Congratulations on purchasing the Cosmetic upgrade kit for your Life-Size Spirit Halloween Proton Pack (and wand).
The pack looks great but can be taken to the next level with the cosmetic upgrades that are included in this kit.

Contents:

Shock Mount/Bellows:

- #1 1x Slotted screw for bellows

Ribbon Cable related:

- #2 20” Twisted pair ribbon cable replacement (full scale)
- #3 Brushed aluminum/Acrylic cover on cyclotron
- #4 Cover screws, washer and lock nut
- #5 Ribbon Cable Clamp
- #6 Frame screws, washers and lock nuts

Pack Body:

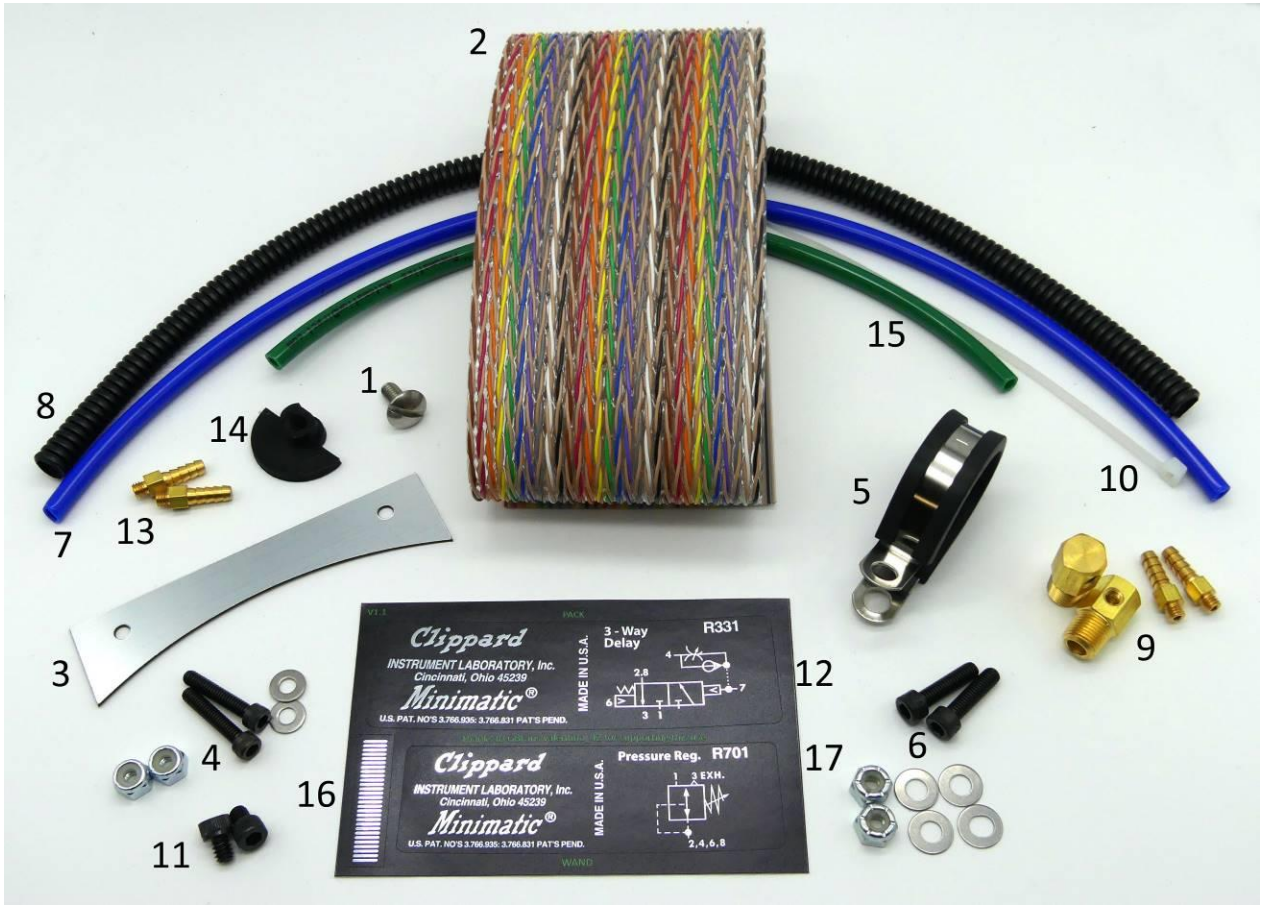
- #7 18” Blue tubing to go to HGA
- #8 18” Black Split loom to cover the Blue tubing
- #9 Clippard brass parts to connect to Blue tubing
- #10 6” white cable tie

Clippard Valve:

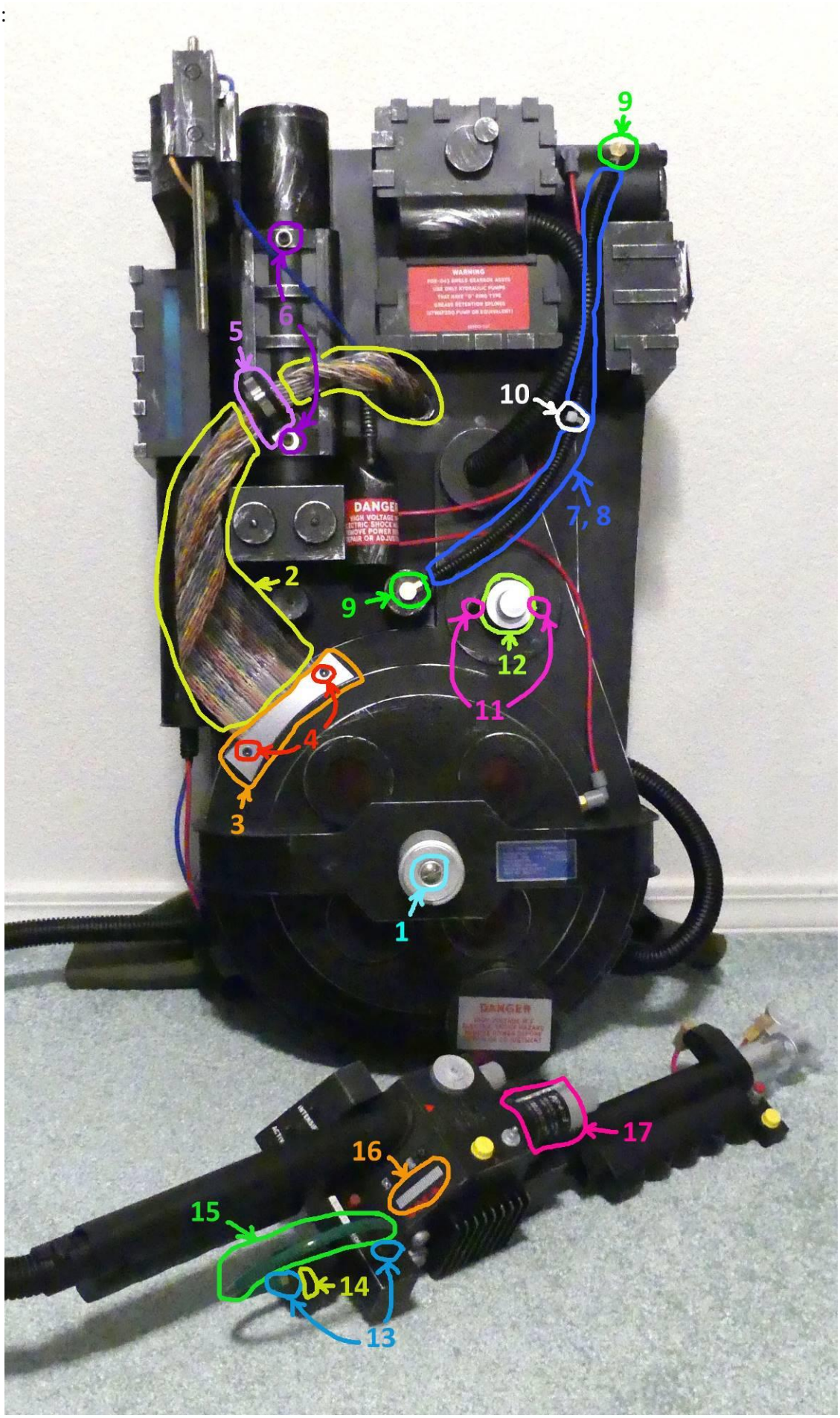
- #11 2x Clippard screws (how it is supposed to be attached)
- #12 Metallic label for Pack Clippard Valve R331

Wand:

- #13 2x Clippard Brass barbs to attach Green tubing
- #14 3D printed part to give additional support for The SLO BLO box side Clippard barb connector
- #15 10” Green tubing
- #16 Metallic Bar Graph label showing segments
- #17 Metallic label for Wand Clippard Valve R701



Parts Locations:



Specific Tools Needed:

Drill bits:

- 3/8” for brass Clippards item #9
- 3/16” for screws item #6
- 11/64” for bellows screw item #1, screws item #11 and Clippard Barbs item #13
- 5/32” for screws item #4

Hex keys:

- 5/32” for item #6 and #11
- 9/64” for item #4

Various tools:

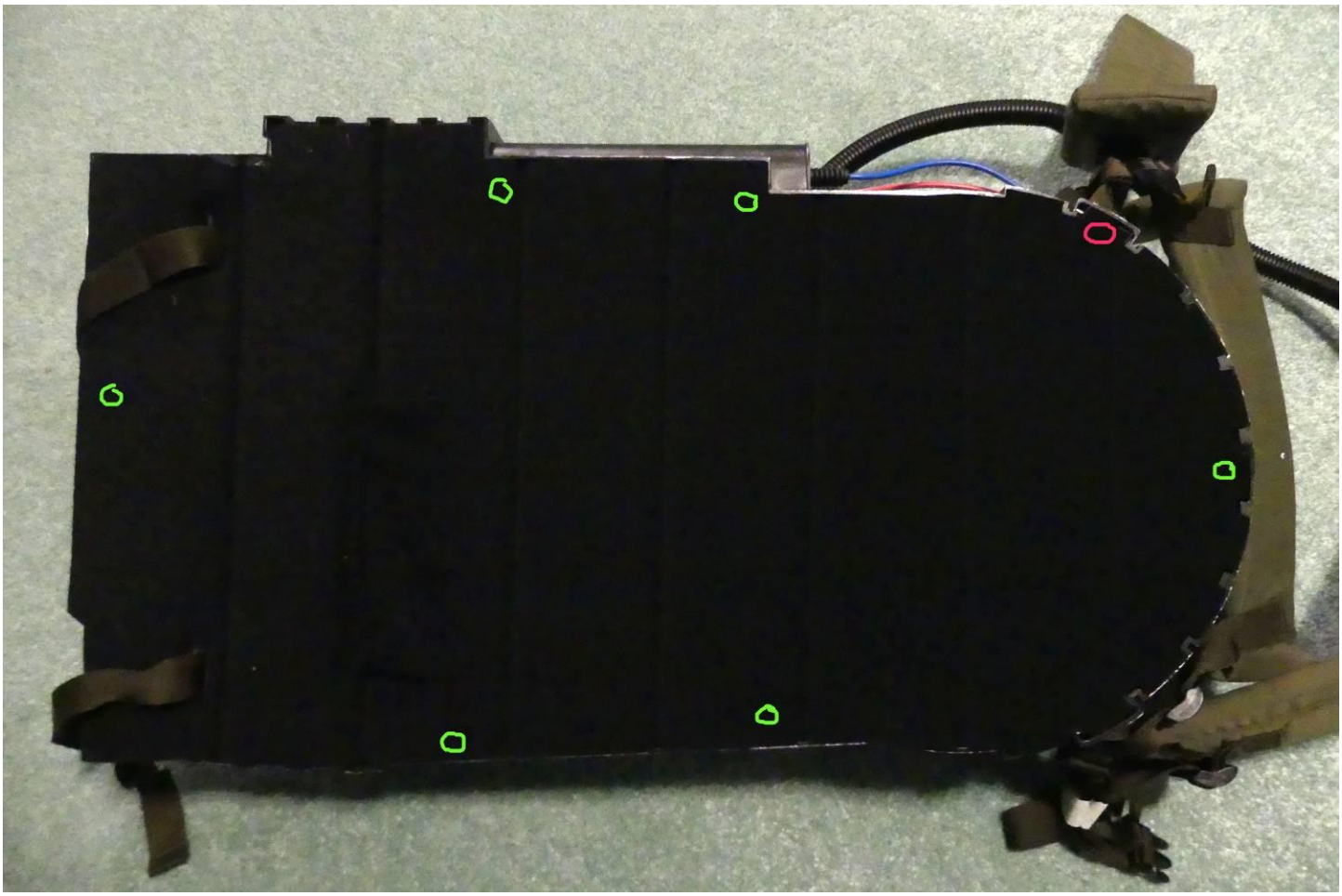
- Hot Glue gun
- Small to medium for use on Clippard parts and lock nuts
- Flush cut diagonal cutters (or possibly just a razor blade) to cut the green tubing from the wand
- Philips head screwdriver - medium to small
- Flat Head Screwdriver - medium
- X-acto knife / razor blade
- Scissors (to trim the loom and tubing)

Getting started:
Though there are multiple items that do not need access to the inside of the pack, let's get the back off the Spirit Pack first and not deal with this in the middle of the upgrade.

Flip the pack over and remove the straps so we can completely remove the motherboard in a later step:



There are 7 screws that need to be removed and one of those (circled in RED) is tricky in that the post is not very strong and I did not realize how weak it was and broke it off on one of my packs.



Here is the problematic (at least for me) screw that is circled in red in the above photo:



The edge of the motherboard is sometimes hot glued to the pack itself. This may be random since the hot glue is used to attach the fabric to the motherboard, or it may be on purpose to both hold on the fabric and attach the motherboard to the pack.

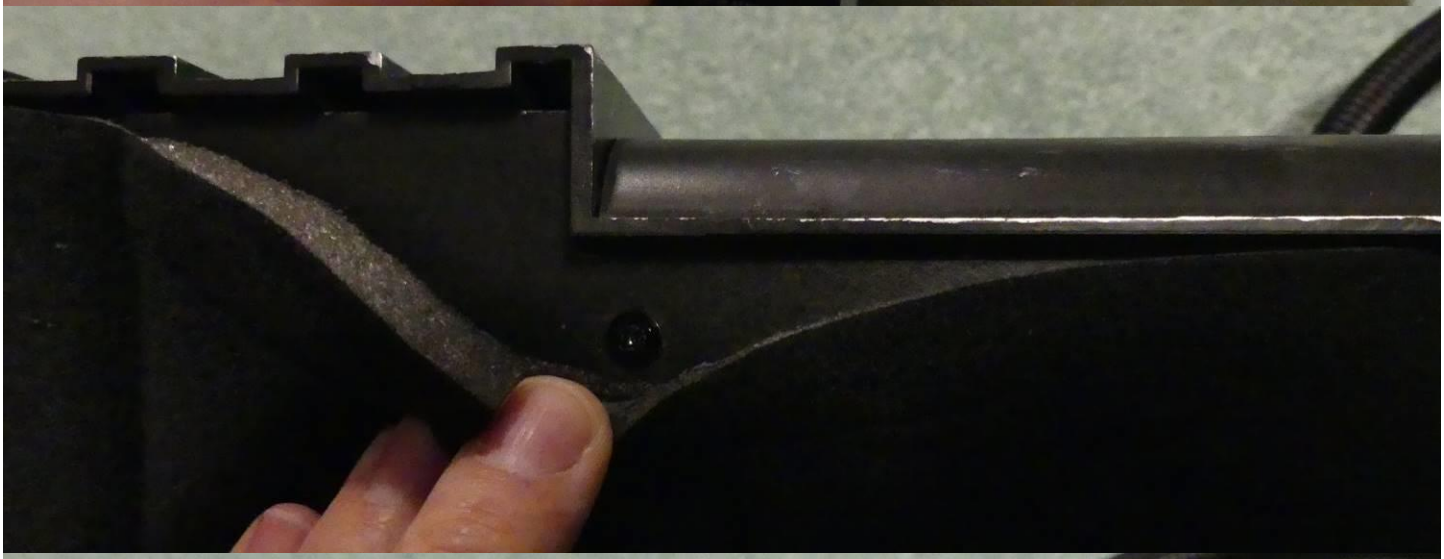
I used a small flat blade screwdriver and worked my way around the edge of the pack:



The motherboard can be damaged, so take great care and you may only need to do this in a few spots or possibly all around the entire edge.

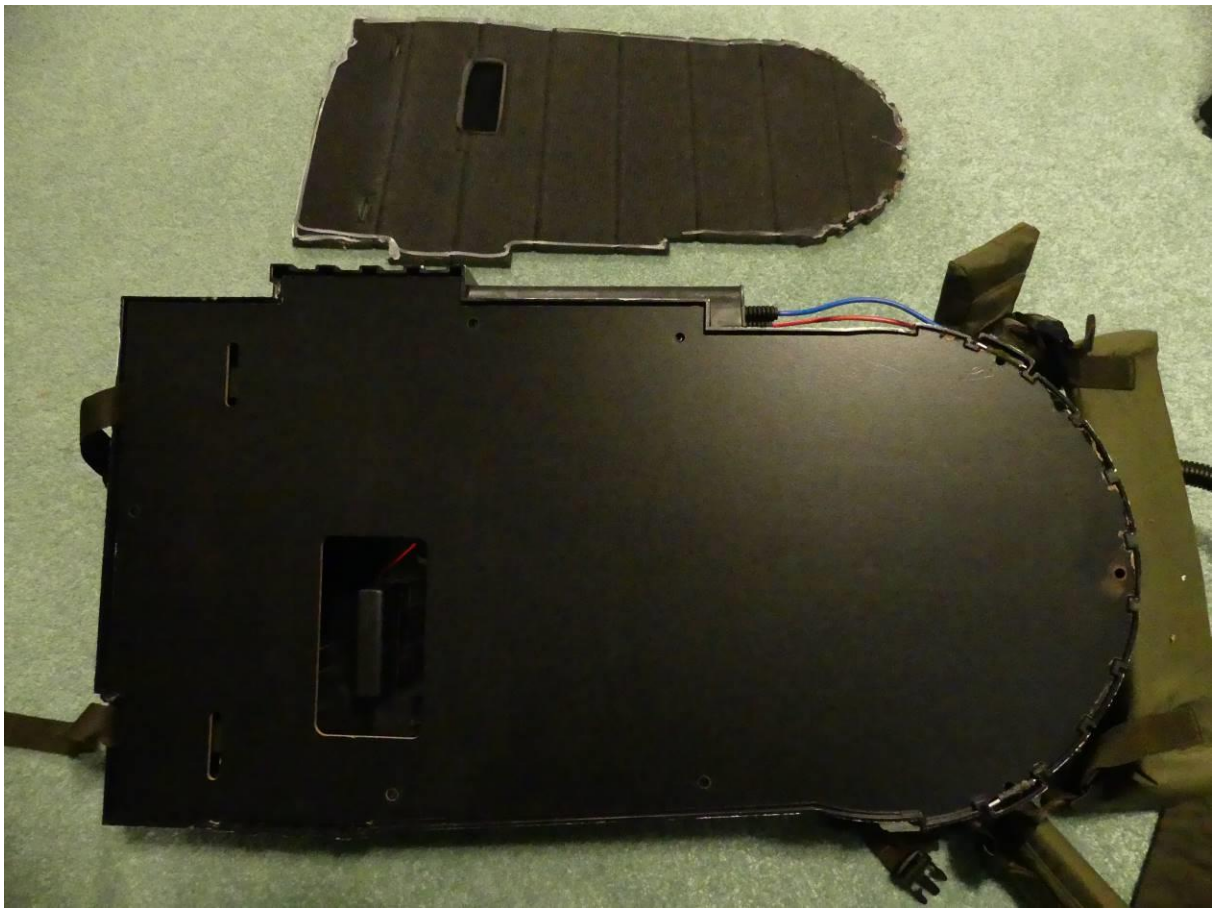
You may be able to just pry up a small section and expose the screws:







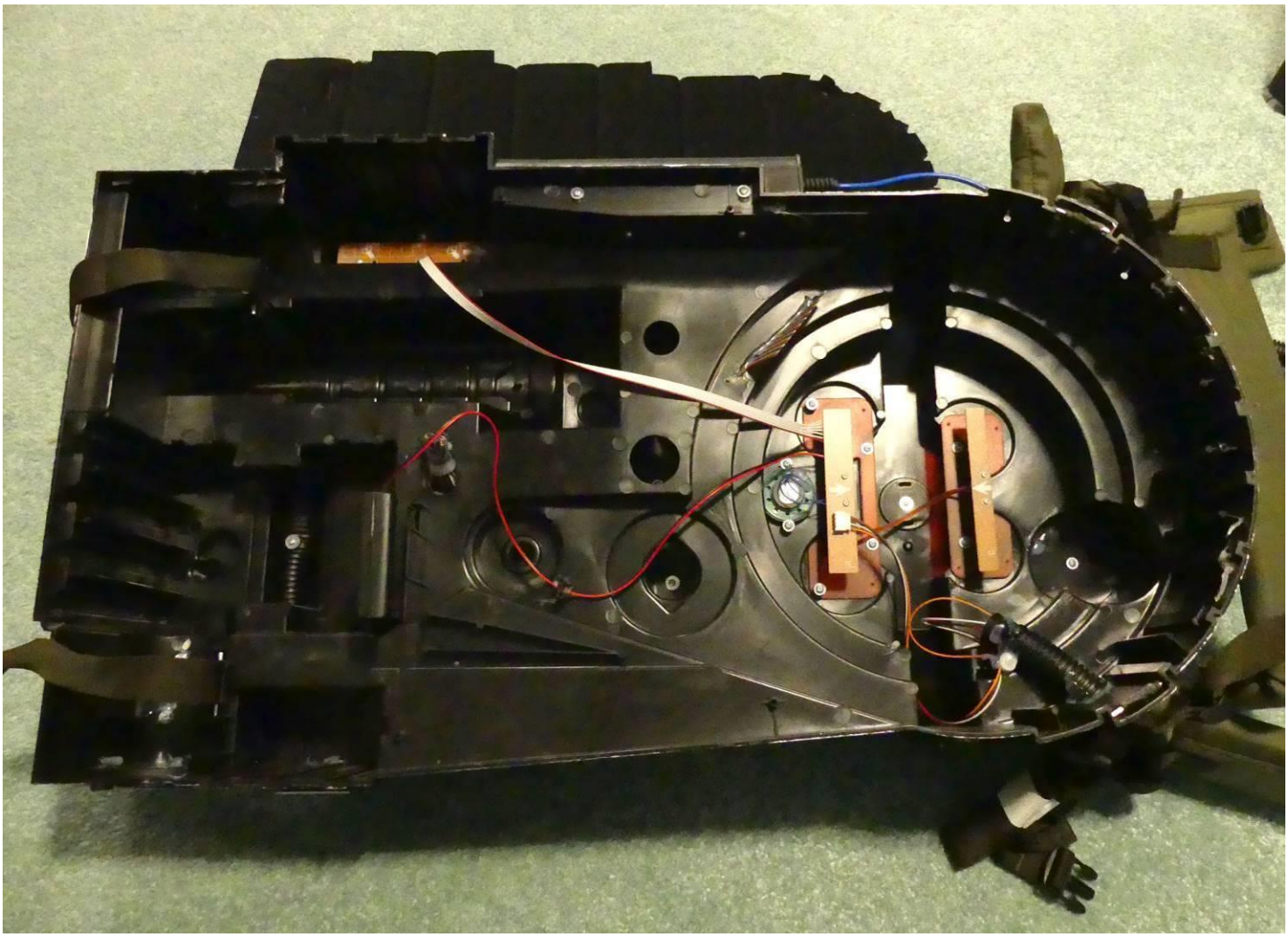
I eventually was able to remove all seven screws and the fabric was still somewhat attached then when I was moving it out of the way the entire piece of fabric just fell off, so not sure it was worth trying to leave it on!



You can use the open battery cover are to start lifting the mother board off and seeing where the glue still needs to be removed as you gently lift it up:



Once you get the back removed, here is the view inside the pack:



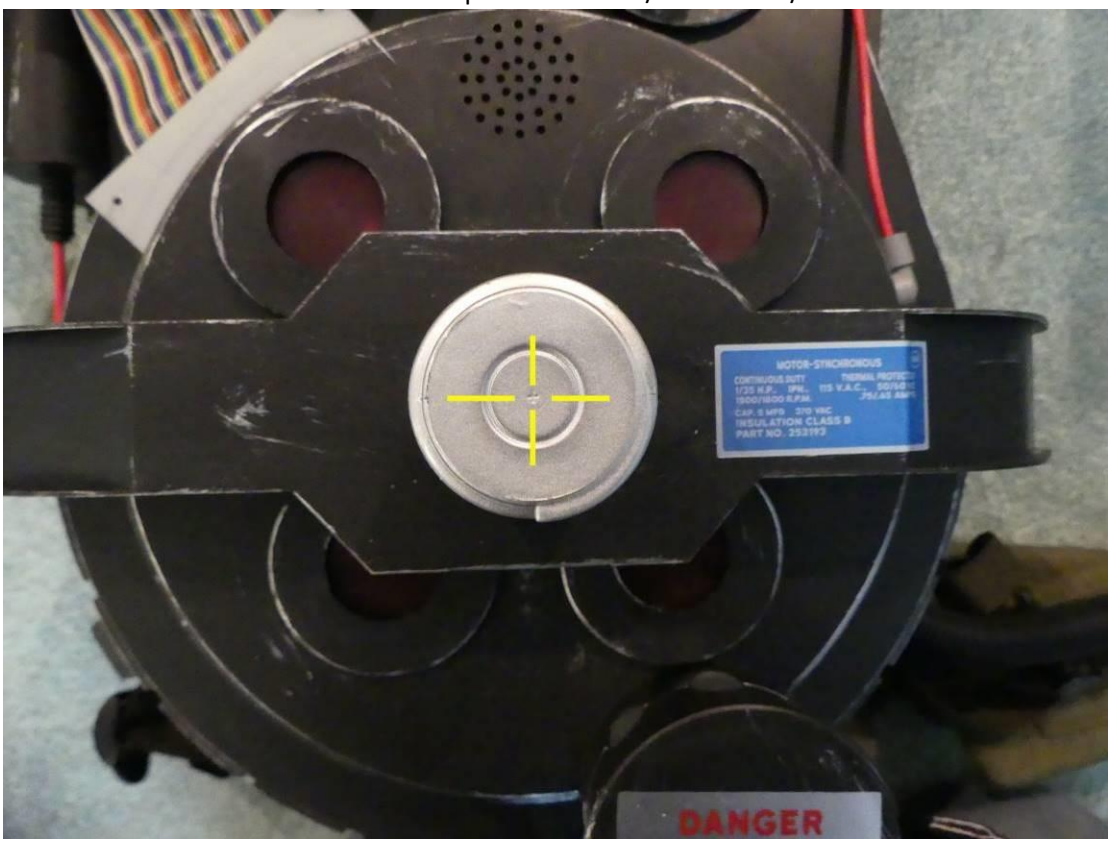
You either put the screws in a bag or put them in the posts they came from, so they don’t get lost.

Order is not important, but this is the order that I like to install the mods.

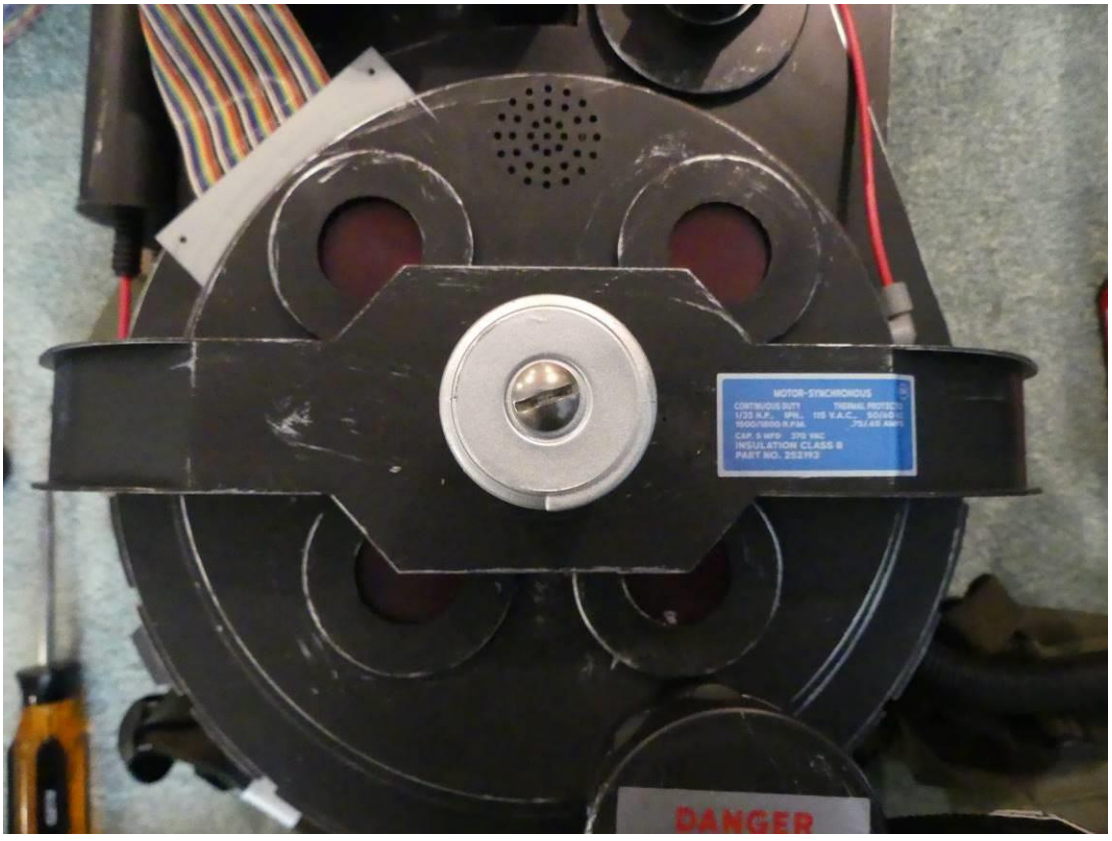
Billows Screw

Item #1 is a simple install that requires drilling a single hole and screwing in the screw #1 with a flat screwdriver.

1) Drill a hole in the center of the billows part with an 11/64” drill bit/

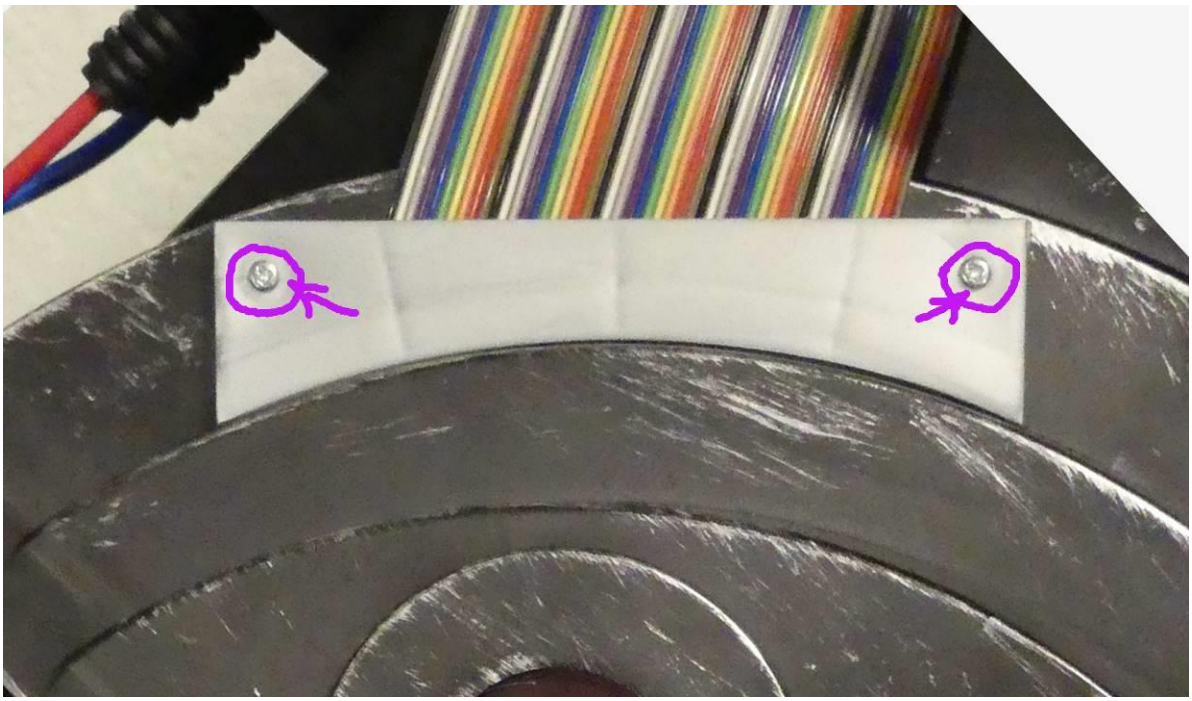


2) Screw item #1 into the hole (angle of slot matches a movie used proton pack):



Ribbon Cable

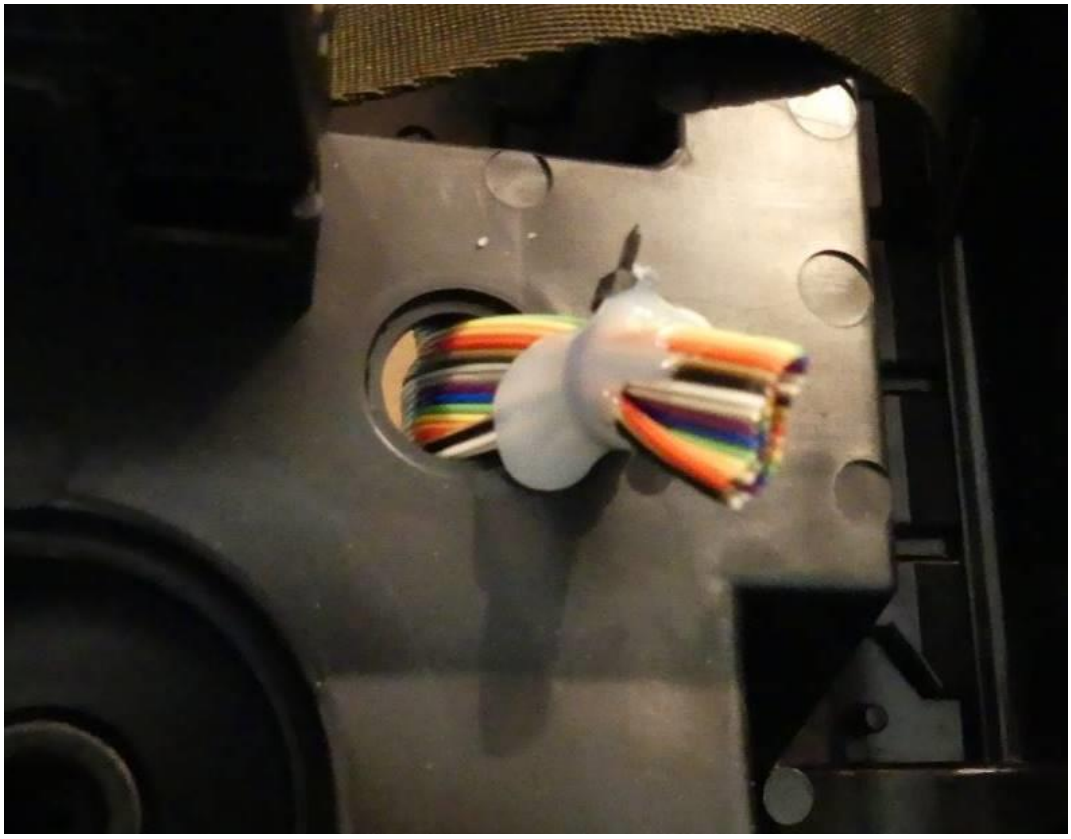
This starts by removing the original ribbon cable and cover from the pack by removing the two Philips head screws and then lifting off the grey plastic cover.

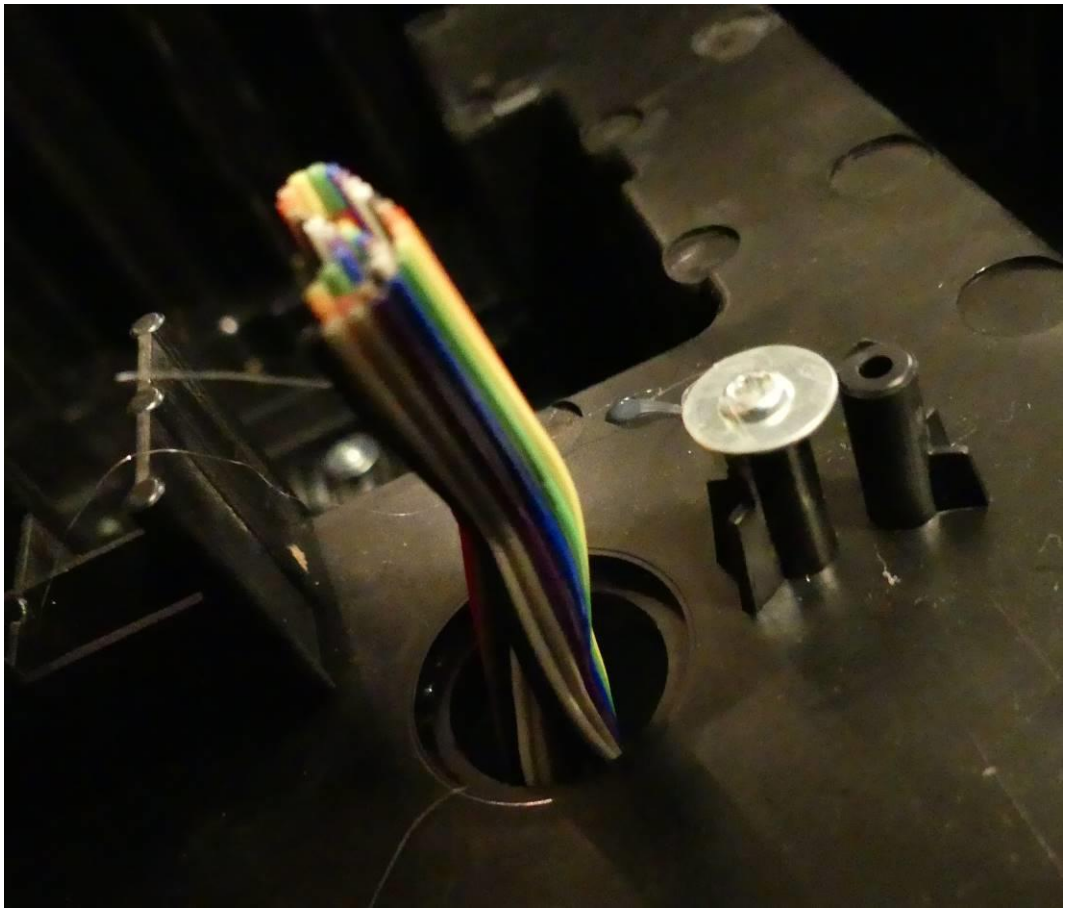


Now flip the pack over and carefully remove the glue from both ends of the cable (I used a flat screwdriver to get it started:

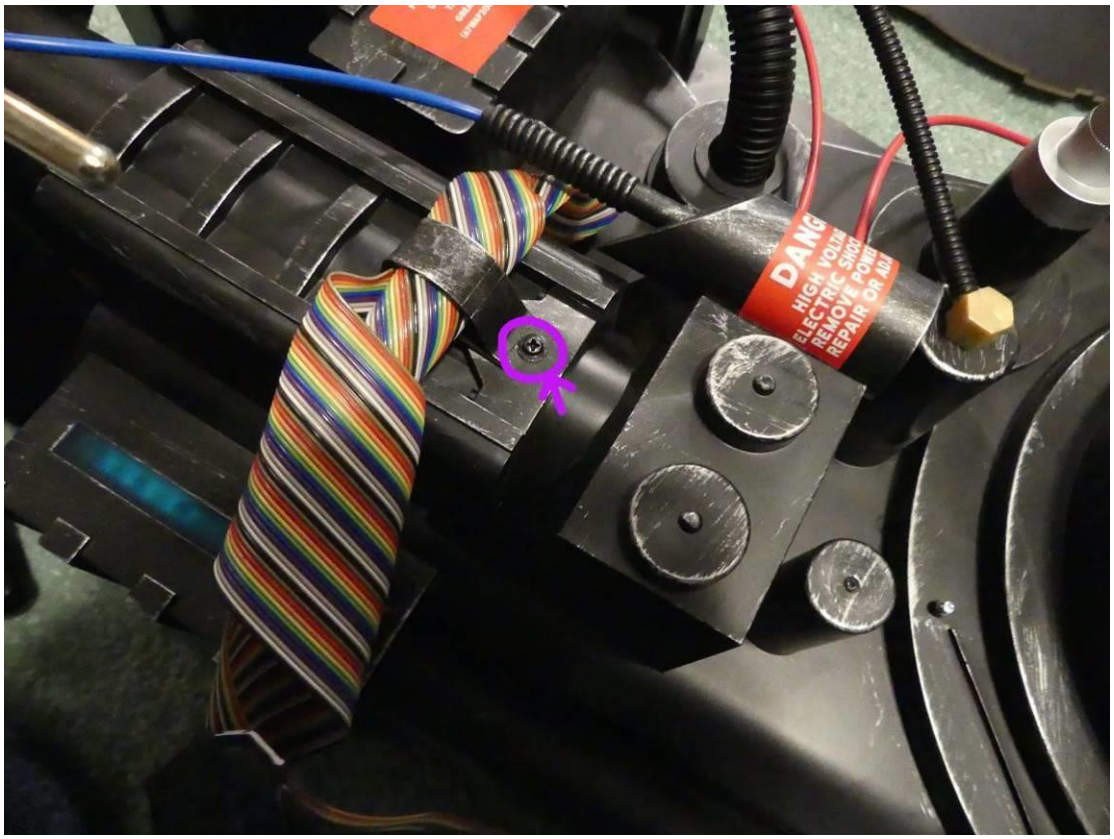


Remove some glue and cut the wire tie:

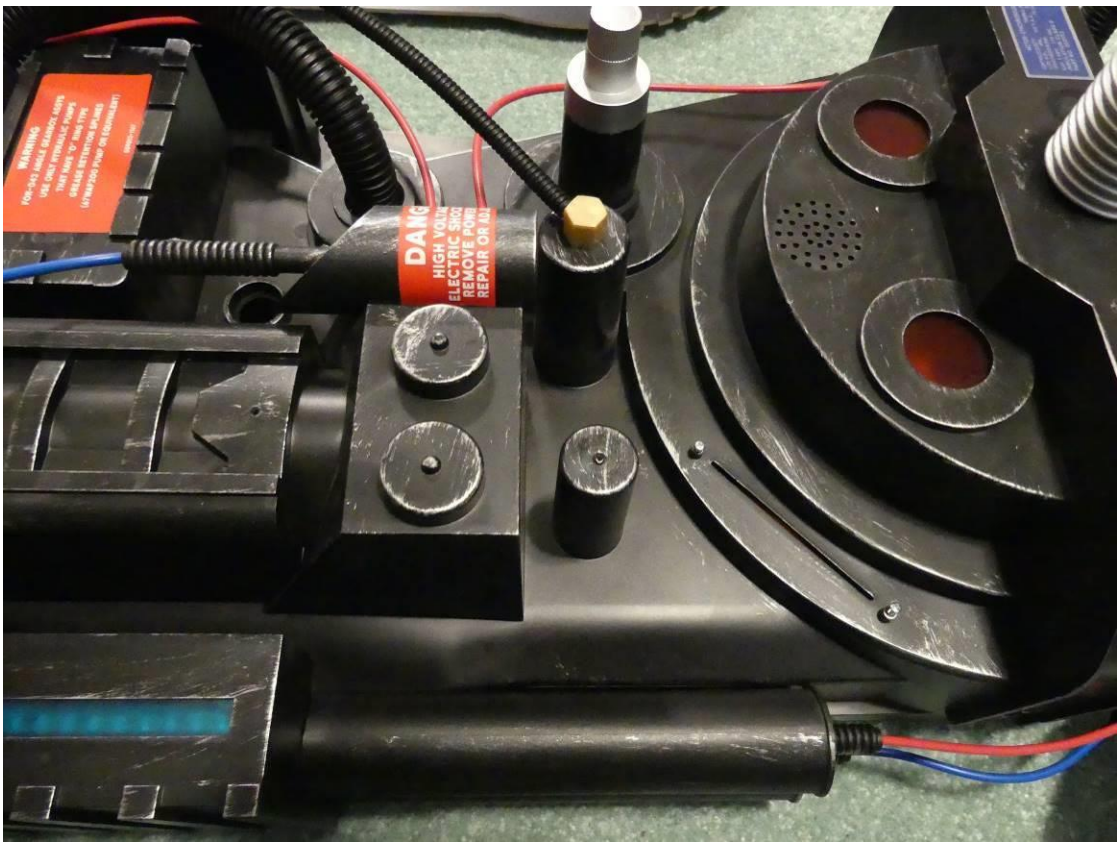




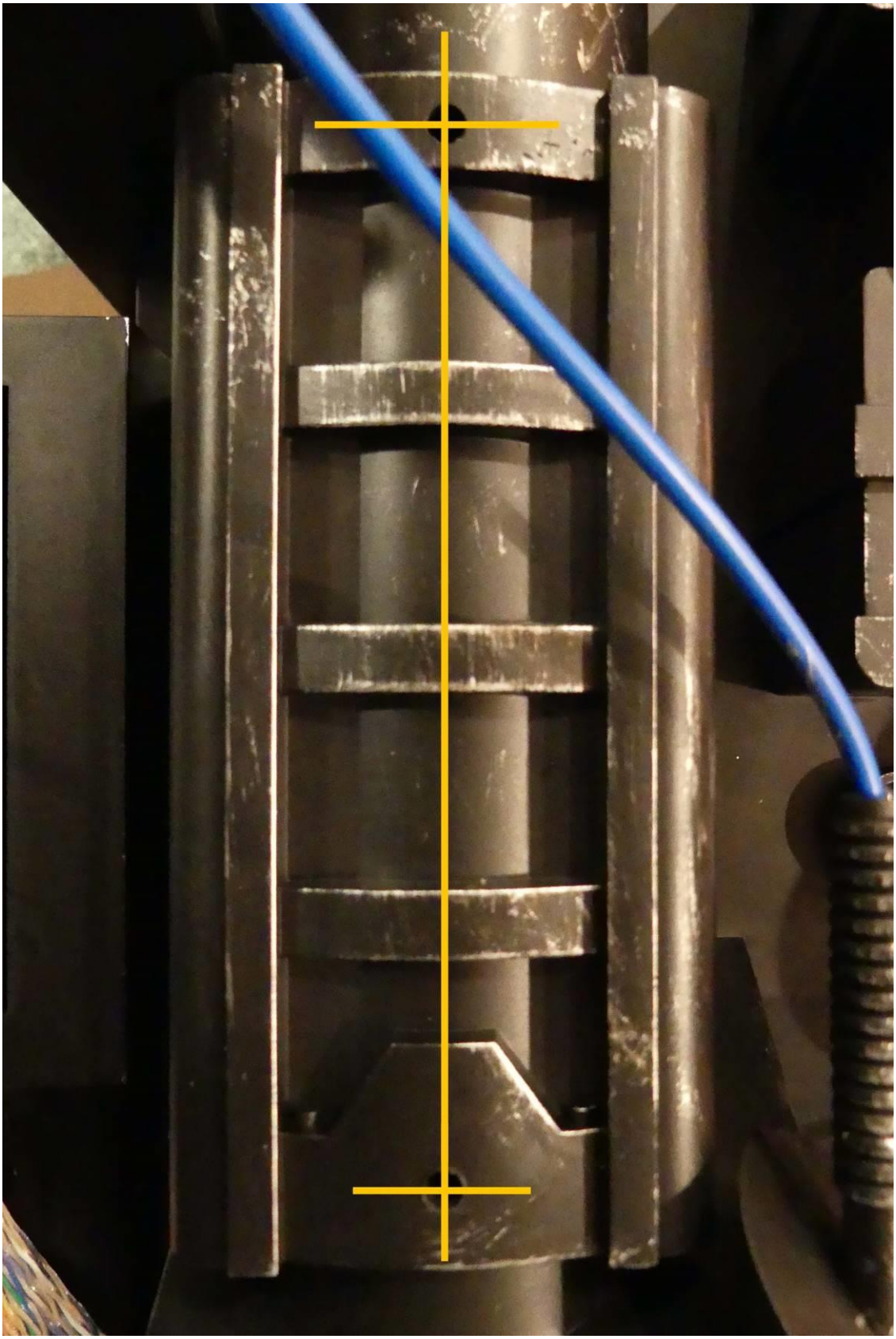
You can now flip the pack over and remove the existing plastic cable clamp by removing the Philips screw that is holding it in place:



The ribbon cable and clamp should now be easily removed from the pack:



Next, we need to drill the holes in the ladder for the cable clamp and the screw to make it look as if the ladder is held in place by the screws. Use a 3/16” drill bit and center one hole on the top ladder bar and the other hole use the existing hole as the center point. Here are the two locations to drill (I already drilled them):

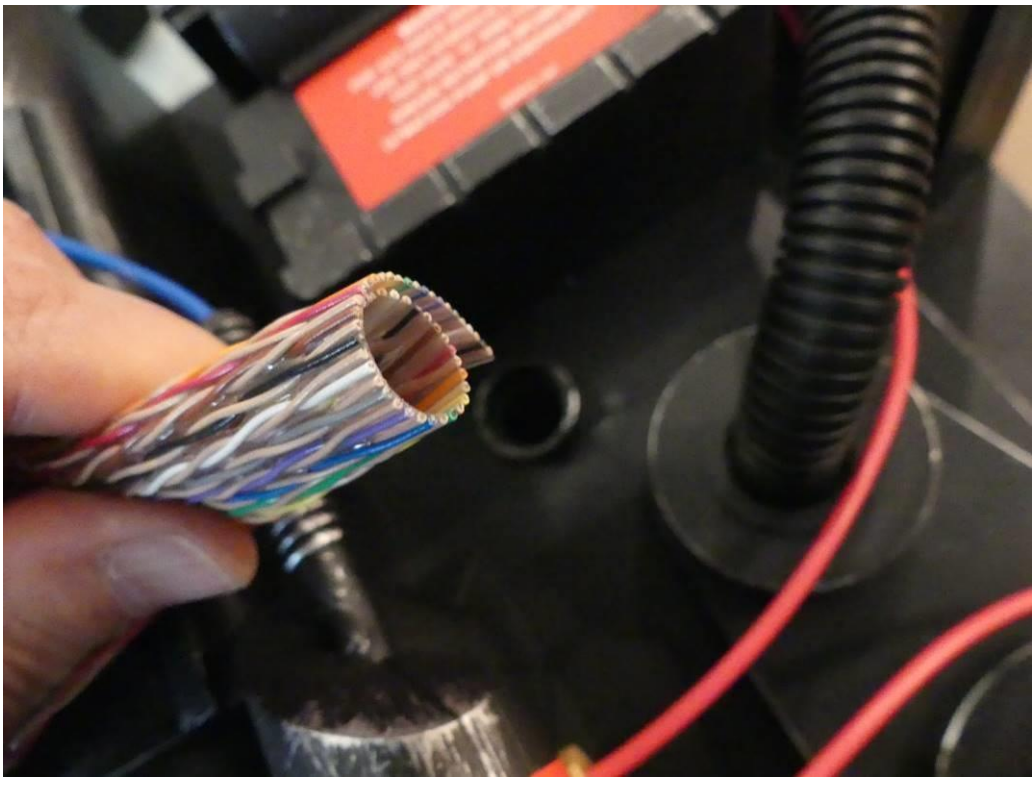


Roughly dress the item #2 ribbon cable as you would like it to look and slide it into the hole on one end and the slot on the cyclotron end.

I like having some straight wires show coming out of the clamp since this mimic a movie used proton pack as seen in the reference photo below:



To get in the hole in the middle of that pack, roll up the ribbon cable:

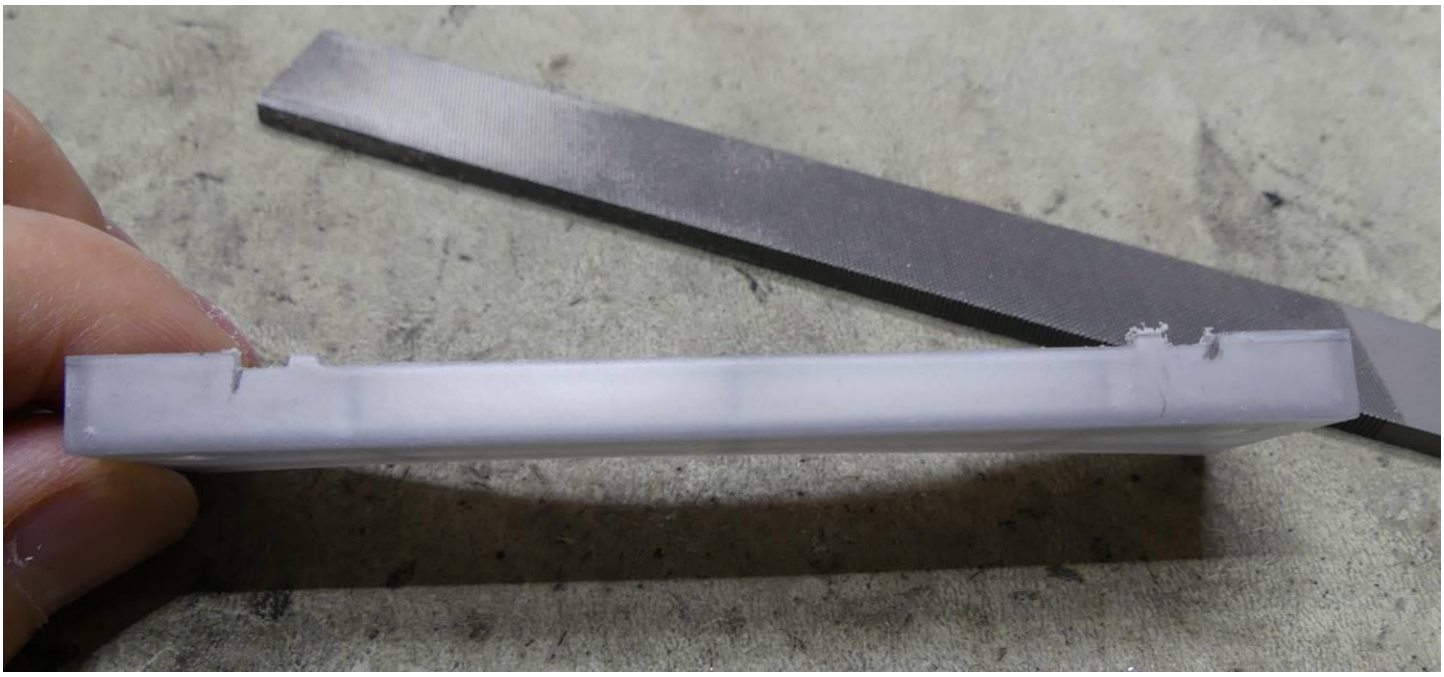


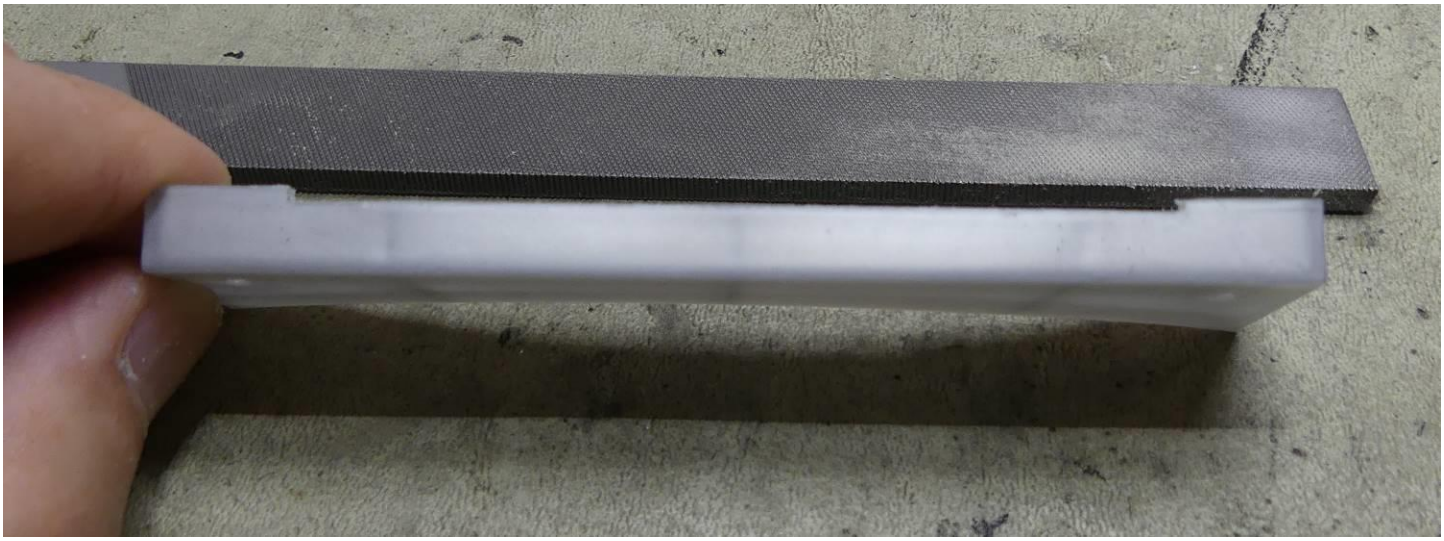
With the cable somewhat installed it is time to update the cable cover that was removed earlier to remove the existing ribbon cable.

Slightly screw back in the screws so you can mark the cover where the ribbon cable will go. This cable is wider than the original ribbon cable so the opening at the bottom of the cover needs to be made wider. It adds about ¼" to each side.

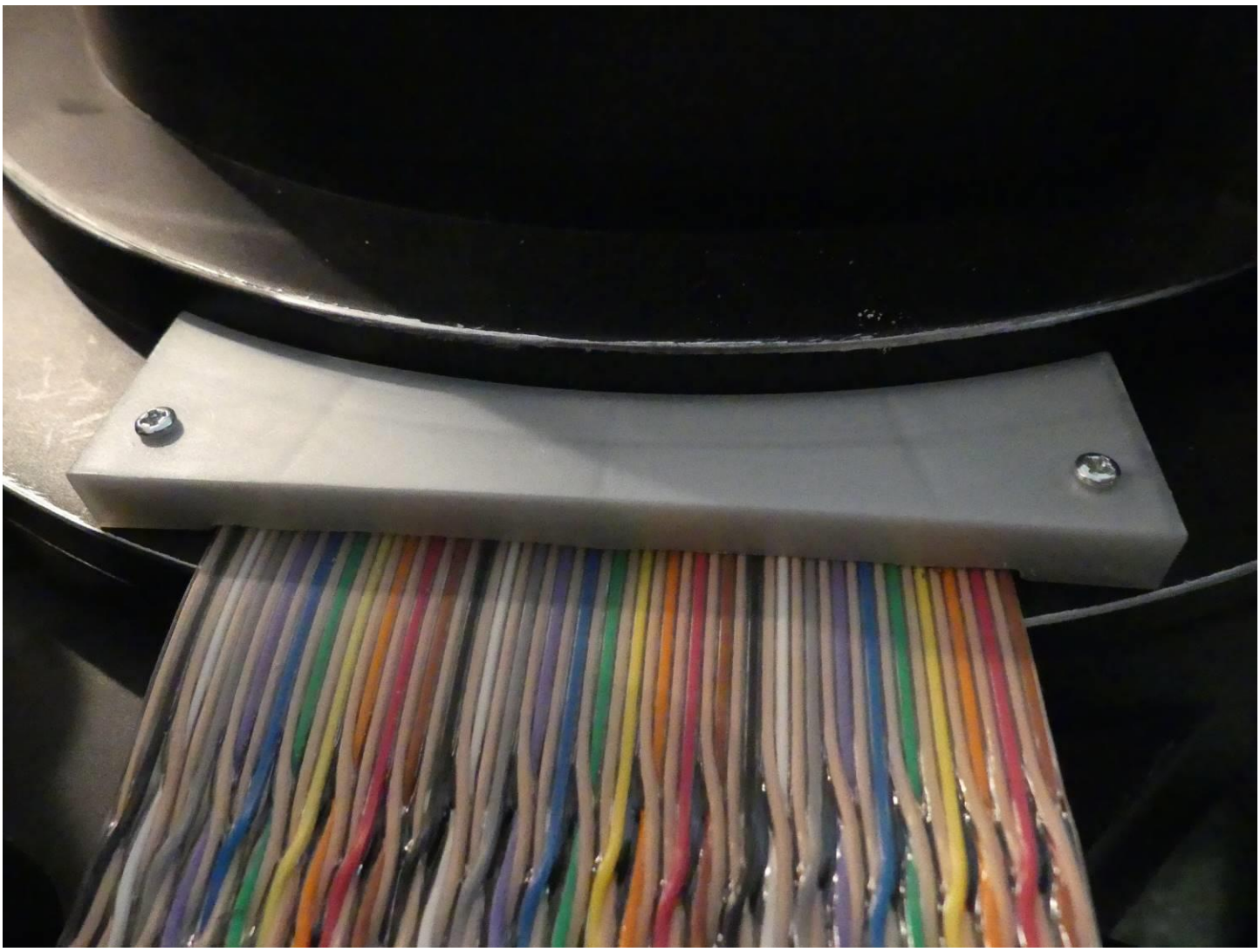


I used a file and carefully filed down the outside edges to the pencil marks I added to show how wide the cable is. I used the edge of the file and first removed out at the required width and then later removed the two stubs. I first tried to do one side and found that removing a smaller section made the removal go faster.





Then a test fit and it looks good:



Next is to add the brushed aluminum cover.

First remove the screws and remove the adhesive protection on the brushed aluminum/acrylic item #3:



Now carefully line the two up and apply pressure. It is HARD to readjust, so make the first placement as accurate as possible. I use the short edge s on a flat surface and work my way from the bottom up:

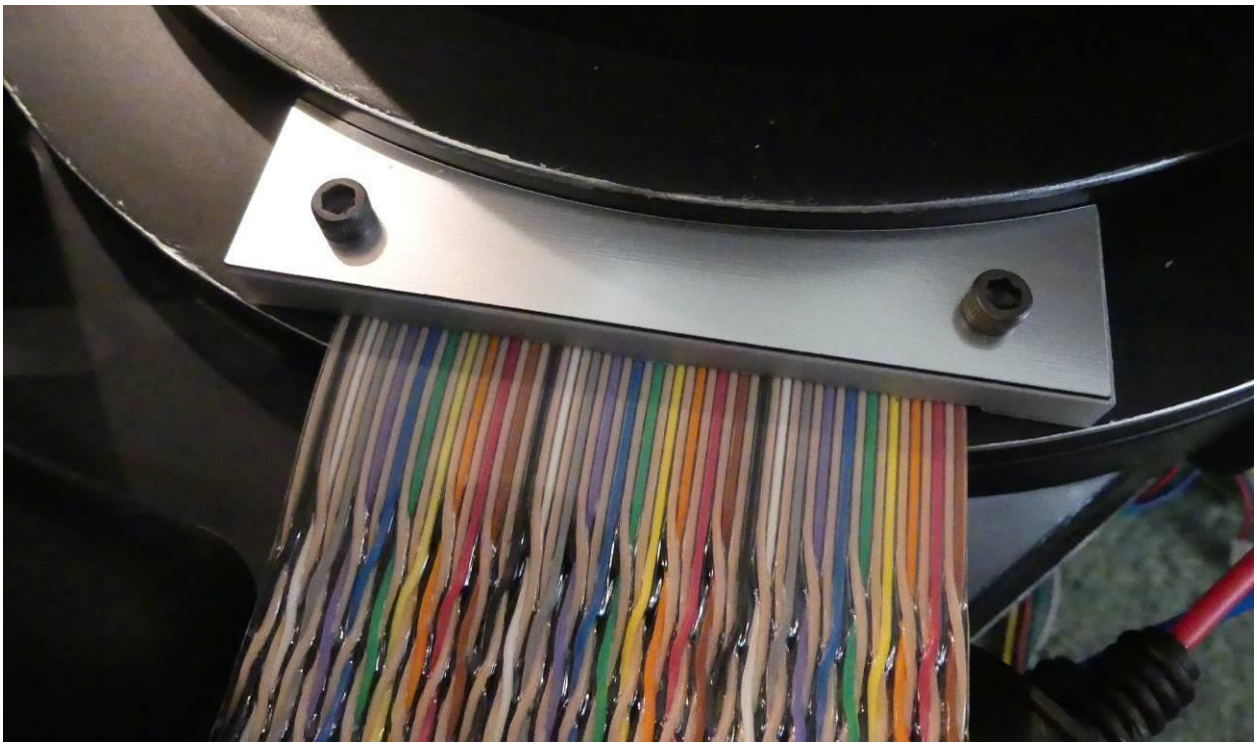


Now place the cover back on the ribbon cable in the correct spot and drill the holes that you see in the brushed aluminum cover. Leave the plastic protection on the brushed aluminum piece until you are done drilling.

Use a 5/32” drill for these two holes.

Then remove the protective layer and place the two item #4 screws through the holes and then on the back side of the pack place a washer and lock nut on each of the screws. The original screws that held the gray plastic piece in place are not used.

To tighten the screws using a 9/64” hex key (Allen wrench) and a small crescent wrench to hold the lock nut in place.



View from the inside of the pack:

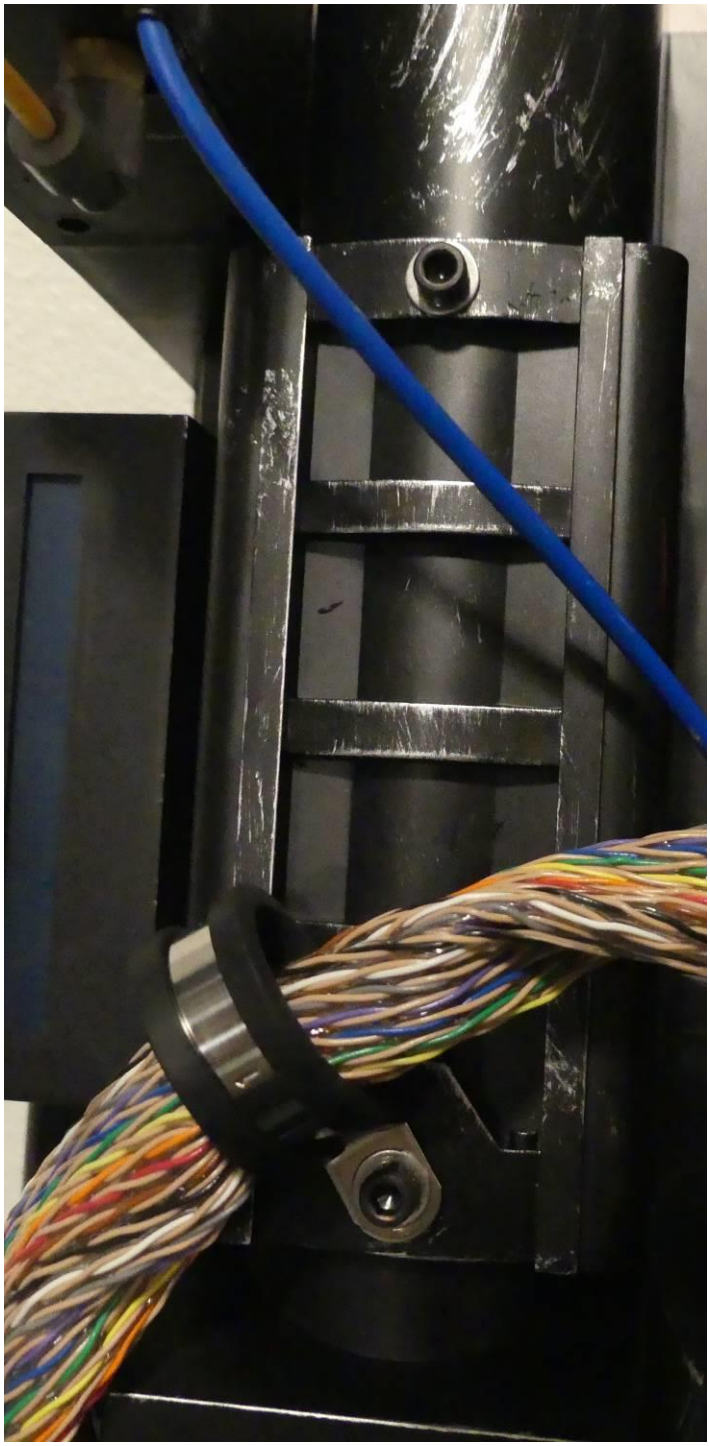


Next is to add the frame screws and Clamp to hold the cable.

Use the screws, washers and lock nut items #6 and the clamp #5.

Slip the clamp over the cable and position it in the direction you like: some packs have the clamp located above the screw and some have the clamp located below the screw. I placed it above since the cable appeared to fit better.

For each screw, place 1 washer on the screw and insert it place, either directly in the hole you drilled, or through the cable clamp hole and then the hole you drilled:

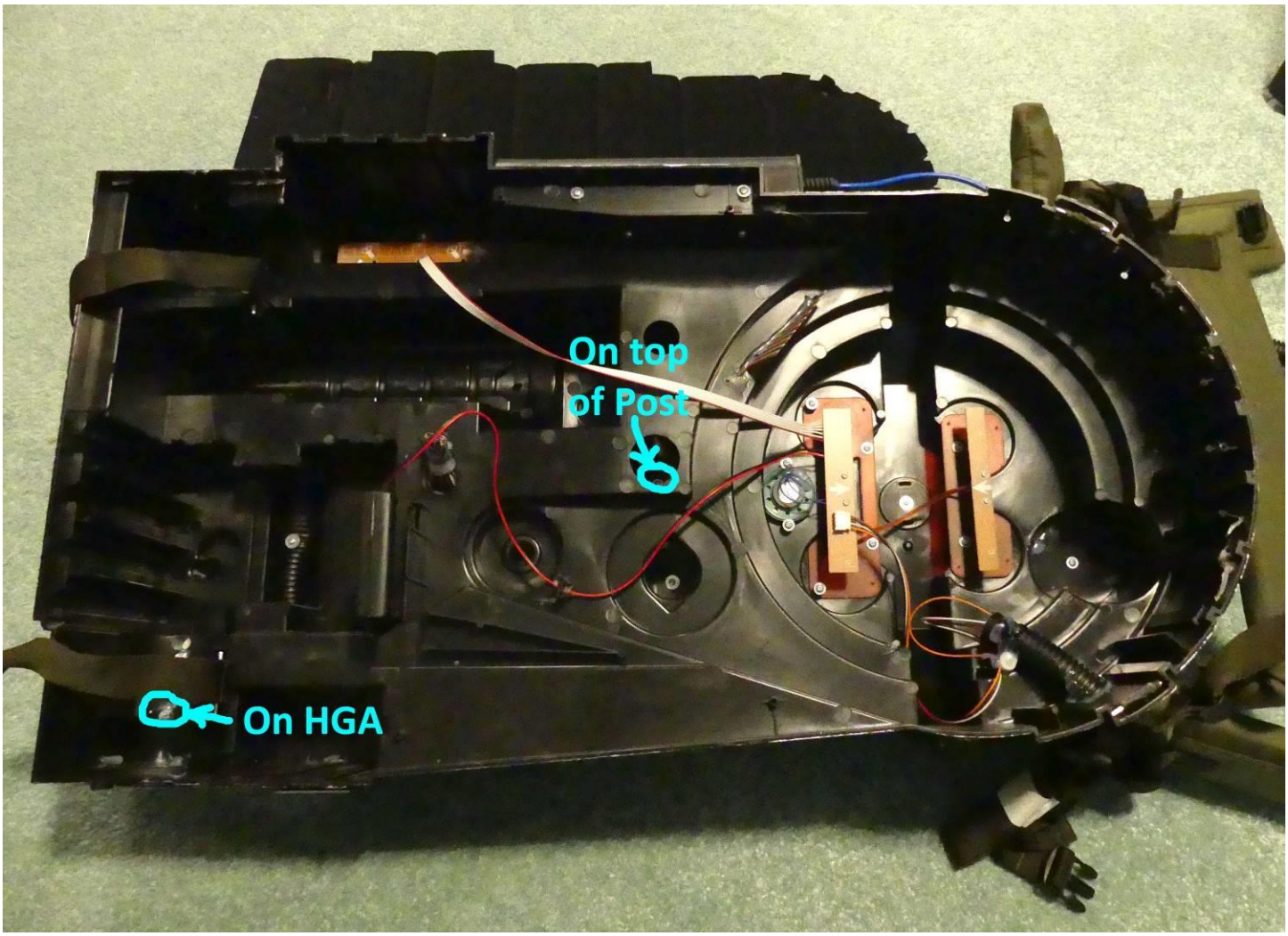


Then flip the pack over and place the other washer on the screw and then the lock nut. Use a crescent wrench to hold the lock nut and tighten the screw with a 5/32 hex key (Allen wrench).



Next is to replace the connectors and small loom piece that goes from a post to the HGA.

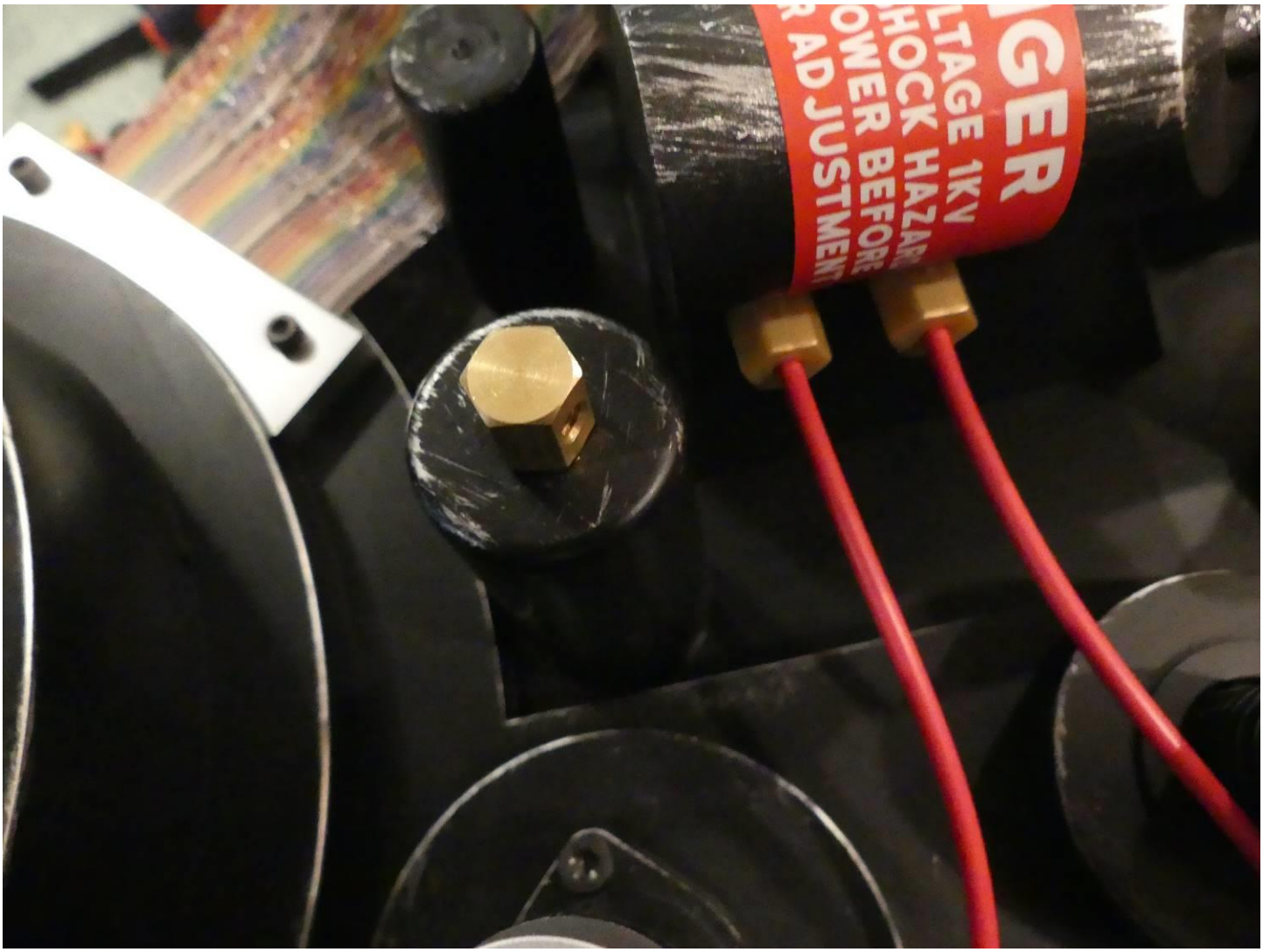
From the bottom side of the pack, remove the two screws that hold the loom piece on the pack:



The screw on the HGA is easy to access, but mine have had glue on the screw that needs to be removed before you can use the screwdriver and the one on the post will need a longer screwdriver to be able to reach it.

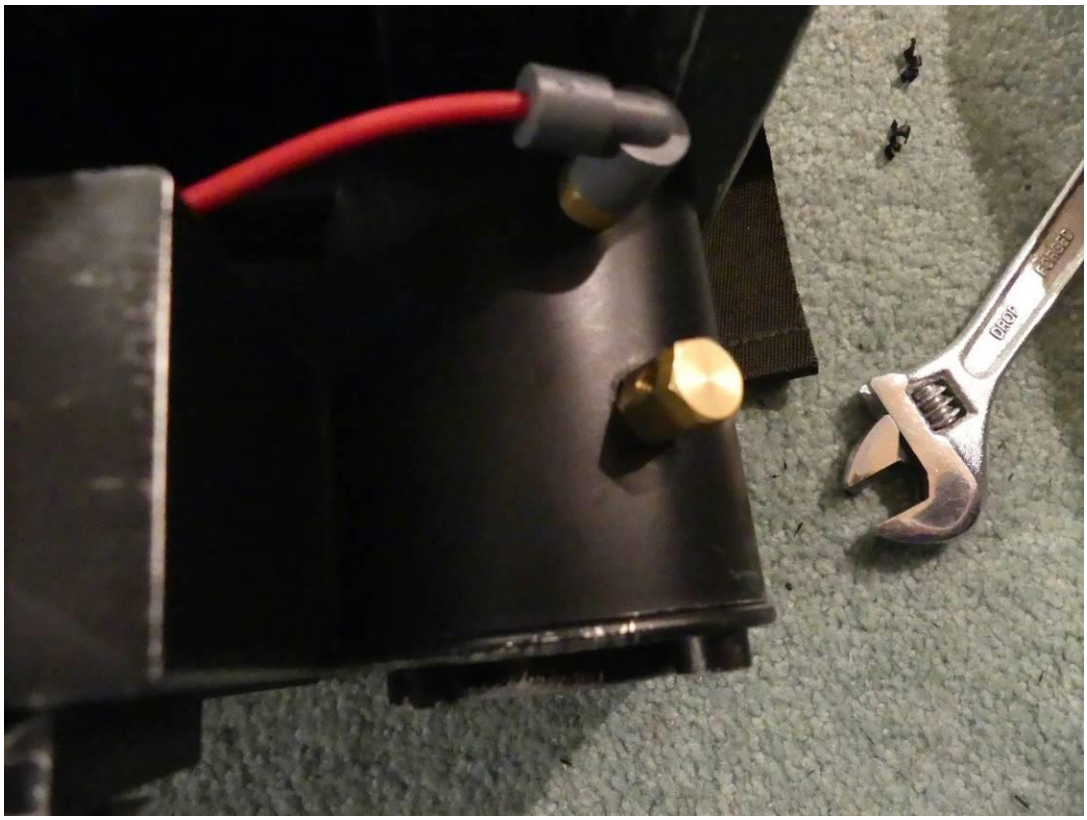
Now flip it over, remove the loom assembly and then drill out the holes with a 3/8” drill bit.

Use the larger Clippard brass parts item #9 and screw them into the holes you just drilled.



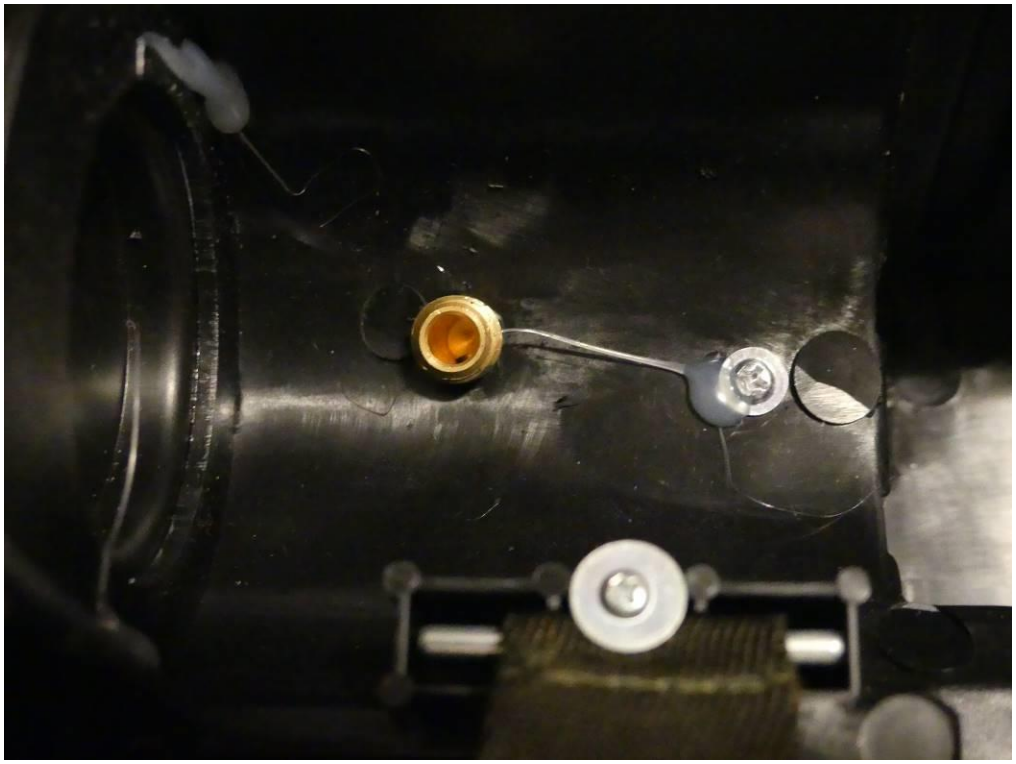
I use a small crescent wrench to finish those after getting them most of the way on with just using my fingers.

The small hole should be facing as shown when the part is fully screwed in. Then attach the smaller Clippard part (item #9) into the hole and tighten. Again, finish tightening with the crescent wrench. The barbed ends are where the hose and loom will be attached.



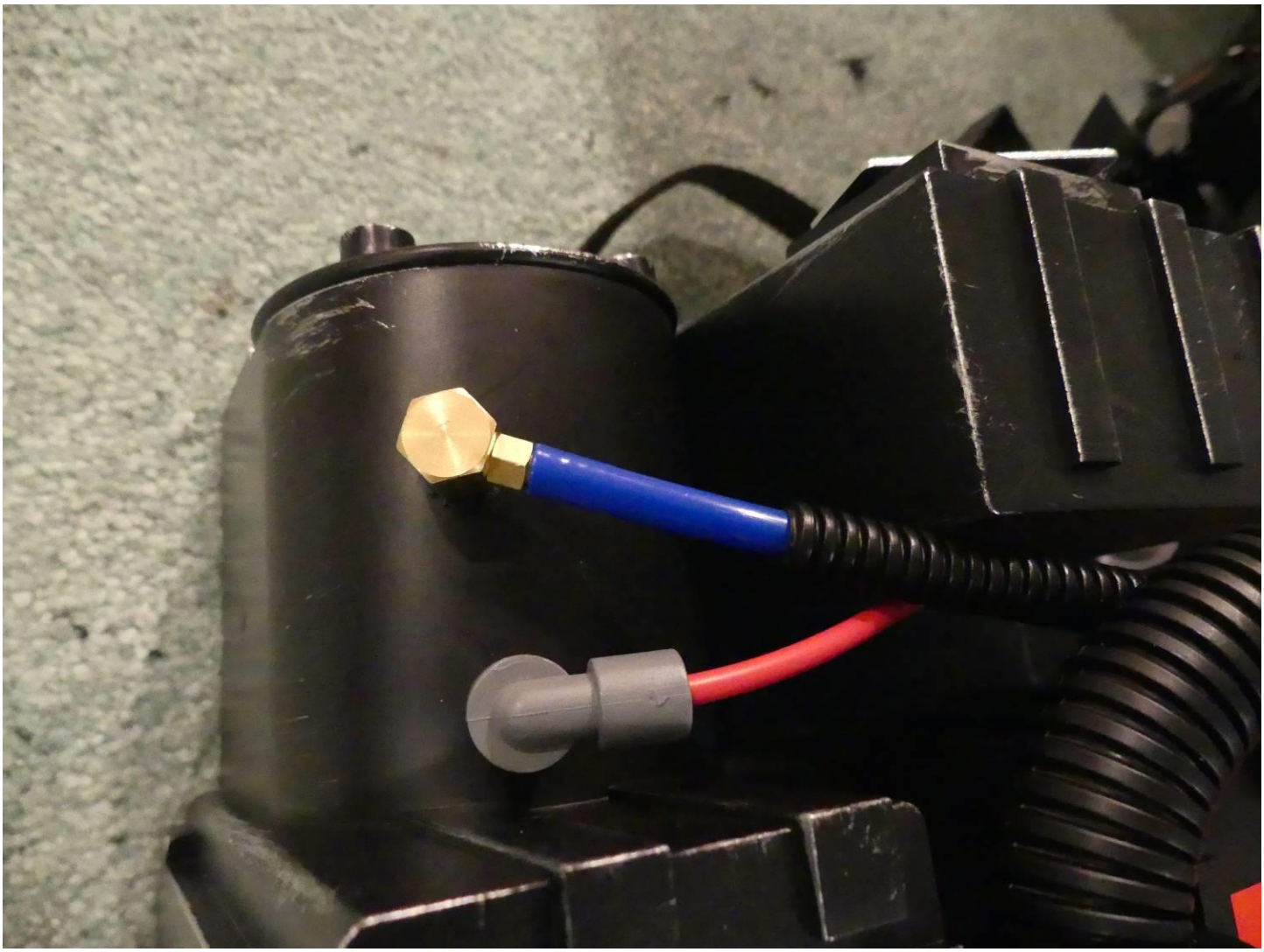
The small hole should be facing as shown when the part is fully screwed in. Then attach the smaller Clippard part (item #9) into the hole and tighten. Again, finish tightening with the crescent wrench. The barbed ends are where the hose and loom will be attached.

View from the backside of the pack:

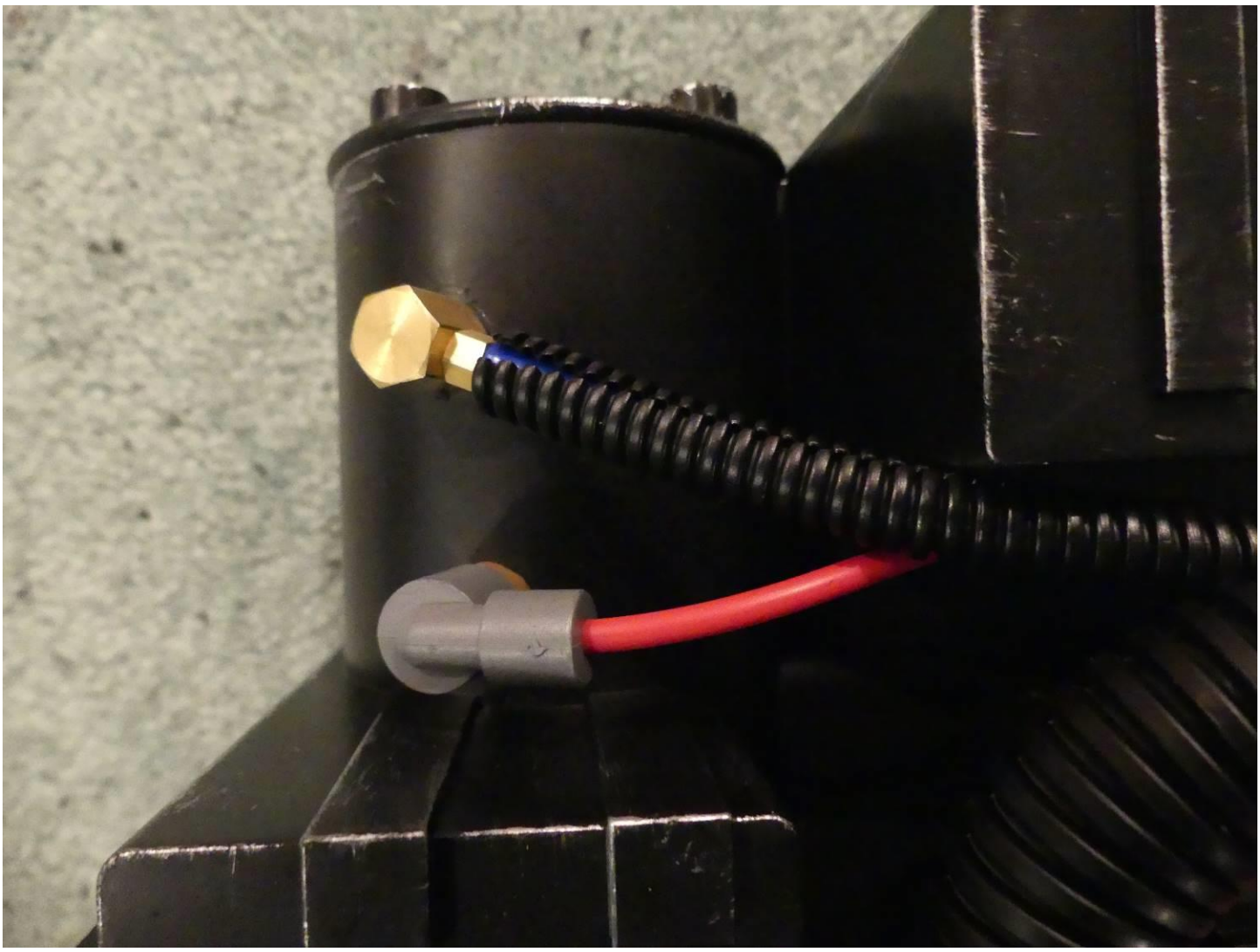


Attach the item #7 blue hose to the HGA's Clippard brass barbed part by pushing the tubing over the barbed part. It should be fully seated and up against the hex portion of the part. Next decide how you want the blue tubing to be routed down to the other Clippard part on the post that you installed. There is probably an inch or two extra of the blue tubing (and loom) so you may need to trim the blue tubing to be the length you want. DO NOT put the blue tubing on the other barbed part yet!

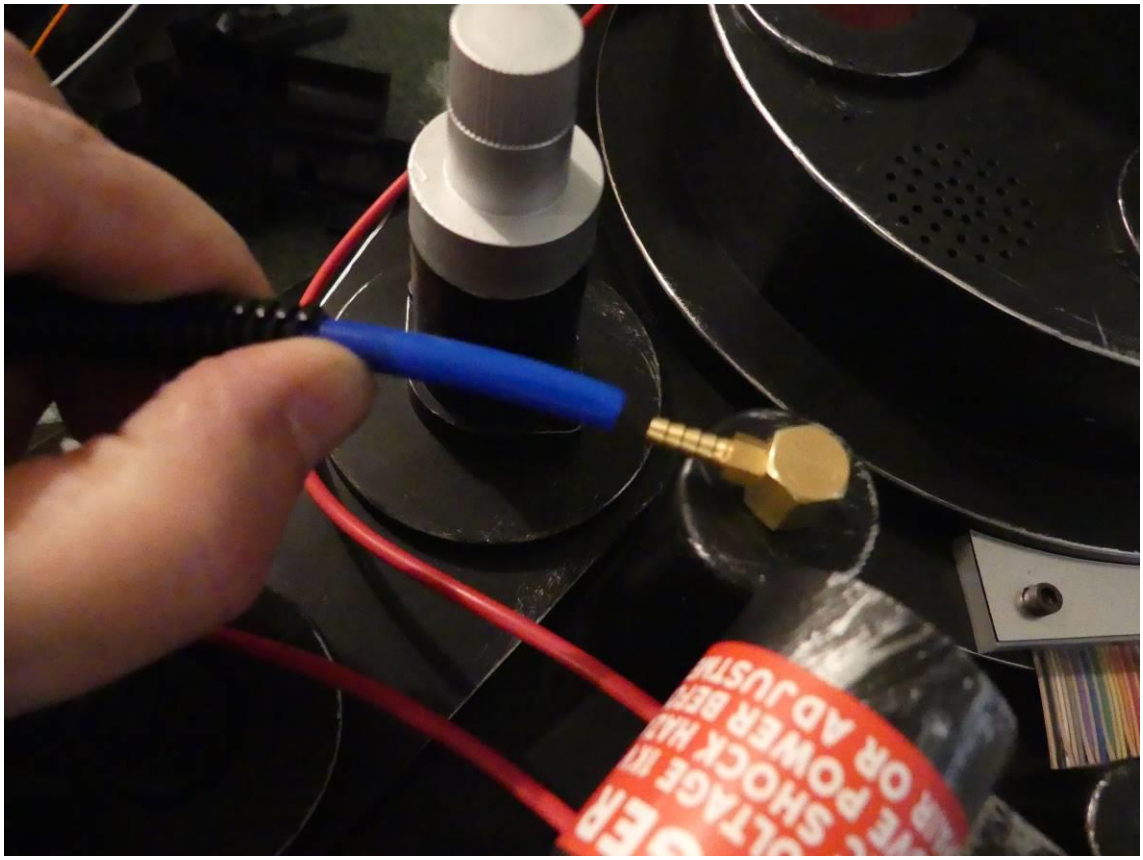
Next slide the item #8 black loom over the blue tubing:



Make sure the loom goes all the way to the brass barbed part and covers the blue tube completely:



Now you can trim the loom to be the same length as the blue tubing. So, the other end of the tubing can now be installed. Compress the loom a bit and hold it back away from the free end of the blue tubing and then press the blue tubing onto the other Clippard bras barbed part that you installed on the post:

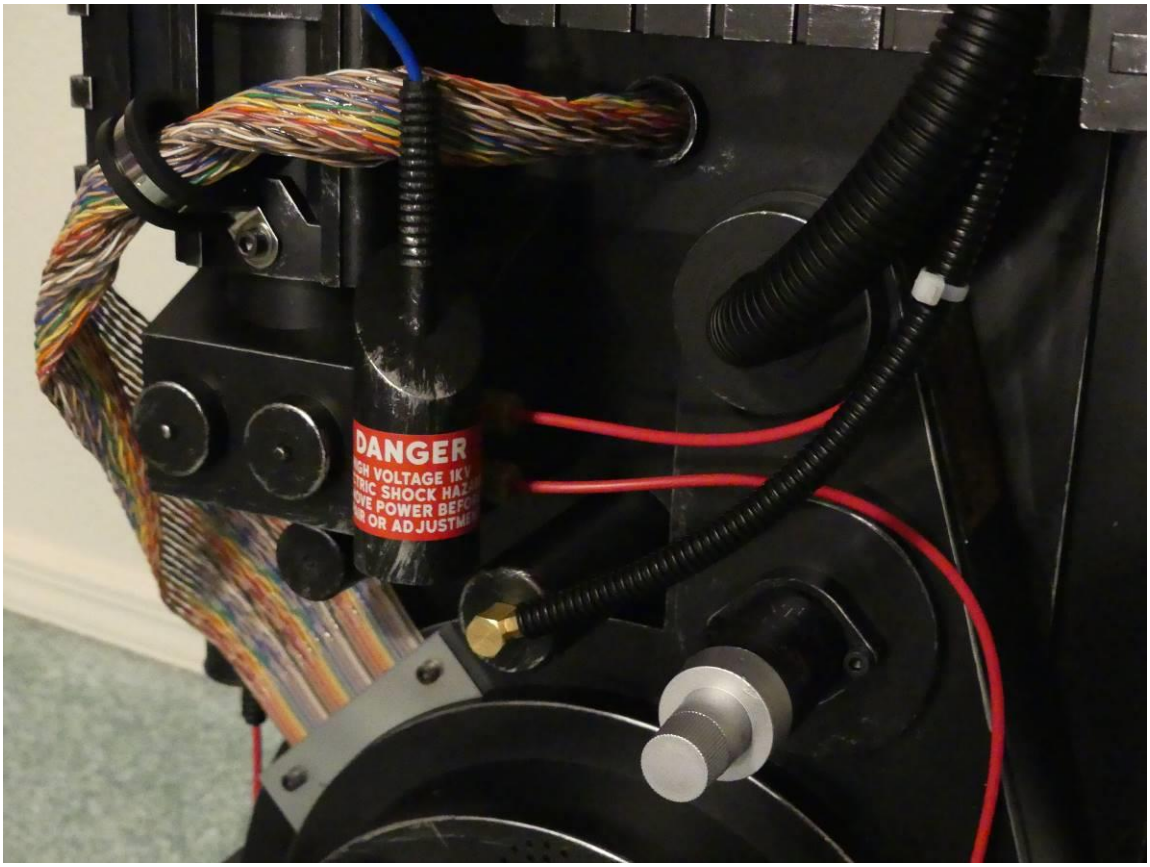


When you release the loom, it should expand back to the length you want and cover the blue tuning.

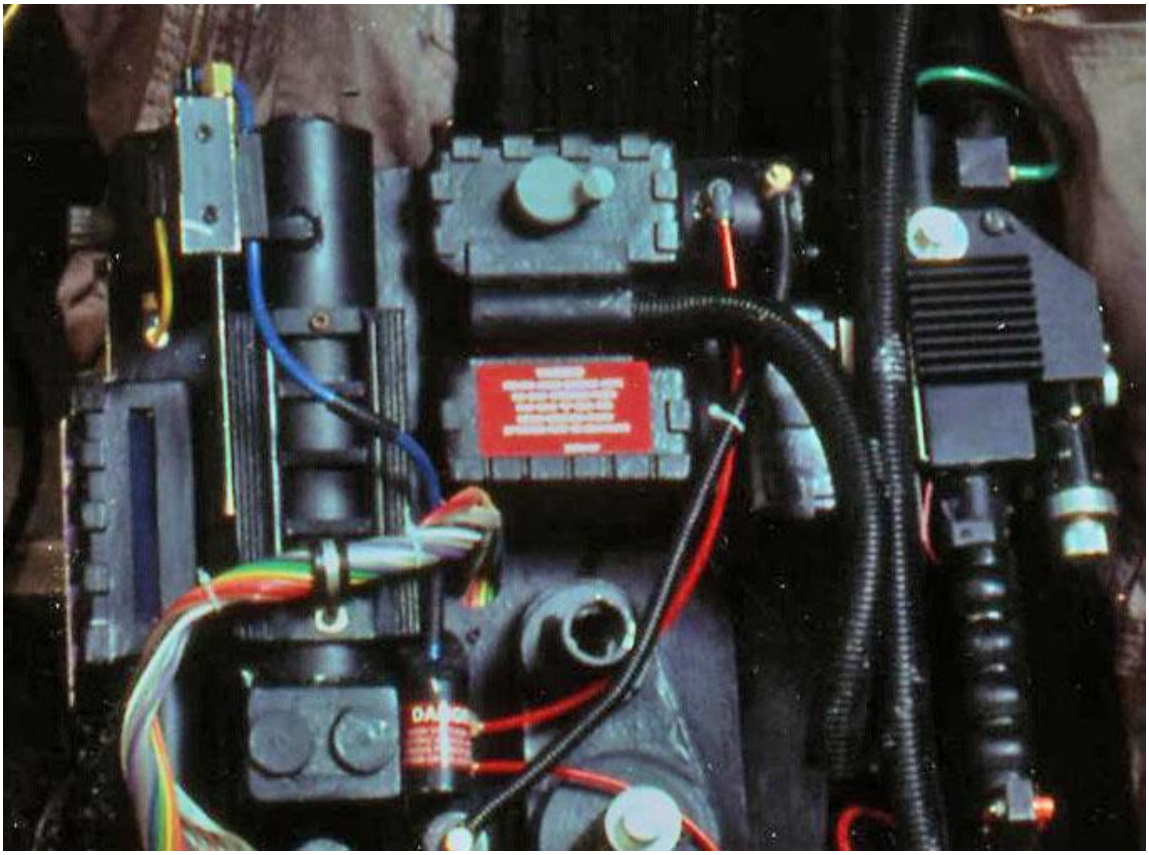
Here is a reference photo of a screen used pack to show that at least on this pack, blue tubing was used inside the loom:



Now add the item #10 white zip tie to hold the red tubing and the new loom covered blue tubing in place:



And another reference photo of a screen used pack:

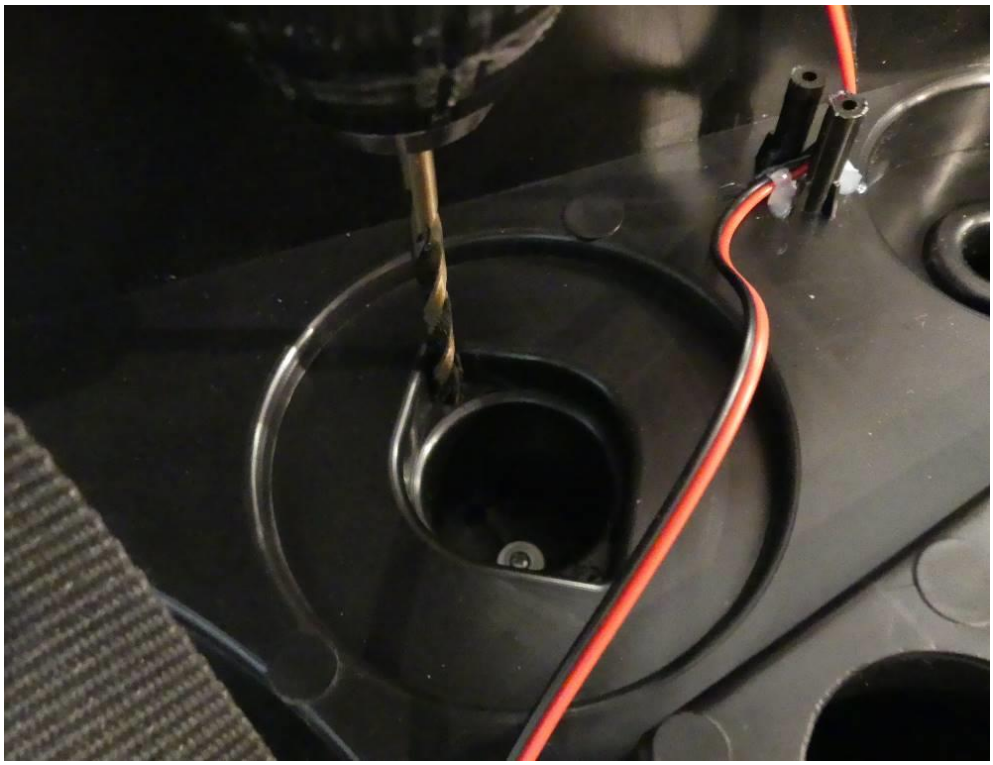


Next is fixing up the Clippard on the pack:

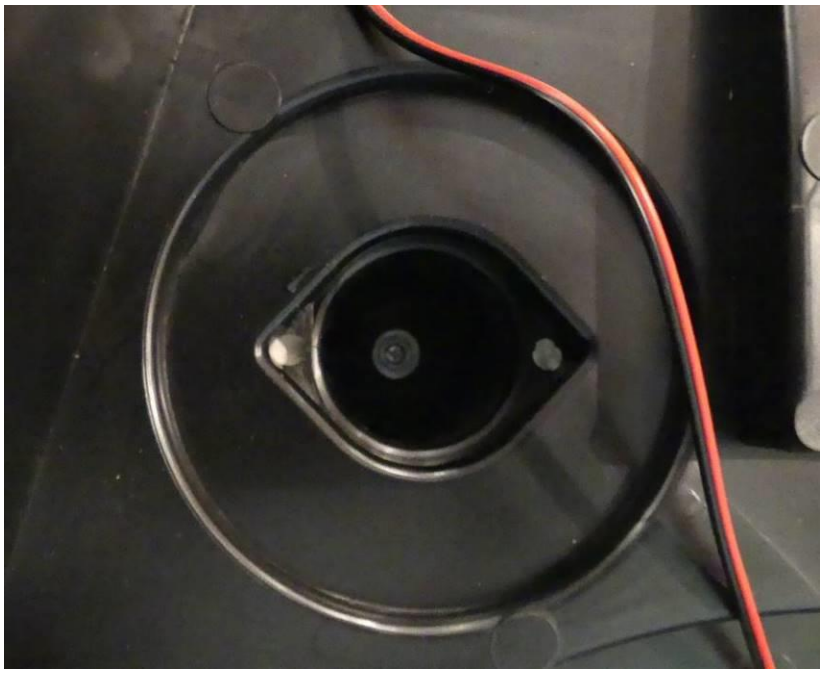
Flip the pack over so you can work on the bottom side. You need to drill two holes for the “decorative” screws that need to be added to the base of the Clippard Valve on the pack.

Use an 11/64” drill bit and drill straight through with the bit touching the inside edges of the Clippard portion of the pack. The drill bit will go through the pack, and you do not want to leave any marks on the side of the Clippard Valve, so hold the drill in such a way as the bit will be parallel to the main body of the Clippard valve.

I could not drill these from the top of the pack because I did not have a long enough bit to make the bit parallel, so decided to drill from the back side.

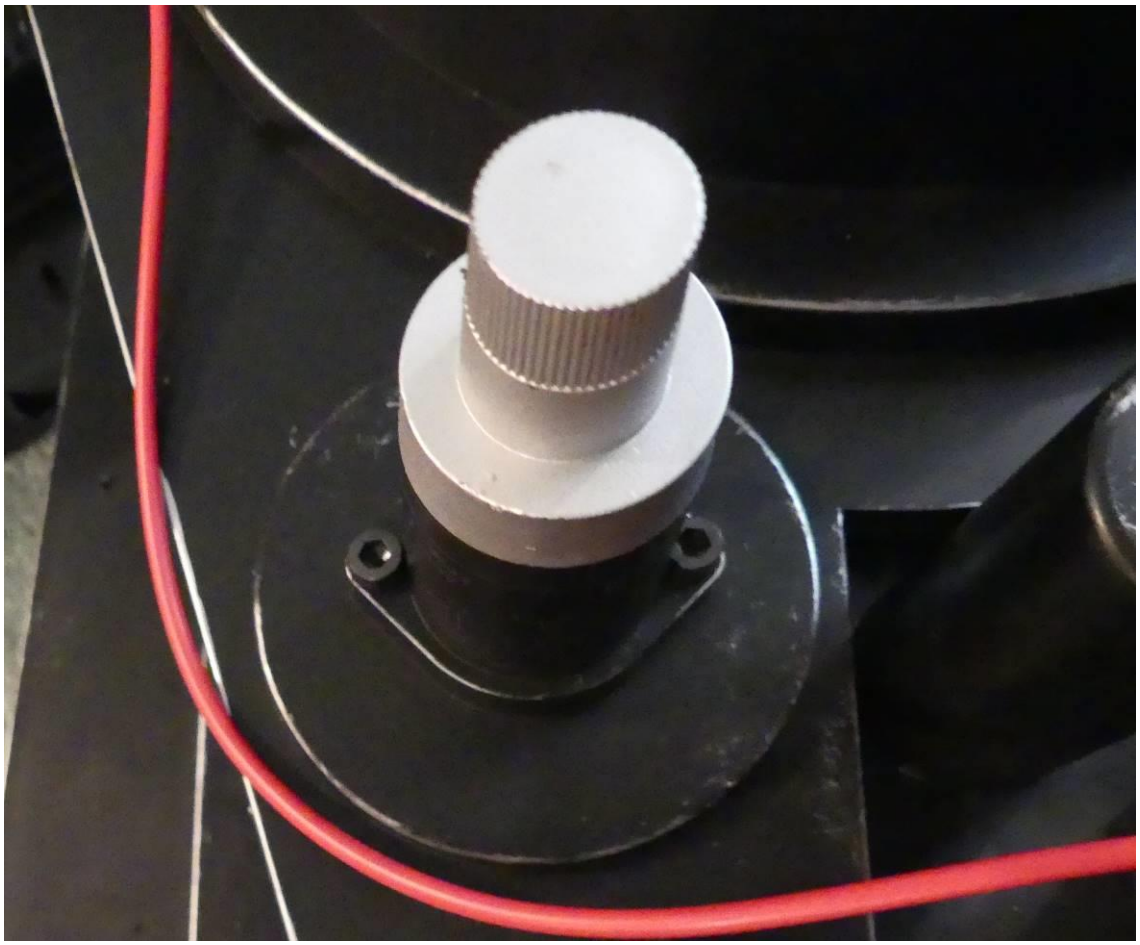


Here is an image after the holes have been drilled.



Attach screws item #11 in the two holes you just drilled.

If the screws are not tight, you can just add some hot glue or epoxy on the back side to hold them in place. They are decorative only, so you just do not want them falling out.



Next is to add the Metallic label to the Pack's Clippard. I placed it in the middle of the Clippard main body, so the label is not close to the top or the bottom of the part. The body of the Pack's Clippard is also tapered so a rectangular label would not fit correctly on the part, so a curved label is used.

Remove the R331 label item #12 from the label sheet and apply it to the Clippard body. It is not easy to remove, so when initially positioning the label try and keep the contact areas to a minimum.

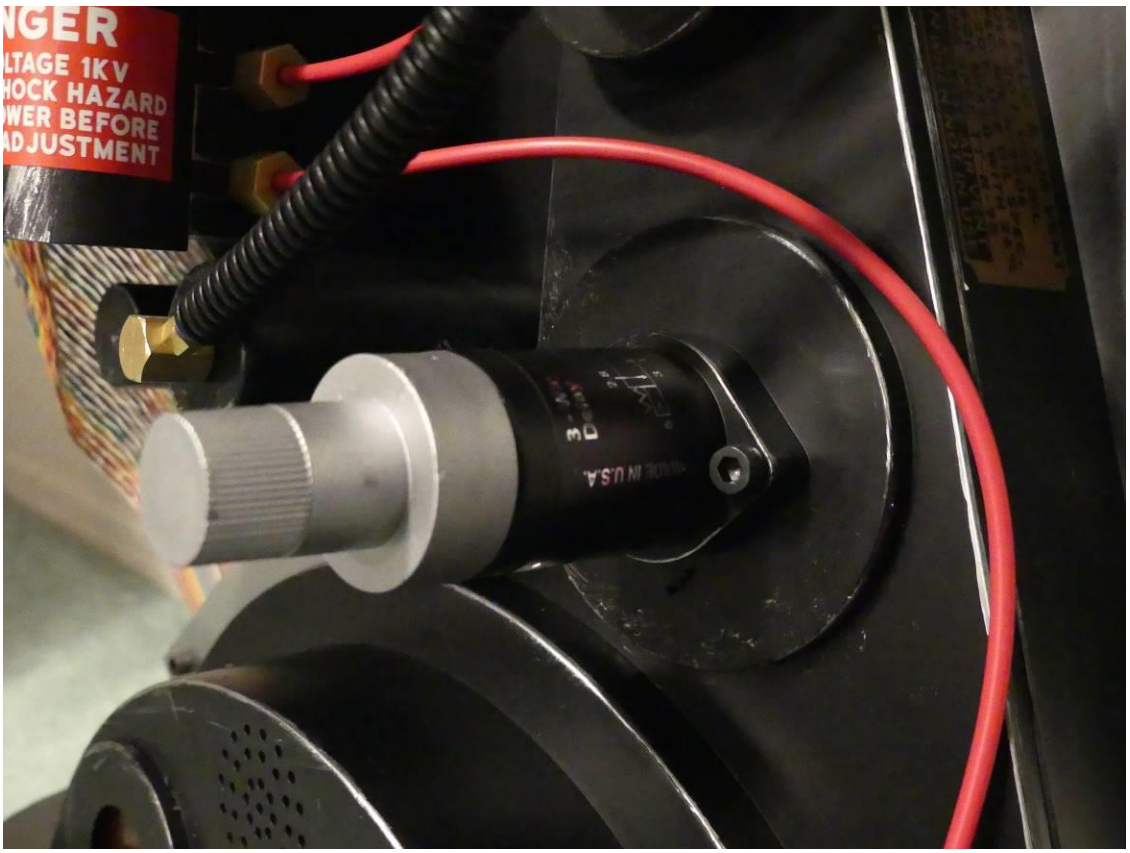
I forgot to take pictures of applying the label, so here are some photos of putting the label on another pack (haven't done much else on this pack yet):

Start with the label roughly centered on the side of the Clippard that is toward the outside edge of the pack. The curved label should have the curve going away from the pack:

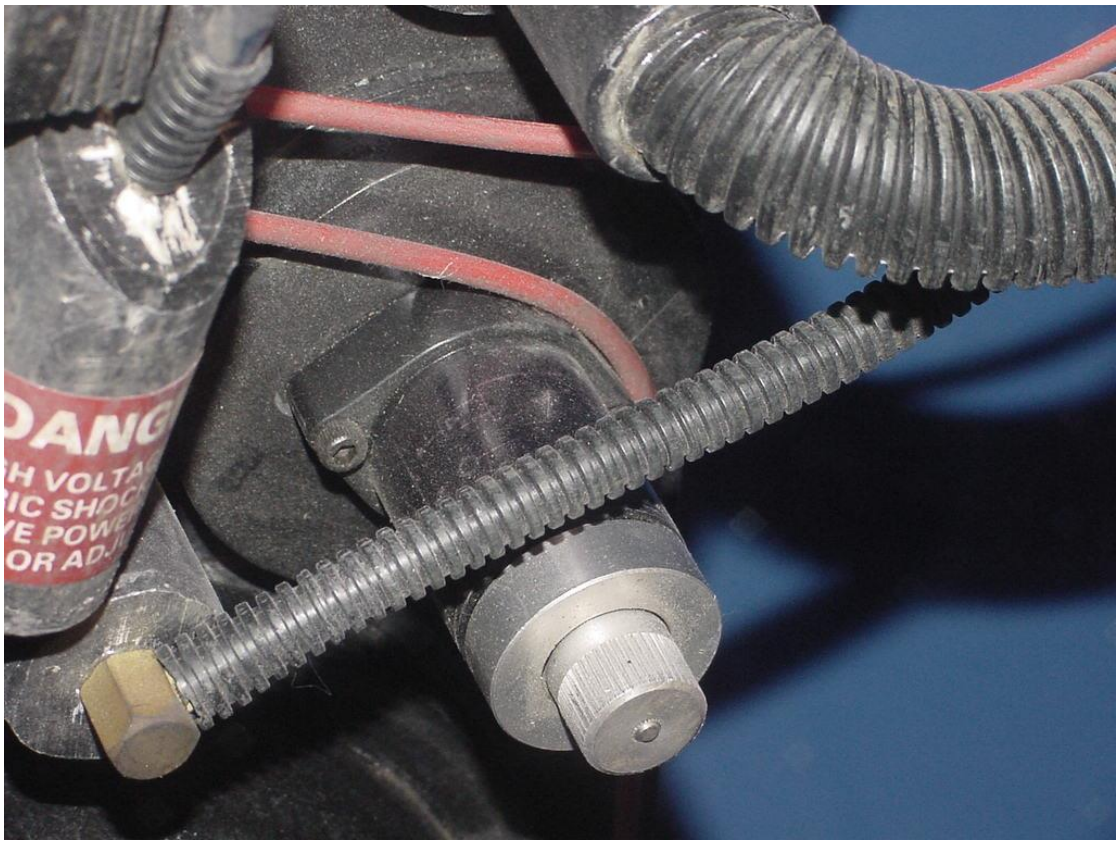


Also try and keep it level so when you wrap around the Clippard Valve the label ends will line up. The "Gold" look of the label in the above photo reflects the Yellow Dole Pineapple shirt I was wearing…

The label applied to the Clippard Valve with the screws also attached:

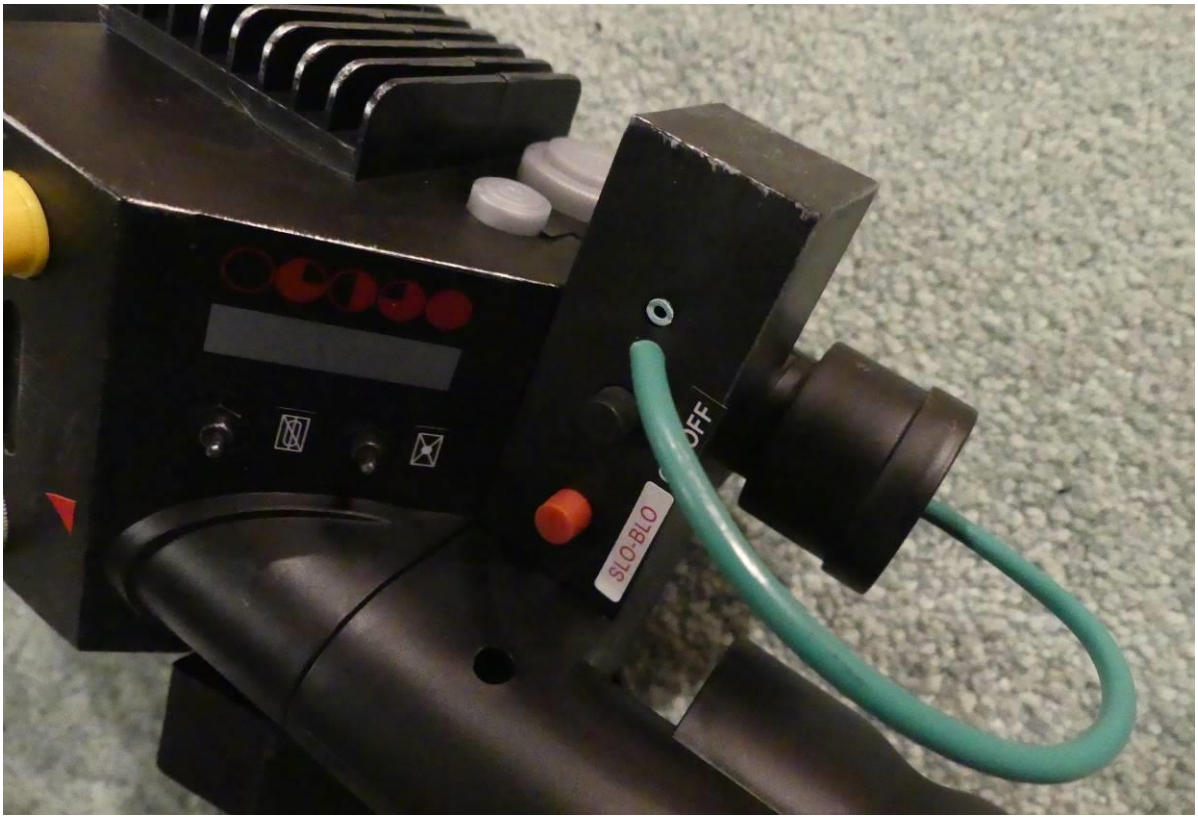


Here is a reference photo of a screen used pack to compare to:

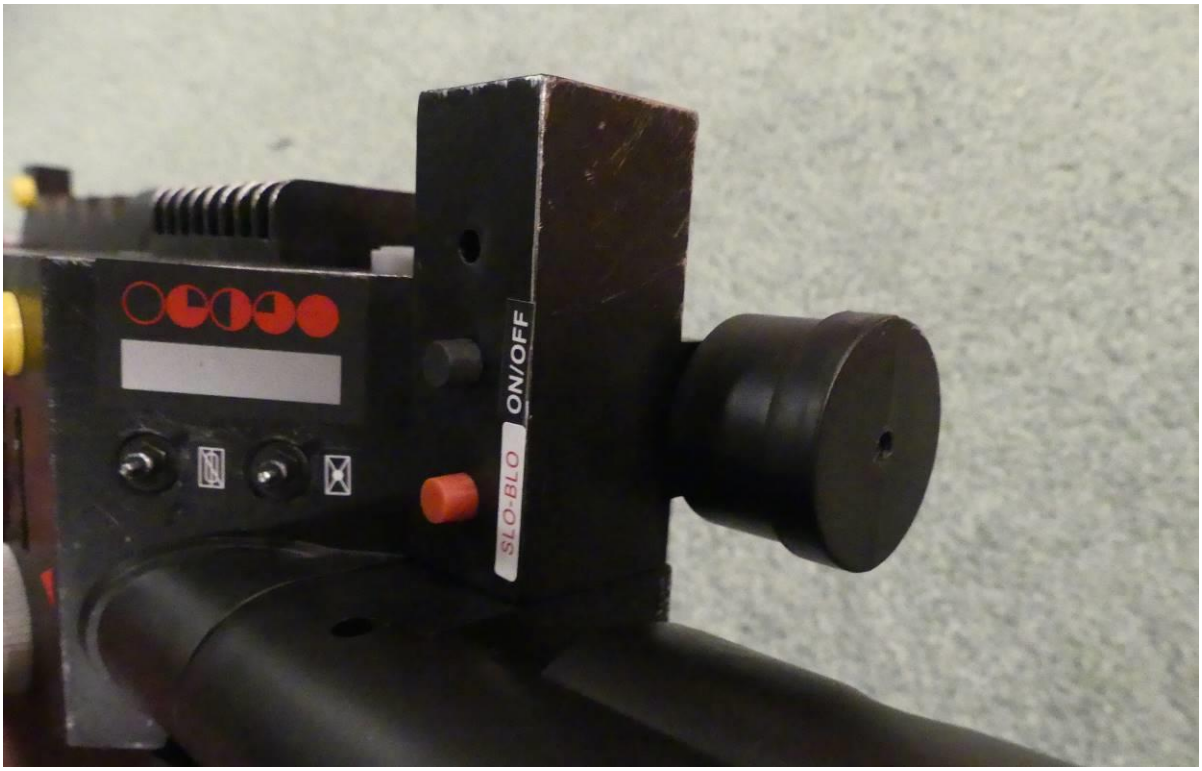


On to the wand!

I used flush diagonal cutters to just cut off the tubing close to the wand. Here is a photo of the first cut:

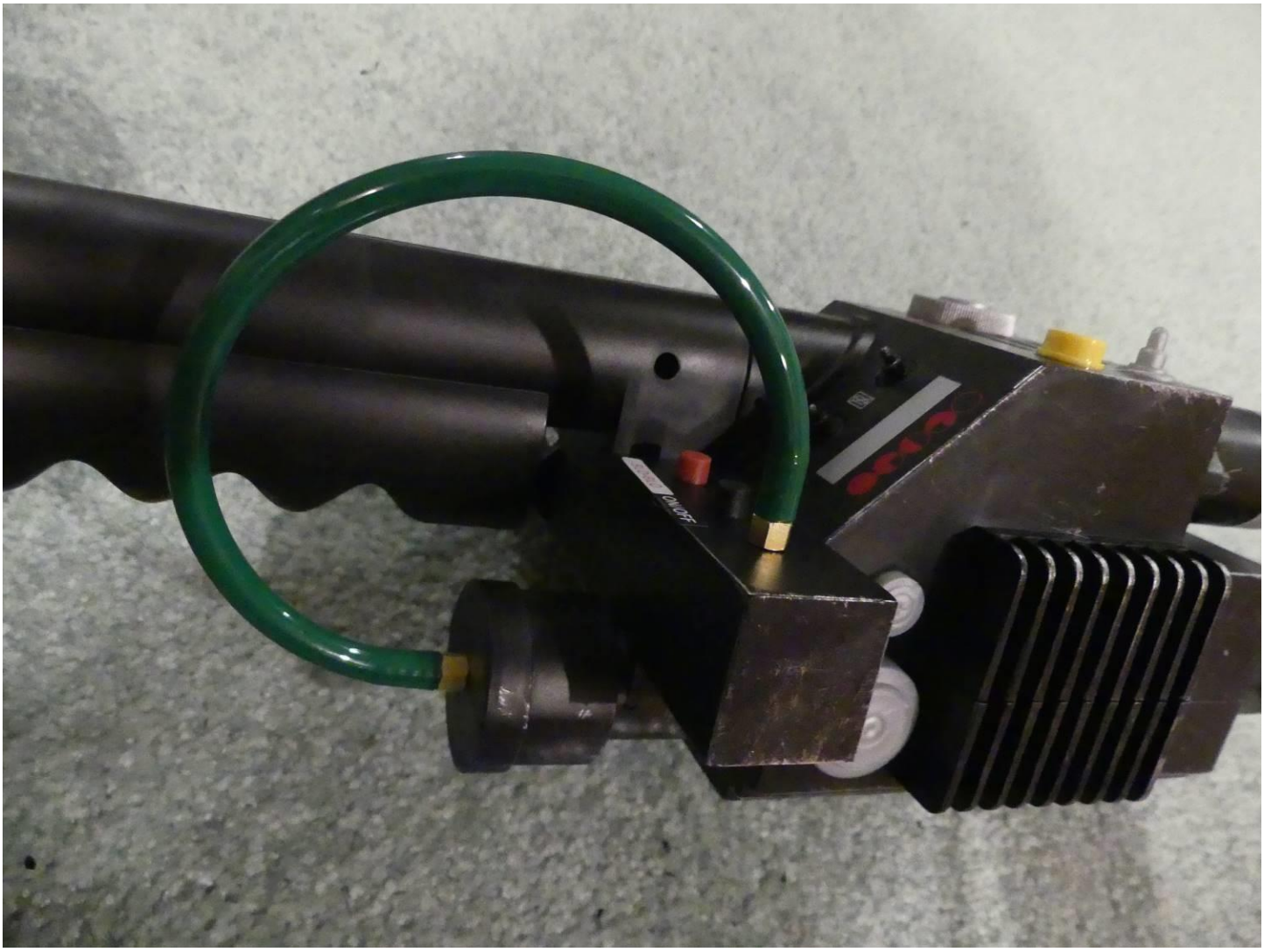


Next use am 11/64” drill and drill out both cut off ends:



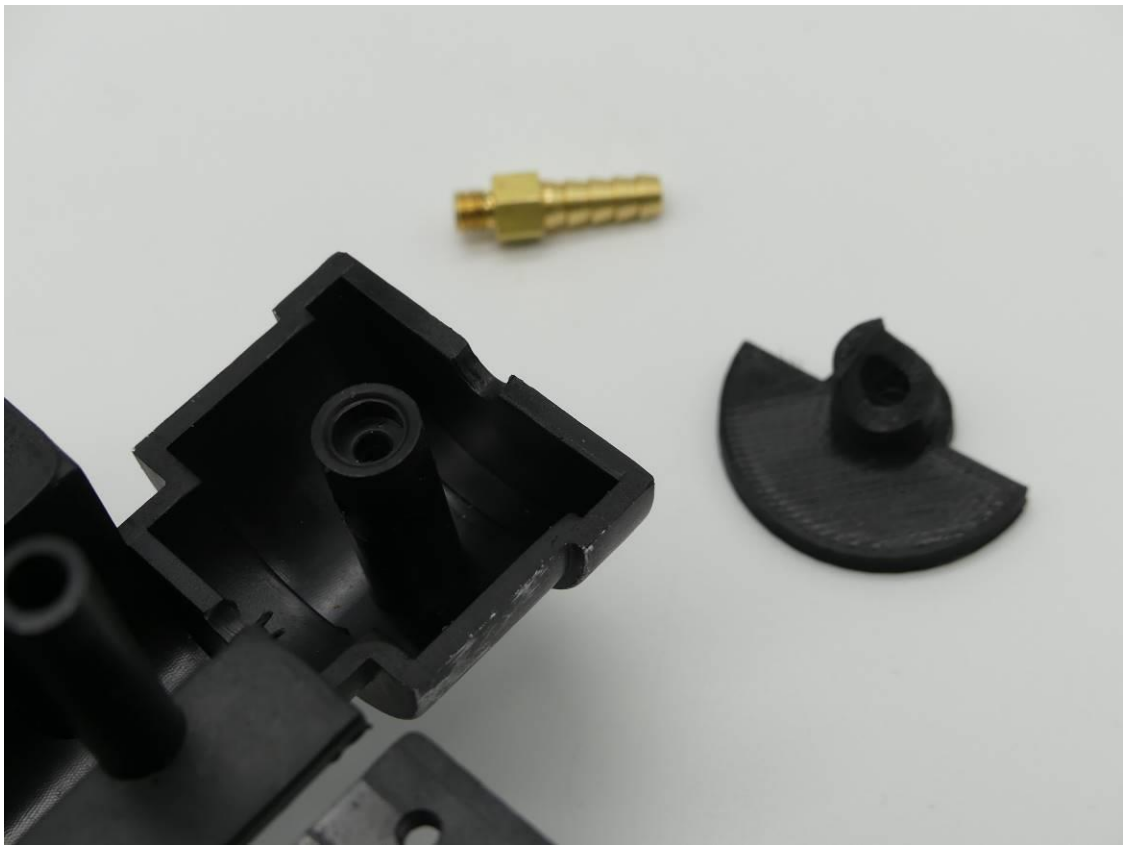
Next thread the Clippard brass parts item #13 into the two holes.

For the front facing hole, apply pressure to the two haves of the part to make sure they do not spread apart while screwing in the Clippard barb. Now attach the item #15 green tubing. Push in the top portion first and then decide how large of a loop you would like and trim the green hose to your desired length and then push on the other barb:



This did not require opening your wand. On my wands this has been fine, but once you open up the wand, the lower Clippard barb may become lose and not fit as well. That is the reason this kit includes item #14, the 3D printed support part.

If you need to open the wand or strengthen the attachment of the lower barb (and thus will be opening the wand) this part will be used.

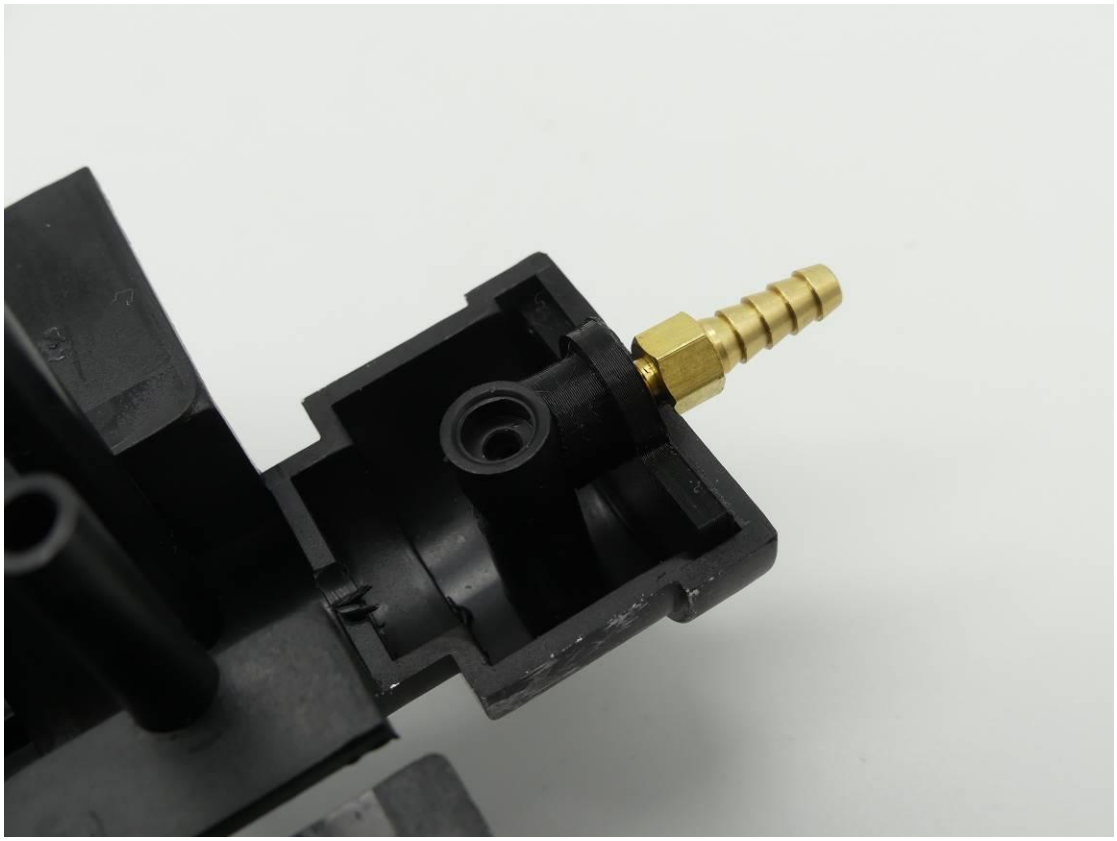


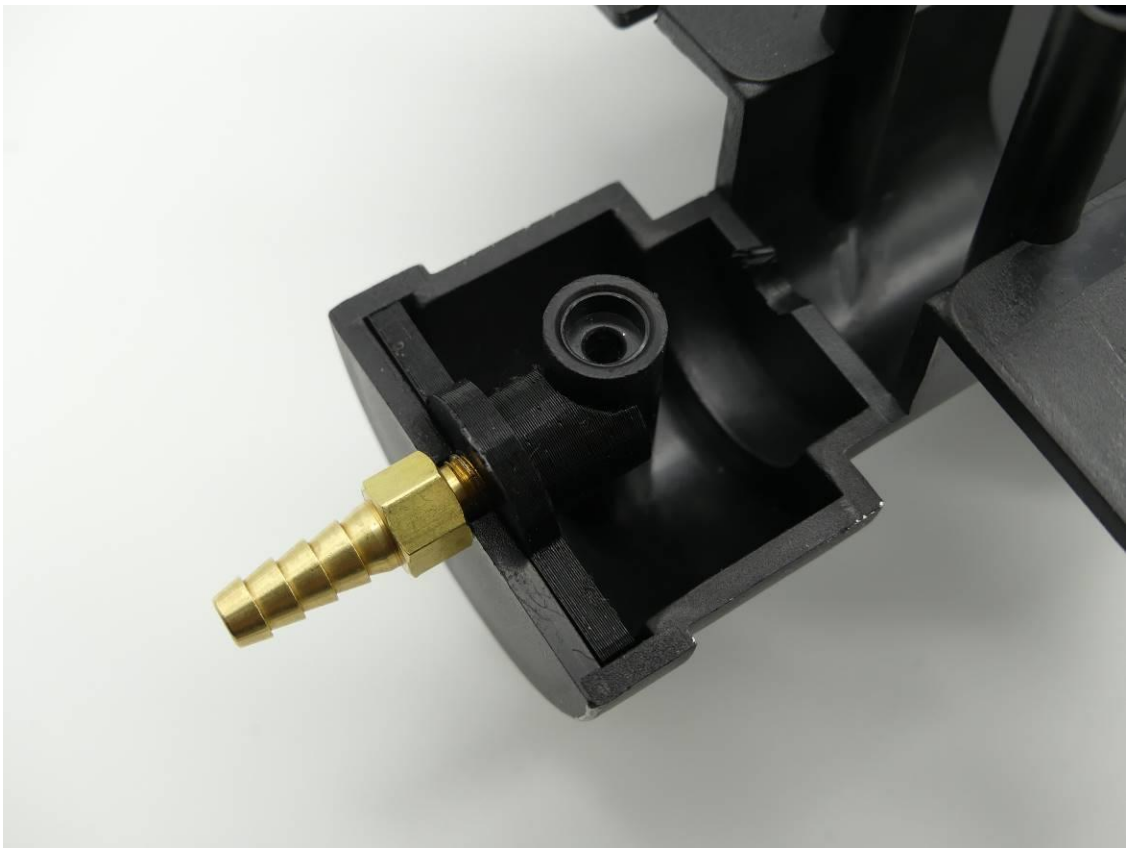
Just slide the 3D printed part in the correct direction:



Then screw the barb in while holding the part in place:







The barb should be snug and be able to be held in place. The two halves of the wand can now be put back together and screws replaced, and the barb will be very secure.

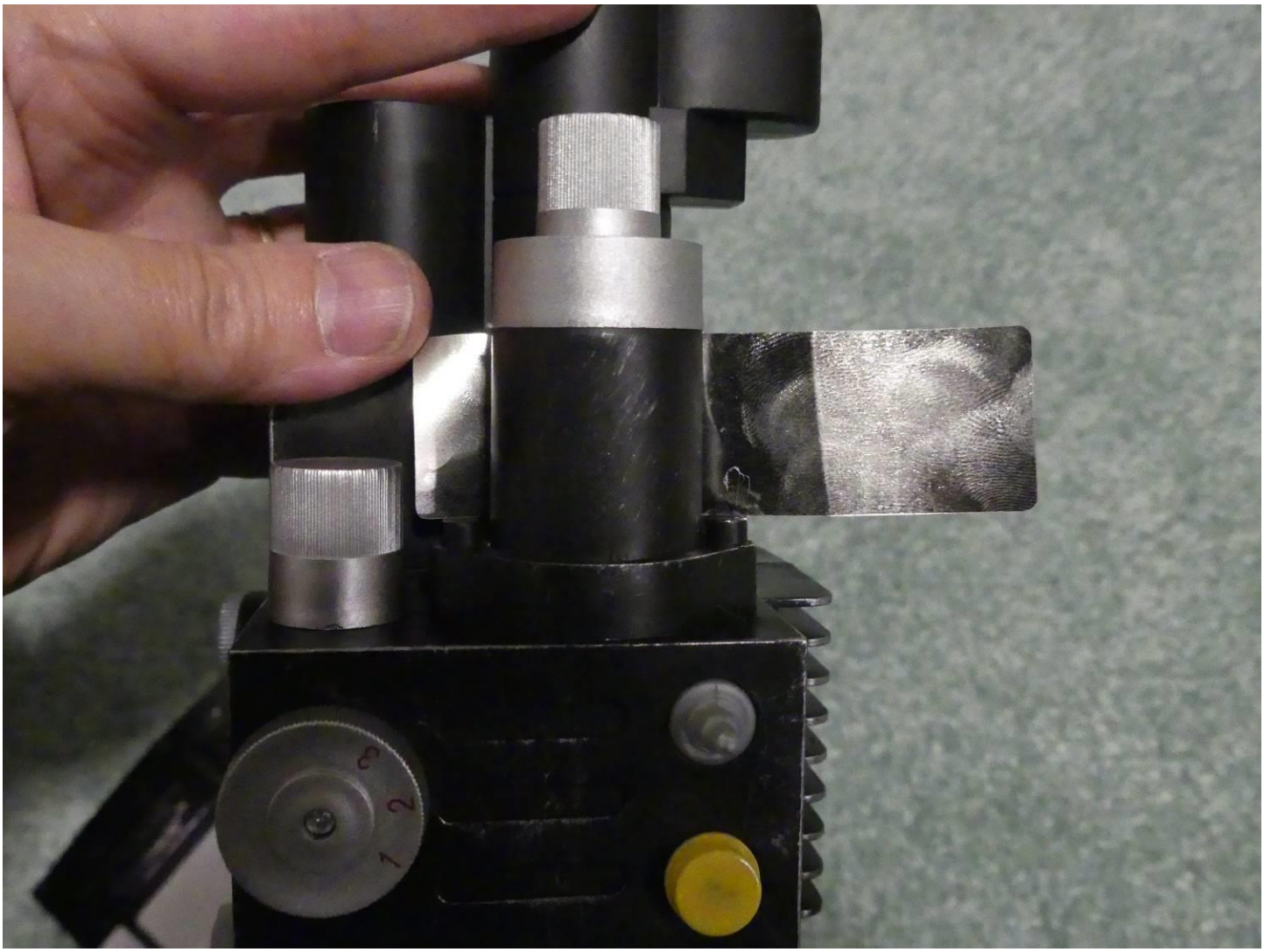
Next add the item #16 bar graph label to the wand. Just peel off of the label sheet and apply over the top of the plain reflective rectangle. Take care to center the label properly and once placed it will probably be damaged if you try and remove or reposition it.



And lastly attach item #17, the Clippard Valve R701 label to the Clippard valve. The Wand's Clippard valve is also a tapered cylinder, so the label is curved to fit this shape properly.

This is a tricky label to attach because there is very little space around the Clippard valve, and you have to position the label and not have it attach until properly positioned.

I did have to apply some pressure to lift the Clippard away from the wand main body (there is a support tab between the Clippard Valve and the wand) to get enough room to slip the label on the back side. The end of the label should line up with the mounting screws, so only a small bit of the label is on the left and most of the label is on the right in the photo below:



Here is a view of the other side of the label and you can see the support tab that makes it hard to position the label on the back side of the Clippard Valve:



Now just finish wrapping the label around the Clippard Valve. The Label covers most of the Clippard Valve body, so you do need to get around the head of the molded in screws on the Clippard base.

Once finished, the wand looks like this:



Reattach the hardboard motherboard to the back of your pack, hot glue the fabric back on (try and avoid getting glue on the edge of the pack or it will be harder to remove the motherboard in the future) and it should now look like this:

