marked on the casing. This assumes that you have the correct dynamo for your motorcycle. You can confirm the normal rotation by depressing the kick starter.
6. The previous test will do the following:
  - Confirm that the dynamo field coil wires are connected correctly. If the armature does not rotate in the same direction as the arrow on the casing, you will need to reverse the wires and repeat the previous test.
  - The dynamo will be polarised for negative ground electrics.
7. When you are sure the polarity and rotation are correct, connect the regulator as below.



## ELECTRICAL CONNECTIONS:

**Disconnect the battery or remove the fuse before making connections.**

Connect the five wires as follows:

- Yellow wire to **D**ynamo
  - Green wire to **F**ield
  - Brown wire to **A**mmeter
  - Black wire to **E**arth / frame or battery negative terminal
  - White wire to **A**mmeter (in addition to the Brown wire) for 6 volt electrics only
- For 12 volt electrics do not connect the white wire (insulate the end).

Note: the metal case is not connected to the earth wire. If the earth connection via the black wire becomes disconnected, the dynamo output voltage will not be regulated.

Now refit the fuse/reconnect battery.