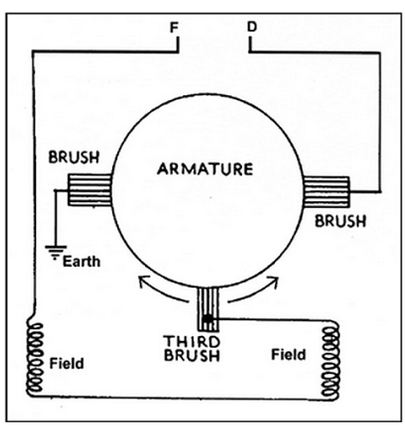
The majority of these tips have appeared in club newsletters over the years. Please note that you use them at your own risk as neither the Bristol Austin 7 Club nor the authors can be responsible for the results of trying to follow the instructions given.

Dynamos for Dummies - Richard Rowe

Running out of things to fix during lockdown I decided to tackle the mysteries of the charging system on my 1928 Chummy. The system had previously been converted to 2 brush 12 volts with a very old semiconductor charge controller which together neither charged or controlled.

Investing in a new controller from AO services I still had no joy until I realised that the third brush is not in the position that is shown on most diagrams, see pic from Malcolm Watts in the Cornwall A7 tech article, but is opposite the earth commutator brush. If I had read to the end of the article I would have found this information but who reads beyond the pictures ?

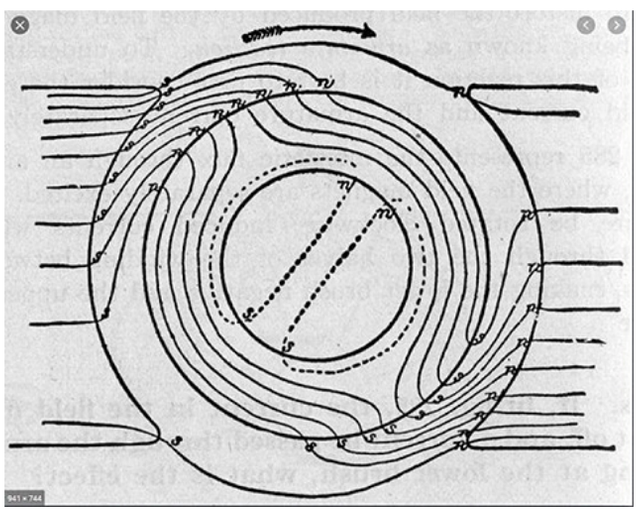


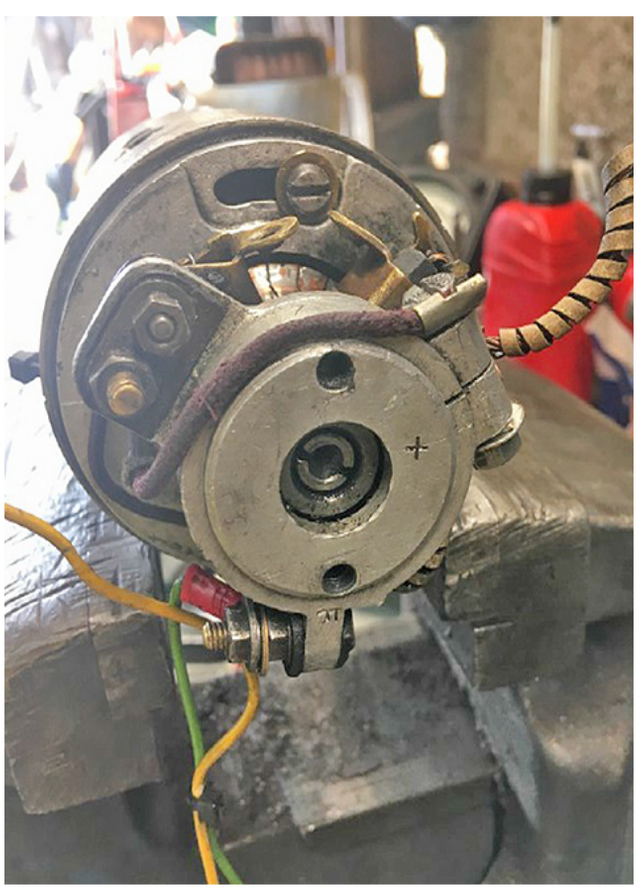
This system then worked for a while until I decided to strip and clean up the dynamo after which it would only charge immediately after the field coil had been woken up by a blast of 12 volts, then after a period of rest with no more charging.

Assuming that the fault was with the controller I returned it to AO services however they gave it a clean bill of health.

After much Googling and learning far more about dynamos than I really wanted to I came across the “fascinating” subject of Stator field distortion.

As anyone who has completed lesson 1 in their primary school electronics class will know electricity generation is all about movement through magnetic fields. The twist to this tale is the fact that the movement of the armature inside the dynamo affects the path of the magnetic field. This means that the strongest stator magnetic field has moved around, see pics.





This explained the reason for having slotted holes for the attachment of the brush carrier, a fact that I did not appreciate when taking the dynamo apart. By turning the brush carrier while testing the dynamo by driving it with an electric drill the output suddenly increased and blew my 12 volt test light. It also still worked after a rest as the small amount of residual magnetism in the correct place was enough to start up the charging process.

Back on the car I set the charging rate to a modest 5 amps and lived happily ever after.

The moral of this tale is that you should always read to the end of any articles.

Also try to remember how parts must be replaced during the excitement of taking them apart, which is always interesting whether you are trying to find out what is wrong with a broken Austin 7 or an animal patient, perhaps I should have followed the Hippocratic oath “Do No Harm” (Richard is a vet - Ed)