

Use of the V Reg Dynamo regulator on 'Bosch' type dynamo (and Ex JG).

The V Reg Dynamo regulator is designed to be used with Dynamos having Lucas configured wiring ie E3L. This Lucas wiring has the Field coil in the Dynamo connected to earth as opposed to the 'Bosch' system which has the Field wiring connected to the Armature or D output terminal. This Bosch system is used on BMW, MZ, Urals and Ducati and most Russian, Italian, Chinese machines. Another user of the 'Bosch' system was the first electronic regulator from JG in the 1980s, this was a long grey cast alloy box with three wires and was the first real attempt to get 12V from the E3L, so having a Lucas dynamo does not mean you have Lucas connections inside. The V Reg regulator can be used with most of these 'Bosch' wired dynamos provided certain criteria are covered and the internal wiring of the Dynamo is changed to the 'Lucas' configuration. (Harley Davison uses 'Bosch' BUT invariably they generate more power than the V Reg is designed for.)

To use the V Reg on any other dynamo than a Lucas E3L type you must comply with this specification.

- The Dynamo you are using is not capable of generating more power than the V Reg can control, for the standard V Reg this is 100W (there is a higher output [car] 150Watt regulator)
- The Field winding in the Dynamo must not be less than 3 ohms.
- The configuration within the Dynamo must be Lucas.

The fitting instructions with the V Reg give a circuit diagram of the inside of a Lucas Dynamo, this is what you must achieve.

In most cases you are advised to move the Field connections to obtain Lucas, but occasionally by inspection you can see it would be easier to move the brush connections. It is the relationship between these windings that is crucial.

Open the Dynamo end cap and locate the two Field wire connections, they usually disappear inside the case. Disconnect them and move BOTH the wires. The one that was on the output D (or D+) terminal must become connected to the F terminal. The wire that WAS on the F terminal should then be connected to EARTH within the dynamo. You must move both Field wires to retain the relationship between the Field and the Armature.

Now please re-polarise the Dynamo and test for output (with a lamp) as per the instructions with the V Reg. If for some reason you do not achieve an output then please check your work and perhaps resort to a Multimeter to check resistances. The Armature will have a very low resistance (less than 1 ohm) which will 'joggle' when you ease the bike over on the kick start, due to the brushes. While the Field winding will read several ohms (greater than 3 we hope) and will be constant when the engine is eased over.