

How to solder Ni-Cad cells together- by Perry Rose

Tools needed to make a battery pack are a soldering gun with a non tapered tip, clean solder, soldering paste or flux, a rubber band, a piece of wood with a straight slot (like a landing gear block), Ni-Cads with and/or without solder tabs, a vise or equivalent, desolder braid.

Step 1

Cut a groove in a piece of wood about 3/16" wide. The groove must be straight and about 9" long. I use a landing gear block for 5/32" wire. The important thing is that the Ni-Cad cell must be held straight. The width and depth of the groove must be cut so that the cell only touches the top edges and not the bottom of the groove.

Step 2

Plan the placement of the cells if you are using both tabbed and non tabbed cells. You really don't want two tabs together. Cut the tabs off the cell ends that will be soldered together leaving the tabs at the open ends. These will be the inter cell connectors when you complete the battery pack. Don't rip the tabs off just cut them as close to the spot welds as you can.



Step 3

The cells are clean enough for soldering but you can clean the pos. and neg. ends if you wish. Clean the solder wire by wiping it with a napkin or clean cloth. Clean the soldering gun tip by wiping it with a damp sponge or rag while the tip is hot. Apply a spot of flux to all ends to be soldered and apply a heavy tinning coat of solder to each end.



Step 4

Clamp the grooved block in a vise. Place one cell squarely in the groove and hold it firmly in place with a rubber band. Place a second cell up against the first cell making real real sure that it's pos. to neg. at the solder joint. Nestle the second cell in the groove until your positive it's in line with the first cell.

Step 5

Slide the second cell up to the first keeping about 1/4" apart. Heat up the soldering gun and place the tip between the cells. Positive to negative don't forget. Slide the second cell so that the soldering gun tip is touching both cells at the same time. Move the tip around melting the solder on both cells at the same time. Positive to negative right? In one motion remove the soldering tip from between the cells and slide the second cell against the first. The cells must be together before the solder hardens. If not or if you think the cells are mis-aligned re-set the cells and try again. Repeat the above for the third cell or other pairs of cells.



Step 6

If you are making an 8 cell flat pack like the one Futaba uses make two 3 cell sticks and one 2 cell stick. Lay the sticks together and solder the tabs, again pos. to neg. If you don't have tabs use de-soldering braid. Check the battery voltage now.

You should have 1.2V times the number of cells.



Handy hint, after soldering each cell roll the stick on a flat surface to check for straightness. If it's too far off install the wire tip in the soldering gun and melt the solder joint. It may take a while to melt the solder. Don't break the cells apart, it will damage them. Lay the loose battery on a flat surface and hold the sticks together. I use a dab of CyA to hold the pack together Solder the wires to the battery keeping the polarity like the original battery. I wrap the pack with electrical tape before installing into the transmitter.

You can practice on dead cells before using good ones. With Sanyo having more problems with lap top batteries it could be a while before you can get a replacement.