



# Assembling the BoXZY Enclosure

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## INTRODUCTION

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### TOOLS:

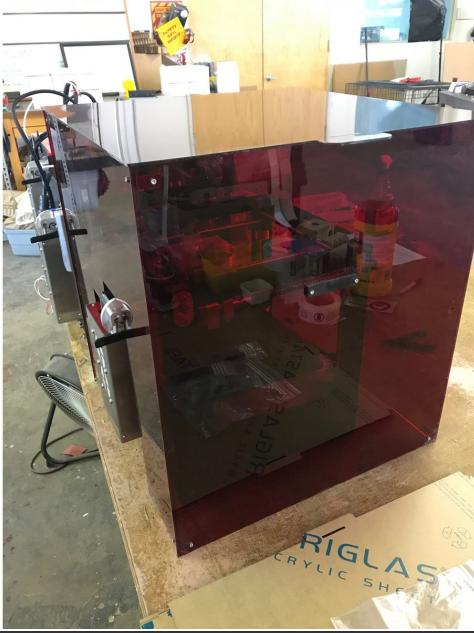
- [2.5 mm allen key](#) (1)  
*found in Fix-It Kit*



### PARTS:

- [Enclosure Kit](#) (1)

## Step 1 — Understand what your final enclosure assembly should look like



- First, it helps to have a general understanding of how your final enclosure assembly should look.
- This is a picture of an assembled enclosure viewing it at an angle from the back. Some things to take note of:
  - The back cutout fits closely around BoXZY's fan cover and filament drive.
  - There are small black handles on either side of the enclosure held on by 2 bolts.
  - Each corner joint is secured with 3 small corner brackets and a pair of bolts with each bracket. (Yes, you are right. If you look closely at the picture there are only 2 brackets visible securing the corner. The enclosure pictured is a prototype. Yours is new and improved!)

## Step 2 — Let's identify each panel



- The enclosure consists of 5 panels: front, back, side1, side2, and the top. Let's make sure we know which is which.
- First picture is the back panel. This is the only panel with a specific inside vs. outside orientation. You can tell the correct orientation by the cutout. The tallest part of the cutout should be on the right when looking at the back. This side should face the outside when assembling.
- Second picture is the front panel. It has tabs going down the sides. No holes or cutouts in the middle.
- Third picture is the side panel. It can be identified by the 2 small holes near the center. This is where the handles will attach. There are 2 of these panels. They are identical.

### Step 3 — Let's identify each panel (cont'd.)



- Finally here is a picture of the top panel. This is the only panel not secured to the others with brackets. The four slots you see around the perimeter will interlock with tabs on the main body. This will hold the top in place but also allow for easy removal when viewing or accessing your project.

### Step 4 — Remove protective sticker on each panel to reveal acrylic



- This step is not represented in the following pictures, but it will be much easier to remove the sticker now rather than once it's assembled.
- The enclosure is made out of this color of red acrylic because it blocks the specific wavelength emitted by the laser that can be harmful to the eye.

## Step 5 — Secure the back panel to a side panel



- Join the tabs on the edge of the back panel with the slots on the edge of a side panel. Which ever side panel you choose, we will now call side1. (Shown in first picture.)
    - Make sure your back panel is in the correct orientation. The side panel is symmetrical so you can join either edge.
    - The top edge of each panel has a single tab in the center.
  - Add 3 corner brackets where you see 3 pairs of holes going down the corner joint. Secure the brackets with the M3x8 bolts and M3 hex nuts provided in your enclosure kit. You'll need the M2.5 allen key from your BoXZY's Fix-it Kit to get a nice tight hold. A pair of pliers are useful but aren't necessary. (Shown in second and third picture.)
    - Make sure the edge of the back panel is flush against the side panel before tightening the bolts all the way.
- ⚠ It is possible to crack the acrylic by over-tightening the bolts.



## Step 6 — Secure the front panel to the side1 panel



- Repeat the same procedure as stated in Step 5 to secure the front panel to the side1 panel, AKA the same side panel from the last step.
  - The front panel is symmetrical from left to right.
  - The top edge has that single tab in the center.

## Step 7 — Secure you last side panel to the front and back panels.



- At this point your enclosure should have 3 sides attached. Now you can secure the final side using the same method as the previous steps.
- Once all four panels are secured together with the corner brackets, it's a good idea to make sure your joints are nice and tight. If not, you can loosen the bracket bolts, make the desired adjustment and re-tighten them.

## Step 8 — Attach the handles



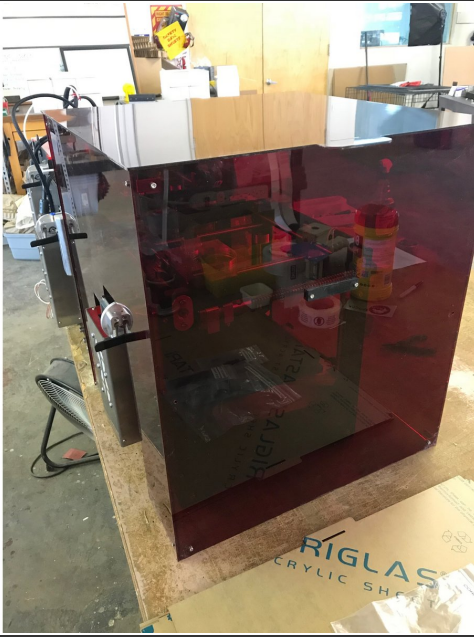
- Your kit should come with four M3x14 bolts, four larger rectangles of 1/8" black delrin plastic, and two slightly smaller rectangles of the same material. The four larger rectangles will be the actual handles themselves. The two smaller rectangles will function as a nut for the bolts to thread into.
- Take 2 of the larger black rectangles and stack them on top of each other. Place a bolt through one set of holes. Then place the end of that bolt through one of the holes located in the middle of the side panel. (Shown in the first picture.)
- Take one of the smaller rectangles and line it up on the inside of the enclosure with the bolt you just inserted. Use your 2.5mm allen key to turn the bolt clockwise while pressing it against the plastic nut. Your bolt should thread into the nut as you turn, but might need a small amount of pressure to start. (Shown in the second picture.)
- Repeat that same process with a second bolt in order to secure the handle horizontally.



**Step 9 — Repeat Step 8 on the other side panel.**

- Here is another visual of what the finished handles should look like on the outside and inside.

## Step 10 — Finish with the top!



- Lastly you can place the top on the enclosure. It is very simple. The enclosure itself is a square shape so the top can be placed on the enclosure in any orientation.
- You have successfully assembled a fully functioning BoXZY enclosure.
- The enclosure can be used to protect your eyes while using the laser, contain debris while using the mill, and aid in temperature control while using the 3D printer.
- Enjoy!