The Dynamo Type Lucas C39 PV-2 LO 12VOLT

The B95 and B105 have this as standard.

Common and used on every thing in the 50's you would think. Not so!!

Berkeley did not make it easy by having to use the very rare anti clockwise version of the Lucas starter motor,

But perhaps more surprisingly the dynamo, this again has to be ANTI CLOCK.
Unlike an Alternator a dynamo will only charge correctly if it's being turned in the correct direction, most often the direction is stamped in the body with a big arrow.
I happened on an old rusty Lucas C39 Dynamo; the normal Moggy 1000 type- Clockwise rotation .I wondered how Lucas changed its rotation for Berkeley.
Time to experiment I thought.
Not a lot is written on how to change the direction of rotation of a Dynamo .well who would want to.
This is nothing to do with "Flashing " that just sets or changes between negative or positive charging and is used to give a boost, or wake up the often dormant dynamos iron core .
I striped cleaned and rebuilt the C39. I had to drill tap and solder in the threaded F terminal end, as that was damaged.
Then made it "motor" a crude method of checking if the dynamo has a chance of working. It span nicely, Clockwise.
I had read as much as I could about dynamos and found a few references to direction of rotation, mostly from those who had rebuilt them incorrectly, and found they motored the wrong way! A clue.
Seems like changing the Field wires over or by swapping brushes in there holders (but not both) will cause a change of direction.
I opted to try changing the Field wires and seeing what happens.
Good to make a sketch /photo now.
With the Dynamo in bits again I carefully drilled out the rivet that holds the F terminal block to the case, there is a further, riveted over hollow brass pillar that needs to be drilled to release the top field wire terminal, its riveted over, the other one is sandwiched below, these are both insulated with nylon washers and nylon tube, top hat, Much like the insulation found on a set of contact points.
The terminals have different size ring connectors
It is these two wires that have there positions swapped over and you also need to change the ring terminals on the wires to make that happen
The drilling out operation spoils the hollow brass pillar and requires new hollow brass pillar to be made, I tuned one up. The rivet that holds the block to the case I replaced with a nut and bolt.

Put back together-- wired up the dynamo to "motor" -- which it did

ANTI CLOCK wise -- and no Blue smoke!!

I got a set of new brushes for £2-49 from E bay and with them fitted in and all back together, a proper test was needed.

I used a wrap or two of tape around my drill chuck like a " race bike starter "and by rubbing that against the edge of the dynamo pulley I soon had it spinning nicely. Steady at first - 5 volt bit faster 10voltt and faster again it flew past 20 volts, Still no smoke. SORTED.

So that's how they probable did it. This is just me playing - I take no responsibility should anyone try to copy this experiment – and fail.



Swoping the field wire coils changes the direction so its charges on a Berkeley

The trick is not to let the Magic Smoke out