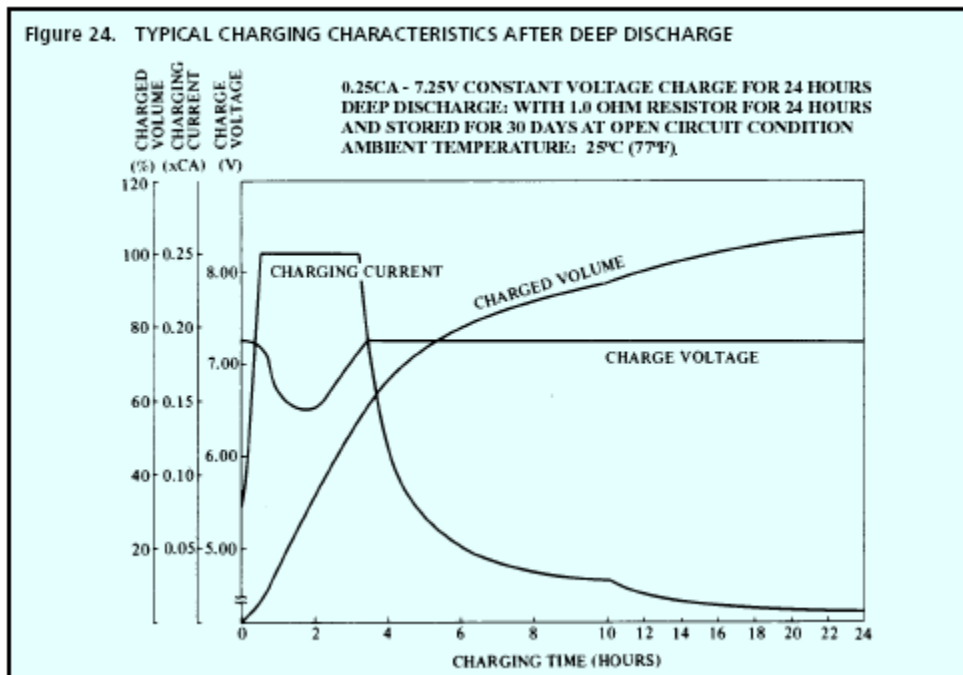


## Recovery Charge After Deep Discharge

When a battery has been subjected to deep discharge (commonly referred to as over-discharge), the amount of electricity which has been discharged is actually 1.5 to 2.0 times as great as the rated capacity of the battery. Consequently, a battery which has been over-discharged requires a longer charging period than normal. Please note, as shown in Figure 24 below, that as a result of internal resistance, charging current accepted by an over-discharged NP battery during the initial stage of charging will be quite small, but will increase rapidly over the initial 30 minutes (approximate) until internal resistance has been overcome, and normal, full recovery charging characteristics resume.

In view of the above, consideration should be given to the fact that if the charging method used is constant voltage in which the charger employs current sensing for either state of charge indication or for reducing voltage (a two step charger), during the initial stage of charging an over-discharged battery the charger may give a false "full charge" indication, or may initiate charge at a float voltage. Quite often, an over-discharged battery cannot be recharged, it is ruined.



PLEASE TAKE CARE TO NOT DEEP DISCHARGE YOUR BATTERIES. Often these batteries cannot be recharged and are not covered by warranty.

Maximum run time may be calculated by taking 75% of the battery's AmpHr rating divided by the traps current consumption. For the Model 512 and a 10 AmpHr battery, the calculation is:

$$0.75 * ( 10.0\text{Amps} / 0.32 \text{ Amps per hr} ) = 23.4 \text{ hrs.}$$

Note, as the battery ages and undergoes charge/discharge cycles, its AmpHr capacity when fully charged declines until finally the battery must be replaced. Cool storage prolongs battery life.

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