

MPI Battery Instructions

Battery instructions for Nicad and NiMH batteries

Special note: These instructions are intended to be generic, not charger specific, please read the instructions provided with your charger for the type of battery being charged.

1. Initial charge/discharge process, "Formation Charging" is the process that fully activates and balances the cells in a new pack. Both Nicad and NiMH packs benefit from this process, but it is a requirement for NiMH packs. The intent is to make sure that the new pack is fully operational and to establish a "Start-Up" capacity number. The "Start-Up" capacity should be recorded for future reference, note, it will seldom be the same as the capacity marked on the individual cells.
Procedure: First, do a "slow charge", about 1/10 - 1/2C or 100 - 500 ma for 16 - 24 hours, depending on the pack capacity rating. Do not use a "Peak Detect" charger. Charge until the pack is warm, if the pack is not warm it is not fully charged. Then discharge at 300 - 500 ma on a cyclor or our battery bug (part no. ACC180 for RX packs or ACC181 for TX packs). Do this three times and record the capacity of the last cycle for future reference. This is the "Start-Up" capacity. Write it on the pack is a good practice. According to manufacturers specs the true capacity is not necessarily the same as the Model #. Case in point, the Sanyo 2700 batteries should cycle about 2300-2400 mah.
2. After the initial charge/discharge procedure use your favorite charger, make sure you read the instructions which came with your charger. For most packs and especially NiMH packs regular cycling is not necessary and may reduce the life of the pack. Never charge more the 1C of the capacity of the pack. Note: Never charge High Capacity NiMH pack over 1000 ma. no mater what the capacity, or the pack will the permanently damaged.
3. Maintenance of the packs are key to long life. If your TX pack shows 9.5 volts when you turn on your TX it is ready to recharge. If it shows 9.6 or more you are ready to fly, Do not do a quick charge every time your meter shows 10 volts, most cell manufacturers consider a cell is discharged when it reaches .8 volts per cell or 6.4 volts for the typical TX pack. Of course the same is true for RX packs just adjust for the number of cells in the pack. Note most receivers and servos work well, with reduced performance down to 3.3 volts. Check your receiver instructions for minimums. Once every 6 months do a complete cycle of the pack and check against the recorded value for the "Start-Up" capacity. If the result is more than 20% less than the "Start-Up" it may be time to replace the pack. Before replacing follow the same procedure as No. 1. above and compare that result with the "Start-Up" capacity. Also after a long lay-up, ie. over the winter, always check the pack by following the same procedure as no. 1. above and compare the result with the recorded "Start-UP" capacity.

Trouble Shooting:

1. **Charge Retention:** All batteries have a "Self-Discharge" characteristic. This means that a "fully charged pack" is only "fully charged" at the time it comes off the charger in a warm state. Cycling the battery at that point gives you the nominal "capacity" number for that pack. Generally Nicad packs retain a charge better than NiMH. For some high capacity NiMH, if you let it sit a couple days before discharging you will see the capacity is about 25% less. If after 48 hours the capacity is less than 25% of nominal, there may be a bad cell in the pack.
2. **Charger shows lower capacity:** When charging a pack and your charger stops and shows much less mah than the nominal mah you recorded on initial charge there are a couple of things to look for. Most likely the pack was not fully discharged and this is how much it took to refill it. Remember that .8 volts per cell is fully discharged and none of us fly with a pack less than 1.2 volts per cell. The other is to make sure your charger filled the battery. Remember if the battery is not warm it is not fully charged. Note: High Capacity NiMH cells 2000 - 2700 mah AA cells often "false Peak" but be careful because a few minutes of over charging these cells will fry them. The sure fire way to charge these is to use the temperature probe which comes with many chargers.

Warranty & Service:

Maxx Products International, LLC. warrants all battery packs for 90 days to the original owner (per the date on your sales receipt.). Under no circumstance will an abused, misused, or otherwise damaged product be covered under our warranty policy. All items returned for warranty claims will be inspected prior to replacement or service. Items must be returned to Maxx Products for warranty claims. Items covered under warranty will be exchanged or repaired at Maxx Products' sole discretion. For this reason we suggest that the customer contact us directly regarding warranty claims. All items returned must include a Service Request form available by fax or at www.maxxprod.com under the service and warranty link.

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