

3D Printed Battery Assembly Instructions:

Requirements:

Sheet tin .25mm Thick

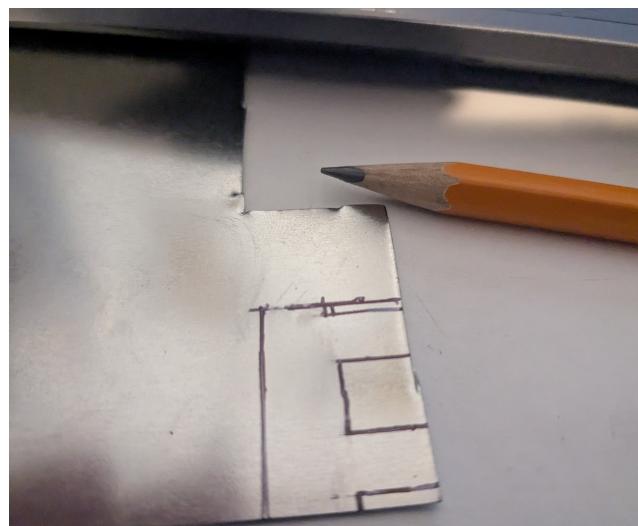
3D Printed Battery Case

Tin-Snips

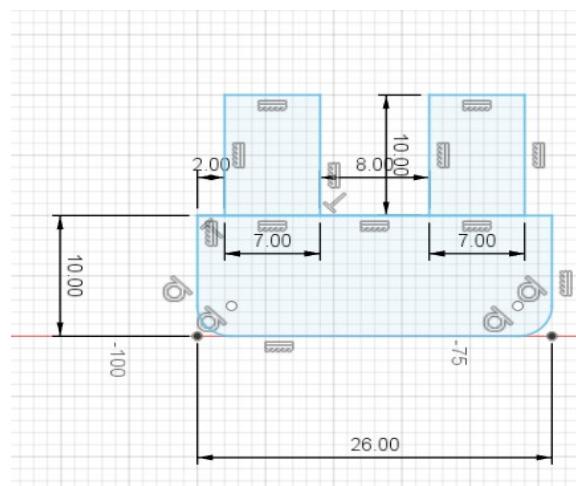
Cyanoacrylate (CA Glue/Super Glue)

Print the required Battery case using the STL file. This can be printed radially (Flat on the bed) or Axially Standing on the bottom. If printing radially print open face down and use supports. You will need to print this at 100% Infill and .08mm layer height. Use supports if printing axially as well.

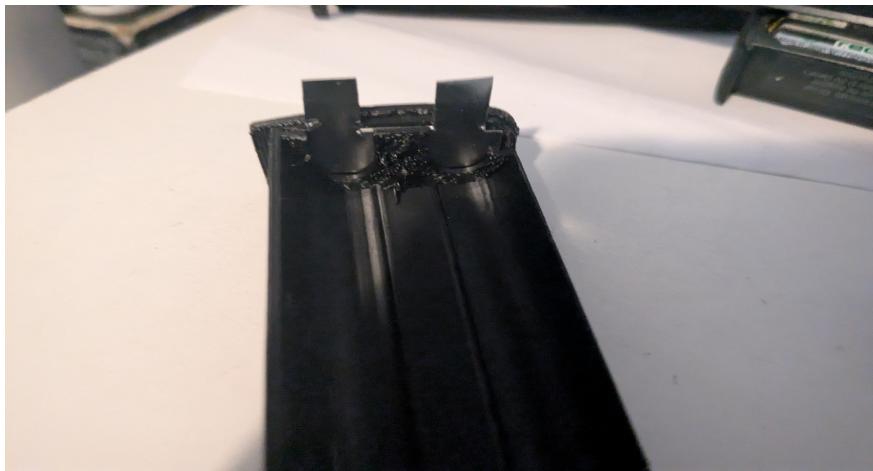
- 1) Cut the tin to make the tab for the bridging of the + and – connection of the two rows of batteries.



All Dimensions in MM



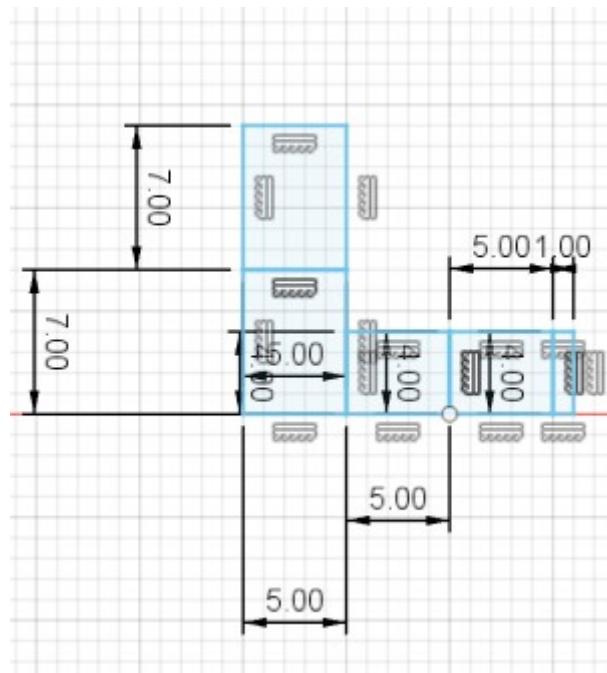
- 2) Insert the cut part into the case near the rear where the two connections for the batteries need to be made as shown below:



- 3) Bend the tabs down as shown in the photo below:



- 3) 4) Cut the tab for the Positive terminal as shown below:

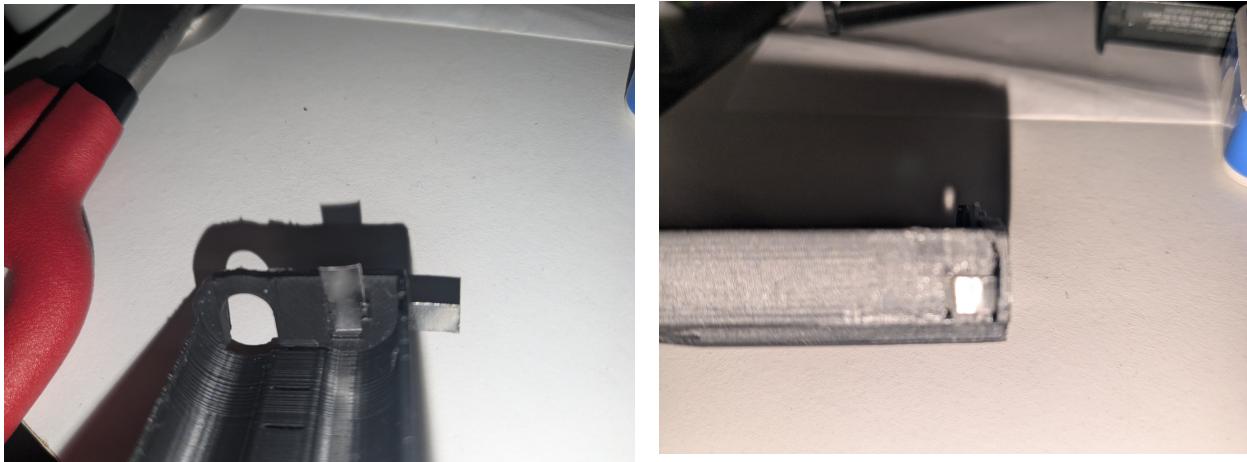


- 5) Insert the tab into the battery pack on the positive side, use the CA glue to glue the tab to the side of the battery pack, it is helpful to use a pliers to ensure that this can be as flat as possible.

DO NOT POKE THE TAB BACK INTO THE CASE!

FIRE, MAGIC SMOKE, AND GENERAL OTHER THINGS THAT I CANNOT BE HELD RESPONSIBLE FOR WILL HAPPEN IF IT POKES THROUGH TO THE SIDE OF THE BATTERY! I HAVE HAD A VERY BAD EXPERIENCE WITH THIS BEFORE!

See Photos Below:

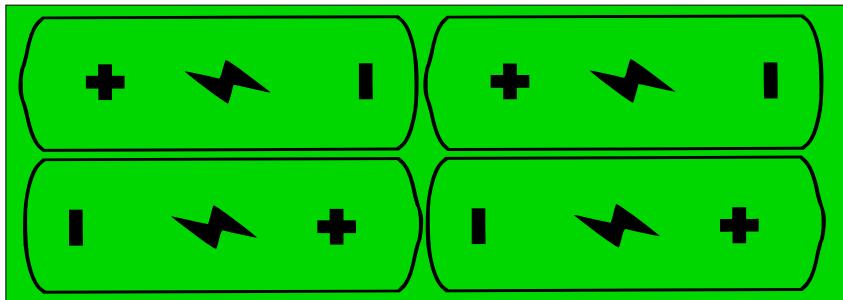


Bend over the battery tab (It should be almost flat if using larger cells, if you print the battery in some orientations, it can break if put under too much stress!)

- 6) Test fit the battery pack (Empty) into the newton and ensure that it fits well, sand and polish as necessary using light sandpaper to ensure a good fit. An emery board or fingernail file works well for this.
- 7) Insert the batteries into the case as shown below:



Negative terminal will be near the hole in the rear of the battery. See Diagram below for more information on the proper orientation of the batteries.



Hole Side (-)

Side Tab (+)

Measure with a volt-meter from + to - and verify that the battery is a sum of the voltages of your cells. If using a NiMH (1.2v/cell) a fully charged battery will measure right at or a bit above 5v. If using Alkaline cells (1.5v/cell) it will measure approximately 6v or a bit above. OTHER CELLS NOT SUPPORTED! CELL VOLTAGES MUST BE RATED AT OR BELOW 1.5V!

This battery has no protection and is will not be able to be charged. I will update documents for a rechargeable version.