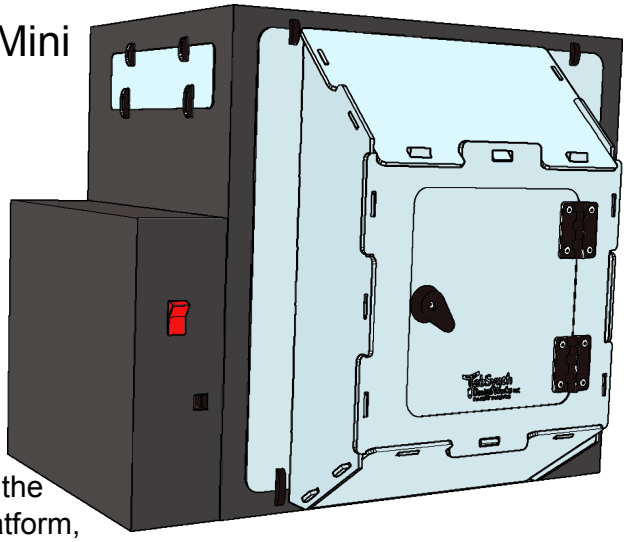
Acrylic 3D Printer Enclosure

Made for: Lulzbot Mini

With new patent-pending Tab & Slot snap fit assembly by:

TabSynth Design Works LLC

www.TabSynth.com



This enclosure, by TabSynth Design Works LLC, is designed for the Lulzbot Mini 3D printer. This enclosure fits closely into the panel openings on your printer, reducing drafts on the print platform, improving print quality, and reducing the tendency for warping on larger prints.

In addition to printer design, 3D printing involves a dynamic combination of variables: geometry, slicing parameters, plastic filament, and environment. Any one of these variables can have a significant effect on the quality of your prints.

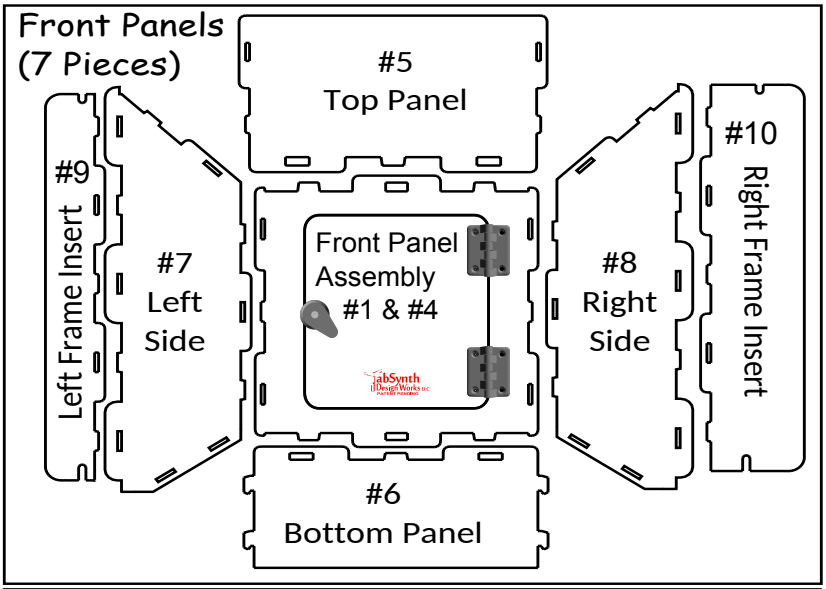
This enclosure is an attempt to reduce some of the environmental variables which can adversely impact your printing. It changes the internal operating conditions in ways that the manufacturer did not intend, or test.

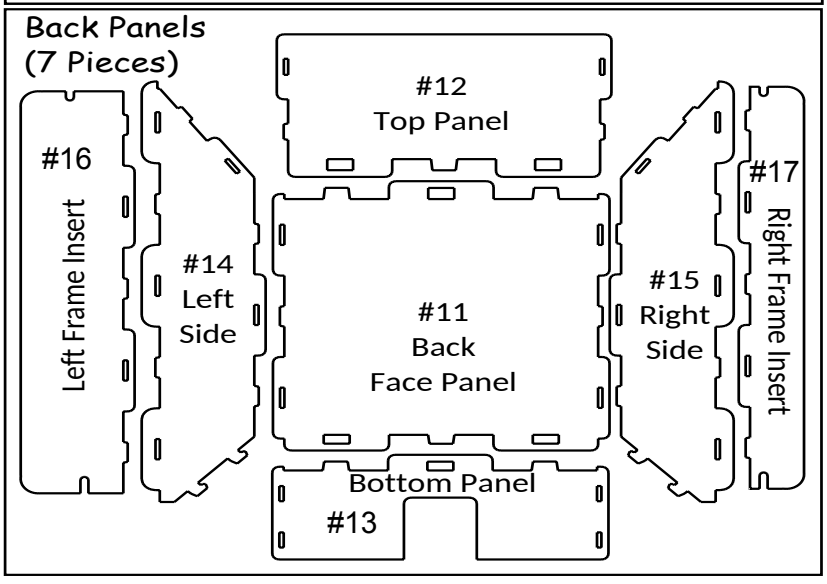
While this modification has exceded our expectations, it should still be considered an experimental setup, and no guarantee, implied or explicit, is made as to the serviceability or fitness for use in your particular environment. Should you wish to, the enclosure is easy to remove. As always, paying close attention to your printer and it's operating condition, is key to successful printing and safe operation o your printer. TabSynth Design Works warrants this product against manufacturing defects only.

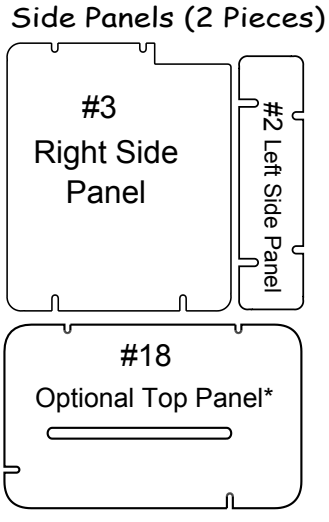
Kit Parts List:

8x Sm. Panel Clips

8x Lg. Panel Clips



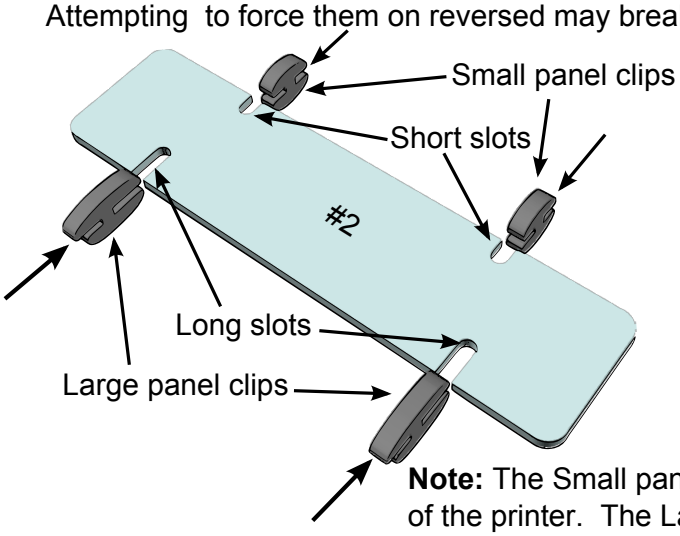


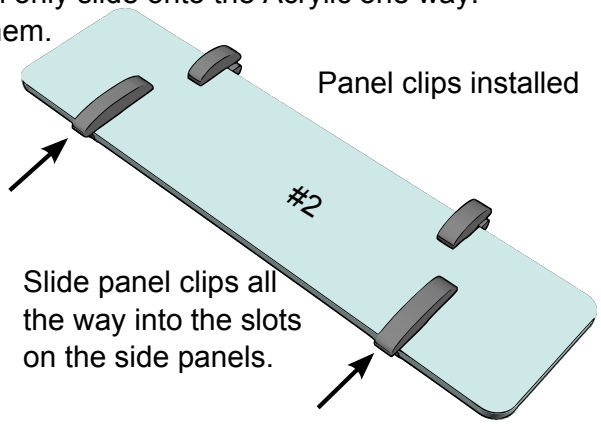


*To order go to www.TabSynth.com or email info@TabSynth.com

Installing Side Panels on Printer

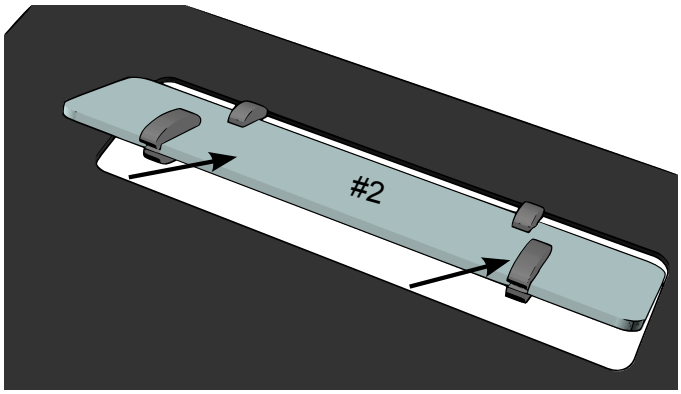
Step 1: Slide the panel clips onto the Left Side Panel (#2) as shown. Two small panel clips slide into the two small slots on the top of the panel, and two large panel clips slide into the two large slots on the bottom of the panel. **Important:** The panel clips are designed for a close fit on the printer wall, which is thinner than the Acrylic panels, so they can only slide onto the Acrylic one way. Attempting to force them on reversed may break them.

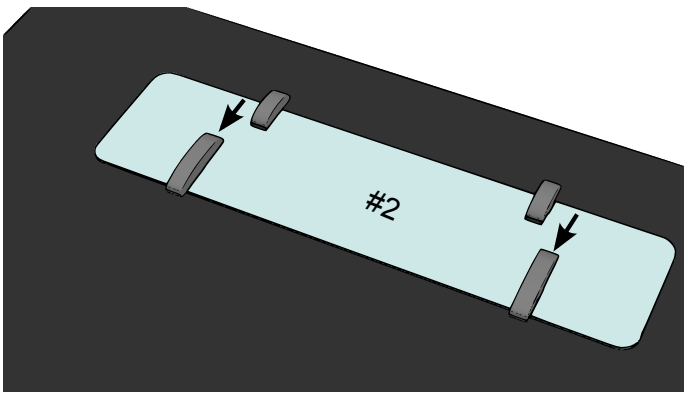




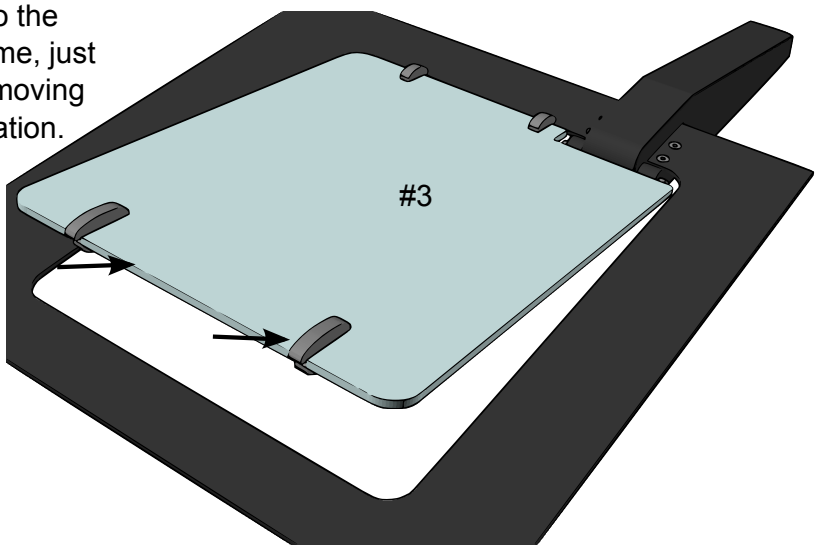
Note: The Small panel clips should protrude in order to engage the frame of the printer. The Large panel clips should be pushed all the way in for installation, and then slide down to lock the panel in place on the printer

Step 2: Install the Left Side Panel (#2) into the left side opening on the printer frame by first engaging the small panel clips, at the top on the frame edge, then rotate the panel into position. The lower clips protrude just enough to catch the lower edge of the frame opening and hold the panel securely in position. Slide the lower clips down to engage the printer frame and lock the panel into position. Since the clips are designed to be a close fit to the frame, you may need to wiggle the panel a bit to get them to slide down over the frame edge. It should not require a great deal of force.





Step 3: Install the Right Side Panel (#3) into the opening on the right side of the printer's frame, just as you did for the Left Side Panel (#2). Removing these panels is simply the reverse of installation. Note: You must remove this panel before folding the pivoting spool arm down, as it will interfere with the arm folding down.



Important Note on Cleaning Acrylic:
Laser cut Acrylic panels should only be cleaned with water, using a damp soft cotton cloth. Any solvent cleaner, such as alcohol or glass cleaner, may cause the acrylic to craze and crack.

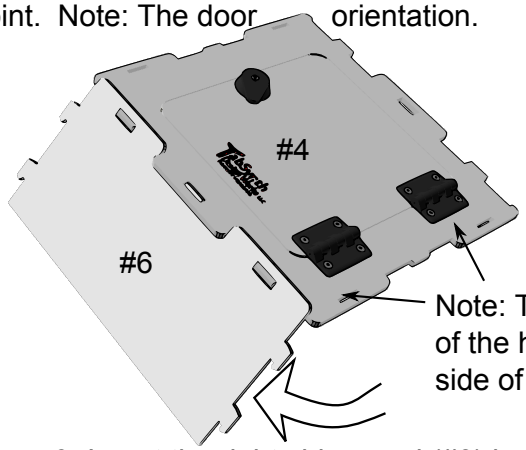
Assembly of the Front the Enclosure

Gather the seven acrylic pieces for the front of the enclosure (#4-10) and remove the protective plastic film from all panels before assembly.

About your Acrylic enclosure:

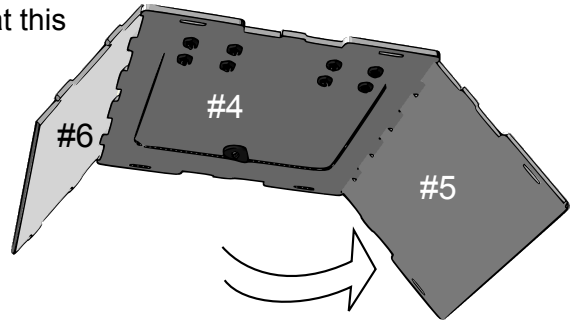
Your enclosure is made from acrylic panels which have been precisely cut to exactly fit your model printer. Take care when assembling and installing your enclosure panels. They can be assembled easily, and require only a modest bending force to engage tab and slot joints. Acrylic panels can break if subjected to impact or significant bending force. Ifit is hard to put two pieces together - STOP! Look closely at what you are doing. You likely have something misaligned. Be gentle.

Step 4: Insert the bottom panel (#6) of the front bay into the front face panel, (#4) with a slight bending motion, and rotating into position to engage the slots and tabs. The attachment should hinge loose at this point. Note: The door orientation.

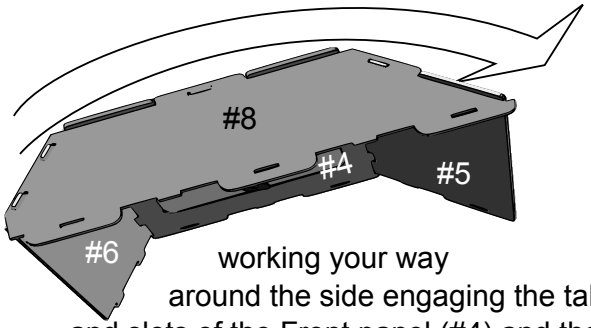


Note: The orientation of the hinges on the right side of the front panel.

Step 5: Insert the top panel (#5) of the front bay into the front face panel (#4) in the same manner as the bottom panel (#6). Both should freely hinge at this point.

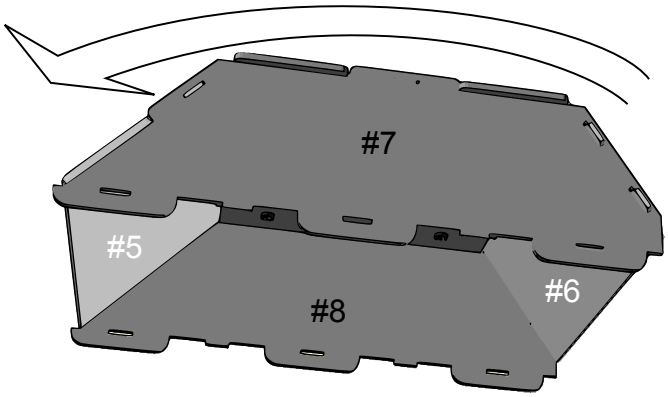


Step 6: Insert the right side panel (#8) by first engaging the hook tabs on the botttom panel (#6) into the slots on the side panel (#8)

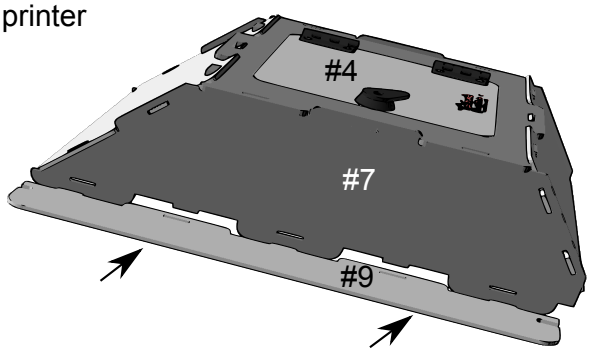


working your way around the side engaging the tabs and slots of the Front panel (#4) and then the top panel (#5) with a slight bending motion.

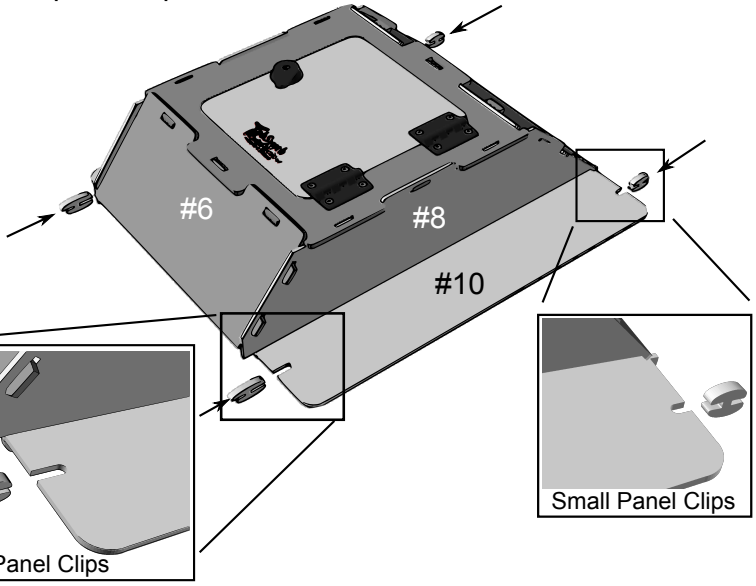
Step 7: Repeat with the left side panel (#7). Be sure to engage the hooks in the bottom panel (#6) first.



Step 8: Attach the left side insert (#9) to the left side panel (#7) with a slight bending motion. The long panel clip slot goes to the bottom of the printer



Step 9: Attach the right side insert (#10) to the right side panel (#8). Next attach the small and large panel clips.



Note: Left and right sides are as viewed from the front of the printer with the bays installed. Be sure that the left and right inserts are installed correctly.

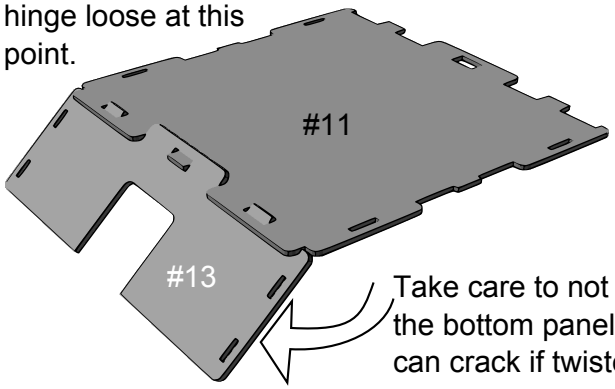
Assembly of the Back of the Enclosure

Gather the seven acrylic pieces (#11 - #17) for the back of the enclosure and remove the protective covering from all parts before assembly. Arrange the parts according to the layout shown on page 1.

Enclosure Warranty:

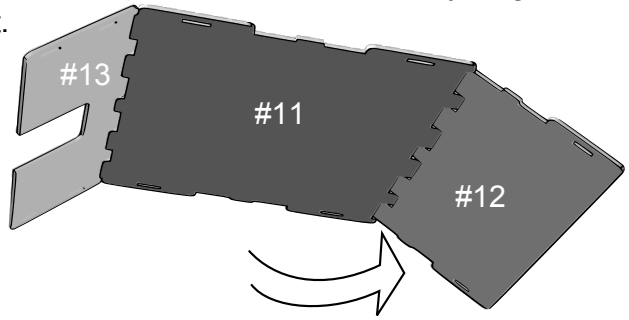
This enclosure is a third party add-on, and is in no way warranted or endorsed by Aleph Objects. Lulzbot and Lulzbot Mini are the trademarks of Aleph Objects, and are used for reference only. TabSynth Design Works LLC warrants this product against manufacturing defects for one year. No other warranty as to fitness for use in your environment is made. It is the user's responsibility to assemble and install this kit correctly, and to monitor the their printer when printing.

Step 10: Insert the bottom panel (#13) of the back bay into the back face panel (#11), with a slight bending motion, and rotating into position to engage the slots and tabs. Attachment should hinge loose at this point.

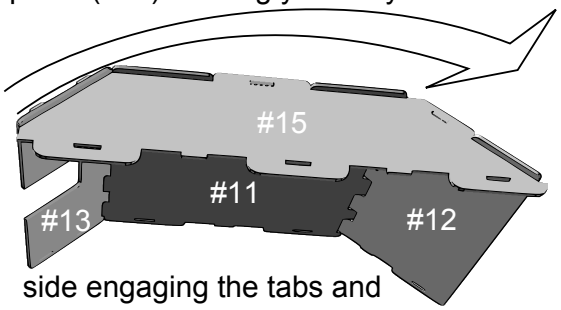


Take care to not force the bottom panel. As it can crack if twisted.

Step 11: Insert the top panel (#12) of the back bay into the back face panel (#11) in the same manner as the bottom panel. Both should freely hinge at this point.

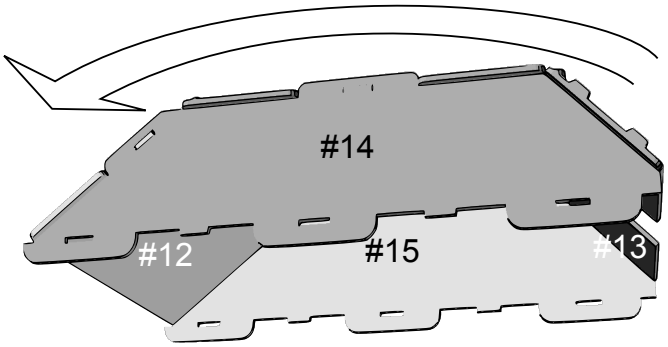


Step 12: Insert the right side panel (#15) by first engaging the hook tabs into the botttom panel (#13) working your way around the

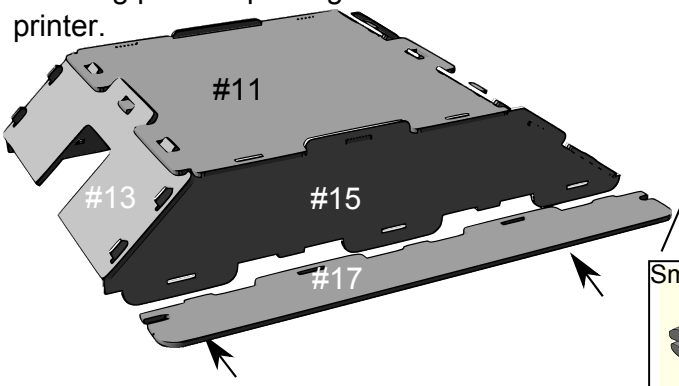


side engaging the tabs and slots with a slight bending motion.

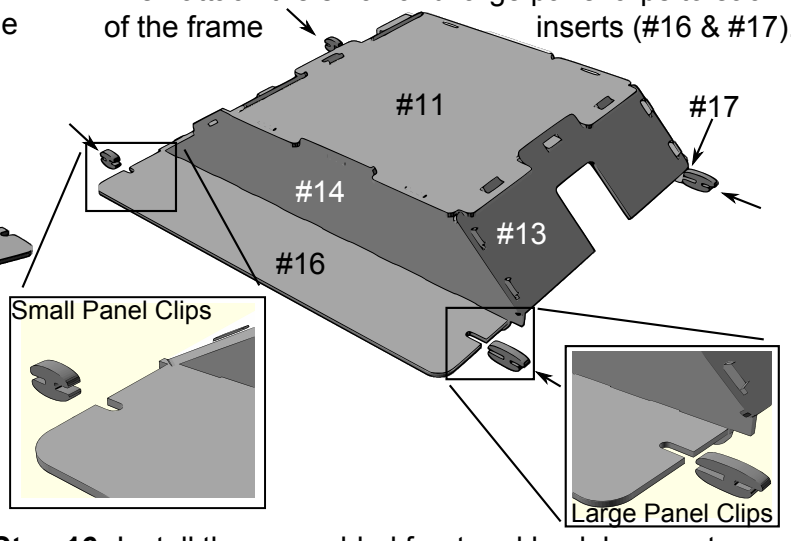
Step 13: Repeat with the left side panel (#14). Be sure to engage the hooks in the bottom panel (#13) first.



Step 14: Attach the left side frame insert (#17) to the back bay assembly with a slight bending motion. The long panel clip slot goes to the bottom of the printer.



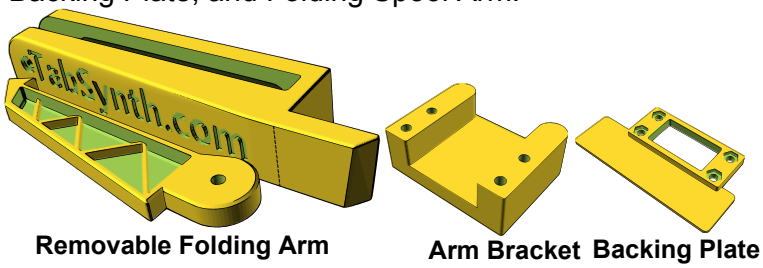
Step 15: Repeat with the right side frame insert (#16). Then attach the small and large panel clips to each end of the frame inserts (#16 & #17).



Step 16: Install the assembled front and back bays onto your printer using the panel clips to engage the printer frame and secure the front and back bays in place.

Optional Spool Arm Upgrade

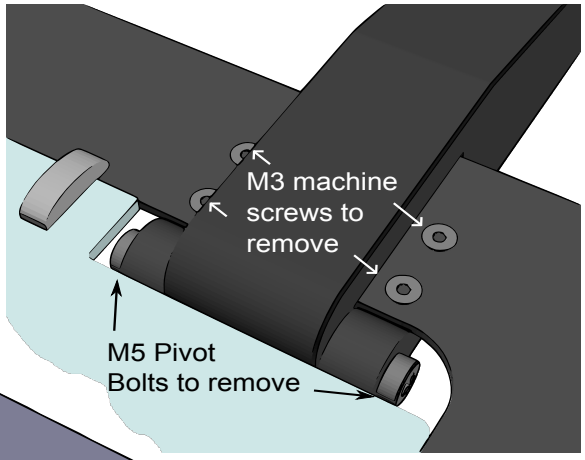
Step 17: Download and Print the new Arm Bracket, 'Backing Plate, and Folding Spool Arm.



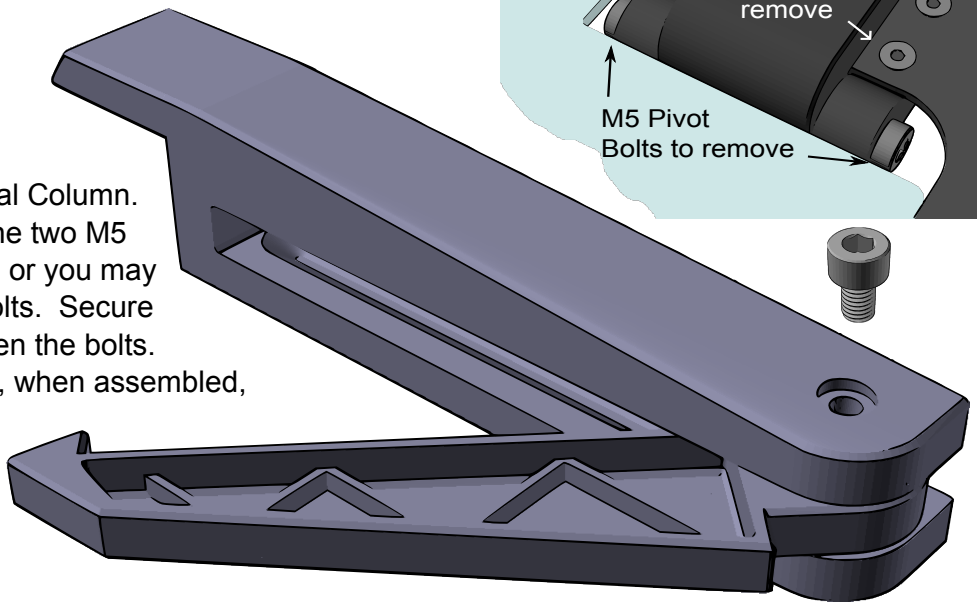
Removable Folding Arm **Arm Bracket** **Backing Plate**

Available to download at:
https://www.tabsynth.com/lulzbot-mini-spool-arm-upgrade/

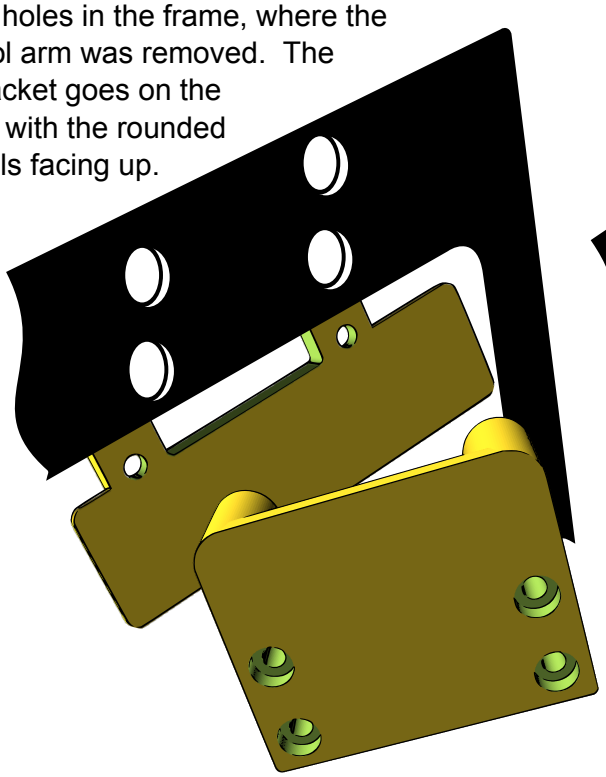
Step 18: Remove the original spool arm from the frame using a 2mm Hex wrench to take out the four M3 flathead machine screws holding it to the frame. Next separate the hinge from the arm using a 3mm Hex wrench to take out the two M5 Pivot Bolts.

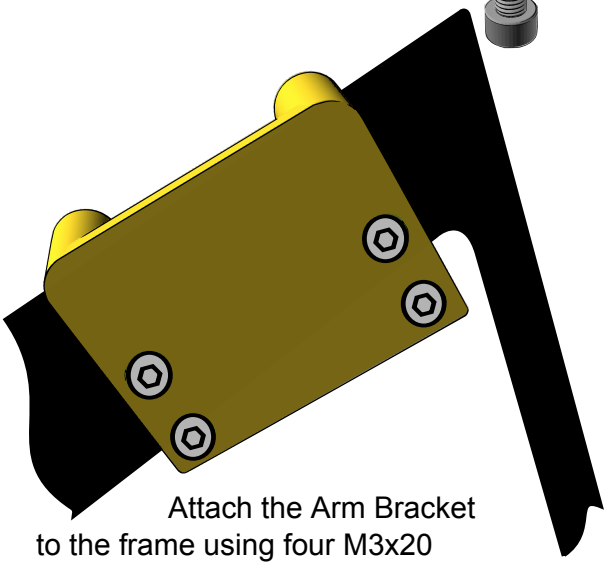


Step 19: Mount the Spool Support Arm into the Vertical Column. Align the holes and insert the two M5 Pivotbolts from the old arm, or you may purchase two M5x15mm bolts. Secure the arm but don't over-tighten the bolts. The arm should pivot freely, when assembled,



Step 20: Attach the Arm Bracket and Backing Plate to the the printer frame. The backing plate goes to the inside of the frame and should be aligned with the four holes in the frame, where the old spool arm was removed. The Arm Bracket goes on the outside, with the rounded side walls facing up.





Attach the Arm Bracket to the frame using four M3x20 flathead machine screws and four M3 nuts.

Step 21: Insert the removable folding spool arm into the bracket from the top, fully seating it, with the spool support arm pointing towards the front of the printer when folded out.