

Universal Chassis System Wiring

Follow these links for the manuals for Verso and Proffie. These will tell you the gauge of wire that should be used for connections. The NeoPixel guide is in the context of wiring a Proffie, the TriCree guide is in the context of wiring a Verso.

<https://cdn.shopify.com/s/files/1/0262/5368/8868/files/VERSO-User-Manual-v1.5.pdf?v=1590959980>

https://drive.google.com/file/d/1vn9vRk-CNZSUHL4xm_hHwS6UgkfKXdO2/view?fbclid=IwAR2NnzAltIxaPxLnVKfVIWngTmefKUoegestx2PUINsVRbZcY157Ui3uTN
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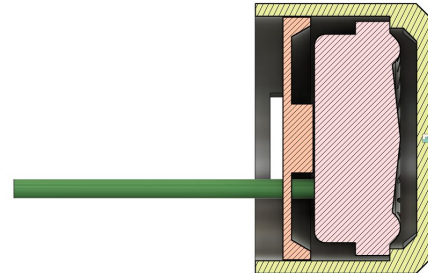
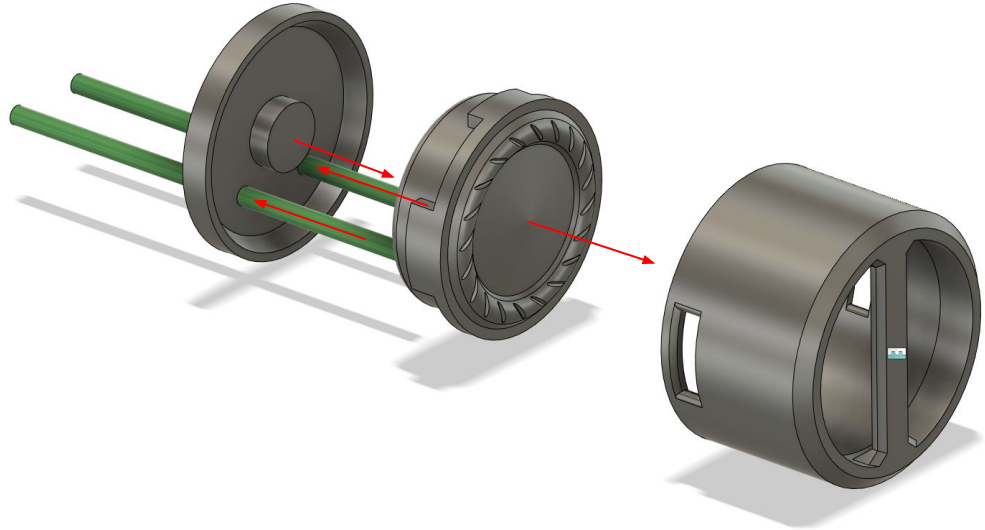
Cut 2 speaker wires, about 6.5in in length

Solder wires to the speaker

Feed wires through the backplate

If wires are a loose fit in the holes, put electrical tape over holes and poke holes through tape for airtight seal (not necessary but helps a tiny bit with sound)

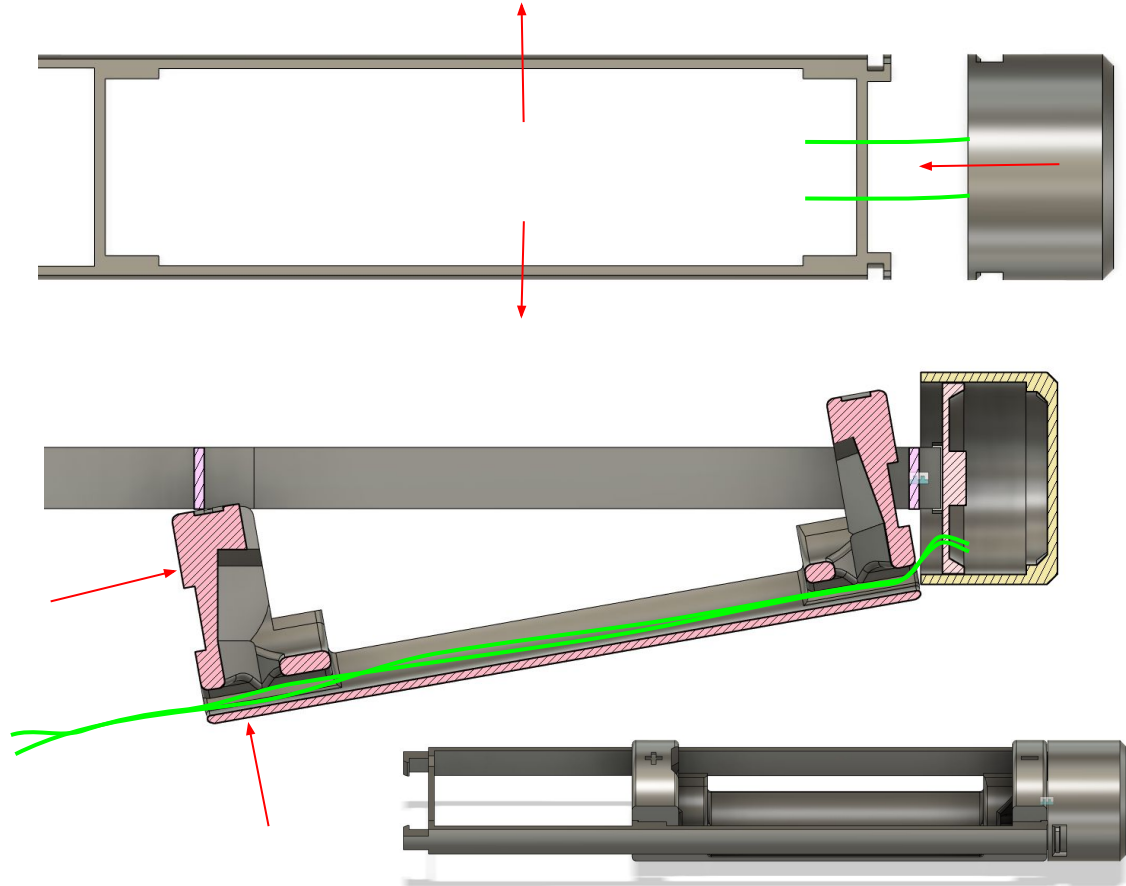
Fit speaker into speaker housing, followed by the backplate



Fit the speaker housing onto the main rails by pushing apart the battery section, ensuring both the wires come out the same side

Feed wires through the battery section

Fit the battery section onto the main rails by first aligning the backside with the speaker and then pressing in and up on the other battery contact to flex it into position



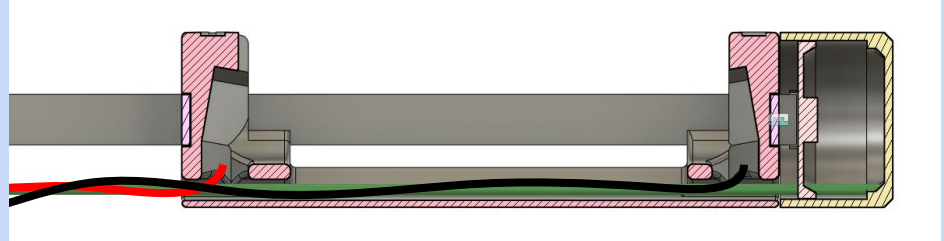
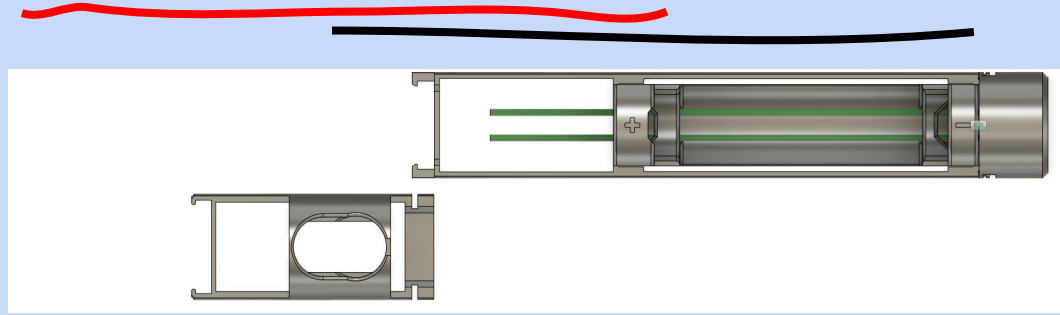
For NeoPixel Sabers

Cut a positive wire about 1.5 inches longer than the distance from the positive contact to the end of the entire chassis

Cut a negative wire about .5 inches longer than the distance from the negative contact to the end of the main rails

Solder battery contacts to one end of both wires and feed wires through the battery cradle

Fit contacts into place



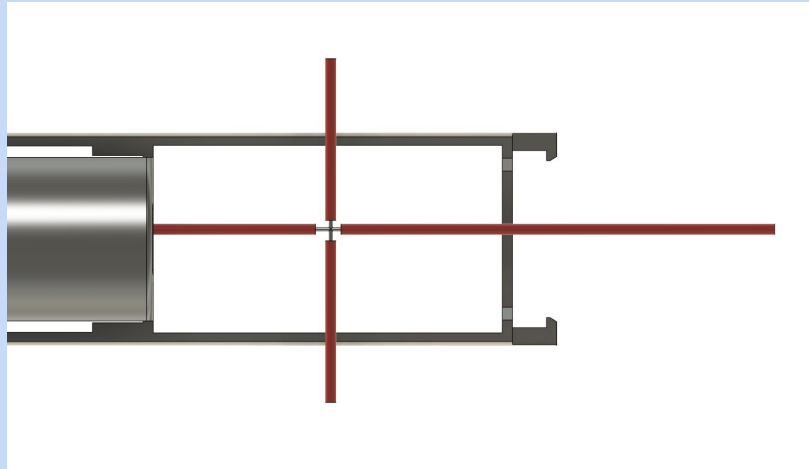
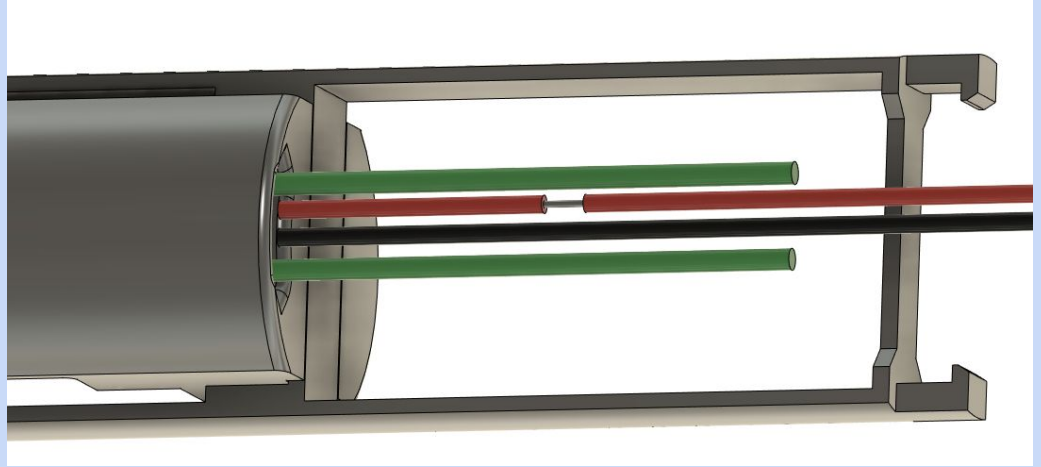
Expose a small section of wire in the positive wire about in the middle of the open section as shown

Cut a 1.5 inch section of wire, exposing a small section in the middle

Be sure to tin the sections to prevent fraying

Solder two positive wires as shown

The positive line connects the soundboard, NeoPixel Connector, recharge port, and battery together

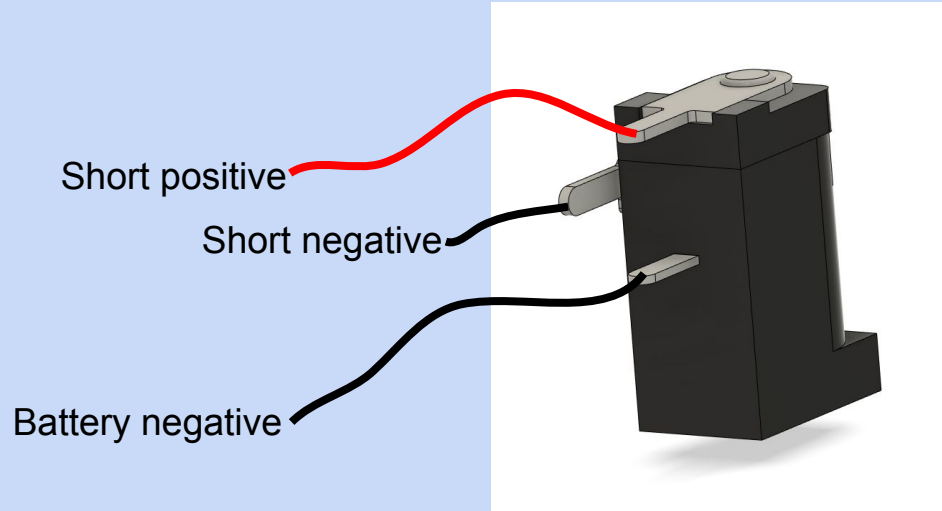


Solder one short positive wire to the terminal of the recharge port shown

Solder the negative battery line to the terminal of the recharge port shown

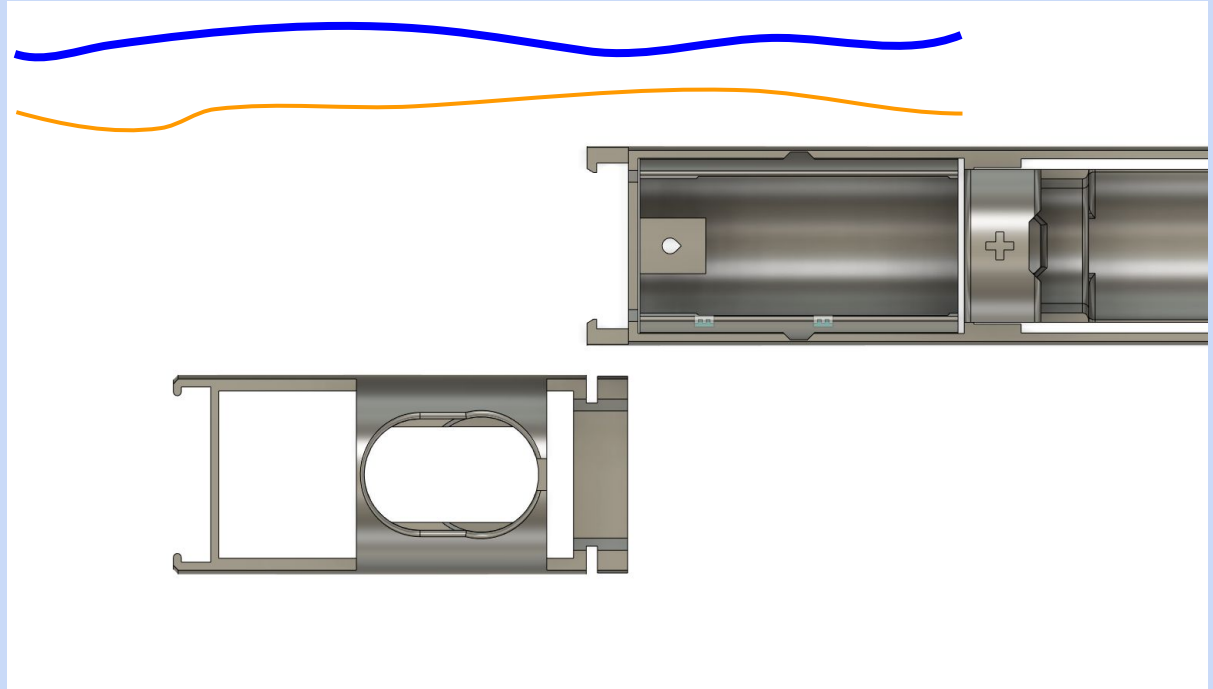
Cut a 2 inch negative wire

Solder the 2 inch wire to the side terminal on the recharge port



Cut a wire for the negative NeoPixel line that's about .5 inches longer than the distance from the front of the battery cradle to the end of the chassis (blue)

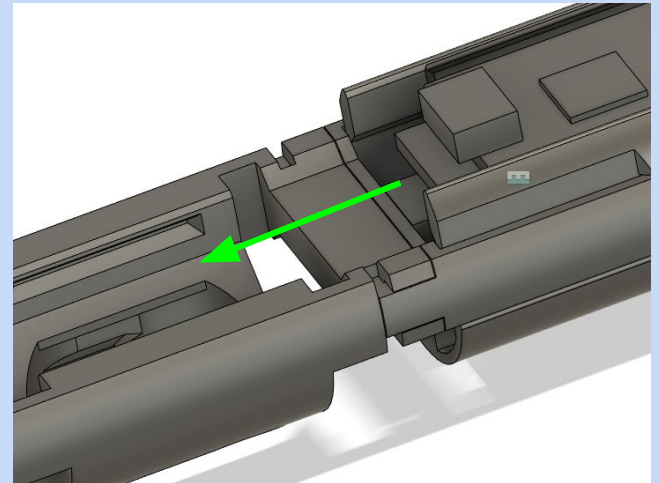
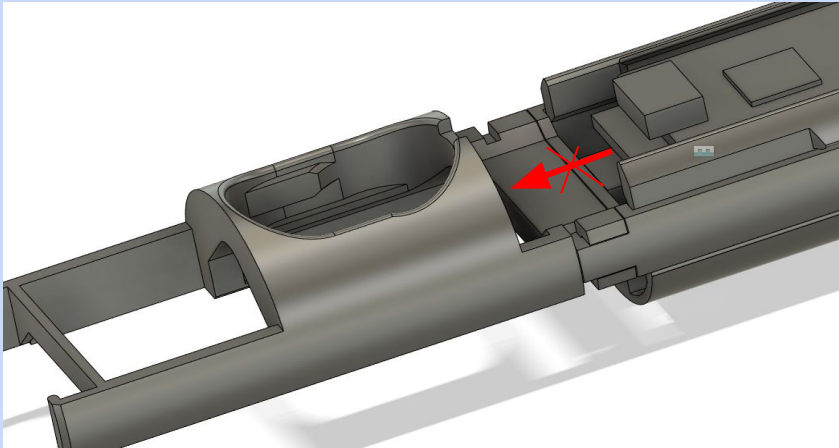
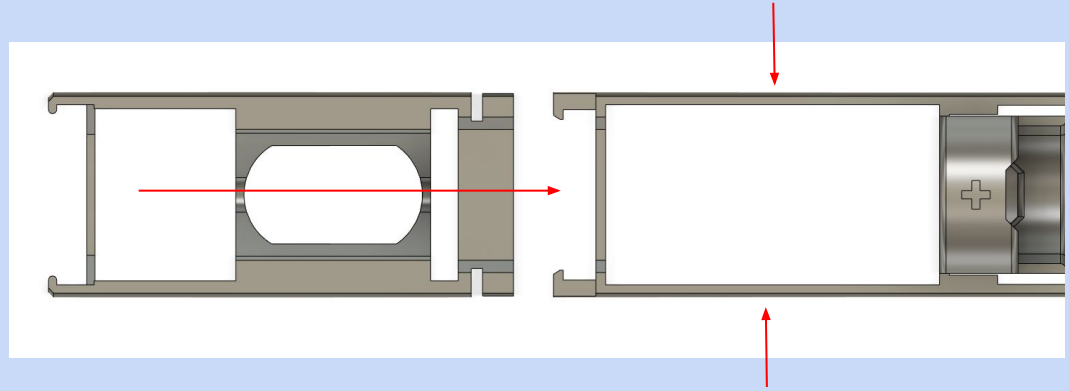
Cut a wire for the data NeoPixel line that is about the same length (orange)



Assemble the rails together by squeezing board rails together

If the button is too close to the board cradle such that you won't be able to plug in your board or remove the SD card, flip it over

You can eyeball it from pictures without having to test fit board cradle



Solder all wires to board:

Short positive wire

Short negative wire

Data NeoPixel line

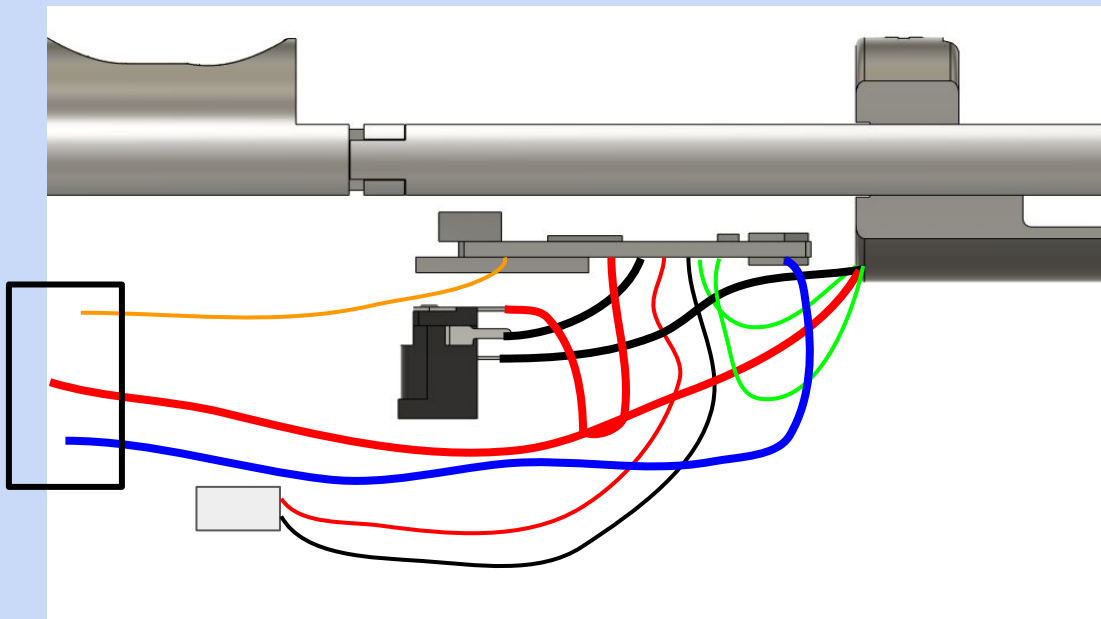
Negative NeoPixel line

Both Speaker wires

Solder micro JST connector to board
(for button)

Follow PINOUT in manual to see
where wires go

These three
wires are for
the NeoPixel
Connector



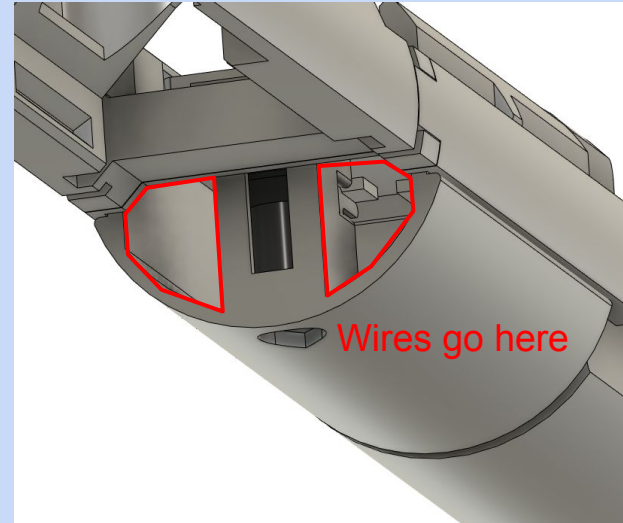
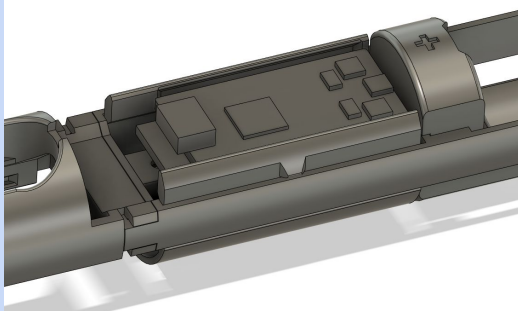
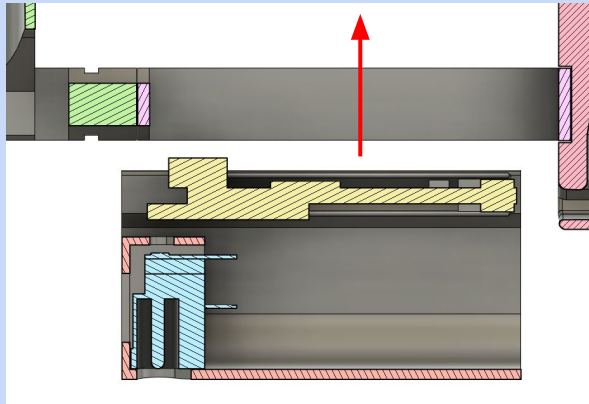
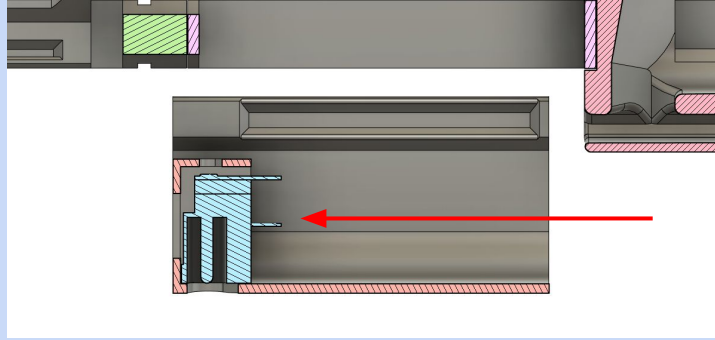
Note: If using Proffie 1.5, you'll need three wires that join together for negative NeoPixel. If using Proffie 2.2, the negative wire should be inserted and bent over both pads to be bridged. Verso also needs to be bridged.

Fit recharge port into board cradle using pencil eraser or popsicle stick until the bottom port aligns

Be sure no wires are touching inside the cradle

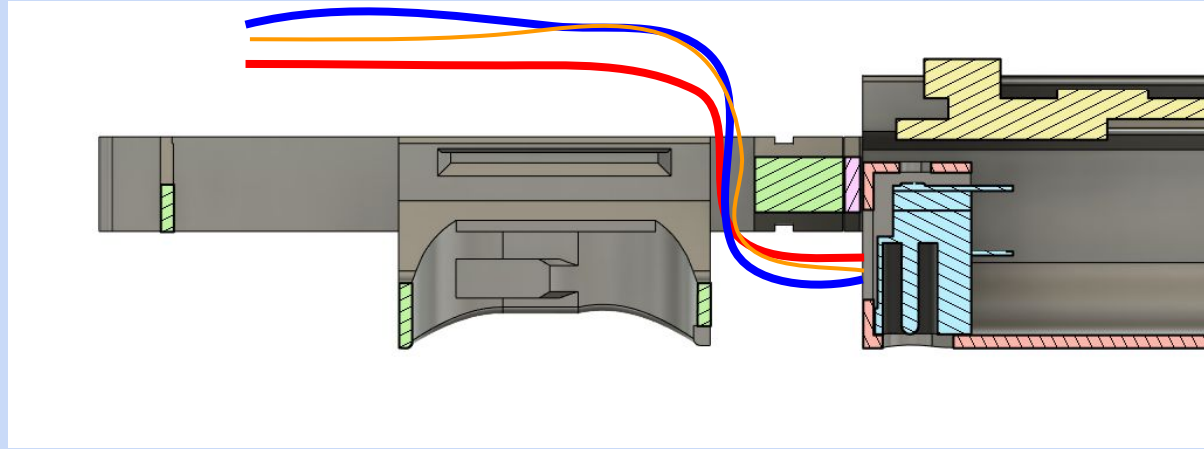
Fit board into slots in board cradle

Fit board cradle into rails, button wires come out on one side of the recharge port and NeoPixel wires come out the other side



If you flipped your button module,
route your wires through it as shown

If not, you can heat shrink or twist
NeoPixel wires together for a cleaner
look

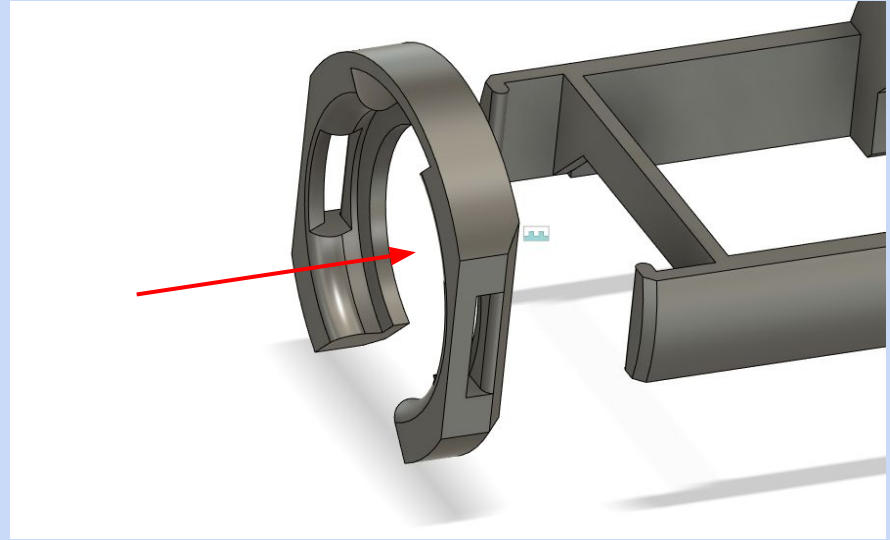


Note: Know where your data line resistor is! Depending on the brand or model of NeoPixel connectors you have, it may be in the blade or in the hilt or not there at all. A resistor somewhere along the data line is required.

Solder the wires to the NeoPixel Connector

Fit NeoPixel connector into Universal NeoPixel Mount and clip into place

Solder other half of micro JST connector to button, secure with hot glue

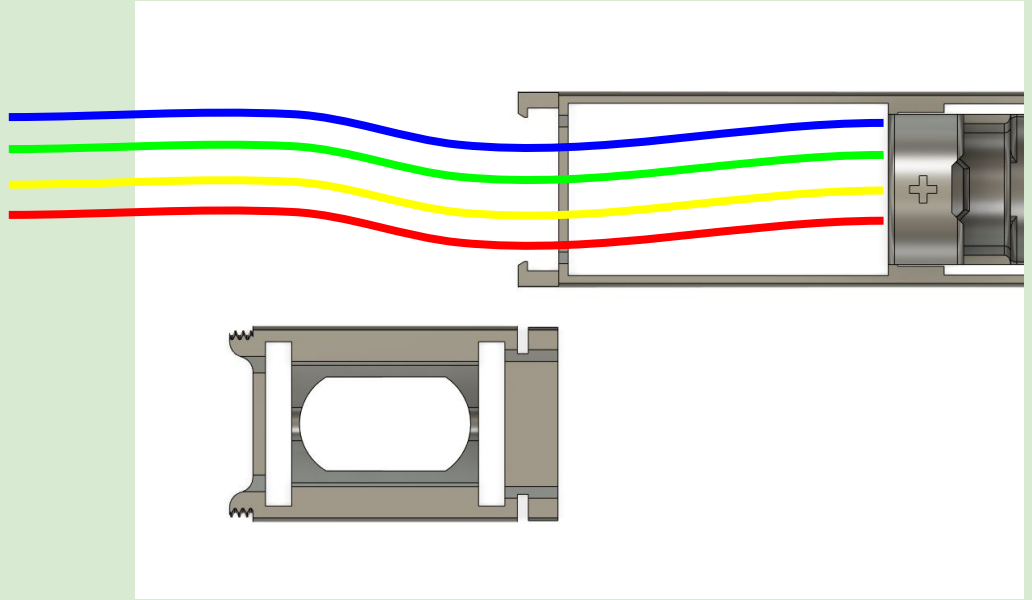


For TriCree Sabers

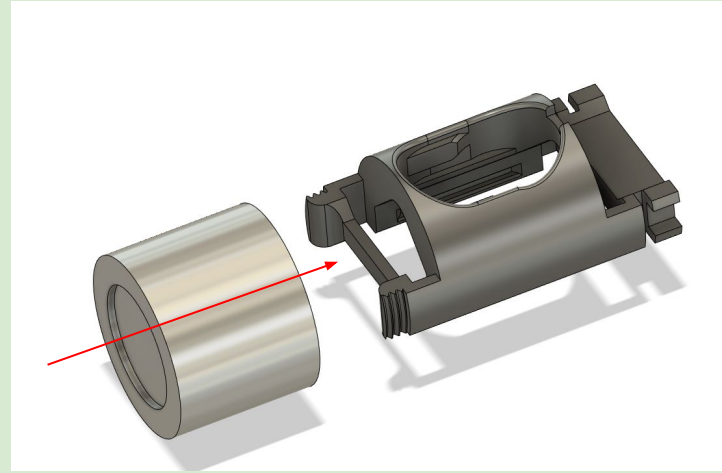
Cut 4 wires that are 1.5 inches longer than the distance from the front of the battery cradle to the end of the entire chassis

Solder these wires to the TriCree, with one wire being the common anode (positive side)

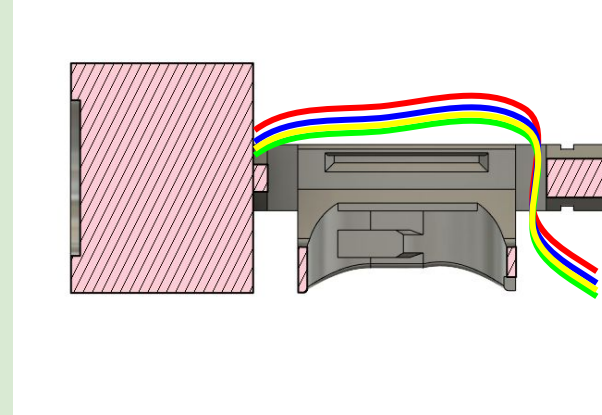
Assemble TriCree heatsink by first putting the thermal pad on the heatsink, then inserting wires through copper, and finally pulling wires through and pushing TriCree onto adhesive thermal pad



Screw on the TriCree heatsink onto the rails, being sure to keep the wires under the button module



If you flipped your button module, route the wires as shown

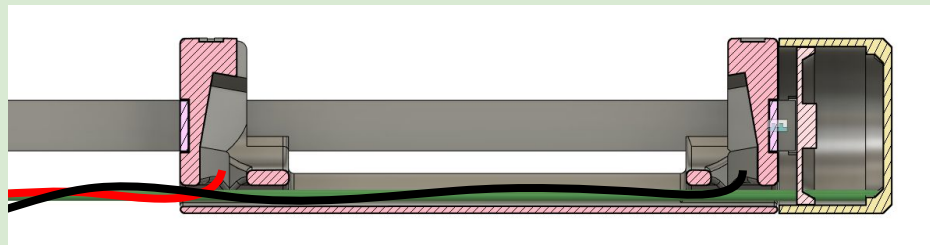
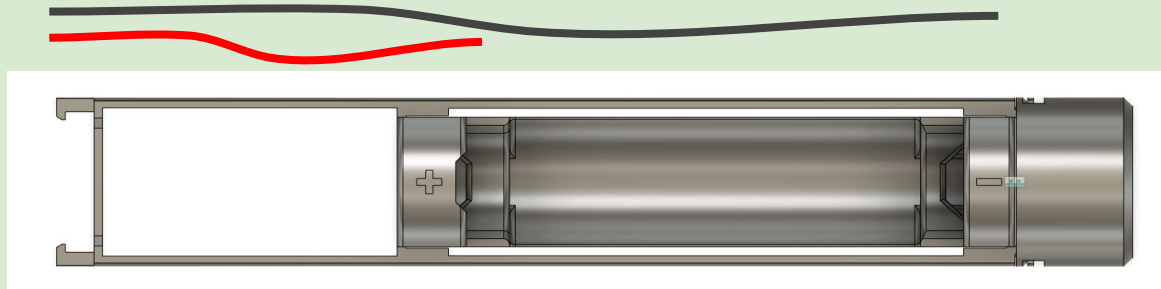


Cut a wire that spans the distance between the positive contact to the end of the main rails as shown

Cut a wire that spans the distance between the negative contact and the end of the main rails as shown

Solder battery contacts to both ends and feed the wires through the battery

Fit contacts into place

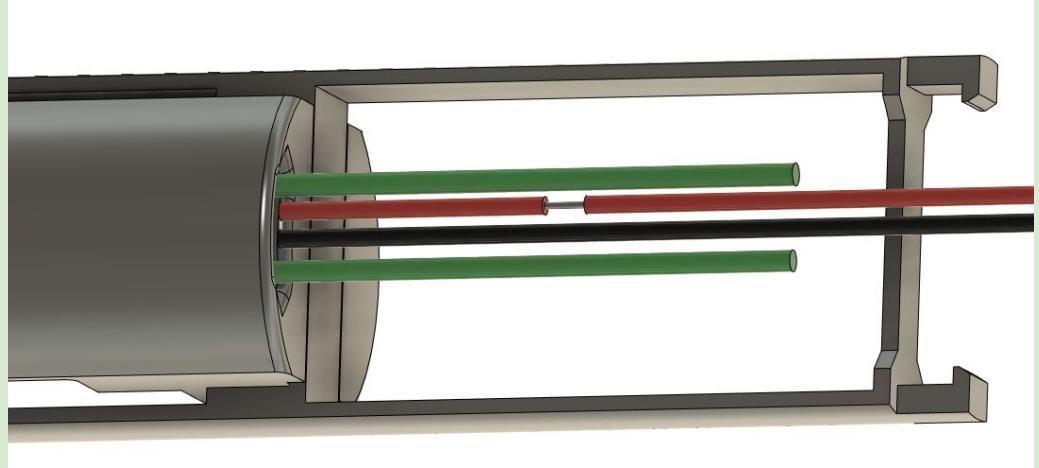


Expose a small section of wire in the positive wire about in the middle of the open section as shown

Do the same to the common anode wire, about .75 inches from the exposed end

Be sure to tin the sections to prevent fraying

Do not solder them together yet

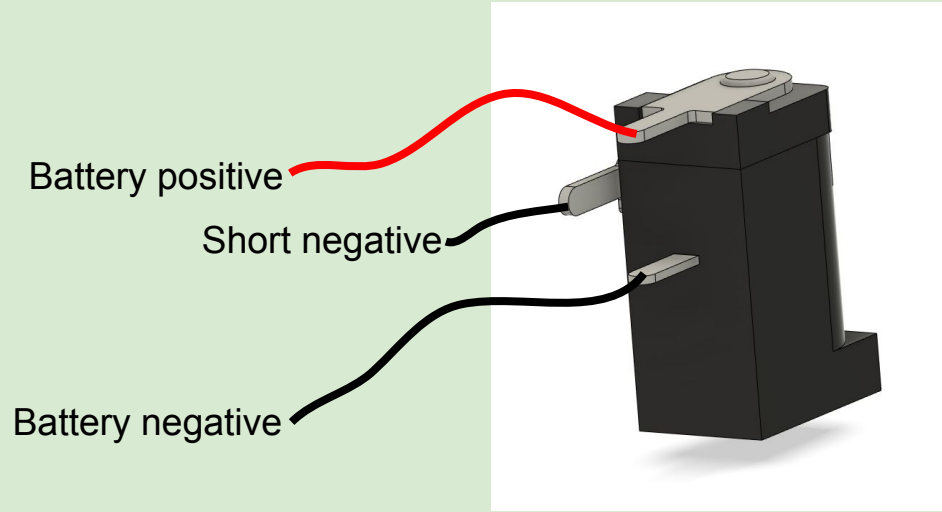


Solder the end of the battery positive to the recharge port as shown

Solder the negative battery line to the terminal of the recharge port shown

Cut a 2 inch negative wire

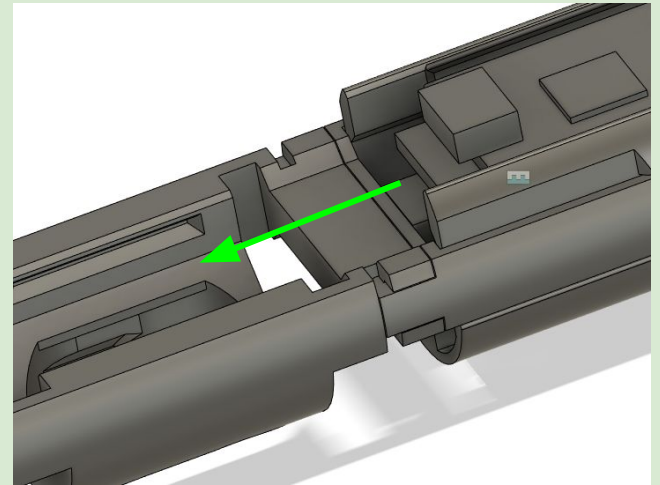
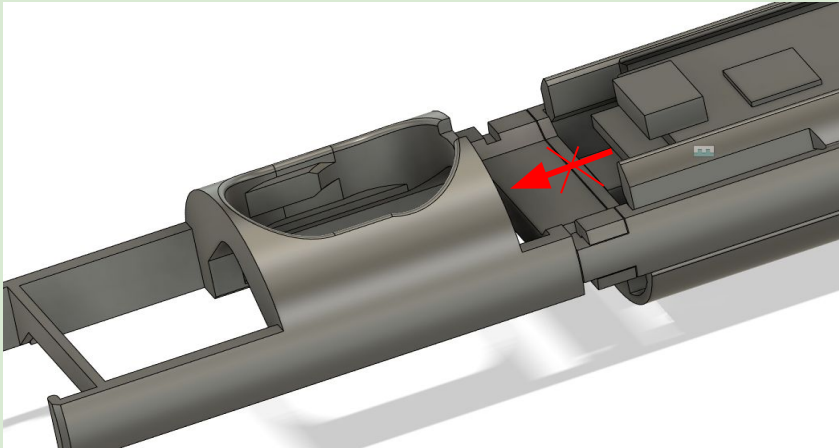
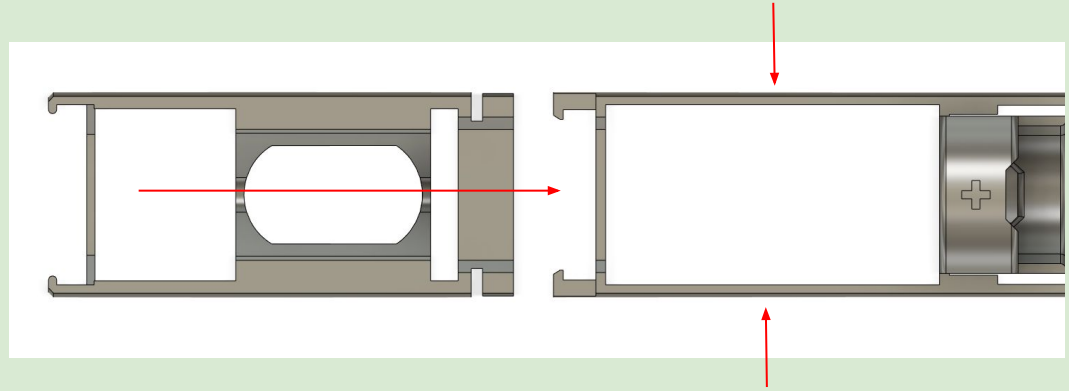
Solder the 2 inch wire to the side terminal on the recharge port



Assemble the rails together by squeezing board rails together

If the button is too close to the board cradle such that you won't be able to plug in your board or remove the SD card, flip it over

You can eyeball it from pictures without having to test fit board cradle



Solder exposed sections together

Solder all wires to board:

Common anode end

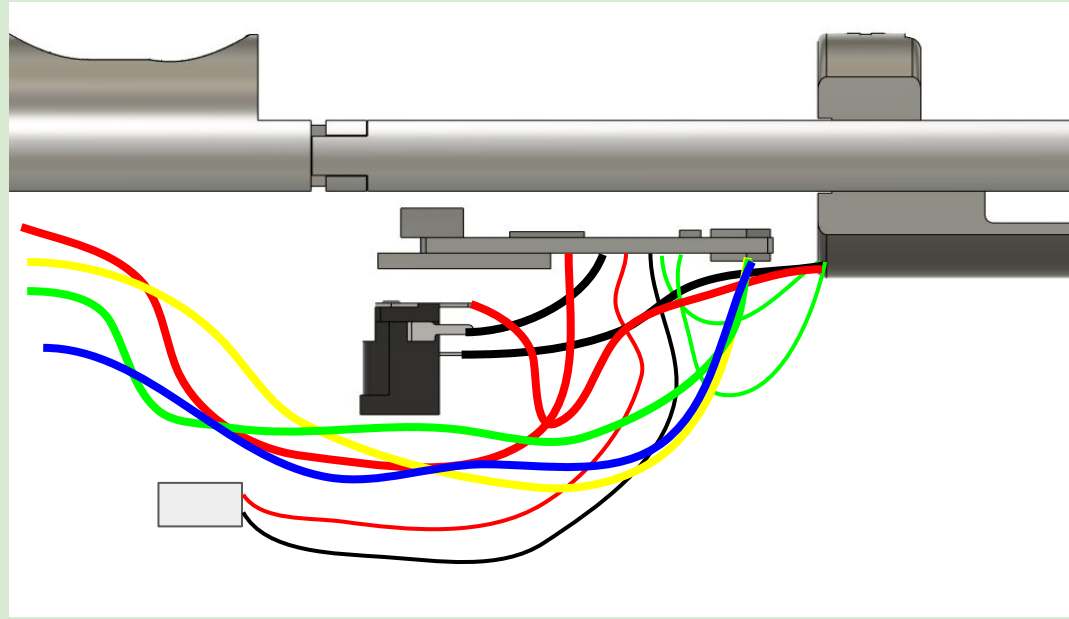
Short negative wire

Both Speaker wires

All TriCree wires, adding resistor
where necessary

Solder micro JST connector to board
(for button)

Follow PINOUT in manual to see
where wires go



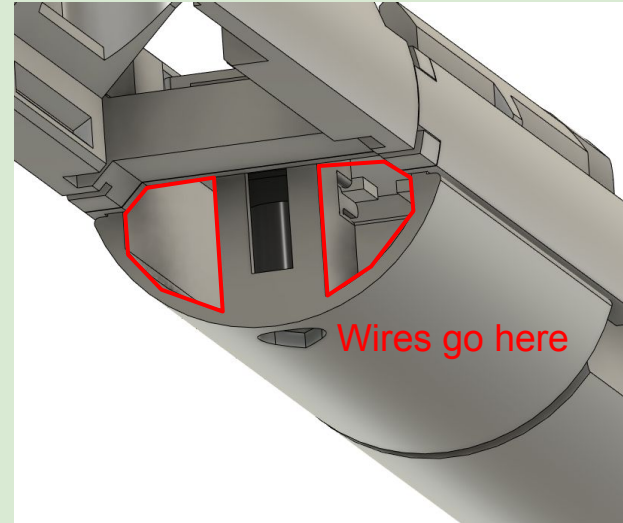
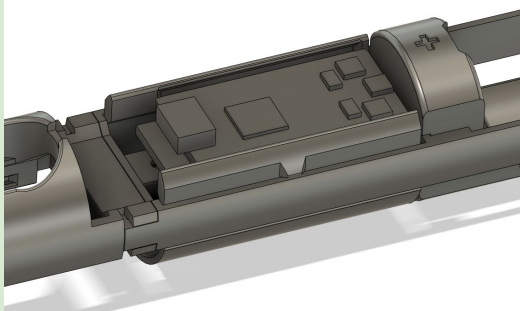
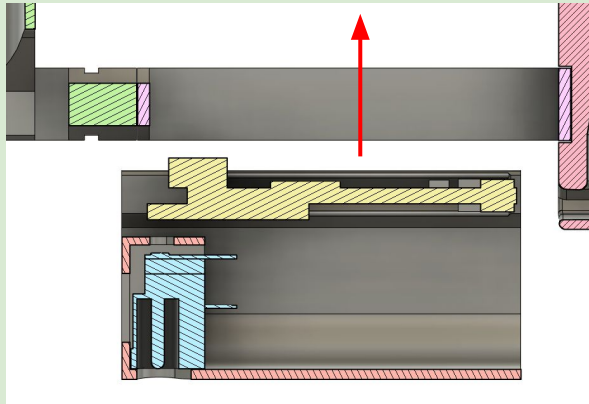
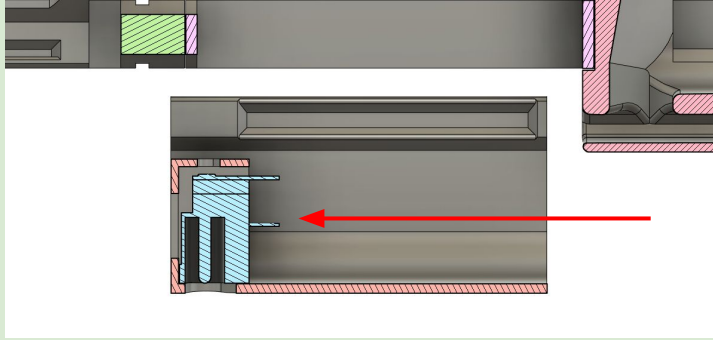
Note: For the Verso, I solder the resistor directly to the board and then solder the wire to the other end of the resistor. In the manual, it's the yellow wire (that is if you use the exact same Cree and the same color wires).

Fit recharge port into board cradle using pencil eraser or popsicle stick until the bottom port aligns

Be sure no wires are touching inside the cradle

Fit board into slots in board cradle

Fit board cradle into rails, button wires come out on one side of the recharge port and TriCree wires come out the other side



Solder other half of micro JST connector to button, secure with hot glue

Fit button into collar and test fit in hilt

Cut collar to adjust for button height

Wrap button in masking tape and glue collar to button

