A.O. Services

Advice and Sales – Alternators & Ignitions

35 Griston Road, Watton, THETFORD, Norfolk. IP25 6DN
☎ or fax: 01953-884681
Web site... www.AOservices.co.uk

Dynamo Regulator (V-Reg II)

This is a solid state encapsulated regulator for motorcycles using the Lucas E3 type dynamo. The TEB Technology dynamo regulator is designed to replace the mechanical regulator with modern reliable semiconductors, and can handle up to 100W* at 6V and even more for the 12V version, provided the dynamo is capable of delivering this power. The V-Reg II incorcopates internal thermal protection, which in turn helps to protect the dynamo. The regulator must be used with a known good automotive battery (minimum 5Amp-hours) and it is strongly recommended that a fuse is fitted in the battery line (20A nominal). The V-Reg II is guaranteed, subject to correct fitting and use with a known good dynamo.

Voltage and Polarity

As manufactured all regulators are set to operate at 6V. For 12V operation the small GREEN wire loop should be cut and sealed (with epoxy or silicone).

\+ Earth regulators have a BLUE field wire.
— Earth regulators have a WHITE field wire.

WARNING
Ensure you fit a regulator of correct voltage and polarity

For 6V operation the GREEN link wire is intact
For 12V operation the GREEN link wire is cut and sealed

Fitting

To maintain original appearances this unit may be fitted inside the original control box by first removing all of the contents (solenoids, points and resistors) or it may be mounted in any convenient corner, maybe in the top of a tool box, such that it has some protection from injury and weather.

Fixing is via a stainless steel M5 stud which is not connected to the internal circuitry. An M5 self-locking stainless steel nut is provided, this requires an 8mm A/F spanner (2BA may be acceptable). If the unit is fitted within the original regulator box the dynamo power handling is limited to less than the regulator's maximum due to the restricted movement of cooling air, however it will comfortably handle the standard 60W dynamo.

Polarising

To ensure the correct polarity of your dynamo for your bike, and the correct function of the regulator, it is advisable to polarise or 'splash' the dynamo. To do this disconnect the field (F) connection from the dynamo; take a wire from the live terminal of the battery and briefly touch the F terminal of the dynamo ensuring the battery is earthed (as per intended use). This establishes the field's remnant magnetism, which is required for correct start-up. Reconnect all circuits.

Testing Dynamo

If required (dynamo unknown or suspect) check internal wiring is as diagram A. Remove normal D & F bike connections and link D and F together, connect a 12V headlamp bulb from the linked point to earth. Run engine at fast idle, lamp should be bright. Confirm the polarity with a voltmeter.

Connections

Disconnect the battery before starting work.
Ensure the dynamo internal connections are as diagram A.

The four wires can be soldered to the original four terminals inside the control box if used in accordance with the adjacent wiring table. Alternatively any suitable crimp connectors can be used to connect to the bike's wiring, taking into account proper practices to produce clean firm connections.

New Regulator		Function
— Earth	**+ Earth**	
White	Blue	F: Field
Red	Black	A: Battery via Ammeter
Yellow	Yellow	D: Dynamo output
Brown	Red	E: Earth

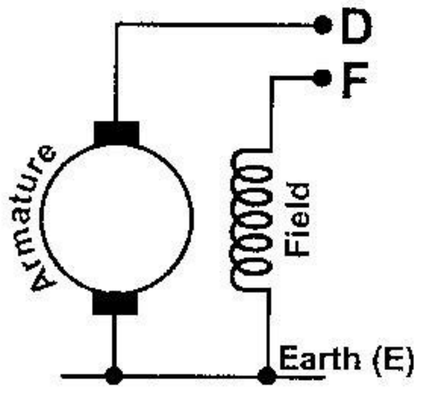

Diagram A
Internal Dynamo Connections

Testing (regulator function)

To check operation of the regulator measure the voltage across the battery. At rest the voltage will be around 6V or 12V depending on version, rising to around 7.2V or 14.4V once the dynamo is operating (2500 engine revs, headlight OFF).

Guarantee

This unit is guaranteed provided it is fitted and used as intended. Any mis-connections can cause damage.

---

* There should be free circulation of cool air around the regulator if its maximum output is required.