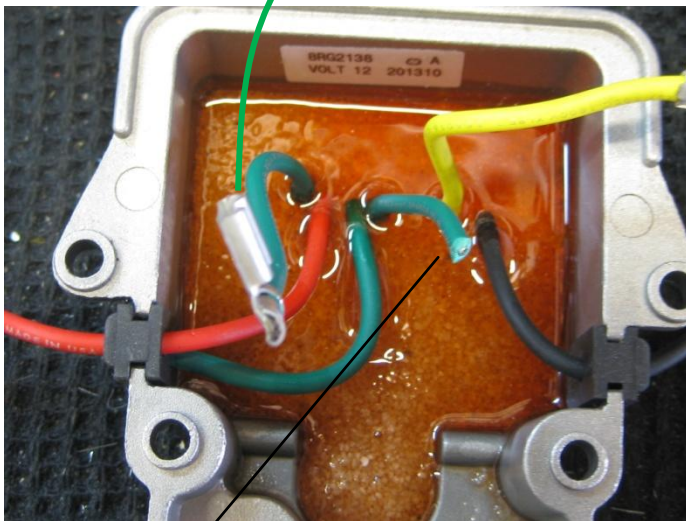
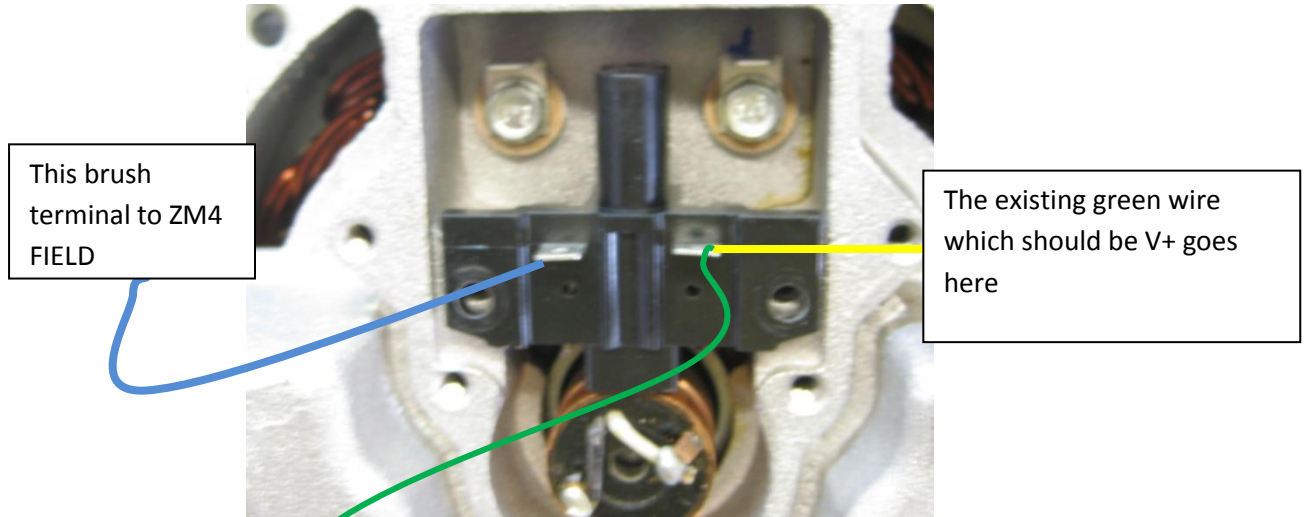


This page describes how to convert an internal regulator fitted to Leece Neville alternators. For conversion to a ZM4 Smart Regulator our objective is to isolate the earth brush (rear most brush) to allow the field control to be handled by the smart regulator.



Cut this wire

Insulate it from making electrical contact with anything inside the unit

1/ Follow the instructions 'Alternator Disassembly' instructions in respect to gaining access to the brush block as shown at Fig 4 of the attached page from the overhaul manual. The instructions show the alternator removed from the engine, this not necessary if access is reasonably free.

3/ Place a wire onto the removed Green terminal and run that to the FIELD terminal on the ZM4. This will require drilling a hole in the brush cover to allow the new wire to be routed out the back of the brush block.

4/ Before connecting to the ZM4 FIELD terminal and just to make double sure you have it right, carry out the following test.

5/ With a short piece of wire connected to the removed Green terminal on the brush block, prepare it in order that with the engine running a quick (1-2 seconds) flashing to earth of this new wire will confirm that the wiring is correct. NOTE: you will hear the engine rpm slump as this test is trying to drive the alternator to full output, hence the short 1-2 second short to earth. You will also get a spark as there will be up to 5 amps shorting to earth. If you were able to couple a multi meter to the output terminal this will also be a double confirmation of correct connection so 1/ will be the engine rpm slumping and 2/ will be an immediate voltage increase. If this test does not produce the above results try the other side of the brush block, i.e. connect Green to brush block and remove the Orange.

6/ Once the test above confirms that an earth produces the controlling results then the ZM4 will function correctly.

7/ reassemble the alternator in the reverse order.

8/ Following ZM4 installation instructions for the remaining installation.

9/ If for any reason you do not wish to use the external regulator; it is an easy task to place the green wire back on the brush block to enable the internal regulator.