

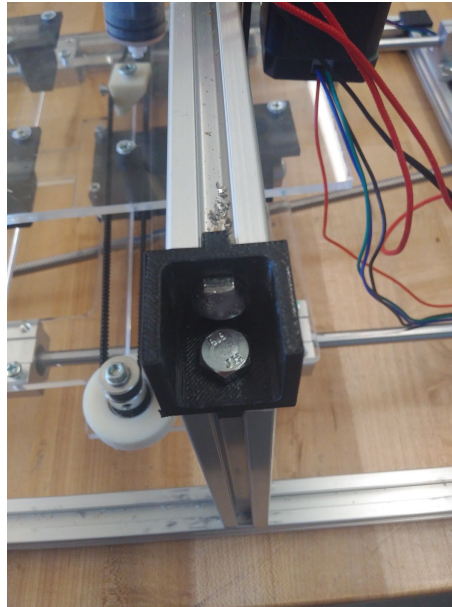
Step 1: Download all the STL files.

Step 2: Purchase all files outlined in table 1.

Step 3: Cut 2020 extruded aluminum into 5 length of 14 inches.

Step 4: Tap all end holes on aluminum with an M6X1 tap.

Step 5: Attach corner pieces of aluminum to make a 14\*14in base.

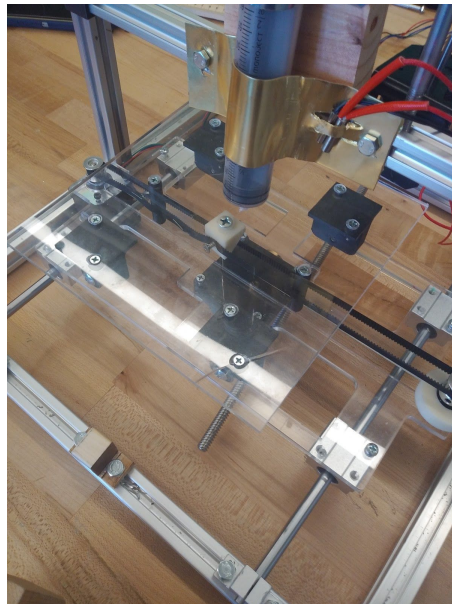


Step 6: Use scrap aluminum that is approximately 8 inches in length to create columns.

Step 7: Add the last 14 inch piece as a cross brace.

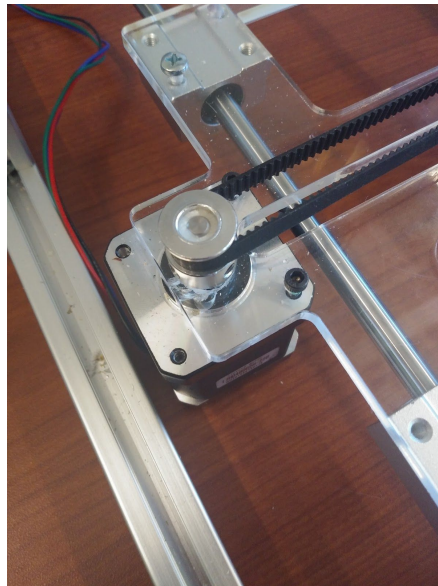
Step 8: Laser cut the DXF Files outlined in files.

Step 9: Attach linear rails using the M6X1 tap.



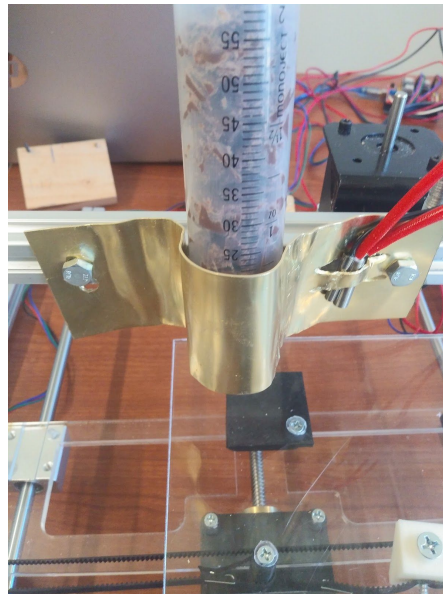
Step 10: Assemble the large rail as shown in the photo.

Step 11: Mount motors.



Step 12: Connect all circuits to the power supply.

Step 13: Bend sheet metal into a shape to hold the syringe.



Step 14: Download arduino IDE program.

Step 15: Set steps/mm using the equations.

$$\text{Lead Screw} = \frac{200 \text{ steps}}{\text{Lead length}} \qquad \text{Pully} = \frac{200 \text{ steps}}{\text{Circumference}}$$

Step 16: Tap and die an 8 mm shaft.

Step 17: Mount syringe.

Step 18: Load a program and enjoy!