

Battery

A. General

Job No.

15-40

Change: Job No. 15-40 and 15-41 revised

The battery must be regularly serviced and must always be kept clean and dry. Dirt must be kept out of the cells; gasoline, benzol, and oil should not come in contact with the sealing compound of the battery. The air vent holes in the battery plugs must be kept open so that the gases formed during charging can escape freely.

Caution! The oxyhydrogen gas emitted is explosive. Do not put tools or other metallic objects on the battery; danger of short circuiting! (Figure 15-40/1).

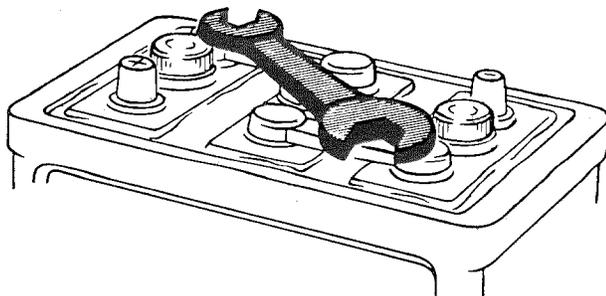


Figure 15-40/1

Do not put metal parts on the battery

Always use distilled water for topping up the cells. The cells must never be filled up with sulphuric acid, irrespective of density, unless you are quite certain that acid has been spilt. In this case measure the density of the acid still remaining in the cells and fill up with acid of the same density. New batteries should be filled with chemically pure accumulator acid in accordance with the instructions of the battery producer.

Under no circumstances must special electrolytes be used, because the battery manufacturer will then reject all warranty claims.

Be careful when handling sulphuric acid! The acid will attack and destroy paintwork, metal parts, and fabrics.

When mixing accumulator acid make sure that the concentrated sulphuric acid is always poured into the water or the ready-mixed accumulator acid – and never vice versa!

Spilt acid can be neutralized with soda solution or ammonium chloride.

The poles and the pole connectors of the battery must be kept perfectly clean. In order to prevent corrosion the terminals and **the outside and inside** of the cable sockets must be greased with a good acidproof grease, e.g. Bosch Ft 1 V 40.

Low temperatures reduce the capacity and the terminal voltage of the battery due to the slowed-down chemical reaction. During extremely cold weather it is advisable to remove the battery and store it in a warm room overnight.

Although the electrical system is amply dimensioned in order to meet normal requirements, nevertheless it might be necessary during the cold season, particularly if the vehicle is only used for short trips, to recharge the battery from an outside power source after certain periods of time.

The capacity of a battery means that quantity of electricity which is delivered during discharge, i.e. in terms of Ah (= current \times time). The DIN and SAE standards specify the rated capacity of battery at an acid temperature of $+20^{\circ}$ to $+27^{\circ}$ C at the beginning of the discharge and a non-interrupted discharge during 20 hours, the power remaining at a constant level. During this discharge the voltage of one cell must not drop below 1.75 volts.