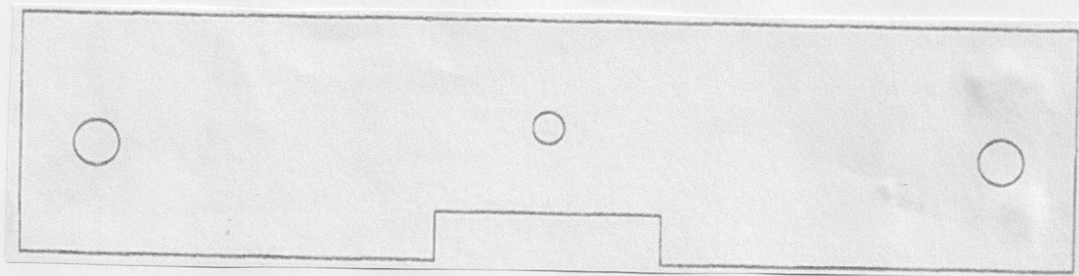
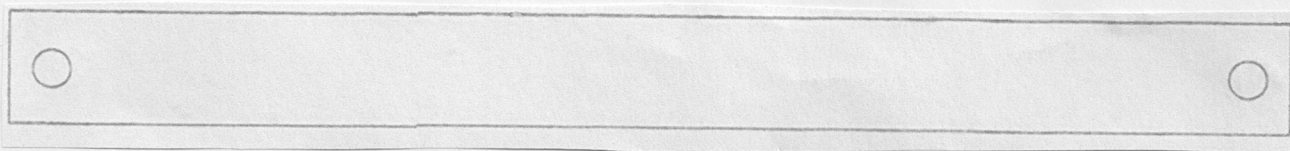


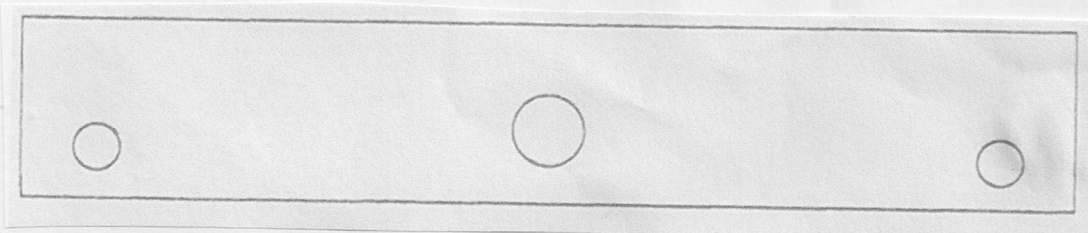
Motor Mount End Plate



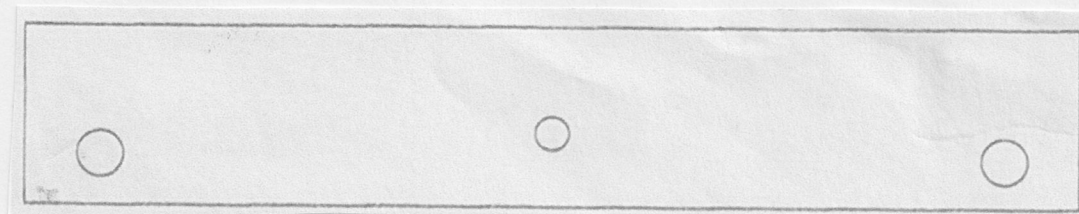
Encoder Mount End Plate



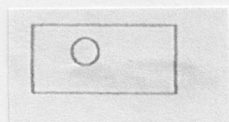
Mounting Legs 2 each



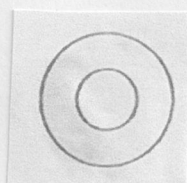
Motor End Carriage Plate



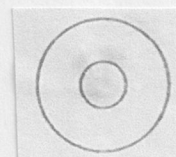
Nut Trap Carriage Plate



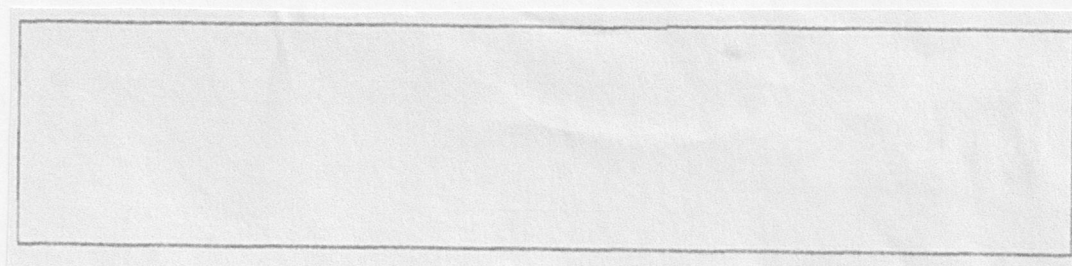
Encoder Module Mount



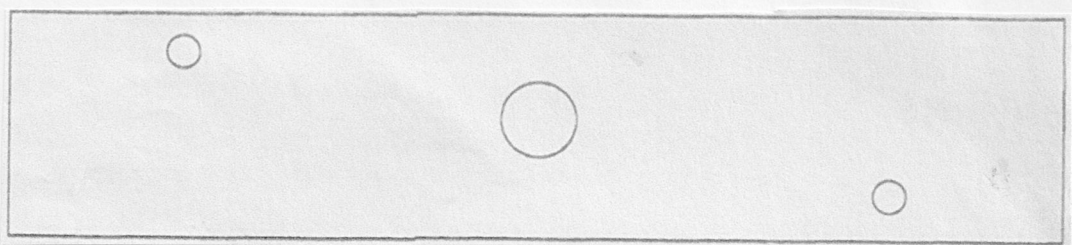
Nut Trap - Larger Opening



Supporting Ring Discs 8 each



Base Plate - For X Axis and Top Carriage Plate - For Y Axis



Base Plate - For Y Axis and Top Carriage Plate - For X Axis

Assembly instructions for the linear slide mechanism



You will need a small piece of masking tape, super glue, a pen knife and a small crosspoint screwdriver.

Please take your time fitting and assembling this mechanism. In order for it to perform correctly you must accurately assemble it, align parts properly, and assure it is square and straight to prevent jamming. The proper assembly also insures a tight tolerance in the mechanism for smooth steady movements.



Begin by sticking the m3 nut onto the center of a piece of masking tape.

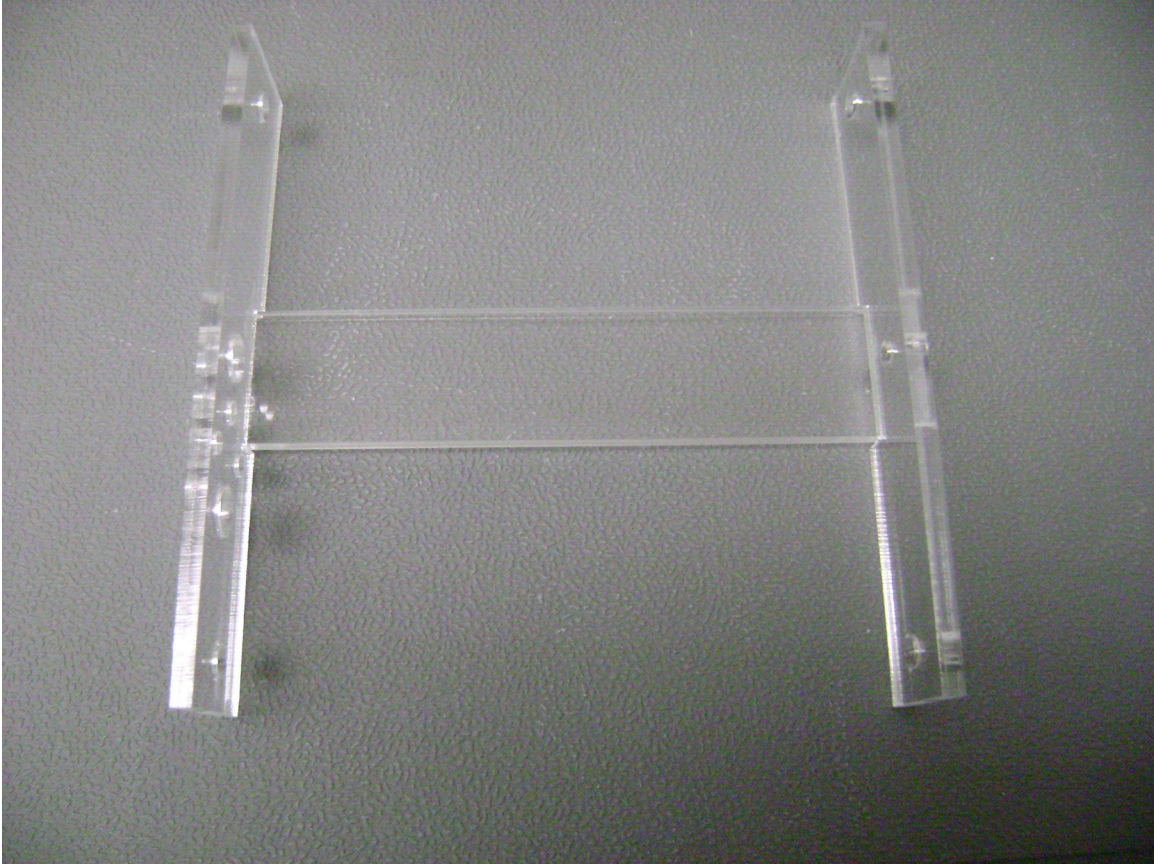
Press the nut down firmly to be sure it seals to the nut well.



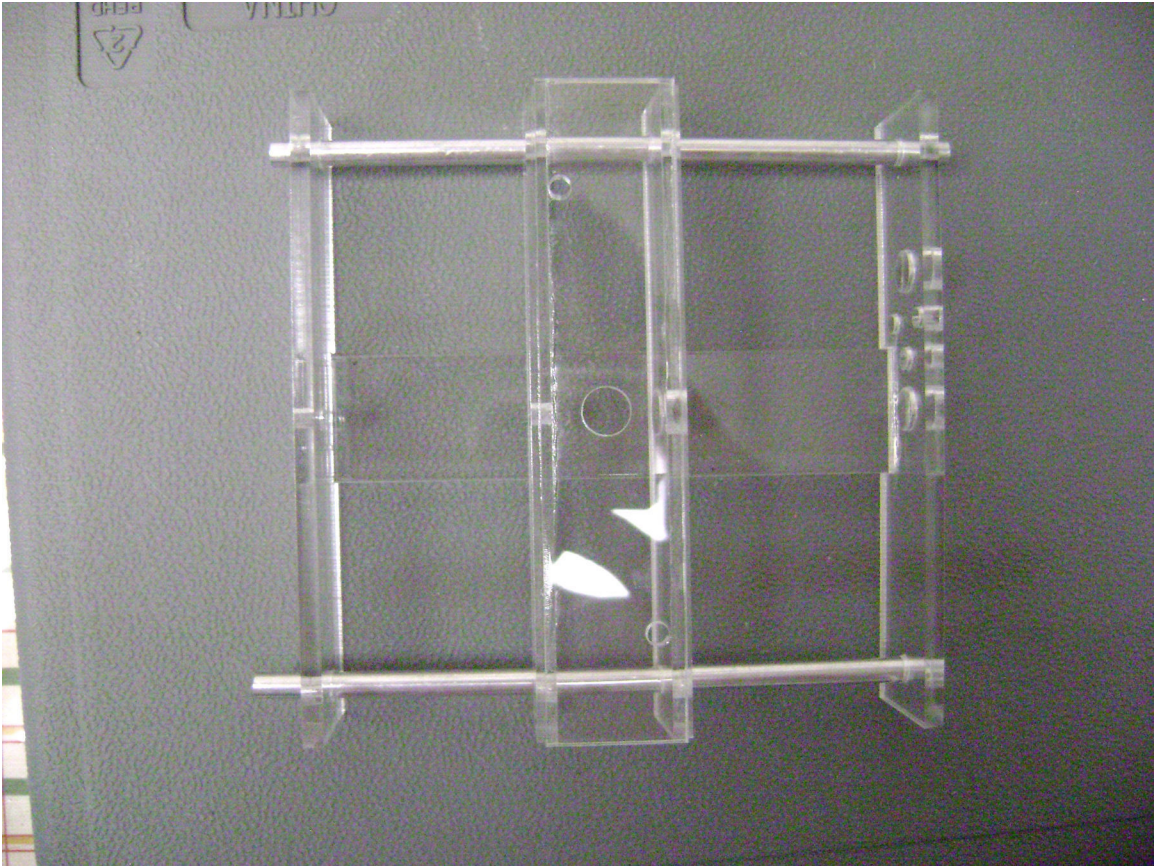
Locate the round disc that slips over the nut most closely. Press the disc firmly down so the nut is stuck in the center of the disc. Apply a small amount of glue around the nut filling in between the outside of the nut and the inside of the plastic disc. Do NOT allow any glue to get into the threads of the nut. It may be helpful to turn the assembly on its side to perform this operation. Lay the assembly down to completely dry.



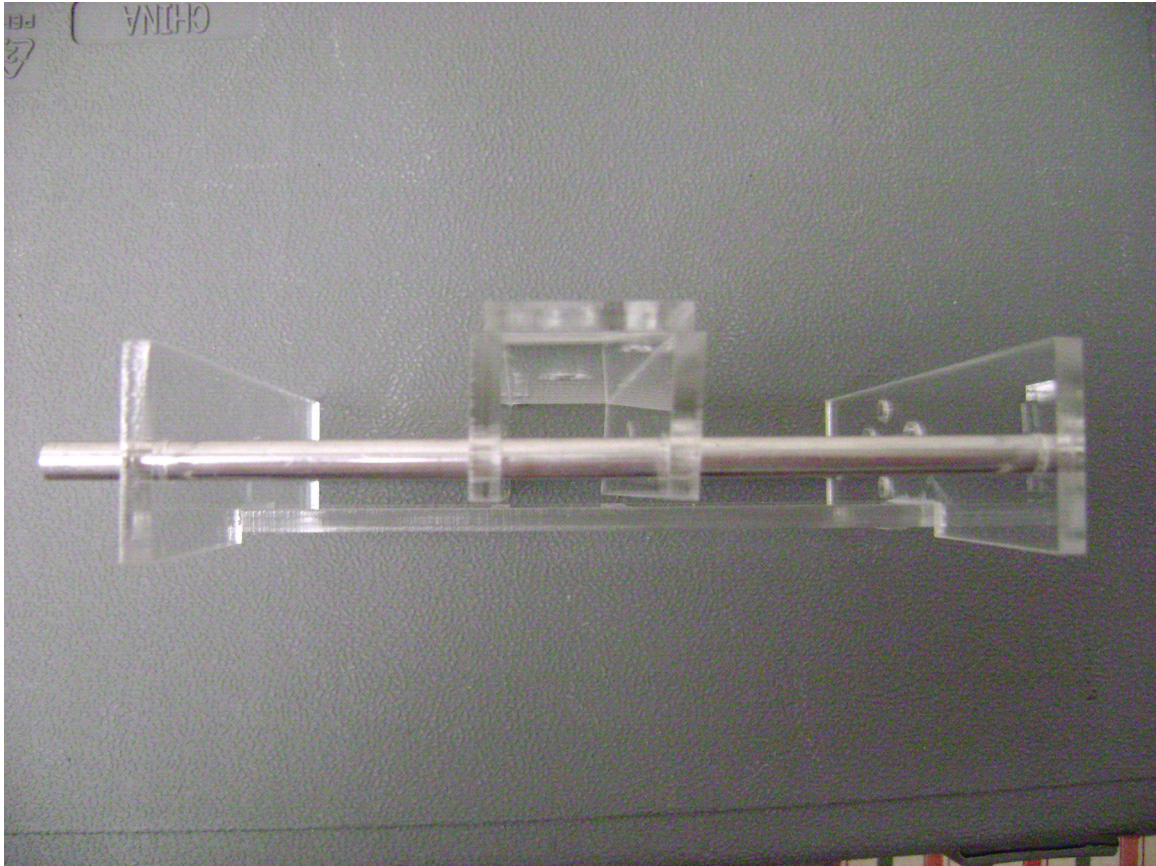
When the glue is 100% dry, remove the tape and the assembly will look like this.



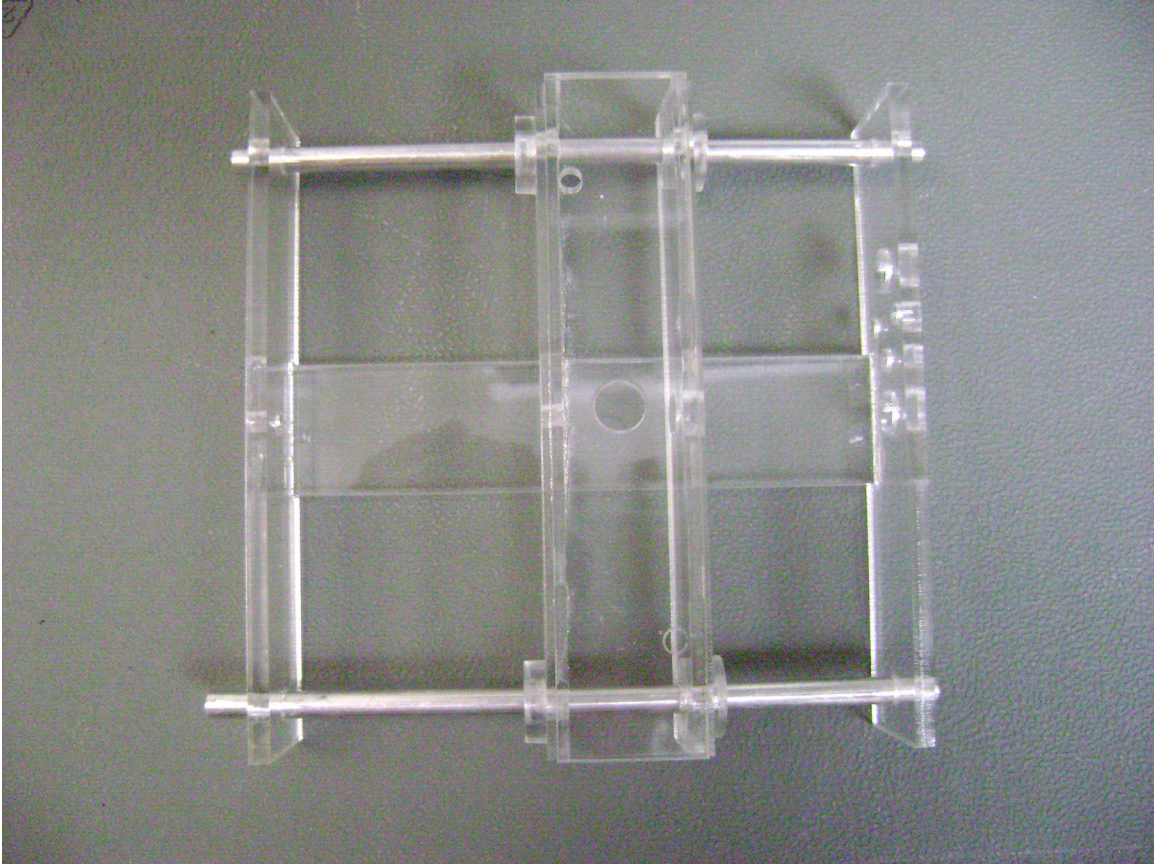
Locate the two end plates and the solid intersection baseplate. The notches slip over the baseplate on each end and must be made flush at each end. Be sure the endplates are square when glueing them. It is very important everything is straight and true. The assembly should then look like this.



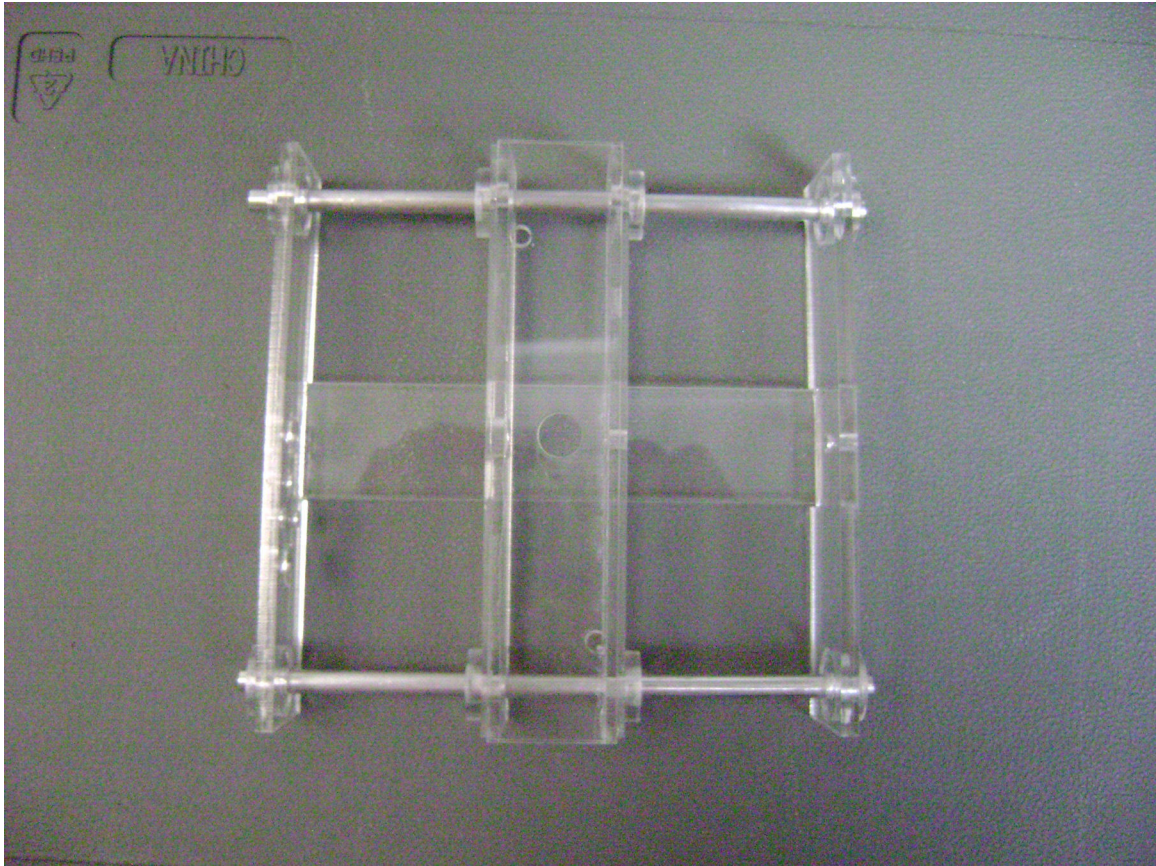
Slide carriage end plates into the base assembly using the 2 aluminum guide rails as shown. The large hole carriage plate goes toward the motor mount end (the base plate end with the extra holes) Glue the top plate across the 2 carriage plates halfway on each top edge as shown so as leave the holes open for mounting. Be sure each is straight and 90 degrees to the carriage plates.



Note the way the carriage looks from the side. Pay attention to the top plate and how it is glued only halfway on the upright carriage plates. This configuration is needed when you are assembling this as a X axis. For making a Y axis please refer to steps later in the assembly process.



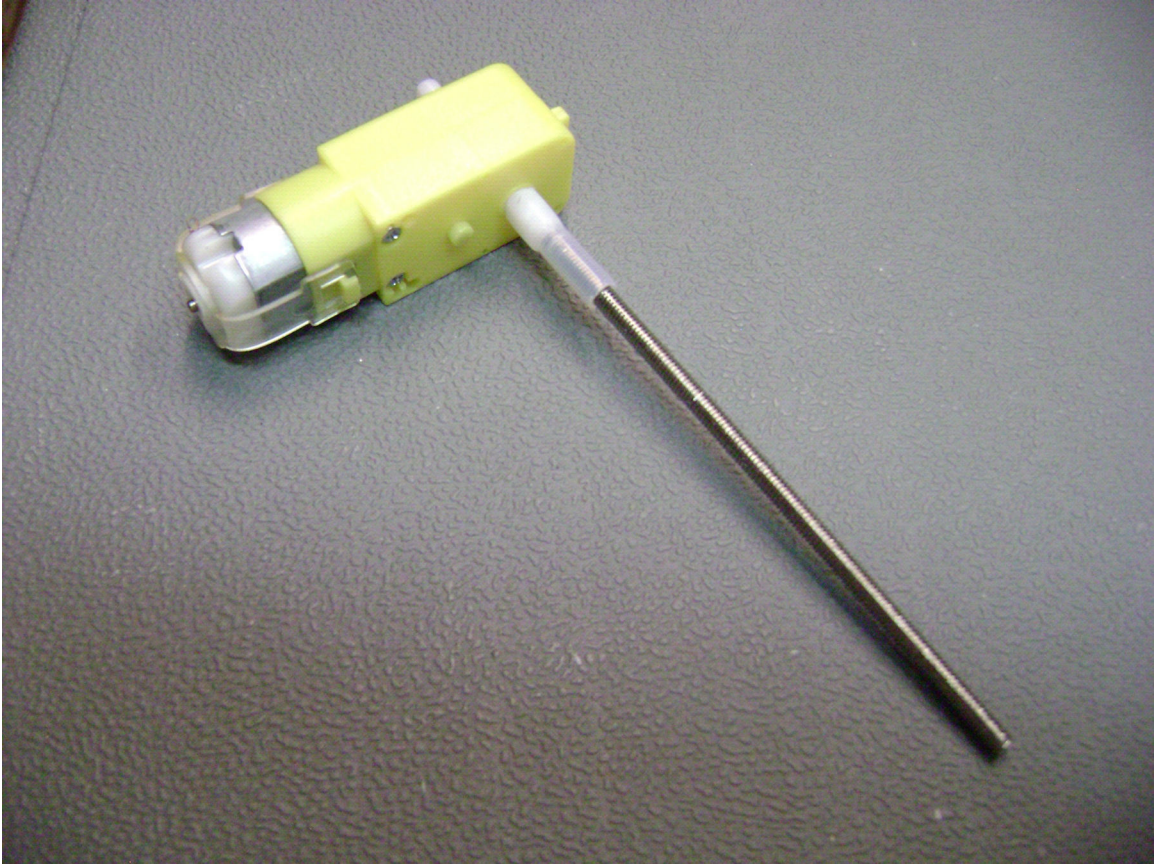
Slide on the 4 round discs with the rods and carriage in place and glue as shown. Do not use too much glue(just a few dots) or allow glue to get onto the aluminum rods. Test slide the carriage back and forth to test for smooth operation. If the assembly does not smoothly move end to end, remove the carriage and shave the holes with a penknife slightly until the movement is free end to end. If you got glue on the aluminum rods, clean it off using acetone or other solvent. Do not scrape it off as that will deform the rod guides.



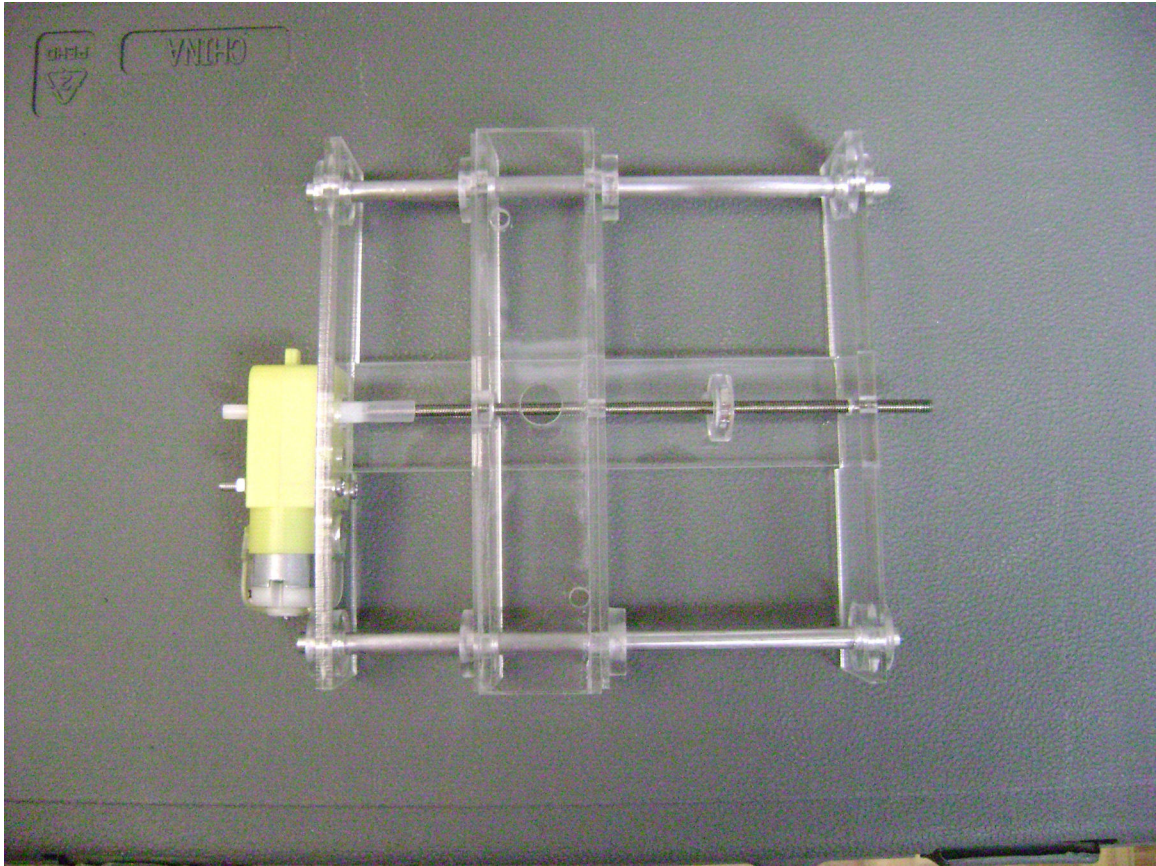
Add 1 disc to each end of the base assembly as shown. Again be careful not to glue the rod guides to the endplates. Apply glue in small amounts to the disc surface and push on in place. The assembly should now look like this. Apply a very small amount of light oil to the rods and slide carriage back and forth a few times. Test the carriage a final time by tilting from end to end-The carriage should slide itself back and forth without pushing it. If it is sticking or too tight, remove it and shave the hole area causing the problem.



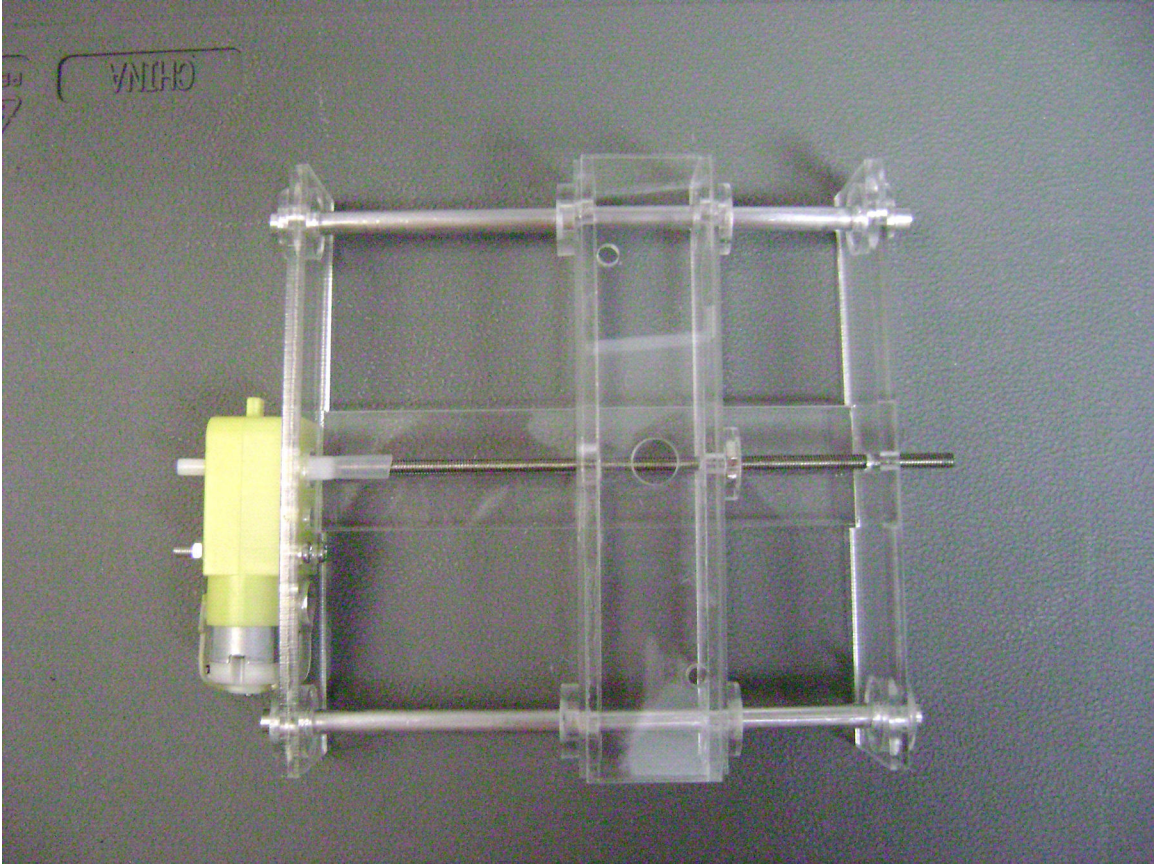
Locate the leadscrew and flexible tubing. Cut a 2 centimeter long piece of flexible tubing and slide it halfway onto the leadscrew as shown.



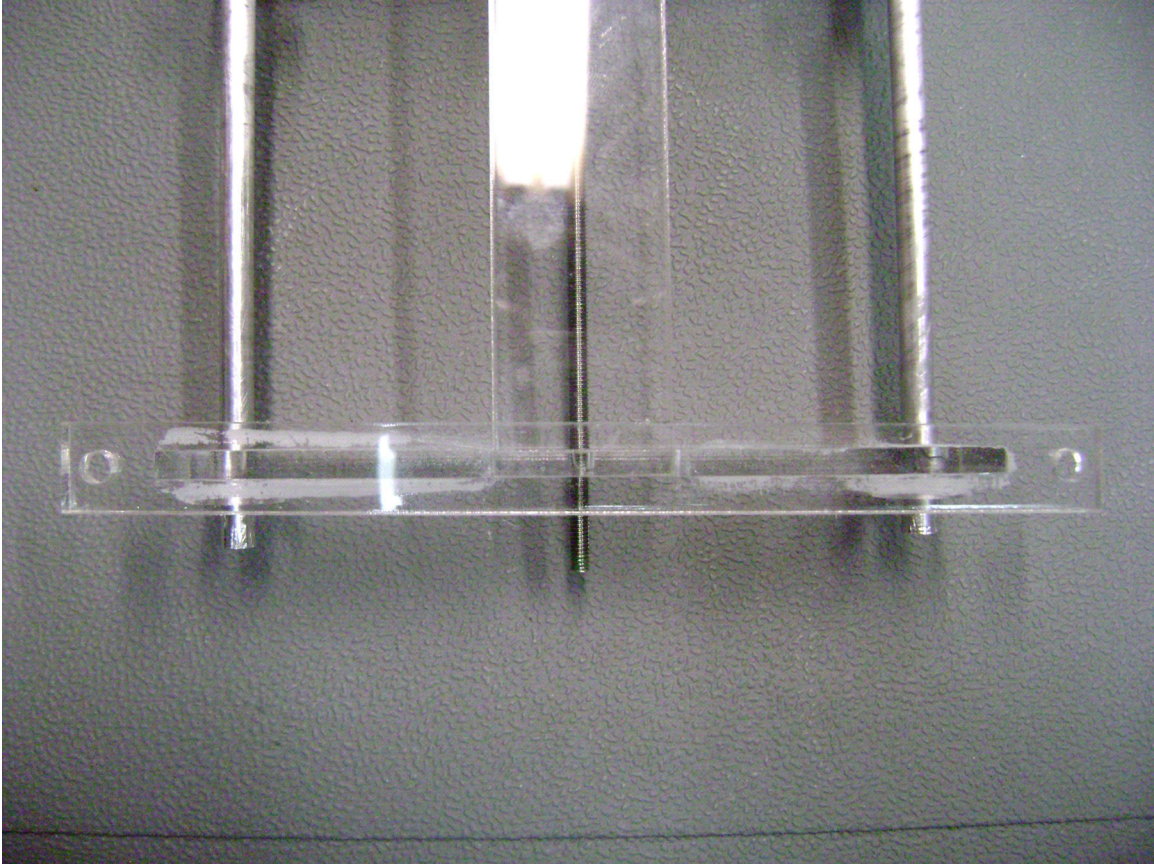
Slide the flexible tubing leadscrew onto the motor shaft as shown. Be sure to place it on the shaft side with the locator pin as shown.



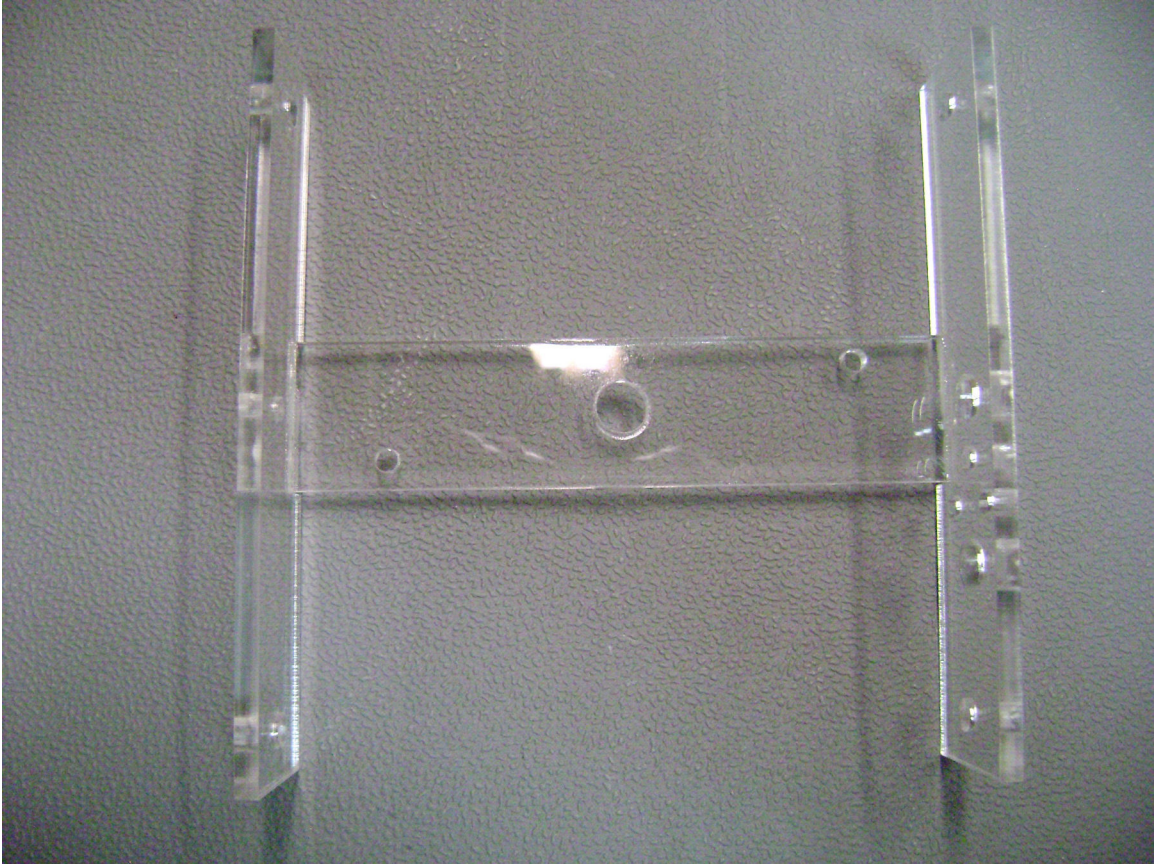
Slide the motor /leadscrew assembly into the motor mount end, through the carriage the spin the nut disc you made earlier onto the threaded shaft. Next slide the leadscrew through the endplates fully and secure the motor using the screws and nuts provided. Be sure the nuts are placed on the motor side and not on the inside of the mechanism. Your assembly should now look like this.



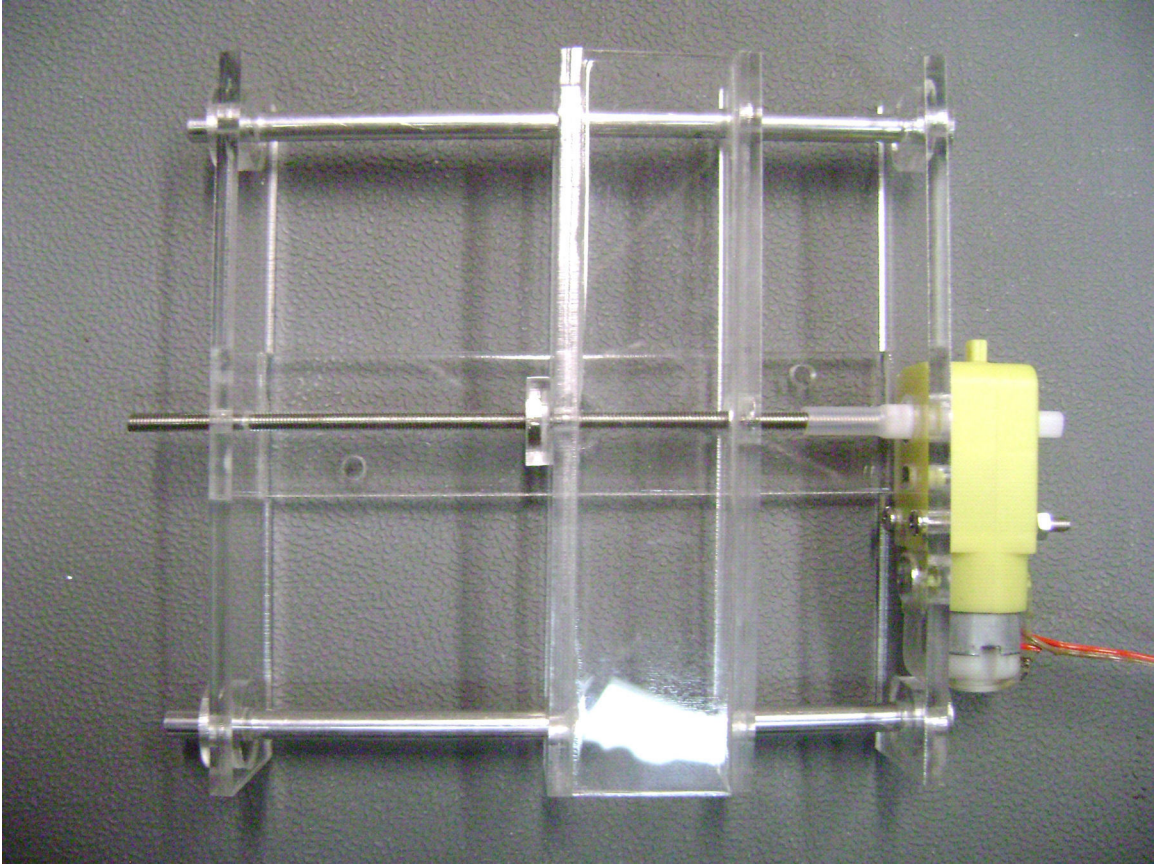
Apply a small amount of glue to the nut disc and press the carriage against it. Be very careful not to get any glue on the threaded rod or nut. Apply 5 volts to the motor to test for smooth operation of the motorized carriage travel. Make any necessary adjustments by slightly moving the motor and tighten motor nuts.



Flip the drive over and glue the mounting feet to the endplates as shown. Do this only after you are satisfied with the travel and operation of the mechanism. Apply to both ends evenly for mounting the drive to a base.

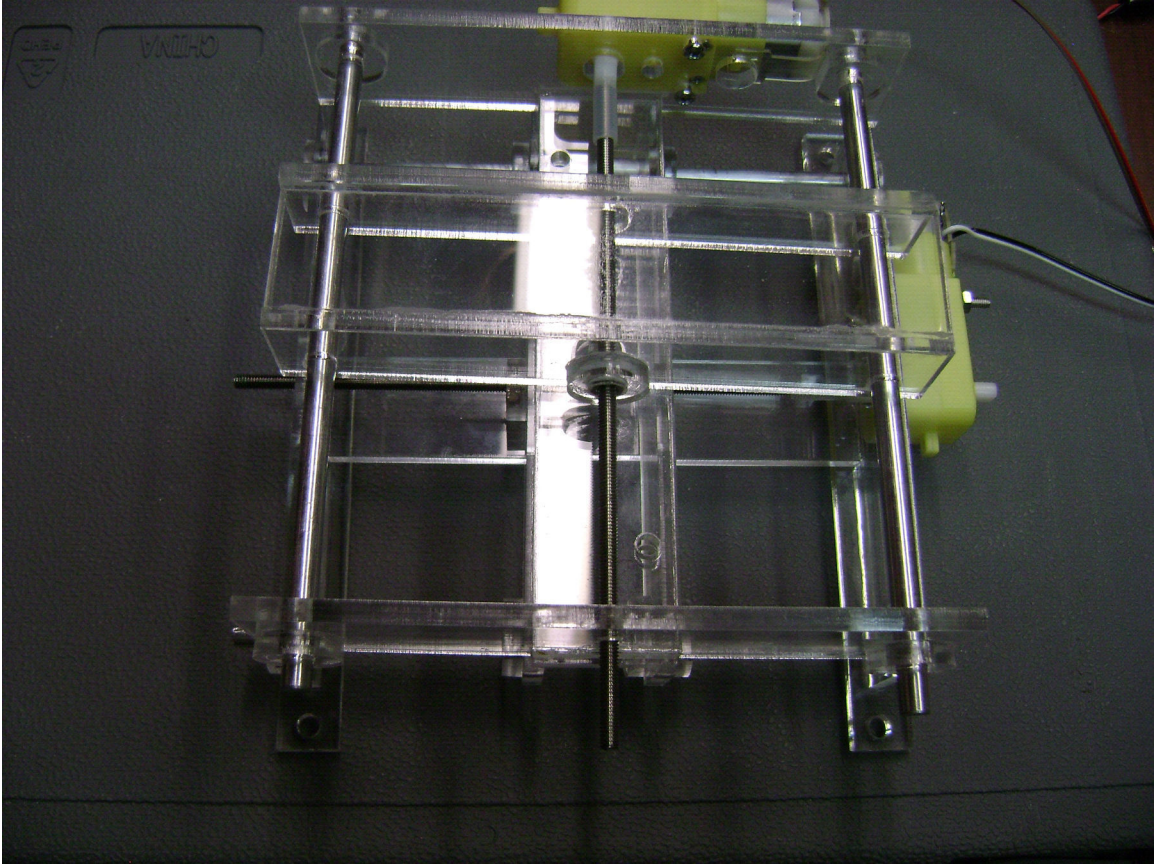


If you are building a Y axis to mount on top of and X axis swap the bottom baseplate solid version for the one with three holes as shown. This will allow you to have everything lined up for mounting directly to the X axis without drilling holes. This step replaces the first step in the start of the building process.

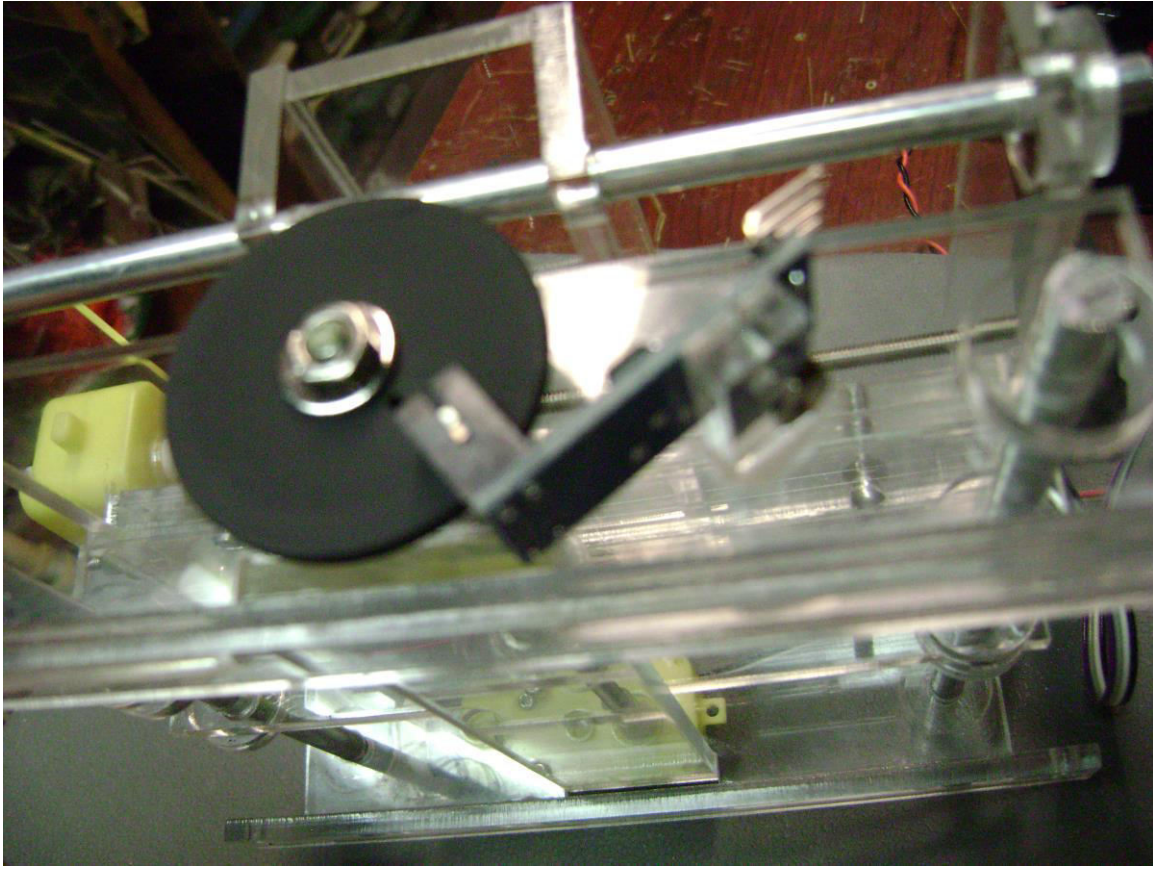


The carriage for the Y drive will now look like this-The solid plate is placed between the 2 carriage upright plates instead of onto as with the X axis. You can add the alignment discs to each side of the carriage as shown in the previous instructions. This Y drive does not have mount feet attached.

The base will mount directly on to the X axis using the screw holes provided.



This is how the X and Y axis mechanism look stacked together. The recess in the bottom of the Y axis fits perfect into the raised plate on the X axis. This is why it is important to assemble the slides as shown in the instructions. 2 Screws with nuts through the holes provided will secure Y to X axis.



The small rectangular block with a hole in it is for mounting a photointerrupter module that can be used to track the position of the axis. An encoder wheel is placed on the leadscrew between two nuts as shown. Make sure to glue the block so the module mounts at a steep angle so it does not interfere with the traveling axis.