

B. Checking Acid Level and Acid Density of Battery

1. Check acid level and acid density.

Replenish the missing liquid with clean, distilled water. Do not measure acid density immediately after topping up with distilled water. Check acid density only after a short period of operation.

Use only a clean glass vessel and a glass funnel for the topping up with distilled water. For acid level above top edge plates, refer to Job No. 15-0. Small quantities of distilled water can also be filled up with the hydrometer (Figure 15-40/2).

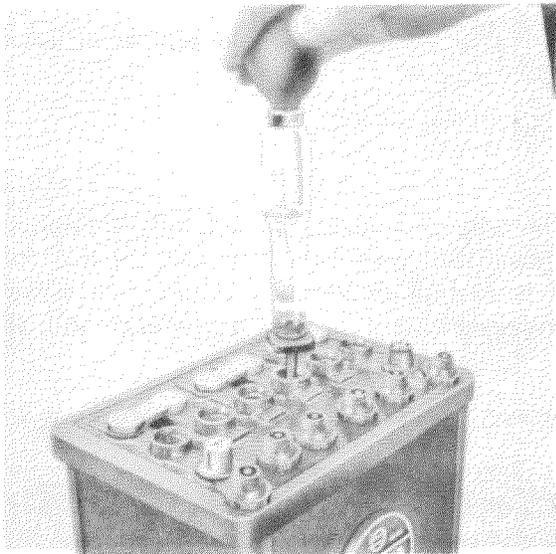


Figure 15-40/2

Note: Do not use an open light or flame near the battery. There is danger of explosion due to the formation of oxyhydrogen gas.

2. Determine charge of battery by measuring the acid density. In order to determine the density of the acid suck the acid out of the battery with an acid tester (hydrometer). The specific gravity of the acid is indicated by the float swimming in the acid. A fully charged battery should give a specific gravity of $1.285 = 32^\circ$ Bé at an acid temperature of $+20^\circ$ C to $+27^\circ$ C (Figure 15-40/3).

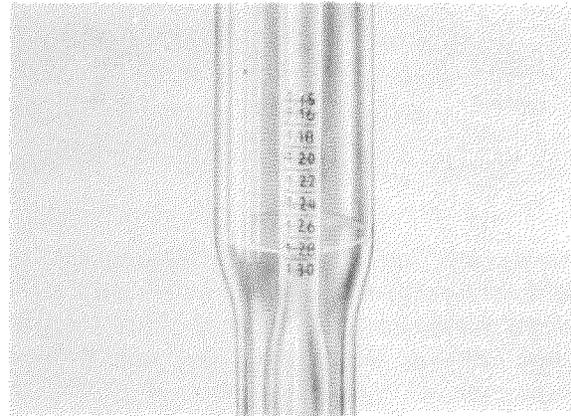


Figure 15-40/3

3. For specific gravity of battery acid in relation to the charge of the battery, see Job No. 15-0.

C. Testing Capacity of Battery

The individual cells of the battery are tested with a suitable cell tester. These instruments are equipped with a fixed resistance or even with an adjustable resistance, so that the cells can be individually tested at a high amperage (usually 200 Amp.). For accurate testing the load should correspond to the size of the battery and should be adjusted by means of an adjustable resistance. For practical purposes, however, it will be sufficient to use the available cell tester with constant resistance in the workshop. The loss of voltage under load of the individual cells is indicated by the voltmeter attached to the cell tester. The voltage should not drop below 1.8 Volt, if the battery is fully charged and in good condition. For the rest, follow the instructions supplied by the manufacturer of the instrument.