

The modern, commercially available quick-charging plants are fully automatic. The rate and duration of charge are so arranged that it is impossible for overcharging and thus overheating to take place at all. The operating instructions for the charger which is being used should in all cases be strictly adhered to.

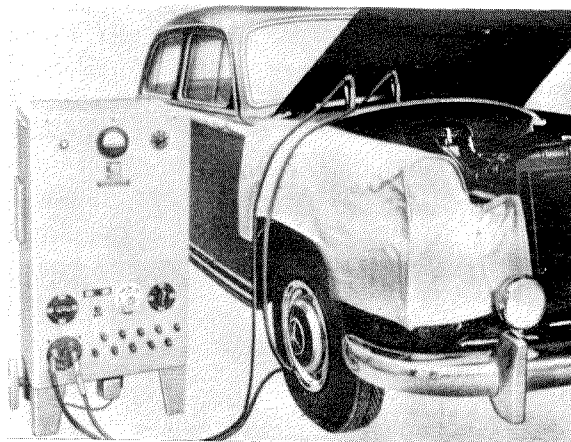


Fig. 54 — 10/4

### E. Preparation of New Batteries

New batteries are generally delivered empty. Initial charging should be carried out according to the instructions issued with the battery. The following is the general procedure adopted:

1. Unscrew the filler caps and fill the cells with chemically pure accumulator acid of a specific gravity of  $1.285 = 32^{\circ} \text{ Bé}$ . The acid should be 10 mm over the top edge of the separators and 15 mm over the edge of the plates.
2. It is absolutely essential that the battery should then be allowed to stand for 5–6 hours so that the plates can become completely soaked in the electrolyte.

**Note:** The acid level decreases somewhat during this period and in consequence the battery should be slightly agitated afterwards so that any air bubbles can escape from the cells. Then top up the cells again so that the battery acid reaches the specified level.

3. Charge the battery at a rate of 3.5 Amps. or less until the voltage of each cell has risen

to 2.5–2.7 Volts on charge and until all cells are actively gassing.

4. Measure the temperature of the battery acid from time to time. If the temperature rises above  $40^{\circ} \text{ C.}$ , reduce the charging rate.
5. After the charge is completed, check the acid density once more (specific gravity  $1.285 = 32^{\circ} \text{ Bé}$ ) and if necessary, correct. If it is necessary to top up the battery with acid or distilled water, charge the battery for a short time afterwards in order to ensure that the battery acid is well mixed and distributed.
6. The filler holes should be left open for a period of at least 2 hours – preferably even more – after the charge has been completed. Then the filler caps should be put on. Any acid which has splashed over should be washed off with water or rendered innocuous by means of a soda solution or ammonium chloride. The battery should then be dried.