Recharging the Battery

It is a good practice to remove the battery at intervals of three or four months and discharge it to a cell voltage of 1.8 volts before recharging it at a rate not to exceed 5 amp.

Batteries are subject to a self discharge of 1 per cent per day with the battery in good condition. If the car is not used for a longer period, the battery must be recharged at 6 to 8 week intervals. The charging rate of the battery depends on the capacity of the battery and should, with a battery of 84 amp.-hours, not exceed a rate of 8.4 amperes. Thus, the charging requires about 10 hours, and longer at a lower charging rate.

The fully charged condition is reached when the cell voltage has increased to approx. 2.5 to 2.7 volts, the battery is gassing freely and there is no further rise in voltage in one hour. Heavy gassing occurs at this time. During the charging process the cell plugs should be removed to prevent acid from being forced through the vents.

Winter operation

The conductivity and viscosity of the electrolyte is greatly affected by temperature changes. At low temperatures the battery capacity is severely reduced. At an electrolyte temperature of —15° C (5° F), the output of the battery is only one half of the output at 20° C (70° F).

The higher the specific gravity of the electrolyte, the lower the freezing point. The battery must, therefore, be kept in a sufficiently charged condition to prevent freezing. If freezing has not ruined the battery it can be restored by slow thawing and recharging. While frozen, a battery cannot furnish current.

Specific Gravity	Electrolyte Freezing Point
1.285	— 65° C (— 85°F)
1.18	— 25.5° C (— 13°F)
1.14	— 13° C (+ 9°F)

The increased load imposed on the battery at low temperatures by the starter which has to crank the sluggish engine, necessitates more frequent inspection of the battery. In severe cold it is recommended to remove the battery at 4-weeks intervals for recharging and checking specific gravity and electrolyte level.

Warning

Do not smoke or use open flames in a room where batteries ar charged. It is advisable not to keep precision tools and instruments in such rooms because of the corrosive gases which are generated.