Introduction

Congratulations on purchasing the Spirit Brackets Kit that allows very secure attachment of an A.L.I.C.E. pack frame to your Spirit Halloween Proton Pack.

The Spirit Brackets Kit is designed to work with the Spirit Halloween Deluxe Proton Pack and can be used with the existing Spirit motherboard (cardboard, foam and fabric back side covering). Some minor cutting of the cardboard motherboard and drilling of two mounting holes in the Proton pack and 3 mounting holes in the A.L.I.C.E. frame is required for installation. All mounting hardware is included, but you must supply your own Spirit Proton pack, A.L.I.C.E. frame and tools.

The brackets have been tested on the 2017 and 2018 versions of the Spirit Proton pack and also with two separate A.L.I.C.E. frames:

1) Rothco Alice Pack Frame with Attachments
https://www.rothco.com/product/rothco-alice-pack-frame-with-attachments

2) Fox Outdoor Products LC-1 A.L.I.C.E. Field Pack Frame
https://www.foxoutdoor.com/ItemDetails.aspx?win=&cid=3&ccid=23&cscid=175

If you use some other A.L.I.C.E. frame, there could be fitment issues since the brackets are specifically sized to work with the above two A.L.I.C.E. frames.

Here is the Spirit Pack with the frame attached:



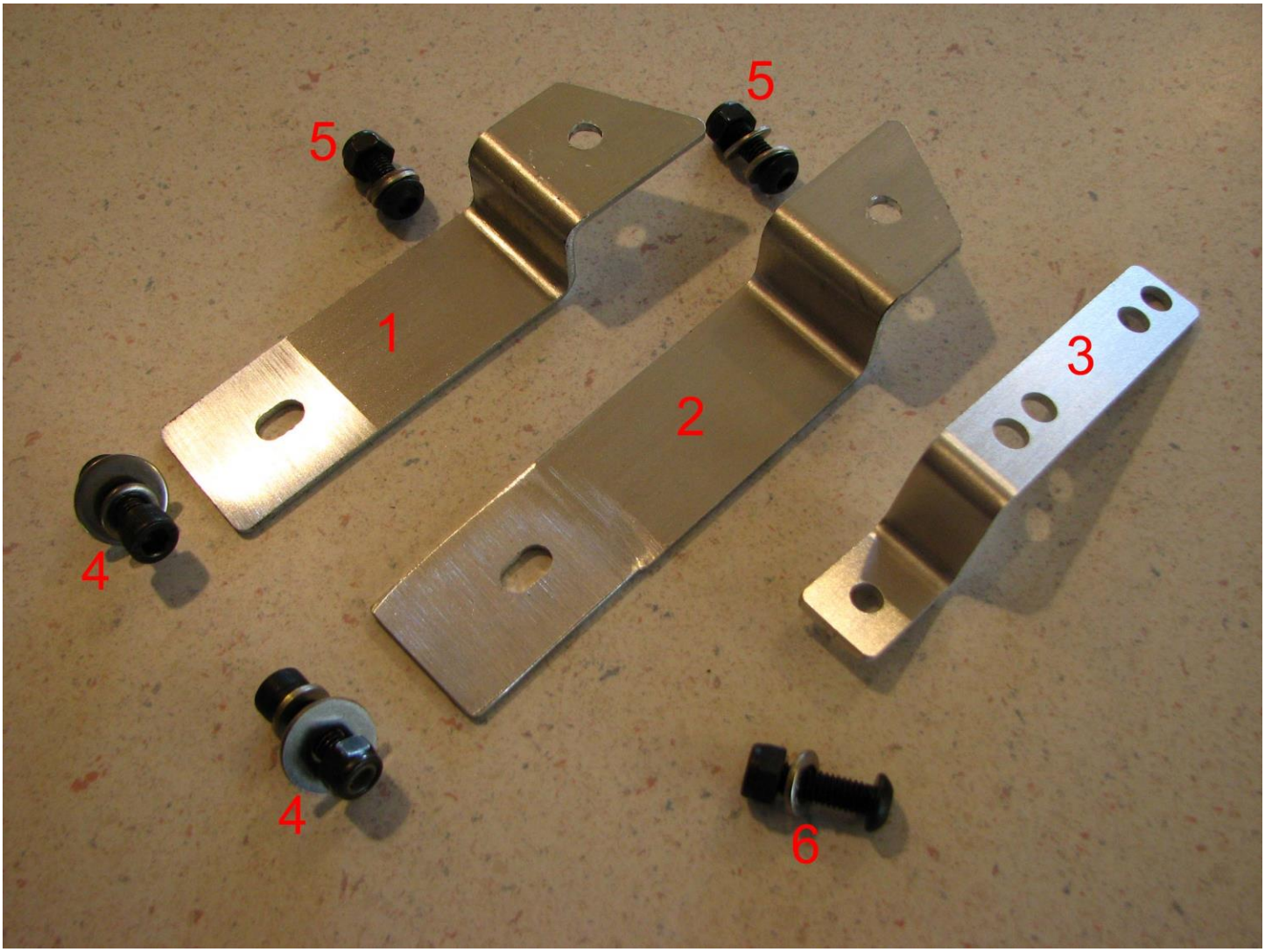
Spirit Brackets Kit Contents

Brackets:

1) Right hand side (facing the front of the pack) bumper bracket
2) Left hand side (facing the front of the pack) bumper bracket
3) Center replacement mounting bracket

Bolts:

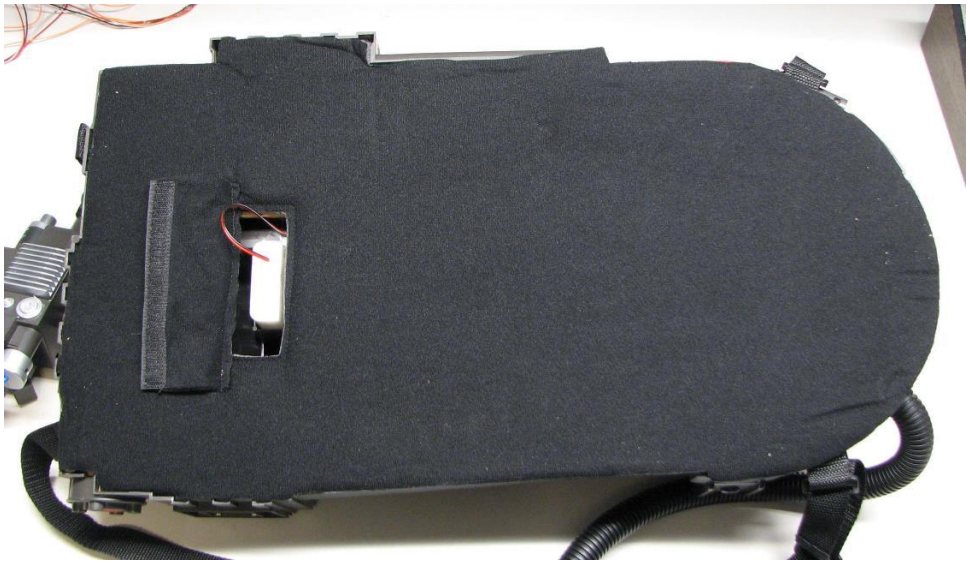
4) 2x Socket Head Bolt for attachment to the bumper. (3/16” Hex Key, 10mm open end wrench)
5) 2x Button Head Bolt for attachment to the frame sides. (5/32” Hex Key, 10mm open end wrench)
6) Button Head Bolt for attachment to the frame center. (5/32” Hex Key, 10mm open end wrench)



Installation of main parts in the Spirit Pack

Getting started:
The first step is to remove the back of the Spirit Pack so we can access the inside of the pack shell.

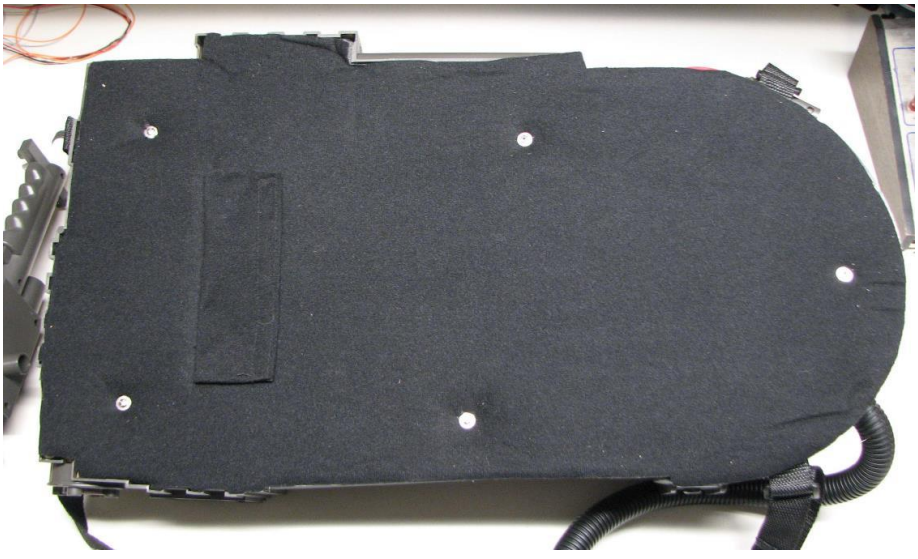
Flip the pack over and we need to locate the screws that hold the fabric covered cardboard “motherboard” to the back of the pack.



You have two main choices here, 1) remove the fabric to expose the cardboard and then glue the fabric back on when done, or 2) make small cuts in the fabric above each screw and leave the fabric attached to the cardboard. I liked option #2 as I expect to open up the pack again (for new wand and sound electronics, hint hint!)

Open the battery cover and then stick your hand between the cardboard and the fabric that is glued to the cardboard around the edges. You can feel around and locate 4 of the 5 screws that are holding the cardboard to the plastic pack.

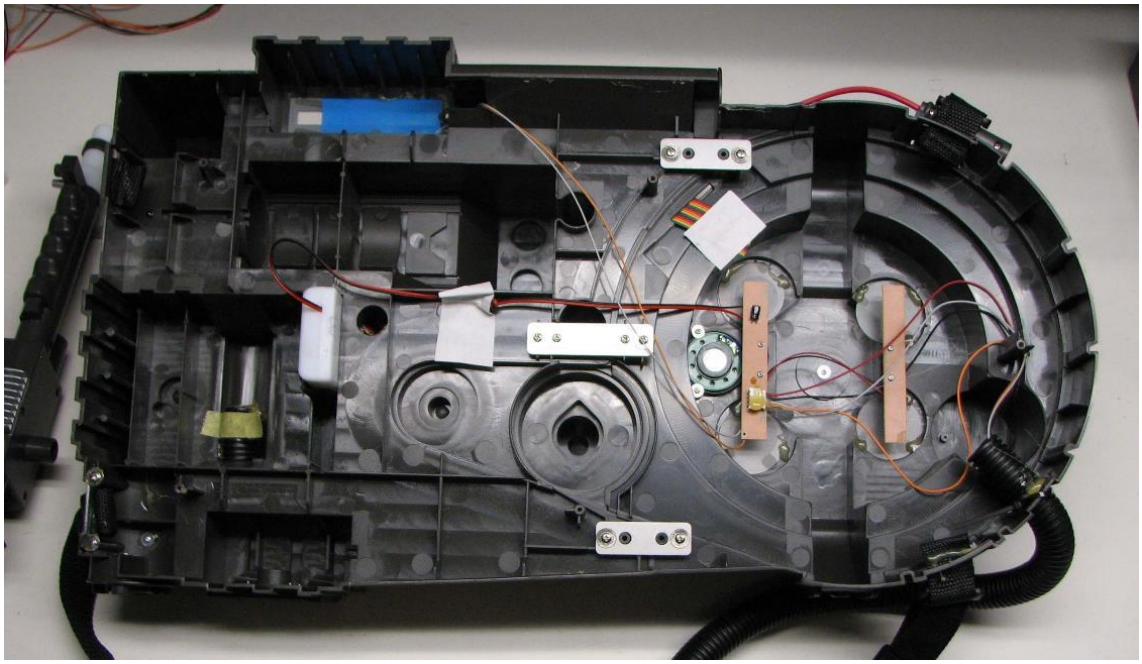
When located, use the X-acto knife or razor blade to make a small cut in the fabric to expose the head of the tiny Philips head screw. I could reach 4 of the screws, but the 5th I could not feel from inside, so pressed around the material from above and located the screw. Knowing where they are would have helped, so here I pulled the material around the screw and washer so you could easily see where you _*should*_ find these screws:



After re-installing the back cover, the screws can still be essentially hidden and only small cuts in the material above them allow easy access for the next time you want access in to the pack.

The screws aren't the only thing holding the cardboard onto the pack, and the cardboard is not very stiff, so great care should be taken removing the cardboard backing from the pack. Near the straps, the loom and some random spots along the edge, glue to hold those items of the fabric also oozed out enough to connect the cardboard to something else in the pack. I used a flat screwdriver to carefully separate the cardboard and the pack plastic, frame or loom while slightly lifting the cardboard. I worked my way all around the edge before lifting the cardboard fully from the pack. I did not have any places in the middle of the pack have glue, it was only around the outside edges.

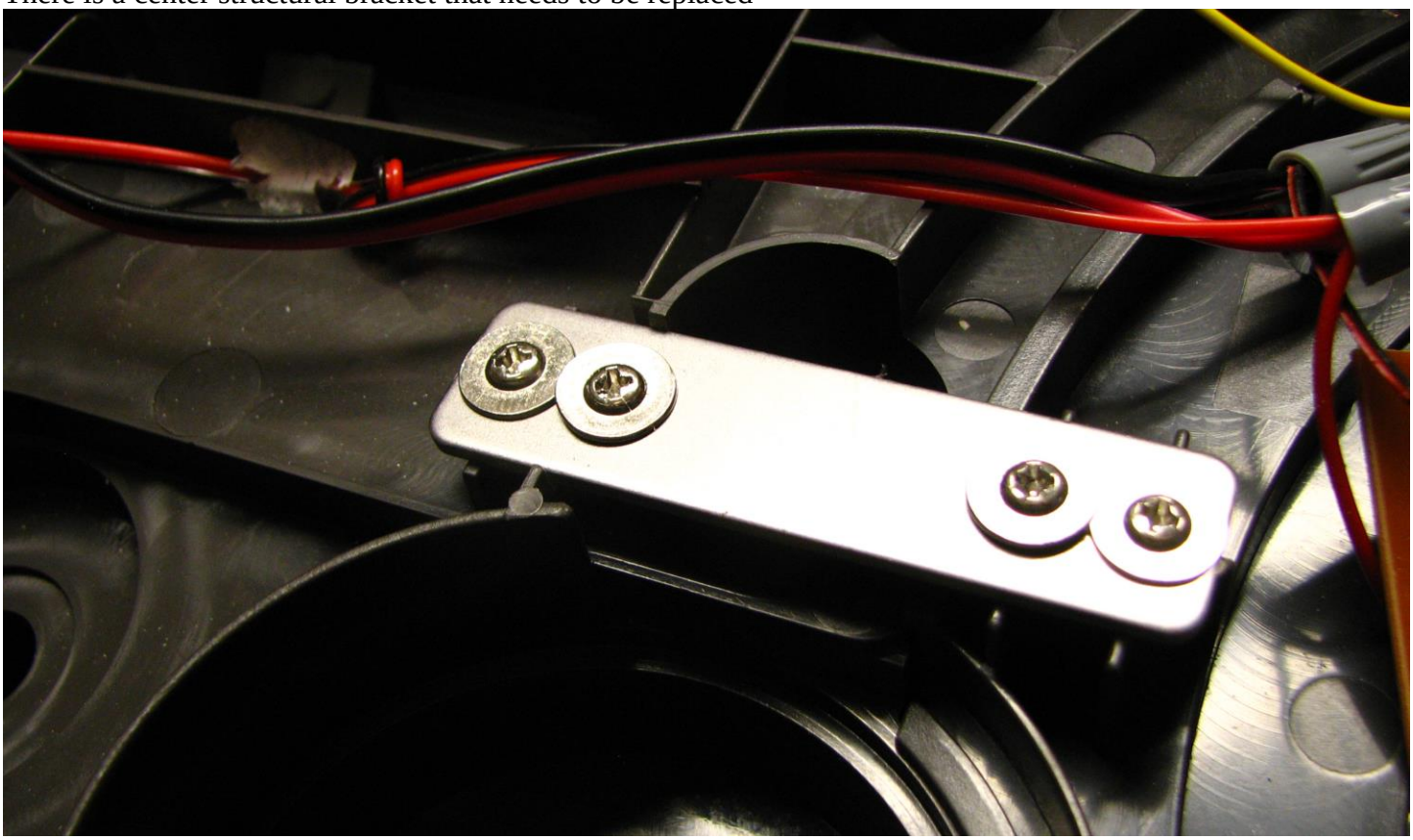
Once you get the back removed, here is the view inside the pack:



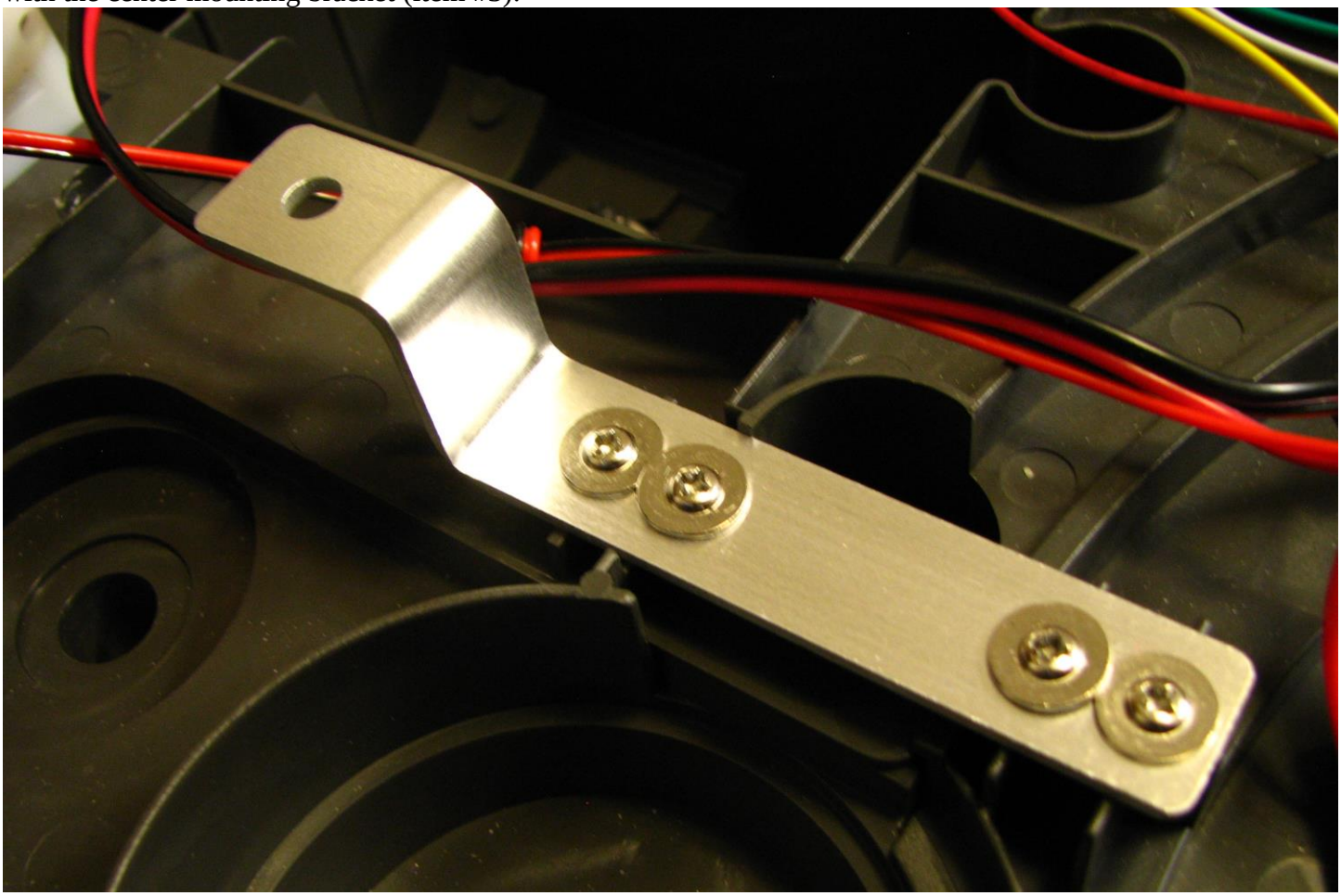
You can leave the screws in the cardboard or remove them and put them in the posts they come from so they don't get lost.

Replacing the center bracket:

There is a center structural bracket that needs to be replaced



with the center mounting bracket (item #3):



To replace the existing bracket, just remove the four screws and the bracket can be lifted out. Place the Spirit Center bracket (item #3) over the 4 posts that the screws were removed from and screw in the four screws. The bent portion of the new bracket should be pointing toward the top of the proton pack away from the Cyclotron section.

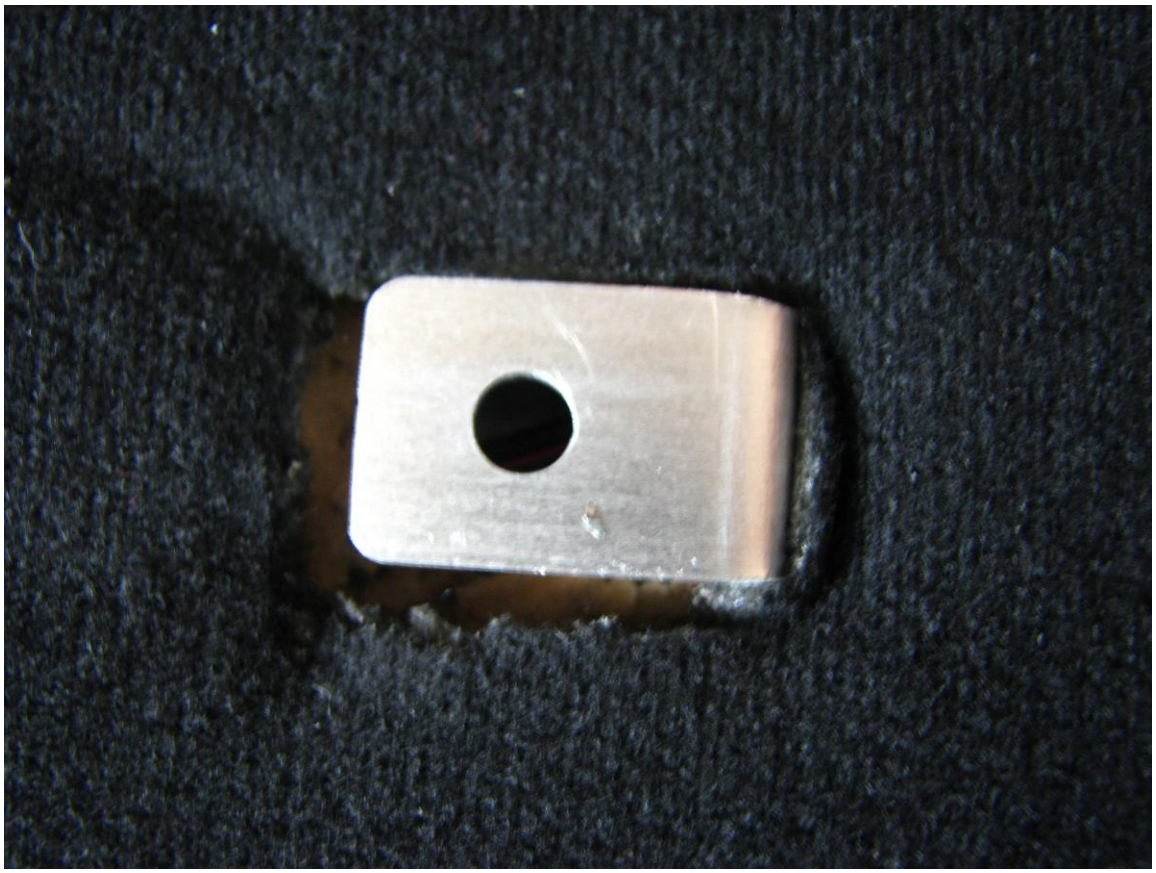
The next step is to cut out a rectangular hole in the motherboard cardboard/foam/fabric to let the top piece of the bracket be exposed. Just place the motherboard back on the pack and position it as it was before it was removed. Press down around where the bracket interferes with the motherboard so you get an indent in the carboard and will have that show you exactly where to cut. I pushed a bit too hard trying to get a better picture and dented the cardboard more than needed:



Then I used a razor blade to cut out the rectangular hole:



When the Motherboard is placed back on the Proton pack, the bracket should now be flush with fabric on the motherboard:



Adding side brackets:

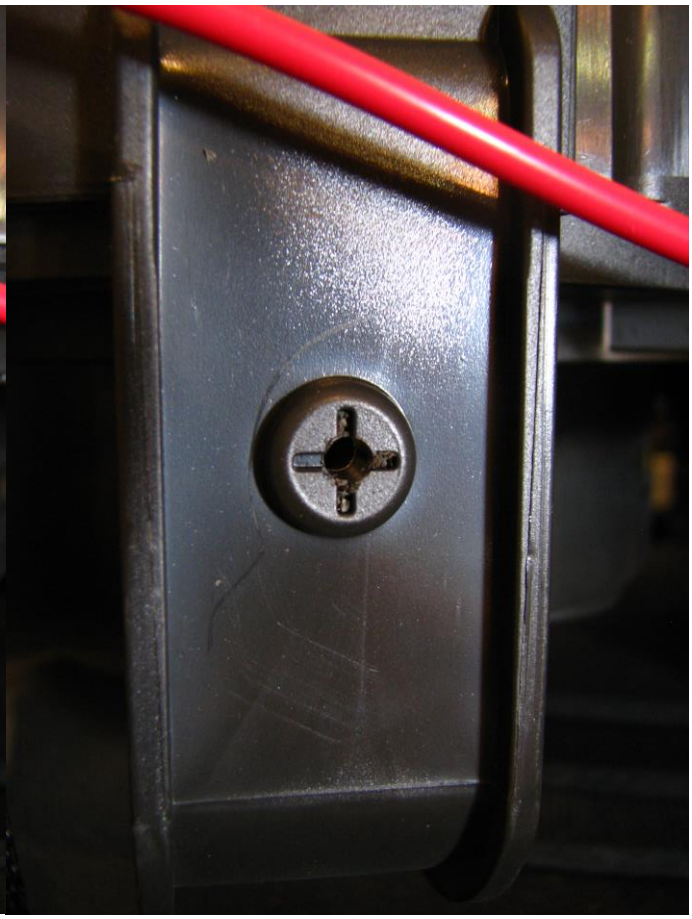
The two side brackets mount inside the bumper that goes across the center of the Cyclotron portion of the Spirit Pack. There are already molded in plastic screw heads and we will use those to center the holes that need to be drilled into the pack.

Use a 1/8" drill bit and drill a hole into the center of the screw heads (one on each side of the pack):

Before



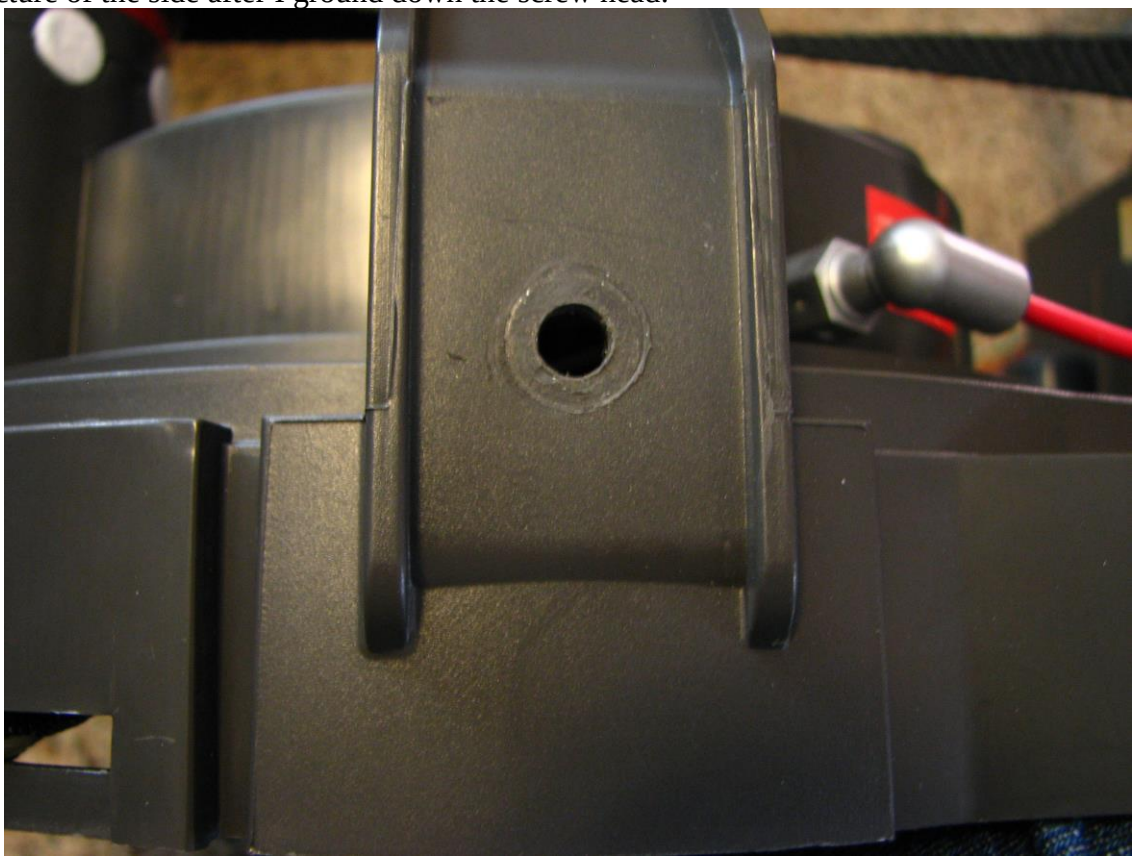
After



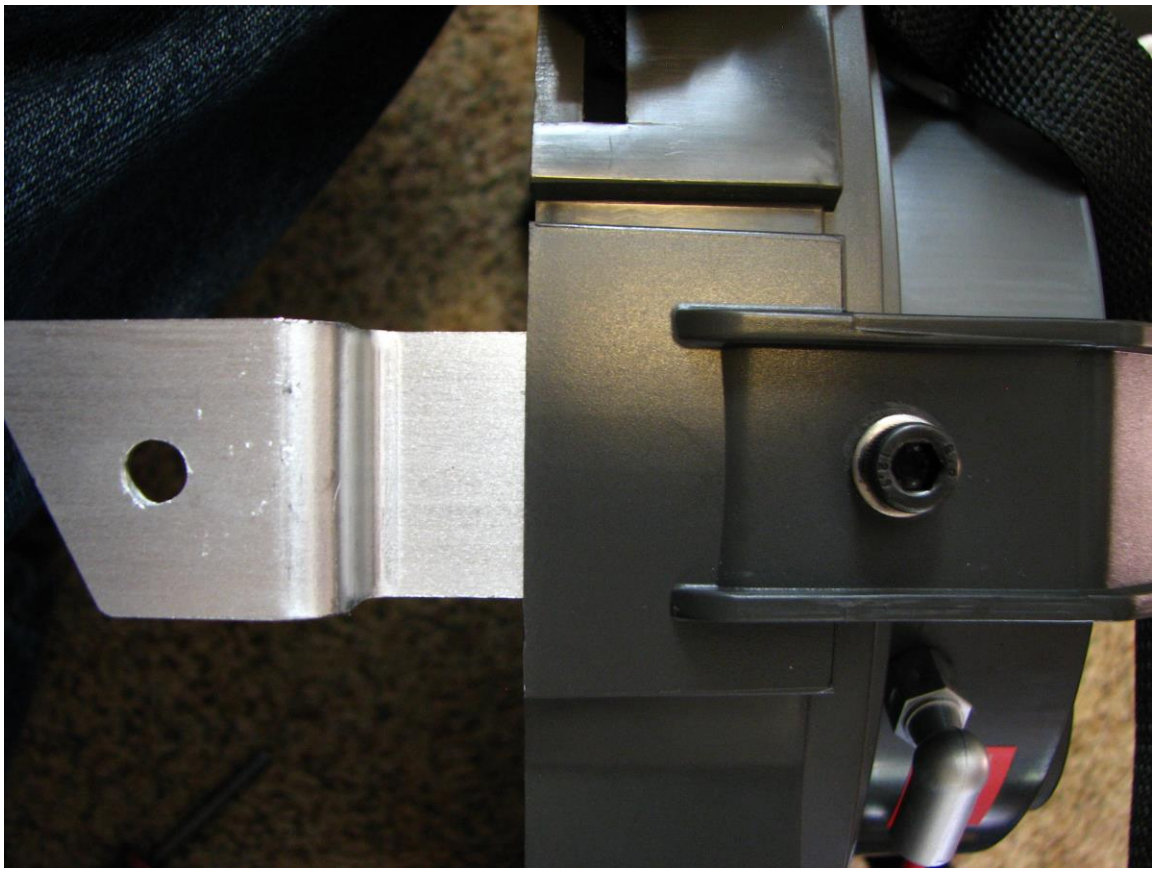
The hole we really need is a 15/64" hole, but it is easier for me to start with a smaller hole and make sure it is centered before I drill the larger hole. If you are comfortable with just drilling the 15/64" hole that should also be fine.

You may wish to grind down the fake screw head or can leave it as is. Even if you decide to grind down the screw head, drill the holes first since once you grind it down it is harder to find where the center of the hole should be drilled.

Here is a picture of the side after I ground down the screw head:



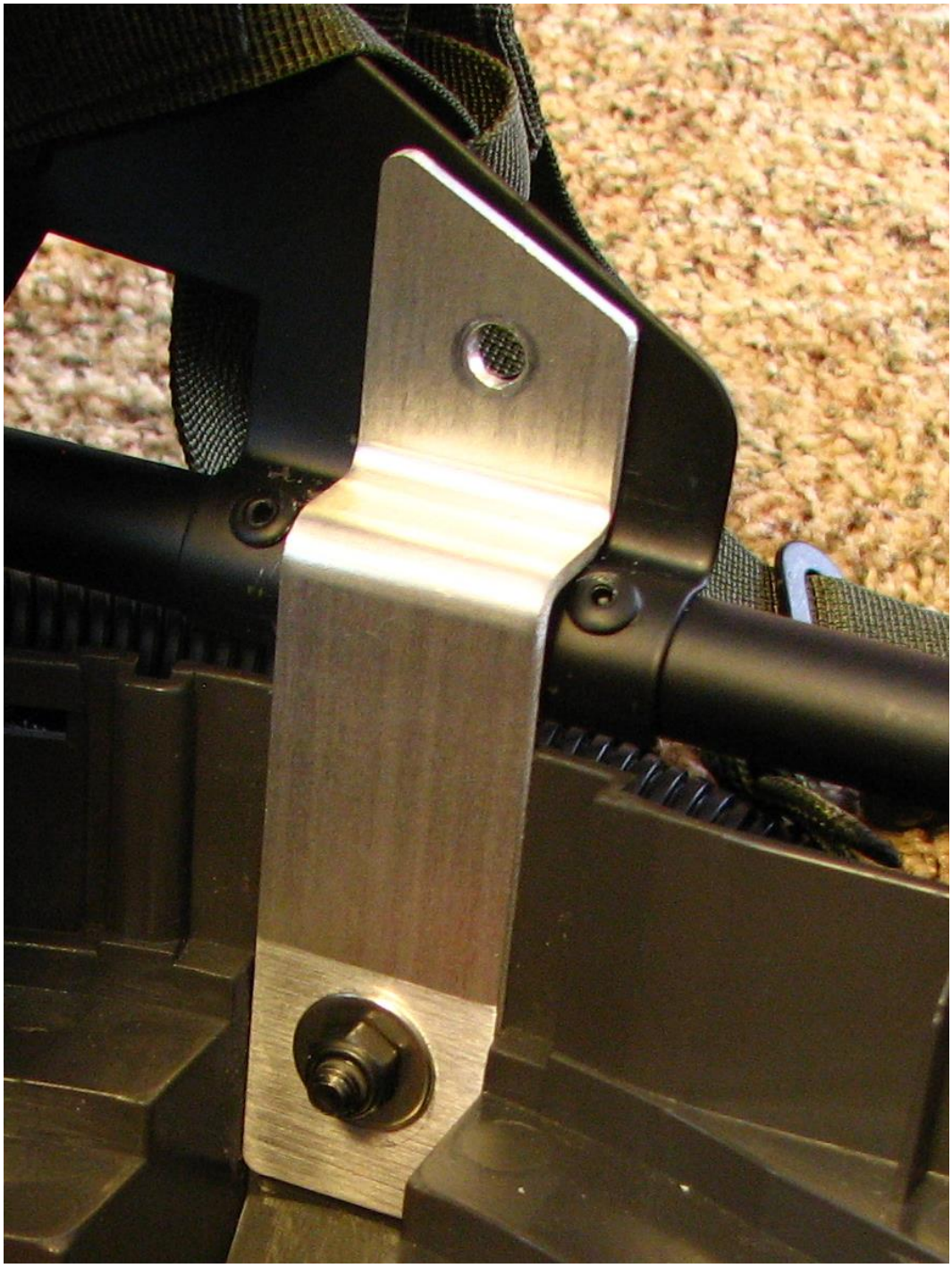
Finished look:



As shown above, use the Socket head bolts to mount the two side brackets (item #1 and #2) to the holes that you just drilled with the Bolts #4. Hex head goes on the outside along with the smaller washer, through the pack, through the slotted mounting bracket hole, then the larger washer and the locking nut. Do not completely tighten the bolt so that the bracket can still be adjusted up and down. The bent portion of the brackets stick out away from the pack.

After all of the brackets have been attached (the side brackets are still a bit loose) and the motherboard is still off of the pack, it is time to test fit the A.L.I.C.E frame and then tighten the side brackets. Set the frame on the pack by holding one side of the frame a few inches from the pack and making sure the other side slides into one of the side brackets. Rotate the frame towards the pack on the other side and pull the unused side bracket towards the center of the pack. This should give enough to allow the frame to snap into place.

The side brackets should be centered between the rivets on the side braces of the A.L.I.C.E. frame:



Adjust the bracket so that it captures the frame tube without too much play. Make sure both sides are aligned (and the center brace of the frame is over the center bracket that was added to the pack) and then tighten down the two bolts (item #4) with a 3/16" hex key and a 10mm open end wrench (or socket).

Drilling the A.L.I.C.E frame:
The frame needs three 15/64" holes for the button head screws to go through to attach the frame to the newly installed brackets.

Clamp the two side frames to the brackets while making sure the center brace was aligned with the raised portion of the center bracket. Now mark the center hole (yes it is somewhat of a pain to do that) on the brace so you can drill out the first hole. Use a center punch to make an indent and then use your 15/64" drill bit to drill the hole. I drilled it on the pack and it made a mess of metal shavings so my next pack I drilled after I removed the frame!

After the center hole is drilled, remount the frame and attach bolt #6 to hold the center of the frame in place while you mark the two side holes to drill into the A.L.I.C.E. frame. I drilled through the bracket hole rather than marking and drilling later and this worked fine and the shaving did not pile up inside the pack like with the center bracket.

Finishing up:
Time to remove the old straps (I didn't do this in the pictures – the old straps were still attached to the pack). After the old straps are removed, remount the cardboard/foam/material motherboard with the five original screws. Your pack should look like this:



I also left the five screws holding the motherboard to the pack visible for this picture. You will probably want to move the material around so that they are very well hidden.

Time to place the frame on the pack. Same method as before: get one side in the bracket and then pull the other bracket toward the middle of the pack to allow the frame to slide over the bracket and snap in place.



Now use the two Bolts #5 to attach the sides of the A.L.I.C.E frame (use a 5/32” hex key and 10mm wrench or socket) and Bolt #6 (use a 5/32” hex key and a 10mm open ended wrench – not much else fits) to firmly attach the frame to the brackets.

You do have to remove the frame to get access to the battery, but it is fairly quick and only requires removing those three bolts.

Have fun!