Bosch Generator Connections and Testing

The first thing to be aware of in testing any Generator is how is the field circuit connected?

The Bosch and Delco field circuit in a generator is connected to D+ve internally and then externally ground to excite it – described as Field to ground in a negative earthed system. Yes – there did used to be Positive earth systems in mainly Old British Vehicles such as MG's, Austins and Landrovers to name a few.

Lucas Generators have their field circuits externally connected to the Dynamo positive through the regulator which supplies power to control them.

Testing Bosch and Delco Generators is very simple, using a small jumper lead join Field to ground and then slowly bring the engine revs up with a voltmeter connected to D+ve. The voltage should rise slowly initially but as output builds up the voltage will run away very quickly. As the voltage reaches 12 Volts you can then use an Ammeter to link the D+ve output to battery positive (positive lead to the generator) and check the output current of the generator, GNB013 is 30Amps NB The ammeter link MUST be disconnected as the generator slows down or current will flow back into the generator destroying it after a short time!

I prefer using an AVR set with anologuge gauges for this as it is much easier to see than an digital multimeter which cannot handle the current and bounces around too much in voltage.