

## Dynamos:-Some considerations.

We are often asked some basic questions about dynamos, it would appear that despite the number of years we have had these, a newcomer to having an old bike (or even car) is often perplexed when the dynamo doesn't work. So herewith a few basic answers.

We are often faced with statement-no charge! Well 'charge' is what goes into the battery while the dynamo generates Amps or perhaps Watts if we consider the voltage at the same time. One of the first considerations with an 'unknown dynamo' is, is it 'Bosch' type configuration or LUCAS inside, and this also decides the type of regulator you need. Although you can get the dynamo to 'work' without a regulator knowing the above facts will allow you to get an output even if you are only testing.

See-Using the V Reg dynamo regulator with a 'Bosch' type dynamo.

If you have sorted this point and have polarised the unit but it still refuses to give an output the next consideration is rotation. There is a chance that the Field winding is 'reversed' or out of phase with the armature. This is easily corrected by changing ONE of these two around, ie you either swap the two Field coil wires over or swap the two brushes. Obviously repolarise and then re spin the dynamo in the direction it is intended to be used.

It is often said, there is no output and yet the dynamo acts as a motor, true, acting as a motor is a good starting point but is no proof that there will be an output for battery charging purposes.

Another point to bear in mind, the dynamo is a very willing item such that if you over load it it gets very hot and spins off its solder ie burns out. It is not self limiting. Unlike an alternator (as used on British bikes 1950s-1980s-permanent magnet types) which is self 'saving' when it is over loaded ie no permanent damage is done.

Back to the dynamo, although there is very often a wish to run these at 12V ie dynamos which are wound for 6V operation, this is very easily done by fitting a 12V regulator (as per the V Reg), but of course the dynamo will have to run a bit faster to get up to the higher voltage as soon as possible.

Often the dynamo repair man will supply a '12V' wired unit, in this case he fits an Armature and Field coil of thinner gauge wire, so allowing the dynamo to give the 12V without the higher revs, BUT this also allows the dynamo to run hotter very quickly, especially if you use a bit more power than the dynamo can easily produce. Our recommendation for best results is to fit the 12V Field coil only.

## **D and F ascertaining.**

If you are in a situation where there is a problem such that D and F are in doubt there is a test that can sort this without removal of the dynamo from the vehicle (very useful in same car situations). You will need a decent multimeter and some confidence in its usage. Disconnect all wires from the dynamo D and F. Connect the multimeter on low ohms to D and F in-turn.

The results-the F should have a fixed resistance of the order of 6 ohms.

The D will have a very low resistance which will 'jogle' when the engine/dynamo is turned over. As opposed to the F which will hold constant. The 'jogling' of the display is due to the brushes and of course stuck or oily brushes and even an open circuit com. segment will show up with this test.