

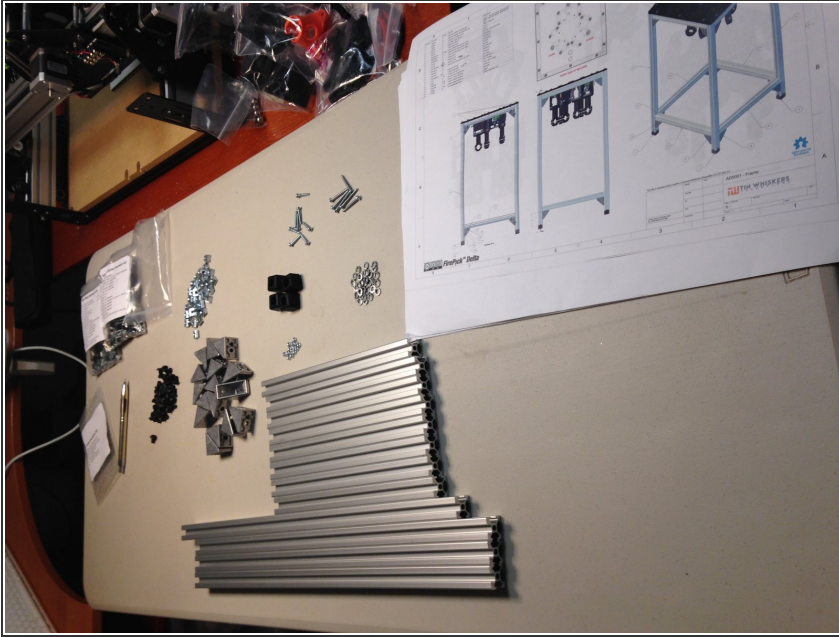


# INTRODUCTION

Inventory your parts first and organize everything before you begin.

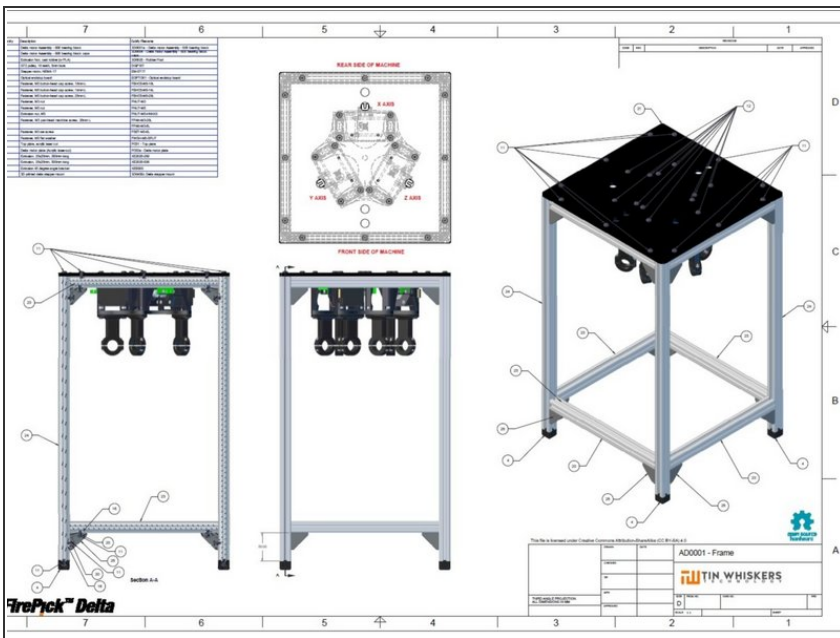
<div> <b>TOOLS:</b></div> <div><ul style="list-style-type: none"><li><a href="#">M5 Hex Nut Key</a> (1)</li></ul></div>	<div><div></div> <b>PARTS:</b></div> <div><ul style="list-style-type: none"><li><a href="#">See BOM</a> (1)</li></ul></div>
--	--

## Step 1 — Gather Pieces



- Lay out all of the pieces on a work table and use the [packing list](#) to ensure that all pieces are present and accounted for.

## Step 2 — Exploded View Reference



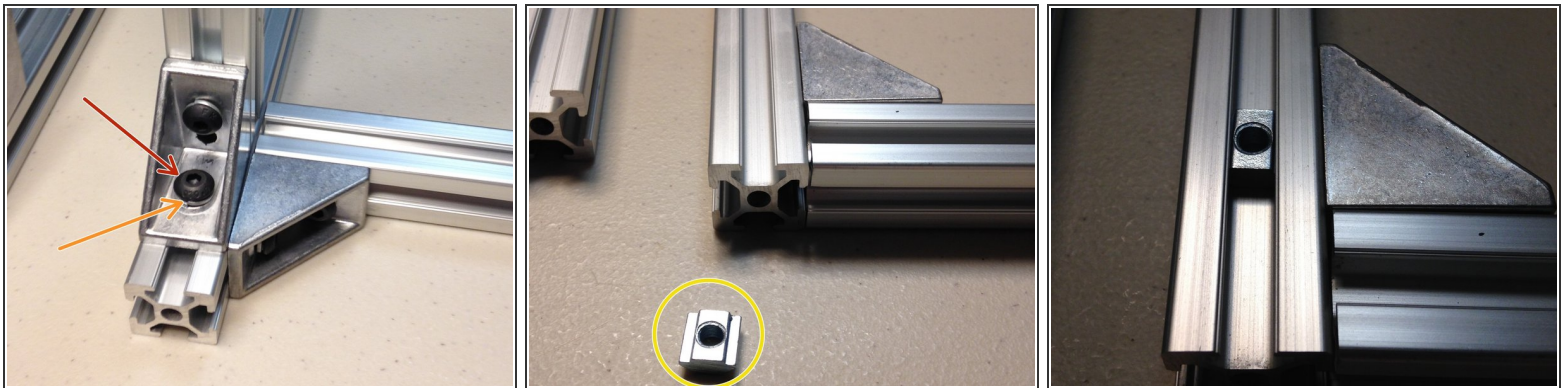
- Use the [exploded diagram](#) as a reference while following the steps in this guide.
- ⓘ Please use PDF linked above, not the thumbnail shown by Dozuki.

### Step 3 — Cautionary Note



- The corner brackets included in the kits have two holes on one of the sides.
- Use the hole shown in BLUE in the picture, throughout this build.
- **Do not use the holes shown in RED.** The T-nuts will not lock properly, because of the little nubs on the other side of the hole.

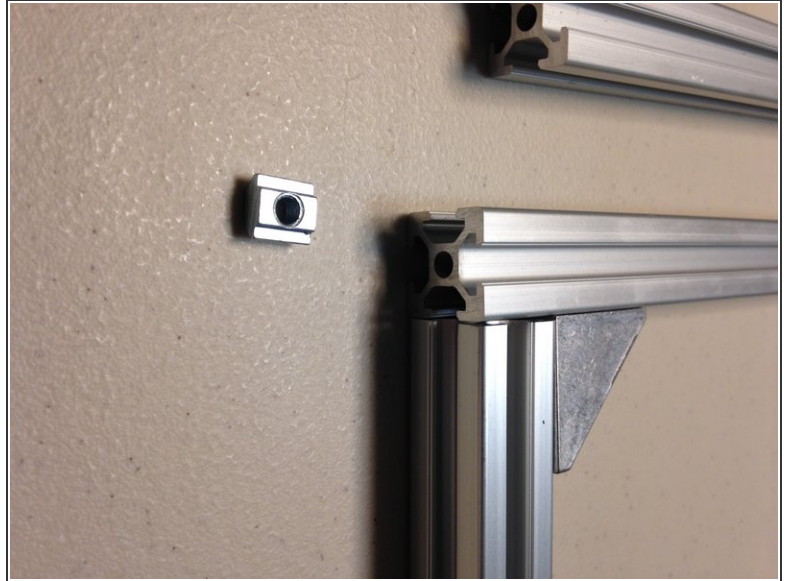
### Step 4



- Slide extrusion nut into rail from the end.
  - Attach right angle brackets using:
    - M5 x 10mm button-head cap screw
    - M5 split-lock washer
    - M5 extrusion nut
- (i)** Loosely tighten for now - tighten all bolts once all brackets are in place



## Step 5 — Add Corner Brackets and Extrusion Nuts



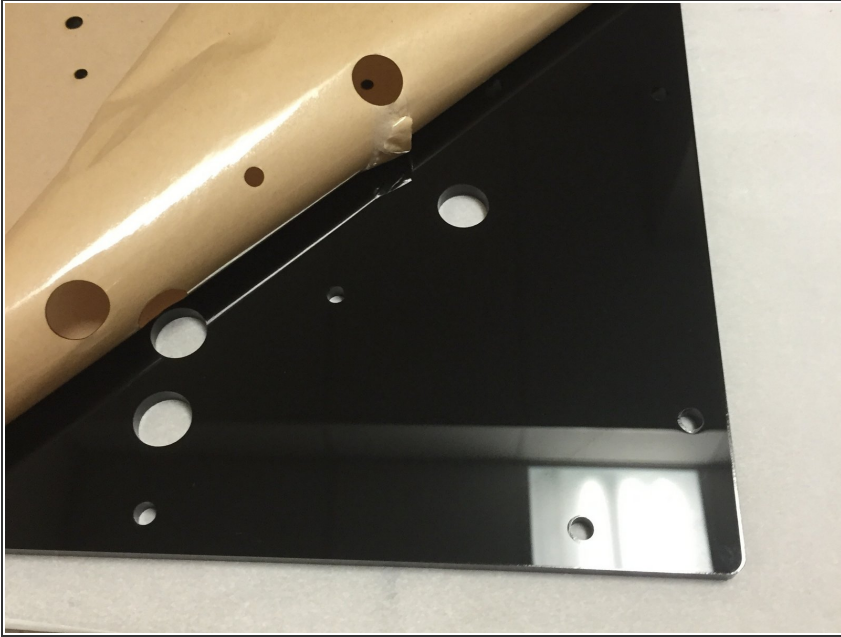
- Use the diagonal corner brackets and place them at the eight corners of the machine, as per the exploded diagram.
- Insert the M5 extrusion nuts as follows:
  - 32x for the diagonal braces to the extrusions. Two per bracket times 16 brackets.
  - 12x for the PC01 top acrylic plate. These go on the top horizontal extrusions, in the top slots.
  - 8x for the heated bed corner brackets (in the bed plate hardware bag). These go on the bottom horizontal extrusions, on the top t-slot.
  - 2x for the up-looking camera module (in the up-looking cam hardware bag). These go on the bottom horizontal extrusions, on the top t-slot, on the front side.
  - 1x for the SMT module's vacuum pump mount (in the SMT modular tool hardware bag). This nut goes in the top horizontal extrusion, on the back side, back-facing t-slot.
  - 1x for the 3D printer module's Wade extruder mount (in the 3D printing modular tool hardware bag). This nut goes in the top horizontal extrusion, on the back side, back-facing t-slot.

## Step 6 — Mount Rubber Feet



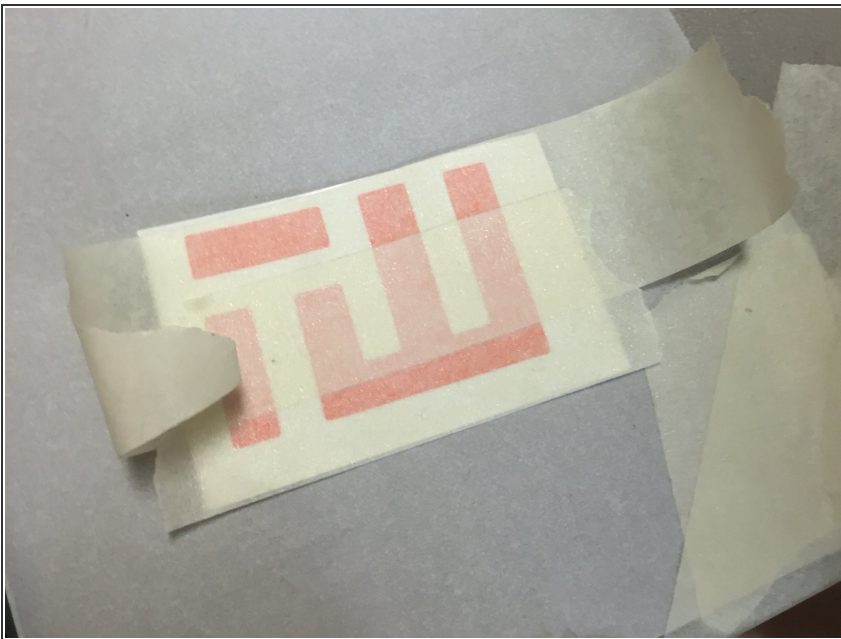
- Screw the feet into the vertical extrusions.
- Use #12 x 1/2" pan-head sheet metal screws, or #12 (Note that these were not included in the original kit; These can be purchased locally, or contact us at [hello@tinwhiskers.io](mailto:hello@tinwhiskers.io) and we'll mail you a set)
- #12 x 1/2" pan-head machine screws work as well, however the bottoms of the extrusion will have to be tapped for a #12-24 thread.
- Another alternative method of attaching the feet is to use the included M5 button-head cap screws, and use 2-part epoxy to hold them into the vertical extrusion hole. Note that the extrusion hole is too wide to allow for an M5 thread to be tapped.

## Step 7 — Peel off Adhesive Backing



- Peel off the protective brown adhesive coating on the acrylic piece(s).
- When removed, the surface should be piano black (not dull brown).

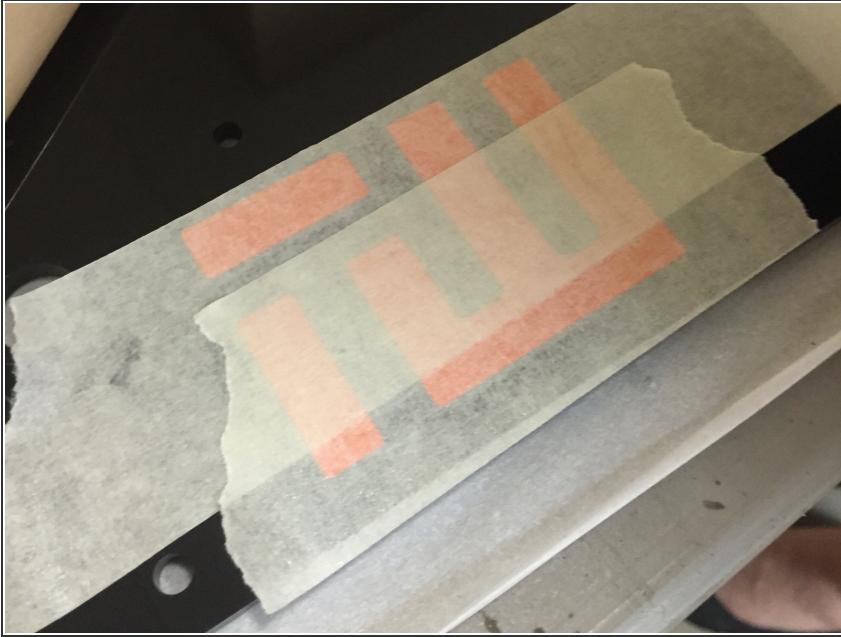
## Step 8 — Cover Vinyl Sticker with Masking Tape



- Locate the Tin Whiskers Technology vinyl sticker in your kit. Cover the sticker with regular masking tape.

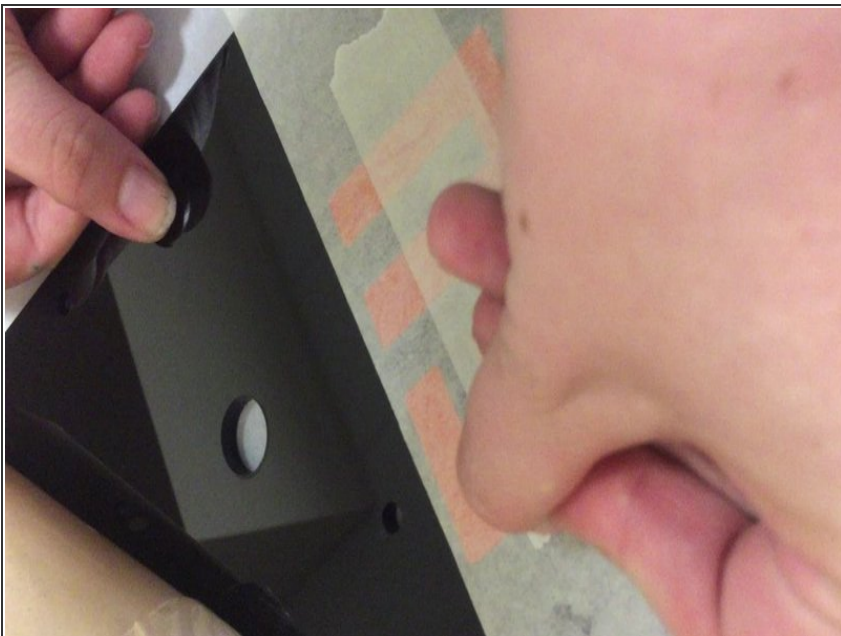


## Step 9 — Removing Backing and Adhere Sticker



- Remove the adhesive backing (carefully, as to not disturb the vinyl), and place the sticker on the lower right corner of the top plate. Locate it away from any screws or other things attached to the plate.

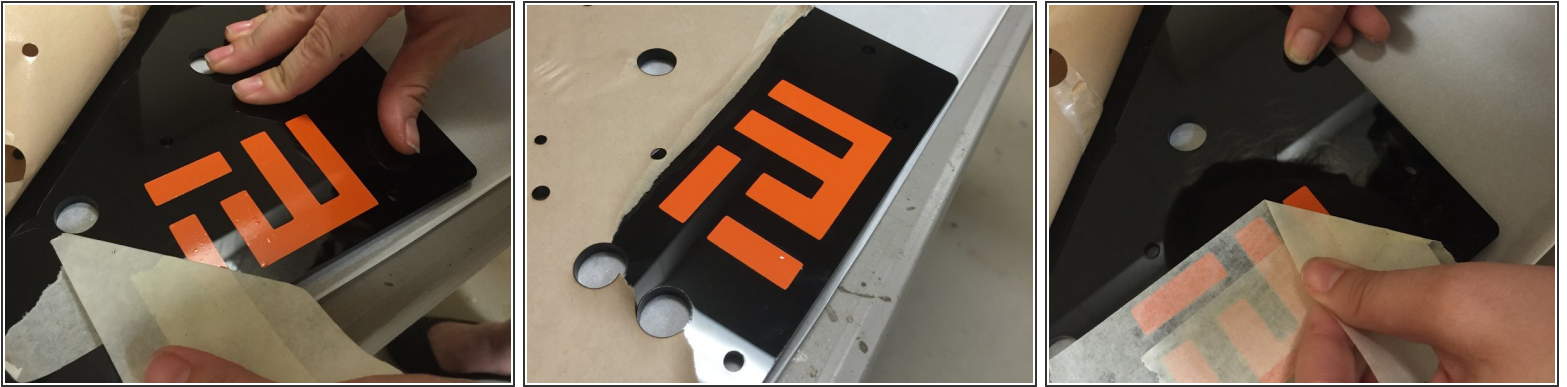
## Step 10 — Rub to Adhere the Sticker



- Use your fingernail or a coin to rub the sticker, and try not to create any trapped air bubbles.

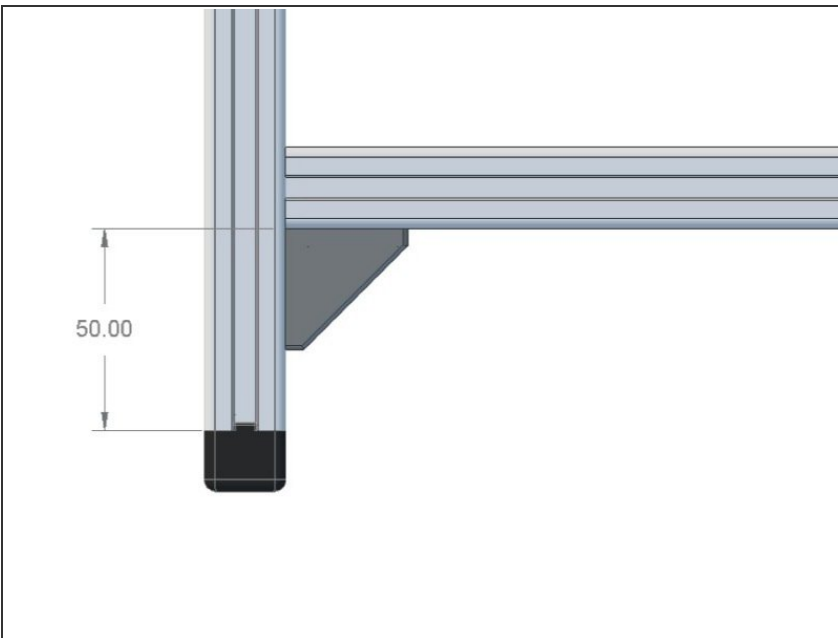


## Step 11 — Remove Tape Backing





- Remove tape backing.

## Step 12 — Bottom Horizontal Extrusion - Vertical Spacing

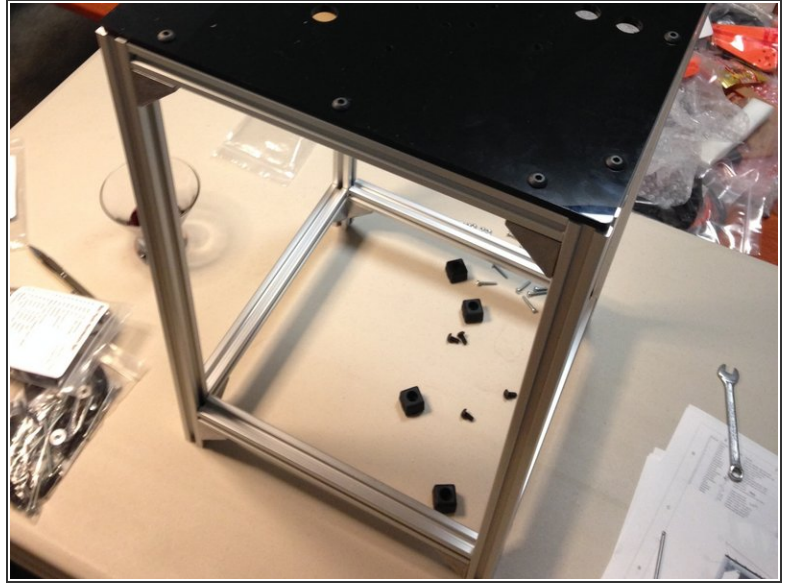
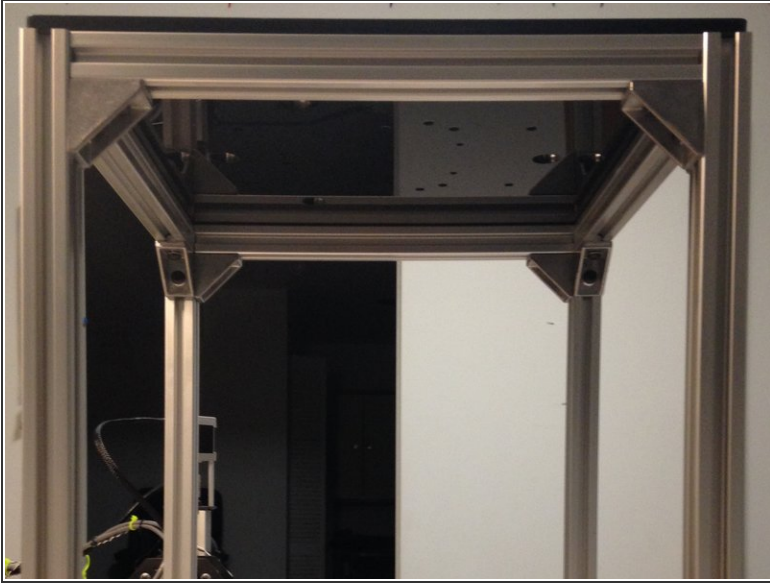


- Space the bottom horizontal extrusions at 50mm from the bottom vertical extrusion.
- Using a digital caliper is the preferred way to space these. In a pinch, a tape measure may be used, just take care to make sure that all sides are as close as possible to 50mm.

 For those of us living in the United States or Liberia, that's 1.96 inches

 Please don't get creative and change the spacing from the required 50mm. This will have detrimental effects on the delta kinematic geometry.

## Step 13 — Done! (almost)



- When the frame is done, it should look like this:
- Next, we recommend that you begin assembling the delta mechanism. The recommended build order is listed here: <http://firepickdelta.dozuki.com/Guide#Se...>