

AGM & Gell Battery Guidelines

When to charge

- Charge daily after use or less if the scooter is used less often.
- The charger supplied with your scooter should fully charge your batteries overnight. Overcharging will not occur since the chargers are voltage limited and will shut off automatically.

Charging guidelines.

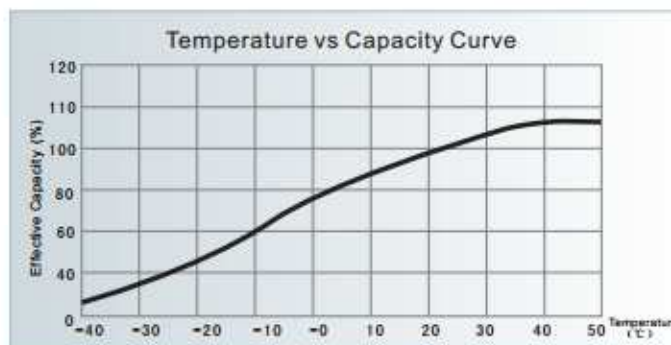
- Depth of discharge affects cycle life. The harder the battery has to work, the shorter its life expectancy.
- Avoid ultra deep discharges and never drain the batteries completely.
- Do not leave your batteries in a low state of charge for an extended length of time. Charge a discharged battery as soon as possible.
- Do not cycle your batteries at a low state of charge without regularly recharging them fully.

Factor effecting performance

- There is a break in period for new batteries before they achieve maximum performance. Typically 15-20 charge cycles.
- Optimum battery performance is achieved at 20 to 25°C. Low temperatures will reduce the capacity of the battery. See graph below.

Temperature vs Capacity Curves as below:

Data from Ritar
RT Technical manual 2012



Typical charger performance

Batteries like to be charged in a certain way, especially when they have been deeply discharged. This type of charging is called 3 step regulated charging..

The first step is bulk charging where up to 80% of the battery energy capacity is replaced by the charger at the maximum voltage and current amp rating of the charger.

When the battery voltage reaches 14.4 volts this begins the absorption charge step. This is where the voltage is held at a constant 14.4 volts and the current (amps) declines until the battery is 98% charged.

Next comes the Float Step. This is a regulated voltage of not more than 13.4 volts and usually less than 1 amp of current. This in time will bring the battery to 100% charged or close to it.

The float charge will maintain the batteries at 100% readiness and prevent cycling during long term inactivity. Most modern chargers will charge batteries similar to this method.