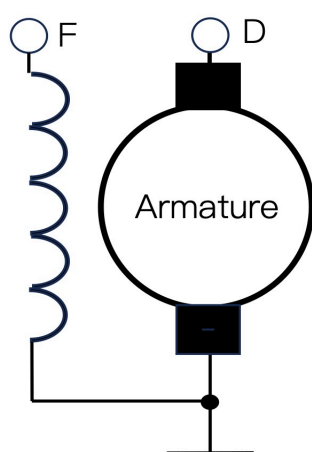


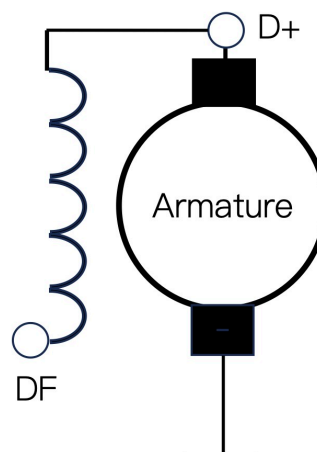
Sept 26

The DVR2 is available in 2 basic types:

- **The DVR2P & DVR2N** are suitable for Dynamos with the Field coil(s) configured in “Shunt mode” This configuration is common to **Lucas/Miller Dynamos**, and fitted to almost all British bikes equipped with Dynamos. The DVR2 are available in both Positive (DVR2P) and Negative (DVR2N) Battery Polarity. They will operate at either 6 or 12V. **When ordering, just specify the required battery polarity.**
- **DVR2-B 12V Negative Earth** is suitable for motorcycles equipped with **Bosch style Dynamo**. These dynamos have Field connections configured in “series mode”. This is sometimes called Type A, ground side regulation, with the Field connected in series with D+. These dynamo/generators are fitted to many European motorcycles including BMW/URAL/MZ some Italian machines including Laverda/Moto Guzzi and older Japanese machines equipped with a Dynamo. It is also suitable for most Dynastart applications.



Lucas “Shunt Field”



Bosch “Series Field”

Checking which type of Dynamo you have.

Normally, in most cases the Dynamo's are marked with the Manufacturer's name, making identification easy. However, in some cases the Field coil may have been re-configured to suit a different style of regulator. To check the configuration you will need a modern Digital DMM set to a low ohms range for bench testing or a 12V 21W bulb for Dynamic testing.

Note. In both instances, the Field coil resistance is likely to fall between 3-6 ohms typically. The armature resistance is always considerably lower.

Dynamo on the Motorcycle

- Disconnect all of the wires connected to the dynamo terminals.
- Connect a 12V 21W Bulb between Dynamo "D" terminal and chassis earth.
- For Lucas/Miller Dynamo. Connect "F" terminal to "D" terminal and run bike at modest revs. Bulb should light.
- For Bosch type dynamo. Connect "DF" terminal to Earth/Chassis and run bike at modest revs. Bulb should light.

Dynamo off the Motorcycle

To Verify a Lucas Style "Shunt Field" Dynamo:

- Locate the armature brushes and insert a piece of paper/thin card to insulate one of the brushes from the armature
- Connect a DMM set on Low Ohms range between the dynamo case/body/ and the "F" terminal. This should normally read typically 3.0 Ohms for a Lucas E3 Type dynamo. (Don't forget to take the DMM test leads into account).
- Connect the DMM between the "F" terminal and the "D" armature terminal. This should read a very high or open circuit resistance.

To Verify a Bosch Style "Series Field" Dynamo/Generator.

- Locate the armature brushes and insert a piece of paper/thin card to insulate one of the brushes from the armature.
- Connect the DMM between the "D+" and "DF" terminals. This should normally read typ 5-6 ohms. (Don't forget to take the DMM test leads into account).
- Connect a DMM set on a Low Ohms range between the D+ connection and Dynamo case/body. This should read a very high or open circuit resistance

Checking Motorcycle Battery Polarity.

Motorcycles equipped with Lucas/Miller Dynamo's can be wired either for Positive earth or Negative earth operation. This can be changed by "Re-flashing the dynamo". **However, it is important to note the required Battery polarity when ordering a DVR2N or DVR2P.**

To Check Battery Polarity:

- Simply check which battery Terminal is connected directly to Earth/Chassis.
- Positive Earth = Positive "+" Terminal connected to Chassis/Earth.
- Negative Earth = Negative "-" Terminal connected to Chassis/Earth

Re-flashing the Dynamo.

To ensure the dynamo field is correctly polarised and retains a good level of residual magnetism we recommend the “re-flashing of the field coil. This is particularly important should the dynamo have been laid up for some time or refurbished. The process is very simple as follows:

In all cases Disconnect all of the existing wires from the Dynamo before attempting this procedure.

To Re-Flash a Lucas Style “Shunt Field” Dynamo:

- Ensure all connections are **removed** from the dynamo.
- Attach a wire to the non-earth/Chassis end of the Motorcycle battery. This should be long enough to reach the dynamo “F” Terminal.
- Briefly brush the wire against the “F” terminal for a Second. Small sparks should be simultaneously seen at the ‘F” terminal to verify polarisation.
- Reconnect the Dynamo connections, ensuring the Field is connected to the Green wire and the Armature to the Yellow wire.

To Re-Flash a Bosch Style “Series Field’ Dynamo.

Assuming the Dynamo is going to be polarised for Negative (-) Earth operation:

- Locate the armature brushes and insert a piece of paper/thin card to insulate one of the brushes from the armature.
- Attach a wire to the Positive terminal of the Motorcycle battery. This should be long enough to reach the dynamo “ D+” Terminal.
- Attach a wire from the “DF” terminal of the Dynamo to either the Negative terminal of the Battery or Chassis/Earth.
- Briefly brush the D+ Terminal on the Dynamo with the wire attached to the Positive lead to the Battery for a Second. Sparks should be simultaneously seen at the ‘D+” terminal to verify polarisation.
- Remove Brush paper/card insulator and reconnect the Dynamo connections, ensuring the Yellow wire is connected to the “DF” terminal and the Blue wire to the “D+” terminal

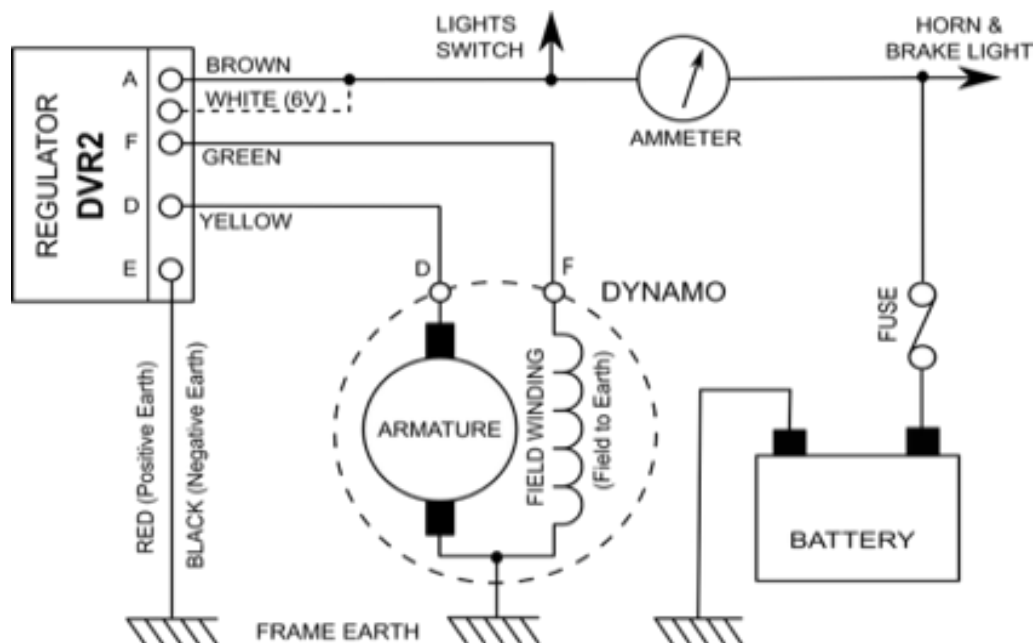
In both cases, should the dynamo be tested/polarised on the bench. Ensure a good Earth to the Dynamo Case.

Dynamo Regulators Limited have made every effort to ensure a robust and reliable design, incorporating many inbuilt protection devices.

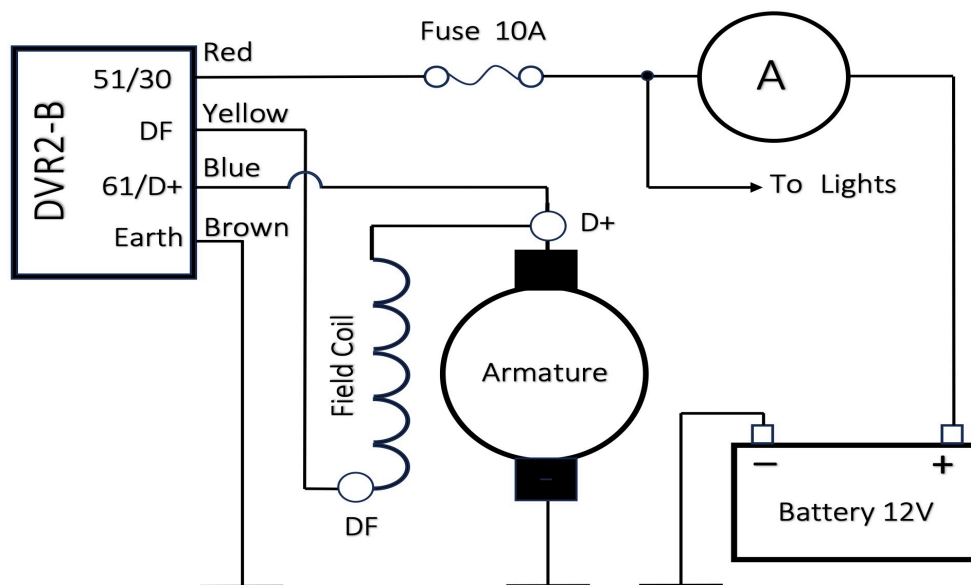
Nevertheless. **If in doubt about fitting the DVR2B or its suitability. Please seek advice from a suitably qualified auto electrician or other competent person.**

Typical DVR2 Connection Diagrams:

DVR2N & DVR2P Lucas/Miller Shunt mode:



DVR2B Bosch Style "Series mode"



Lucks Green Cottage, Horsham Road, Cranleigh, Surrey GU6 8DP
UK Reg. No. 07295701

<http://www.dynamoregulators.com>

Tel: +44 (0) 1483 276615

e-mail: dvr@dynamoregulators.com