

August 1968

## 15AC and 16AC Alternators

### Replacing Original Copper Plate Rectifier With a Model 4DS5 Rectifier - Part No. 83062

A rectifier with the diodes mounted on a copper plate heat sink was fitted to early models of alternators 15AC and 16AC. Later models incorporate an improved rectifier model 4DS5.

The 4DS5 rectifier is now available to service the copper plate rectifier, which is no longer produced. Although these two units are very different in shape and size, the replacement is easily performed.

#### Replacement Procedure

1. Remove the slip ring end cover.
  2. Unsolder the three stator connections at the main diodes (Fig. 1).
  3. Remove the four fixing screws, which hold the rectifier to the slip ring end bracket.
  4. Remove the two fixing screws from the brush moulding.
  5. Withdraw the brush moulding and rectifier.
  6. The black lead, (Fig. 2) which connects the centre brush to the auxiliary diode strip on the rectifier, should be cut off close to the terminal on the diode strip. Bare the cable, and solder to it a 3/16 inch Lucar female connector.
- Note: A good quality resin-cored solder (not a spirit flux) should be used for all soldering operations.
7. Unsolder and remove one of the wires which connect the auxiliary and main diodes.
  8. Re-solder this connecting wire to the stator lead, marked 1 Fig.1, in order to extend the stator lead, so as to reach the appropriate connecting point on the 4DS5.

Note: As these diode connecting wires are already tinned, the soldering process is simplified.

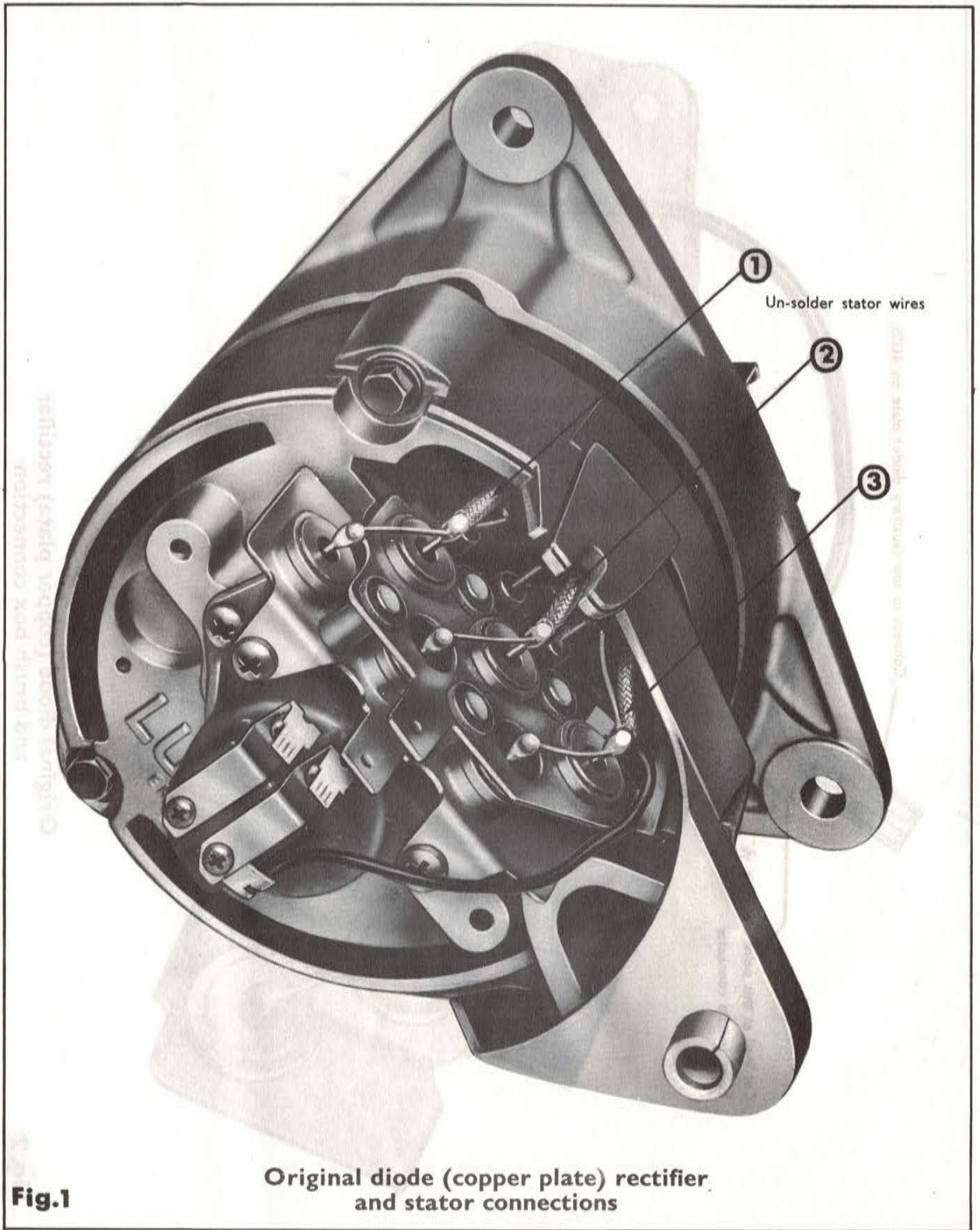
The extension must be sleeved (insulated) to prevent short circuits.

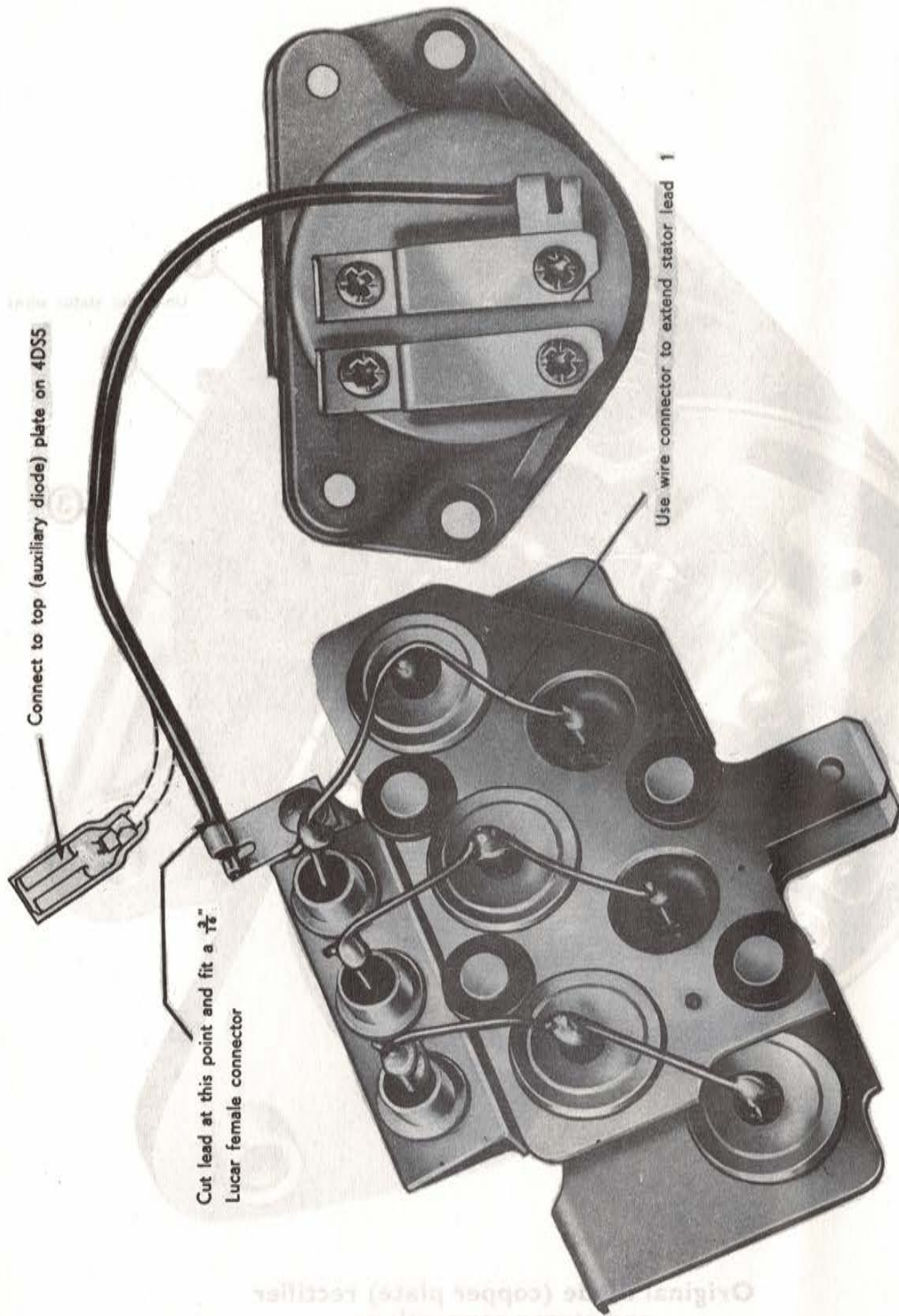
9. The stator lead 2 should first be soldered (Fig. 1) to its connecting point at the rear of the 4DS5 (Fig.3). Using a pair of long nosed pliers, bend the end of the stator lead to form a hook, and position round the wire connector on 4DS5. Solder it in position. Similarly, solder in position the stator lead 3 and the extended stator lead 1.

Note: The pair of long nosed pliers should be used to grip the diode connecting wire during soldering, and so prevent the diodes from overheating.

10. Position the 4DS5 fixing bolt in the mounting lug. (Ensure that the rubber support at the bottom of the rectifier is positioned in the location in the bracket). Tighten the fixing nut to a torque of 35-40 lbf ins.
11. Connect the black lead (with female Lucar connector) to the terminal blade on the top (auxiliary diode) plate of the 4DS5 (Fig. 3).
12. Re-fit the brush box moulding. Ensure that the location is positioned round the rubber support of rectifier, and tighten the fixing screws. Re-fit slip ring end cover.
13. Connect the alternator to a bench test rig and check the output.

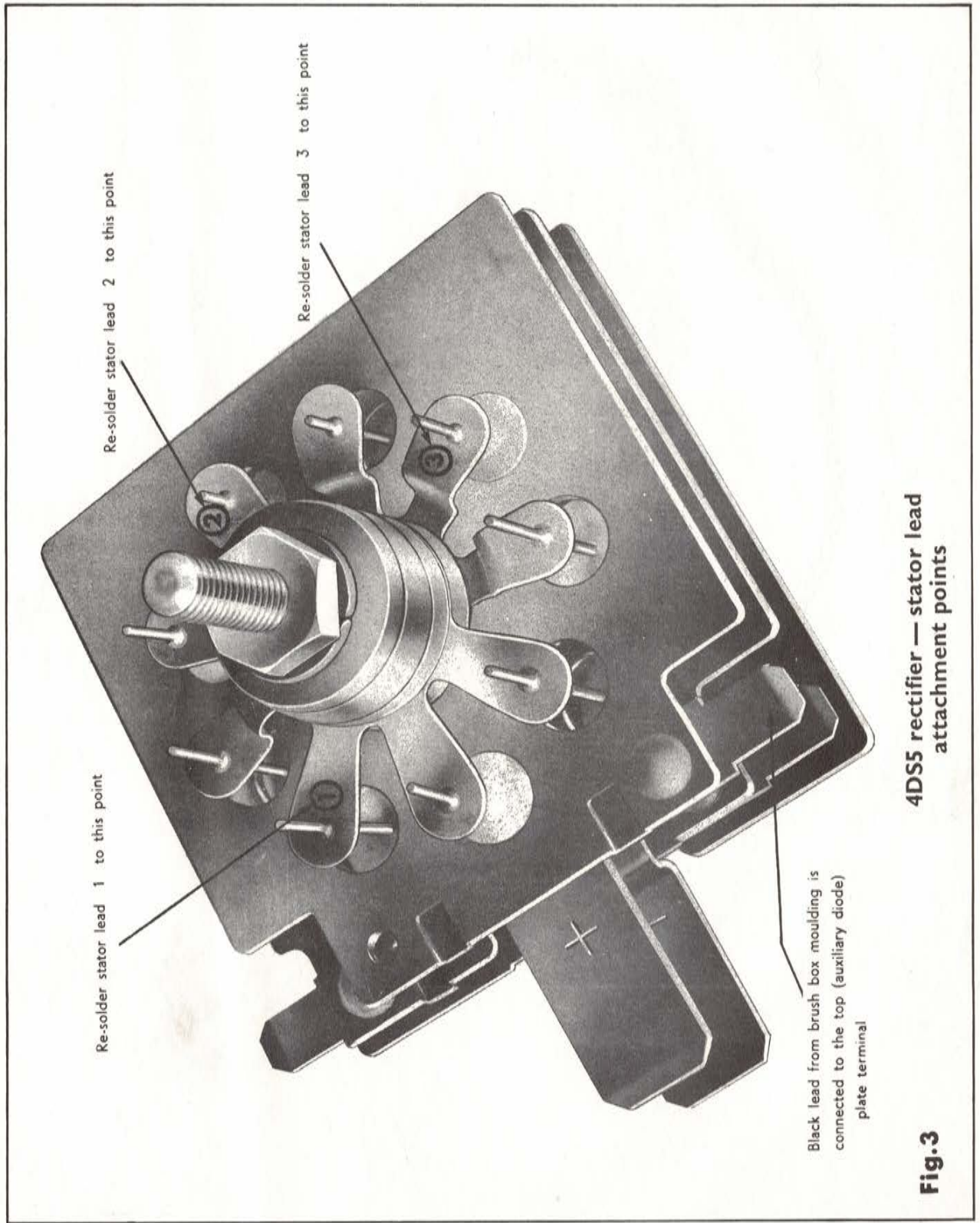
ALTERNATOR MODEL	VOLTS	REV/MIN (ALTERNATOR)	OUTPUT
15AC	14.0V	6,000	28A
16AC	14.0V	6,000	34A





Original diode (copper plate) rectifier and brush box connection

Fig. 2



4DS5 rectifier — stator lead attachment points

Fig.3