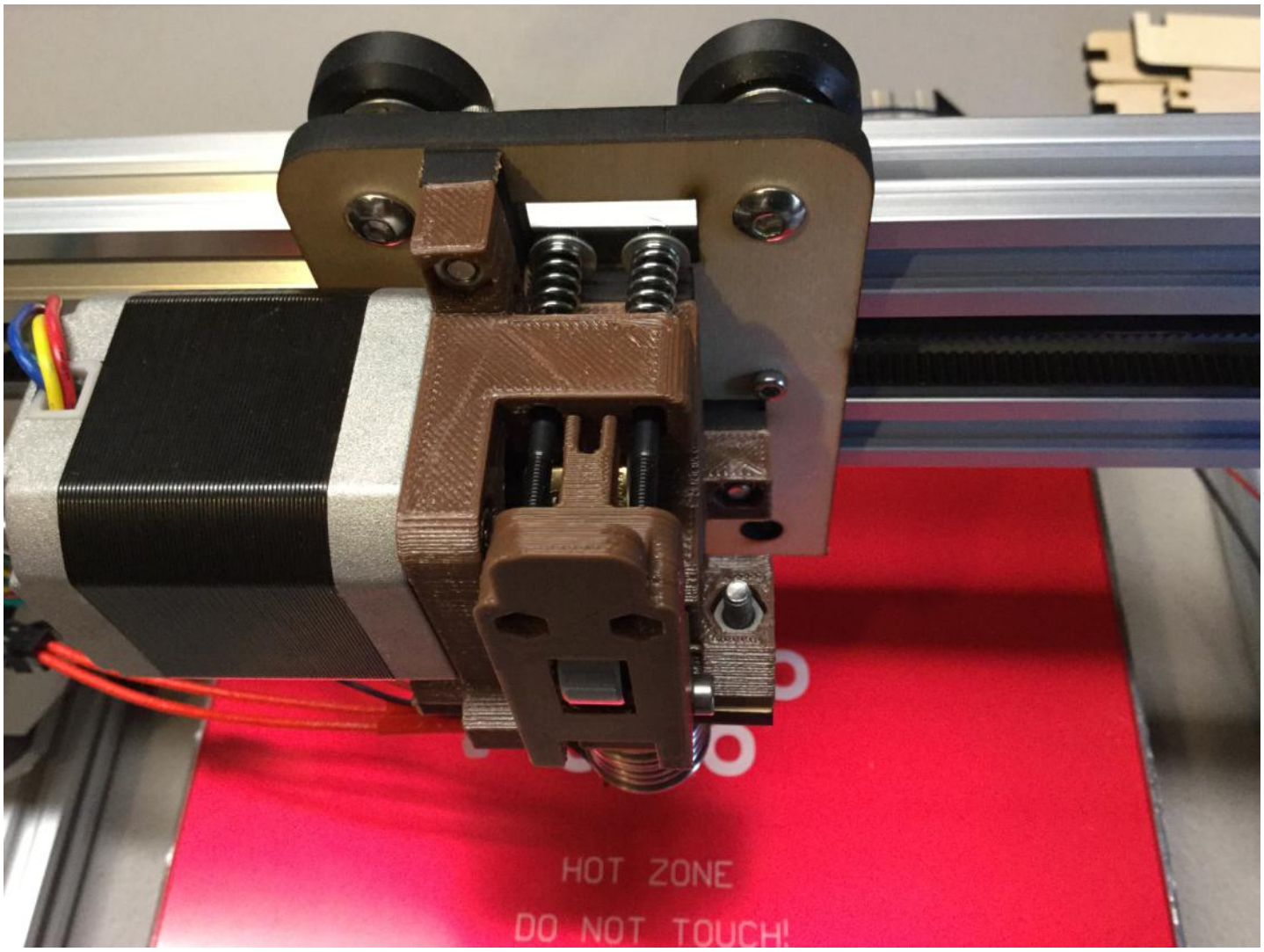
Pegasus

Single Extruder



Visual Instructions

MAKERFARM

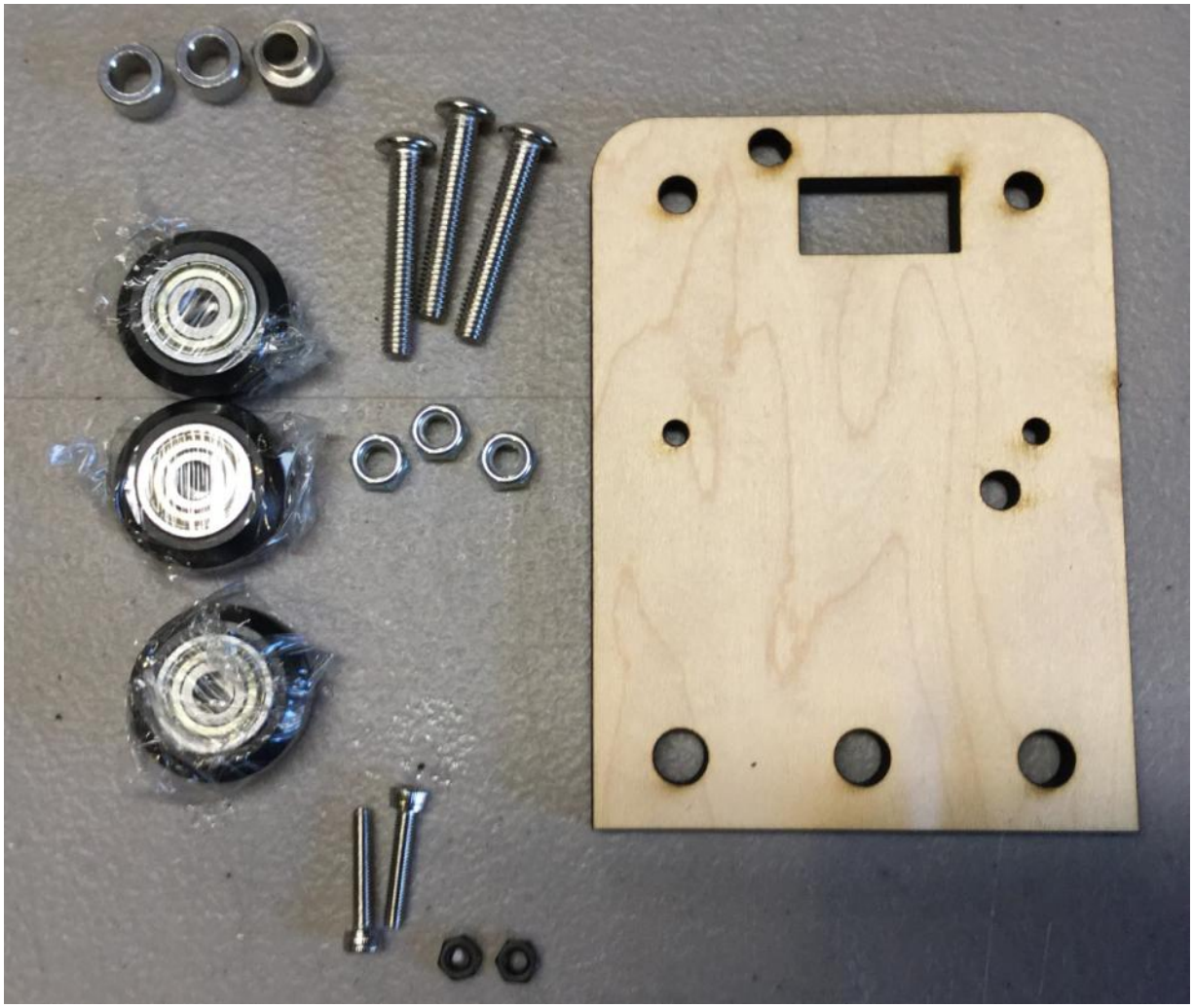
RepRap

X Carriage

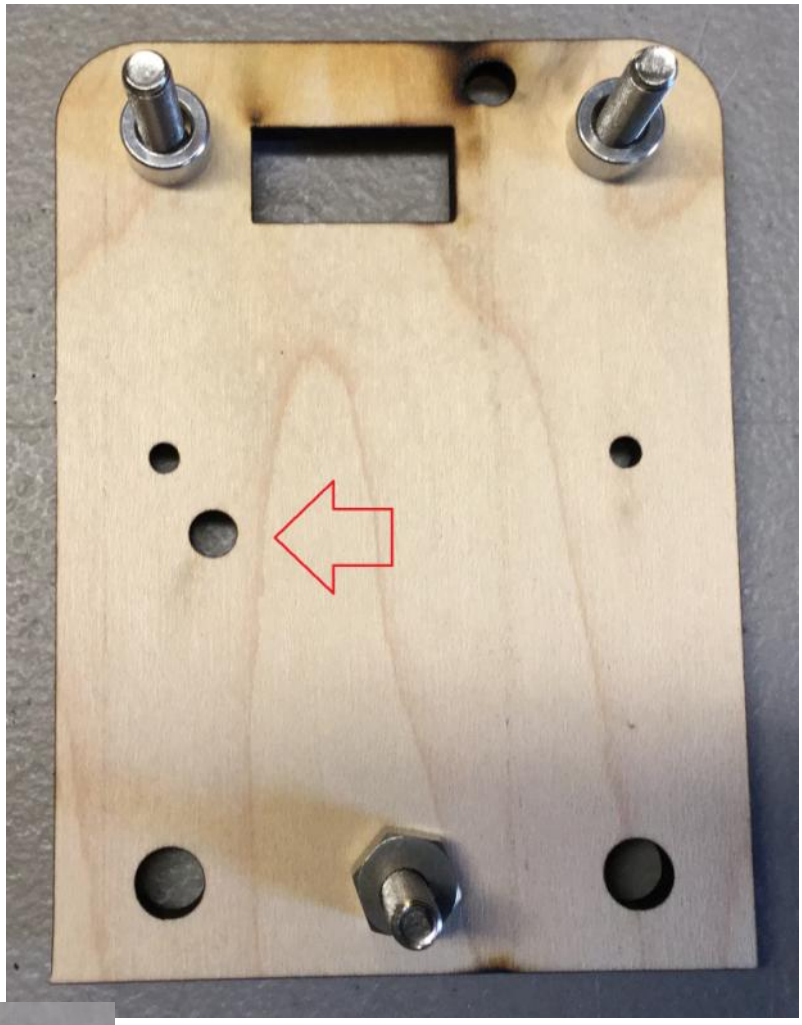
X Carriage

Gather the following parts

1 Set of X Carriage Wood parts (Pictured Below)
2 x M3x16mm Bolt
2 x M3 Nuts
3 x Pre Assembled Delrin Idler's (Black Wheels)
3 x M5x30mm Bolts
3 x M5 Nylon Locknuts
2 x Aluminum Standoff
1 x Eccentric Spacer



Position the X Carriage piece as shown in the picture on the right, make sure the hole shown with the red arrow is on the left. Install the 3 M5x30mm bolts as shown then install two Aluminum Spacers on the top two bolts and the eccentric spacer on the bottom bolt. Push the eccentric spacer into the wood.



Install Delrin Idlers on to the 3 bolts then a M5 Nylon Lock nut onto each bolt, tighten the nuts, but make sure the Delrin Idlers still turn freely.

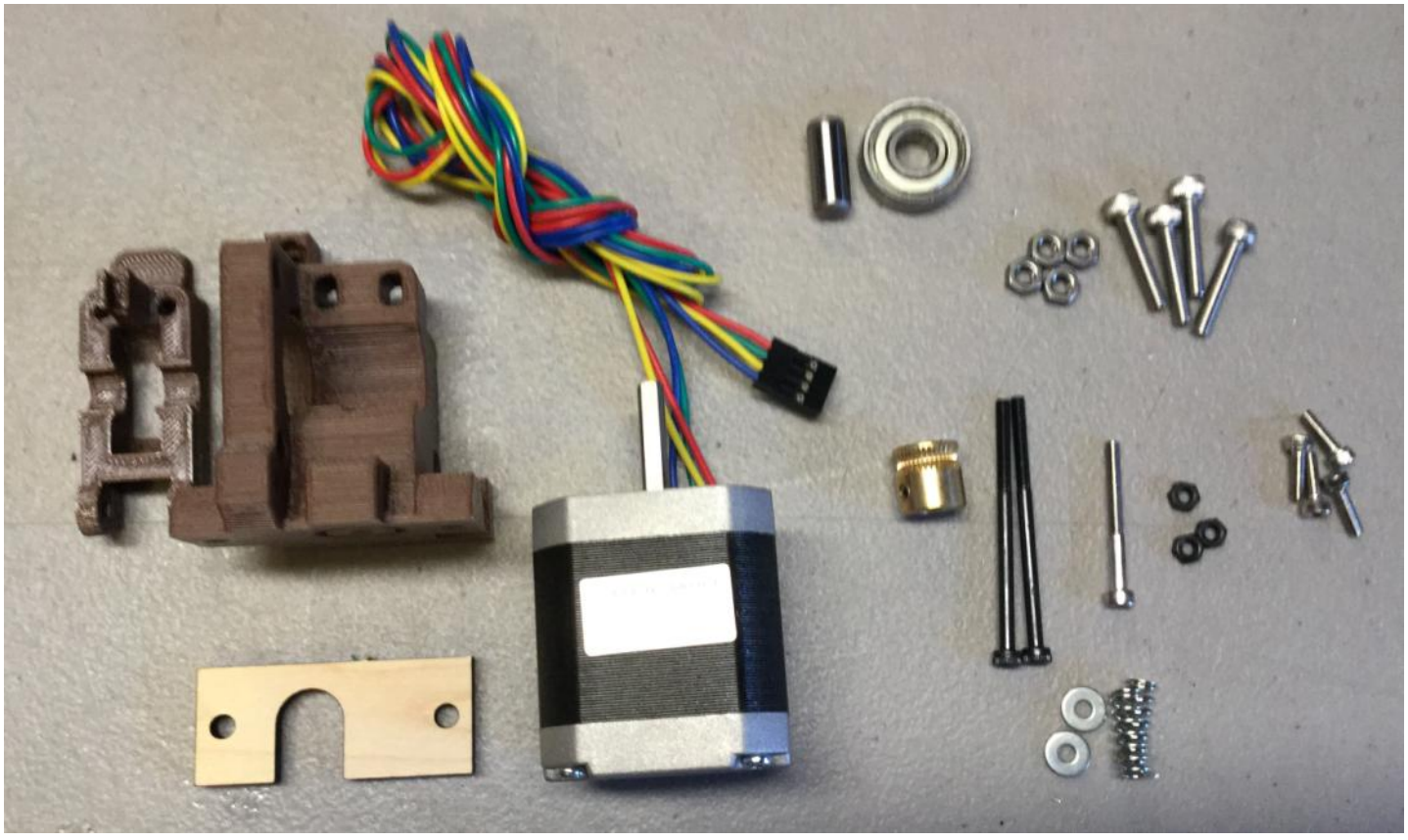
Last Install the two M3x16mm Bolts and regular M3 nuts as shown, tighten them down.

Go back to the Pegasus Build guide to continue the build process, you will come back to this guide when you are ready to build the extruder.

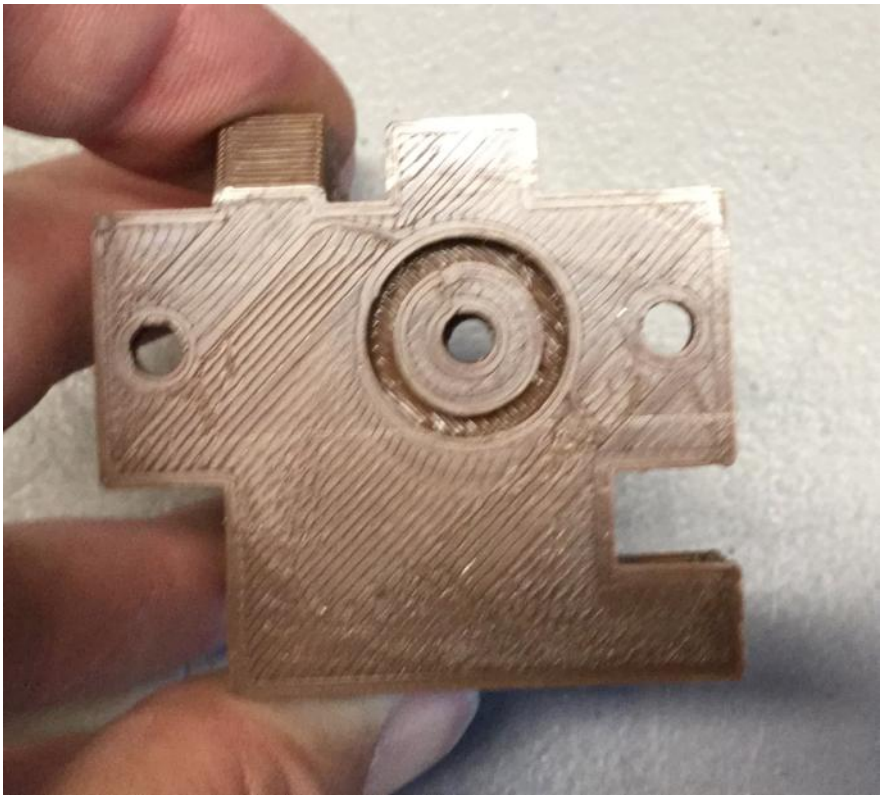
Extruder

Direct Drive 1.75mm Extruder

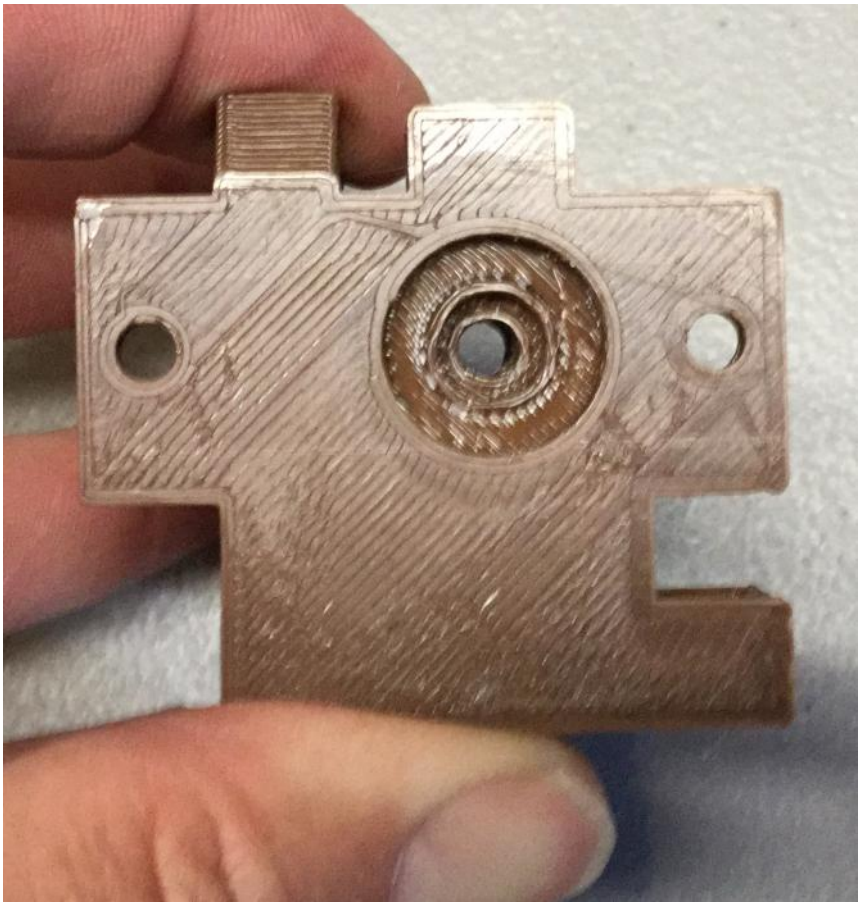
Gather the following parts
1 x Extruder Printed Parts
1 x 608 Bearing
1 x Dowel Rod
1 x e3d Wooden Mount
1 x Nema 17 Motor
1 x MK7 Drive Gear & set screw
2 x M3x50mm Bolts
2 x M3 Washers
2 x Extruder Springs
1 x M3x30mm Bolt
3 x M3 Regular Nut
4 x M3x10mm Bolt
4 x M4x20mm Bolt
4 x M4 Regular Nut
1 x M5 Nylon Lock Nut (not shown in picture)

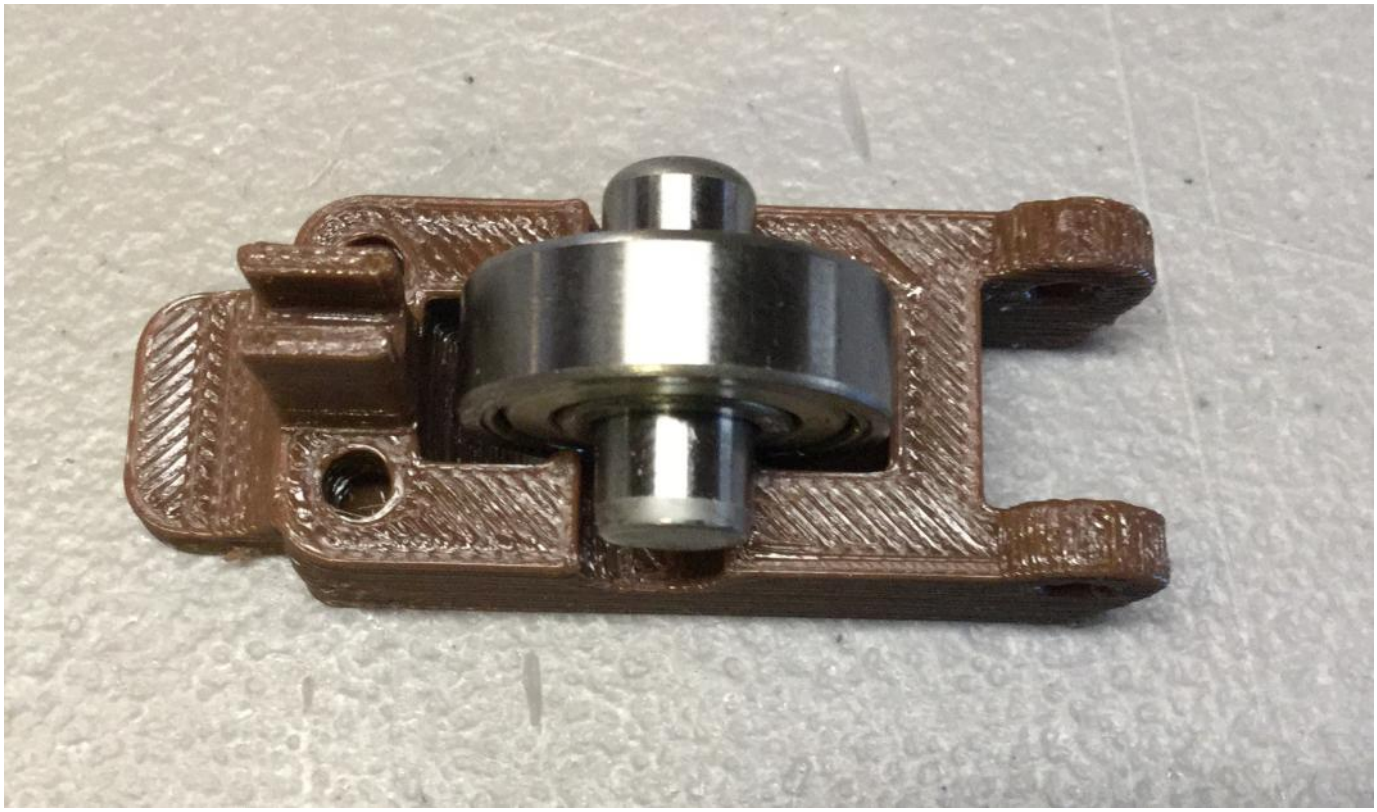


Start by removing the support material from the bottom of the printed part. Just use a set of needle nose pliers to pull the piece off.

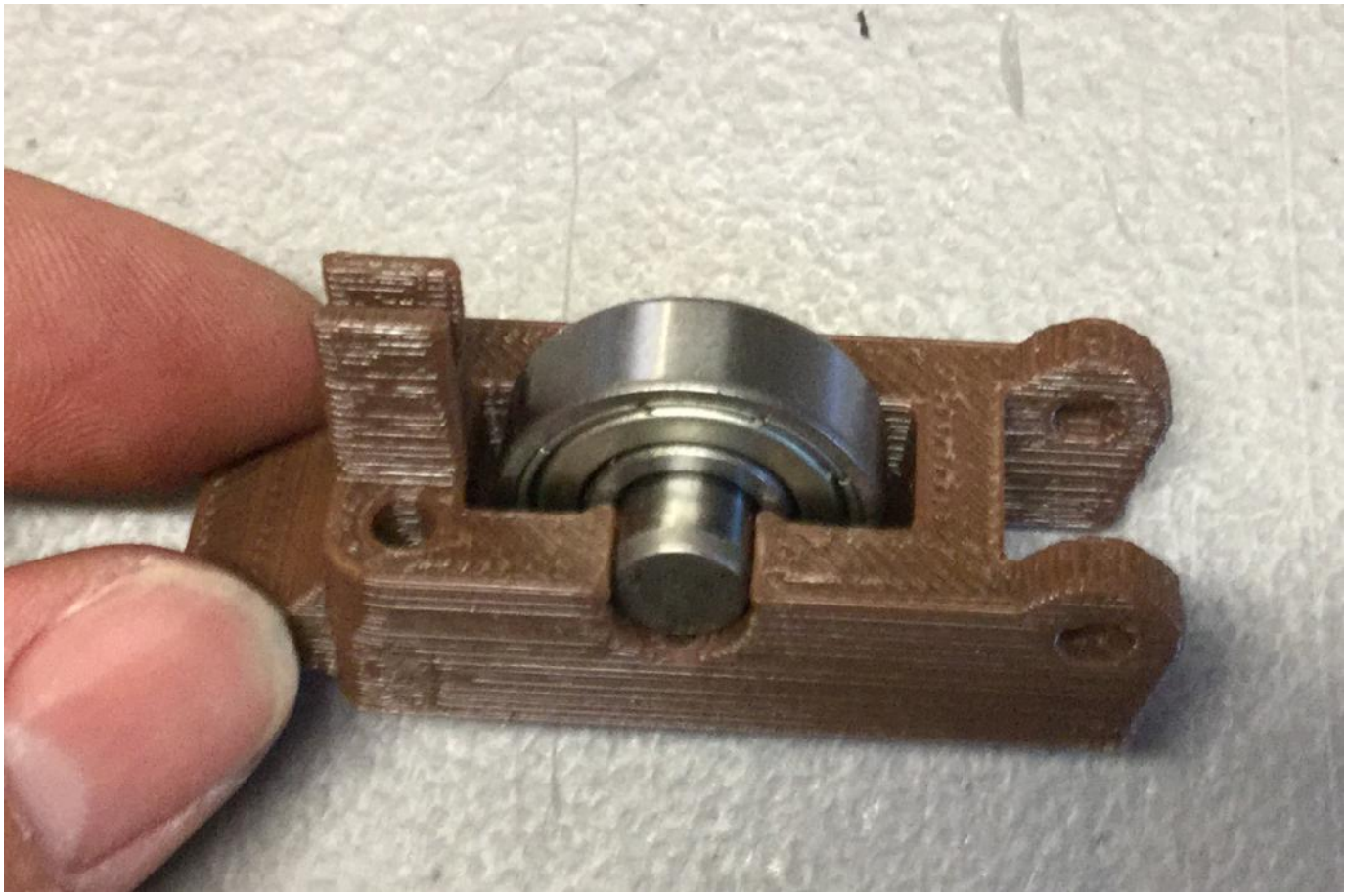


After the support material has been removed you may want to push the pliers into the hole and turn them to clean up the inside hole.

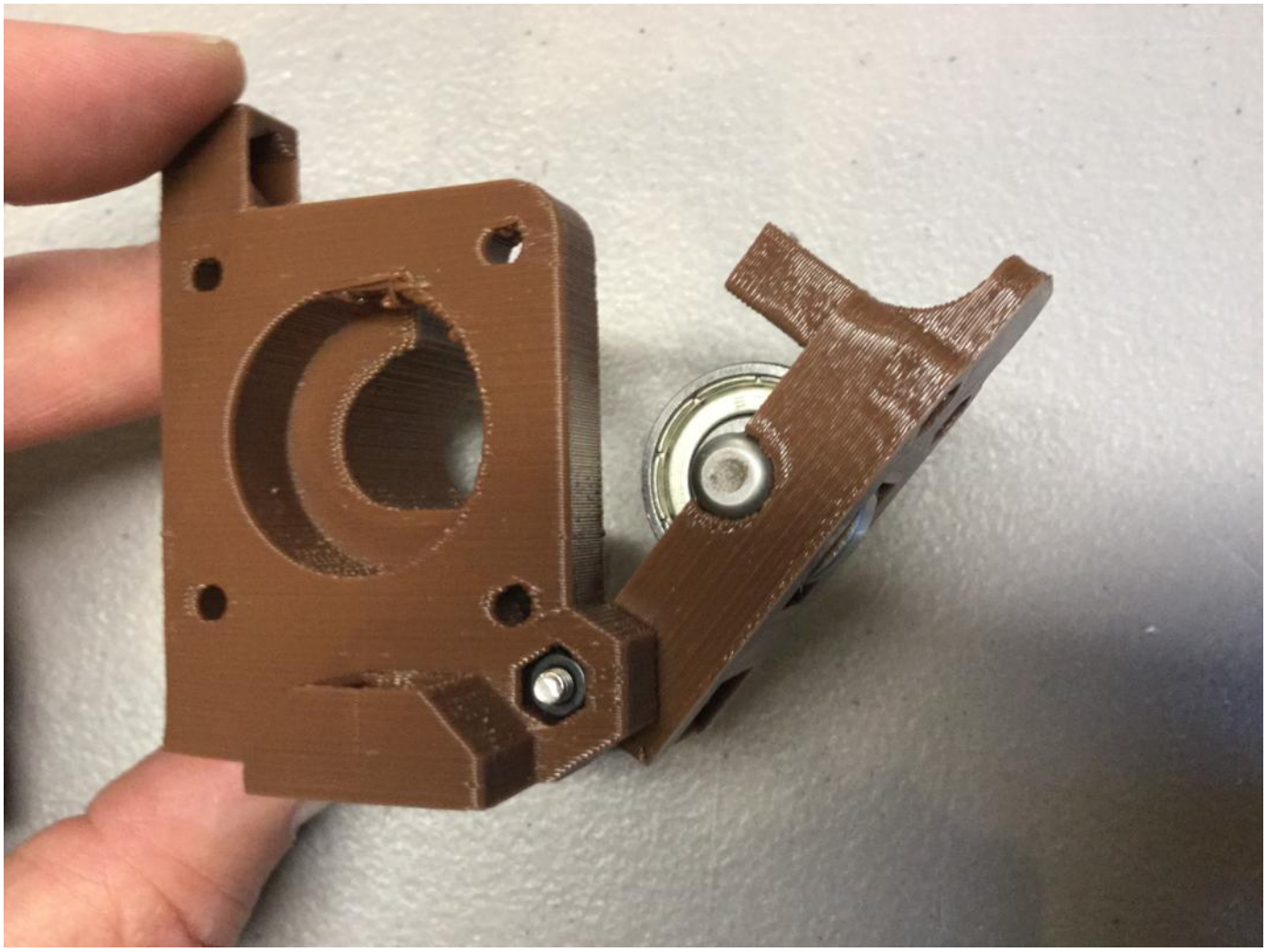




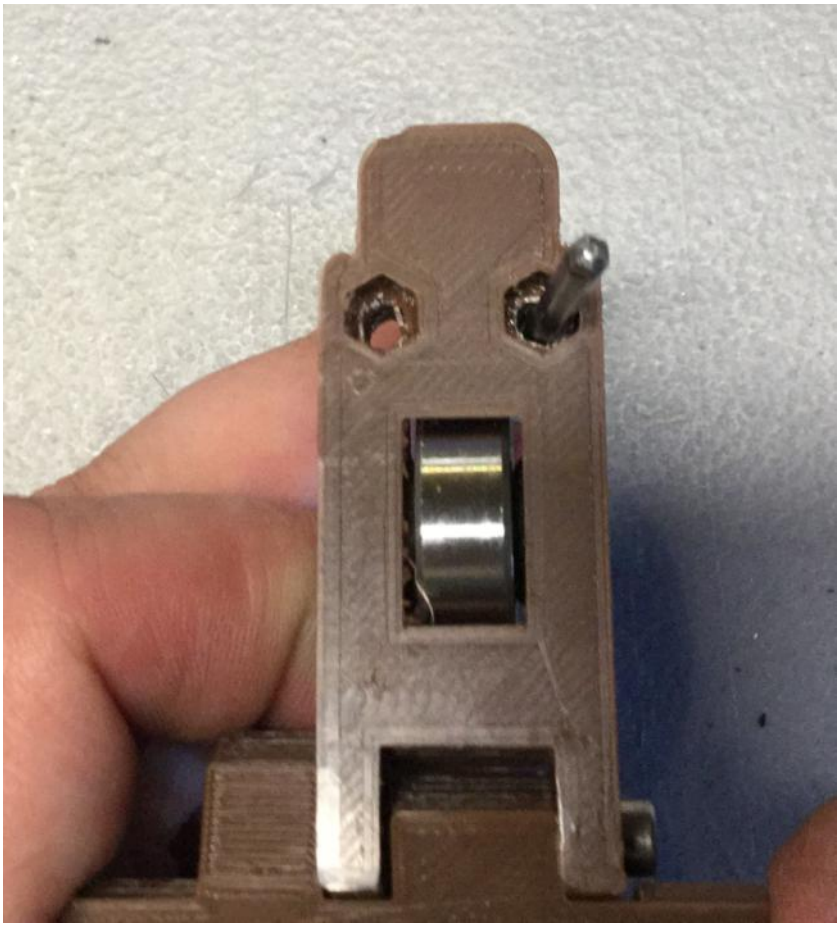
Install the dowel rod into the 608 bearing align them onto the Guidler then push the dowel rod in place as shown below.



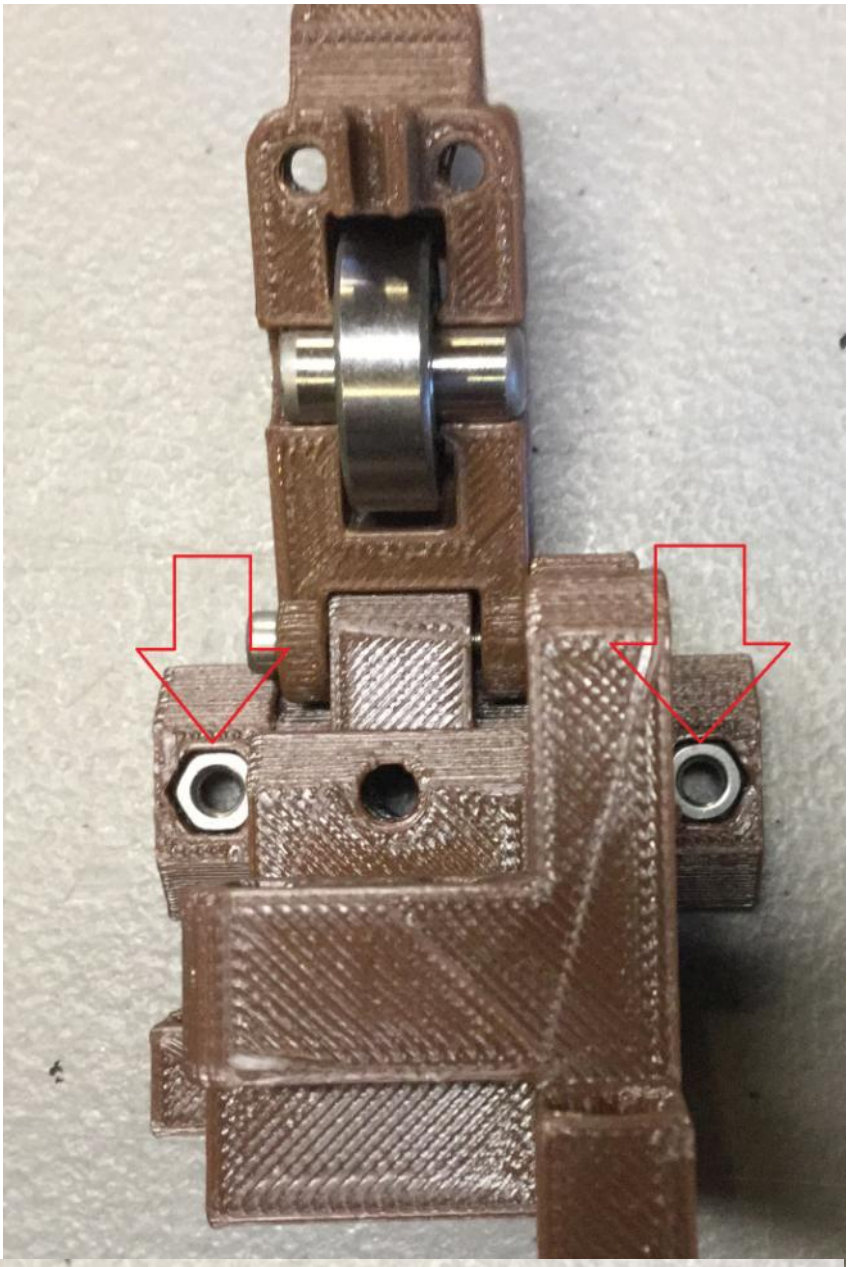
Install the Guidler onto the extruder block and secure using the M3x30mm bolt and regular M3 nut as shown below.



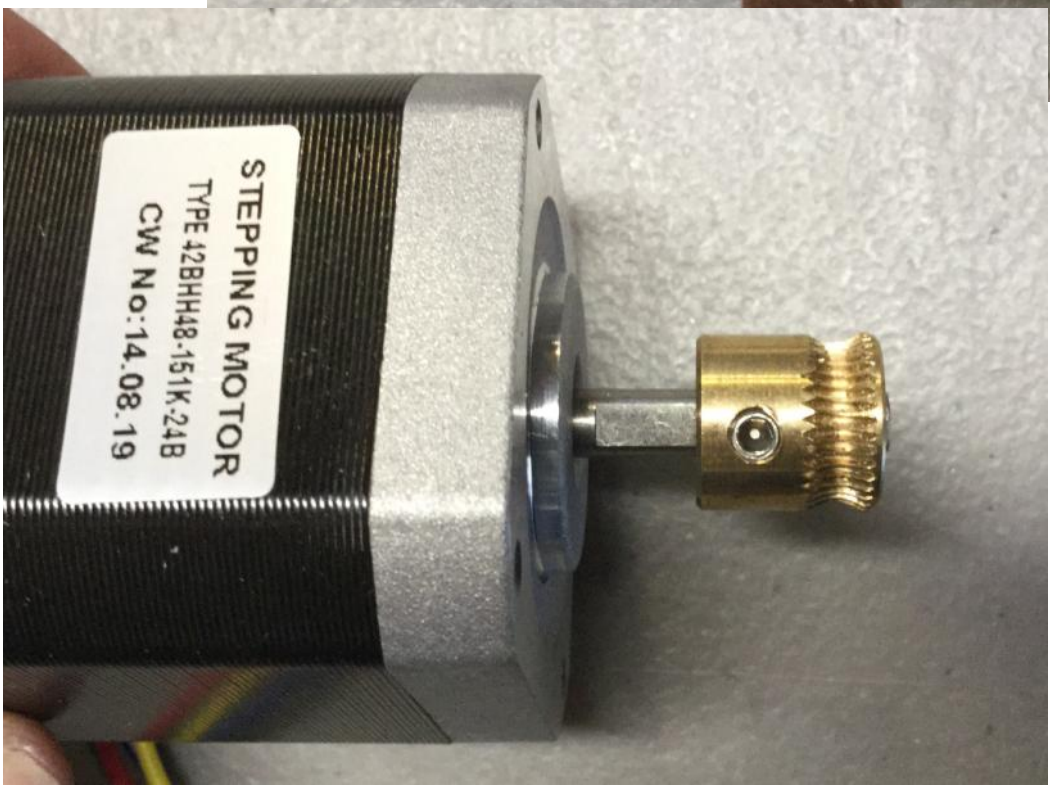
Next remove the support material from the holes in the Guidler, just push the material out with a wrench or pull the material out with needle nose pliers.



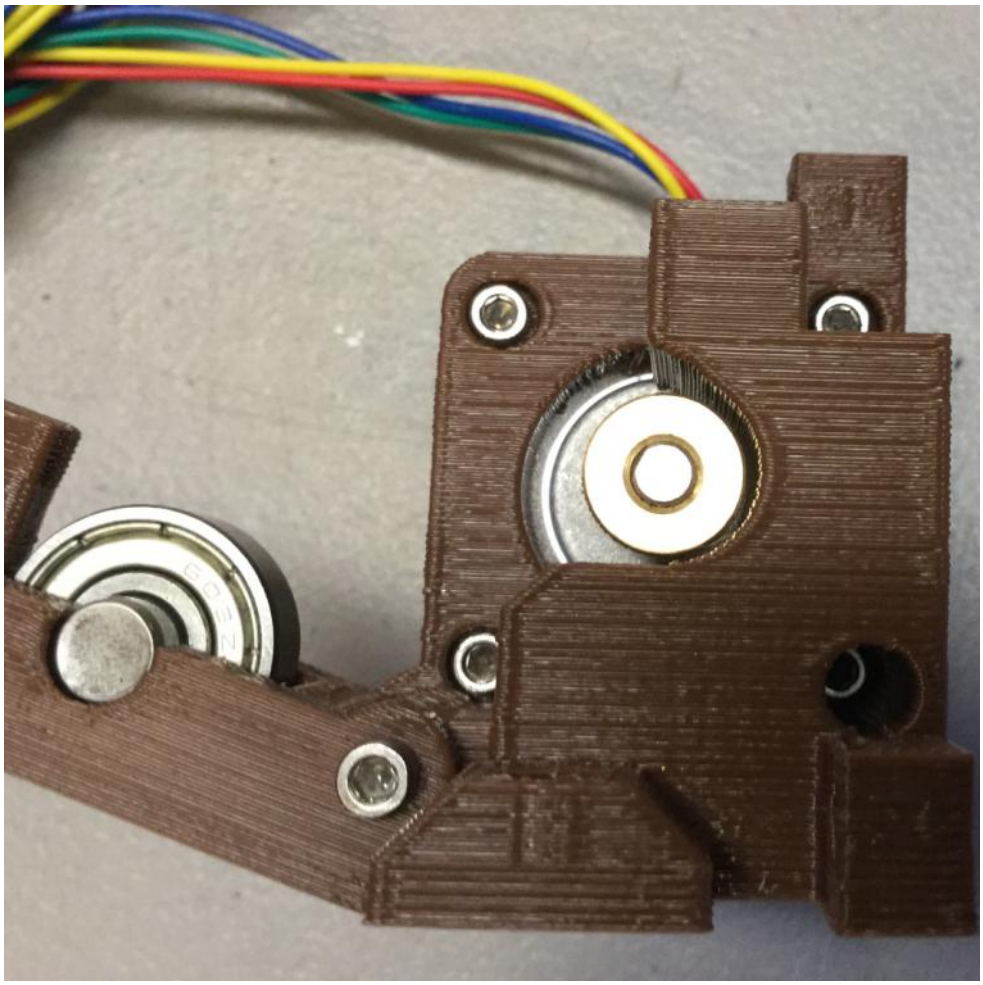
Install two M4 nuts in the nut traps shown by the Red Arrows



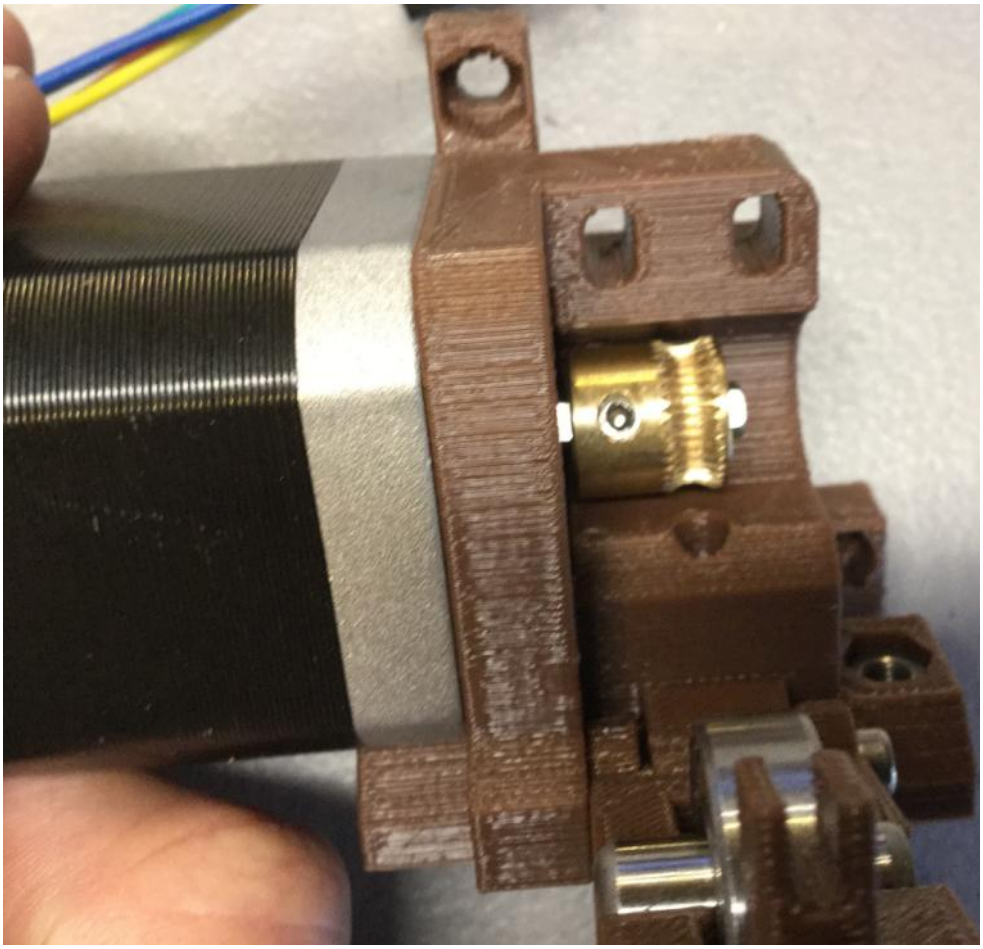
Install the MK7 Drive Gear onto the Nema 17 Motor, Match up the Flat spot on the motor shaft with the Set Screw.



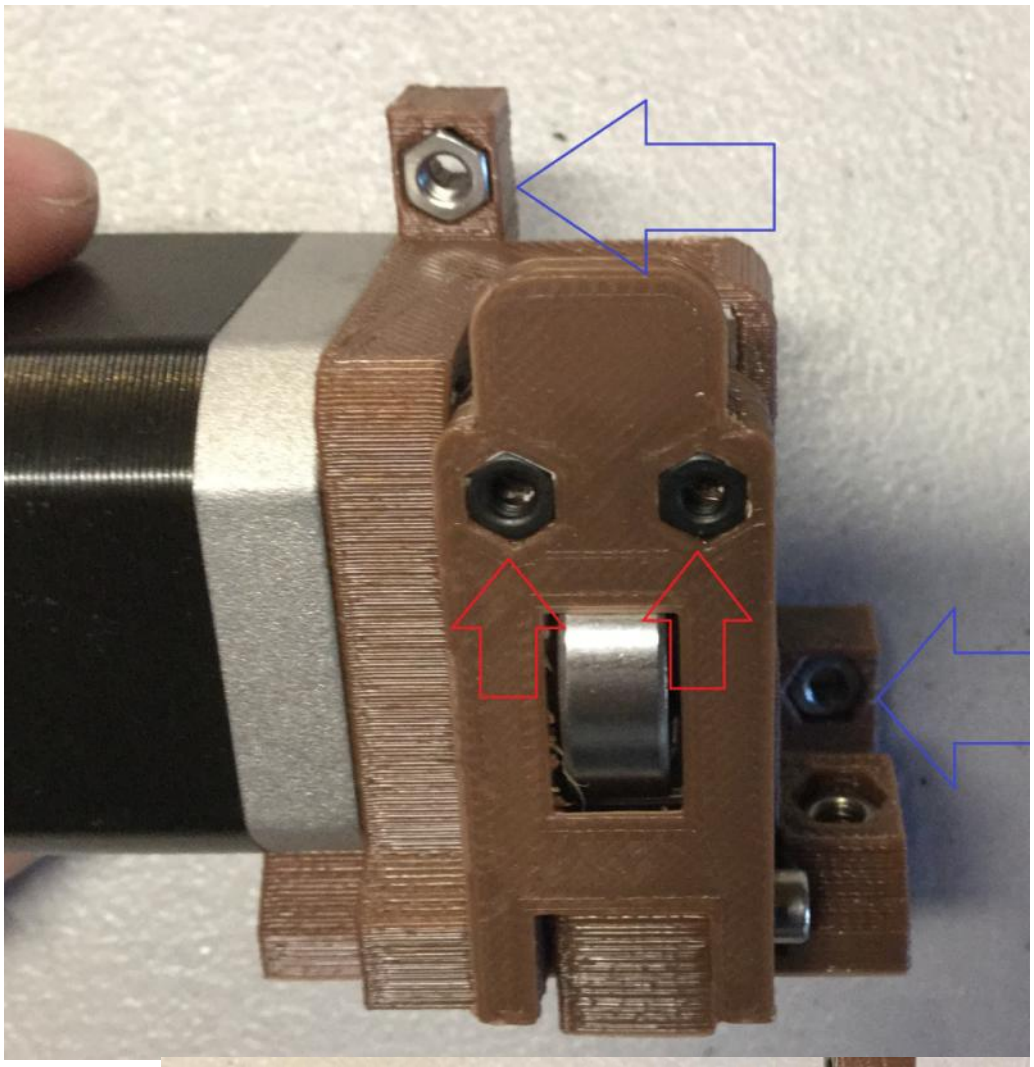
Install the Nema 17 motor using the 4 M3x10mm long bolts.



Adjust the MK7 Drive gear so the teeth line up with the filament hole in the extruder block then tighten the set screw.



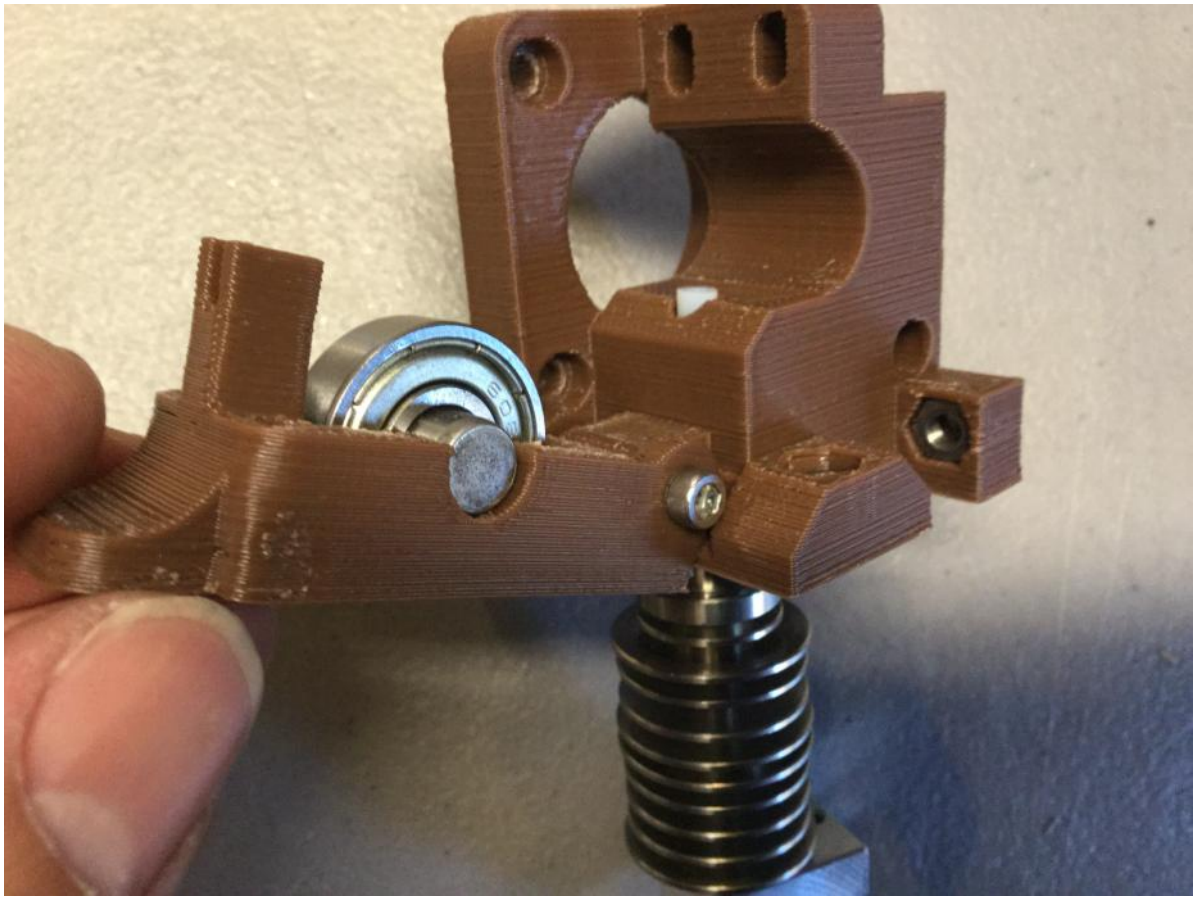
Install two M3 nuts into the back of the guidler as shown with the Red Arrows in the picture on the right. Then Install two M4 nuts in the Nut traps shown by the Blue Arrows.



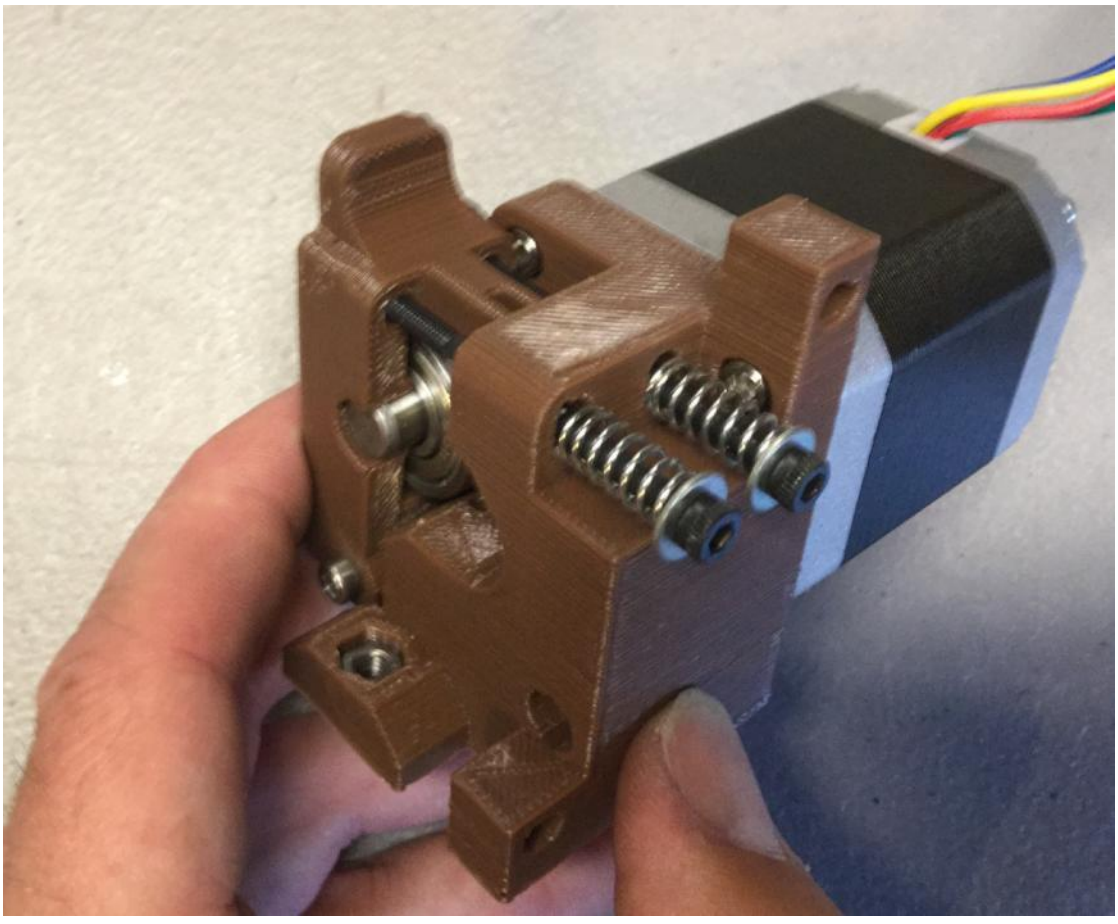
Next we will cut the PTFE tube to the height of the extruder block, make sure the PTFE Tube has been pushed all the way into the e3d and while pushing it into the hot end pull up on the small black retainer on the top of the e3d to lock the PTFE Liner into place.

Push the hot end all the way into the extruder block

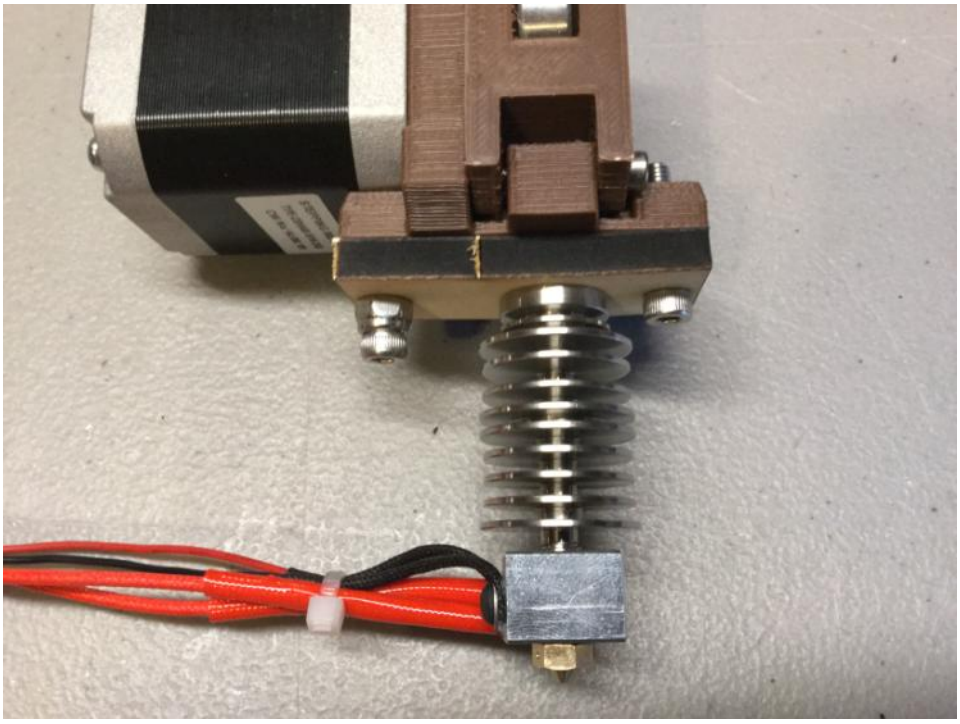
Next we will cut the PTFE Tube so its goes just past the extruder block, make sure you push the hot end as far into the extruder block as possible before cutting the ptfe tube. Now you can remove the hot end and we will install it later.



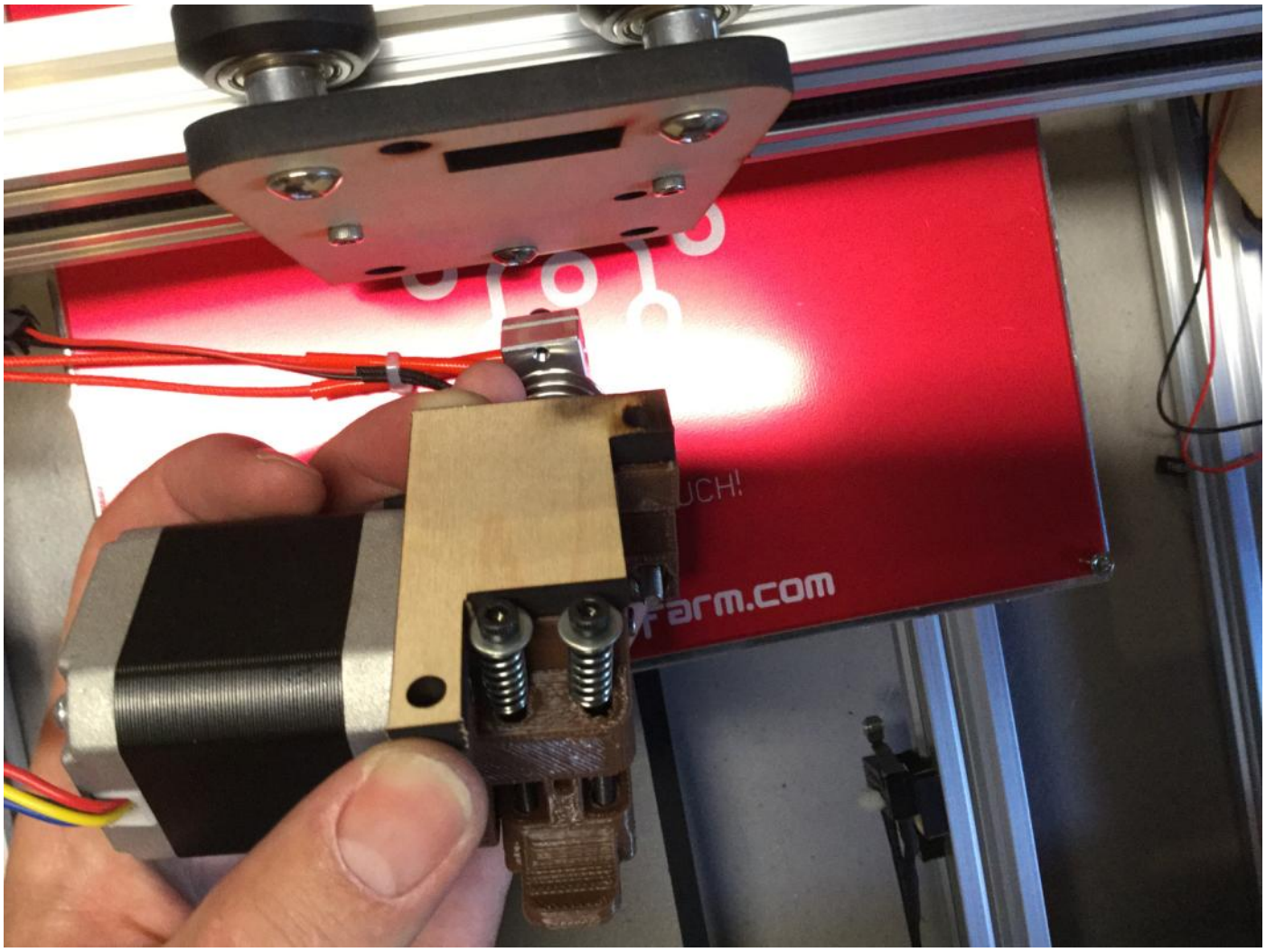
Next close the guidler, install a M3 washer and extruder spring onto each of the two M3x50mm bolts then install the bolts into the extruder as shown in the picture on the right.



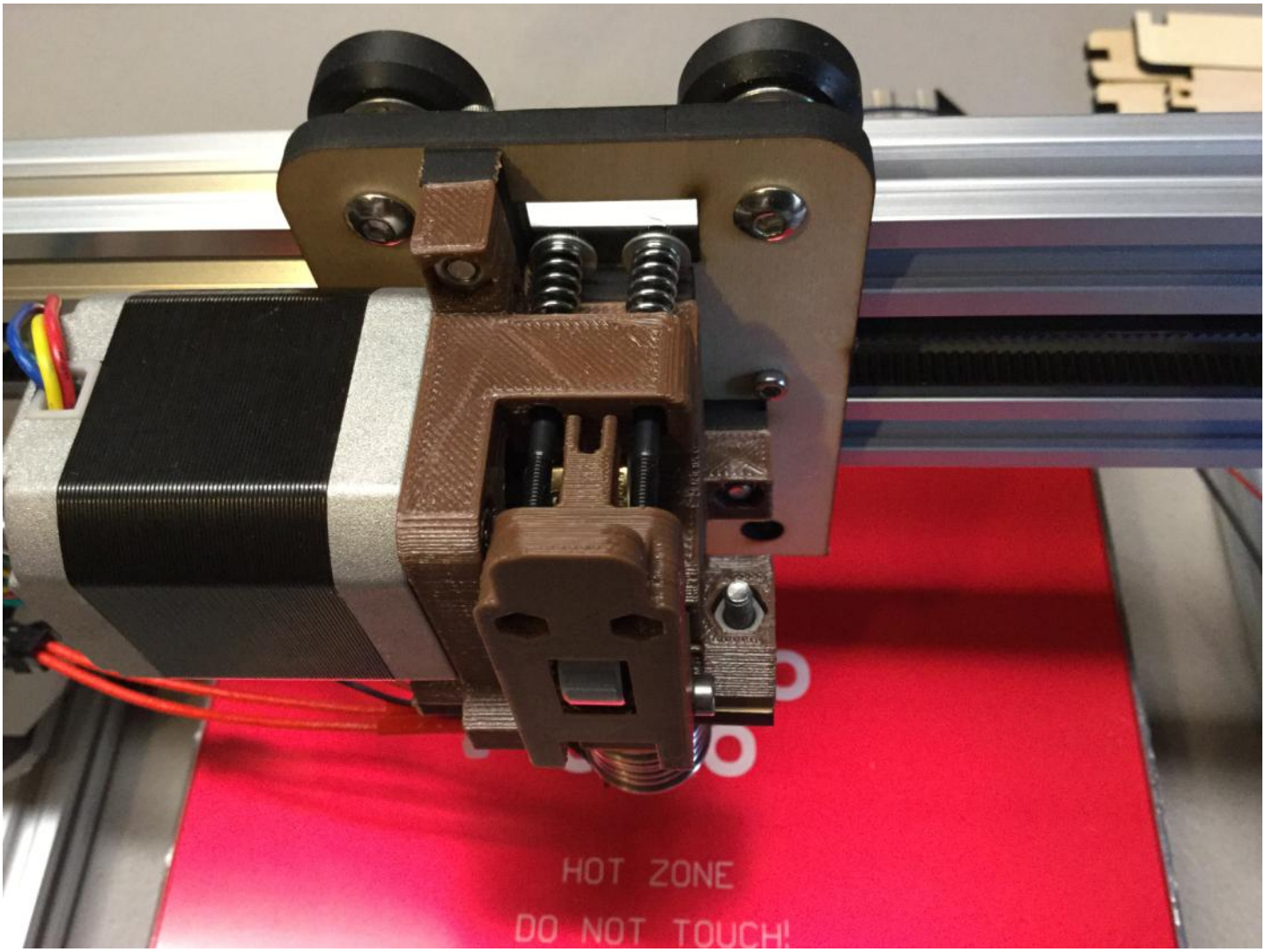
Now install the hot end back into the extruder block, using the Wood e3d mount, two M4 bolts and one M5 Nylon Lock nut . Install the M5 nylon lock nut and install that bolt under the motor. Tighten both bolts so the hot end doesn't move (The Wood e3d mount plate will bend a little, this will prevent any movement)



Next get the Wood Extruder Mounting plate from your wood parts that matches the back of the extruder and align as shown below.



Last use two M4x20mm Bolts to bolt the extruder with the Extruder Mounting plate to the X carriage as shown below.



Need to print replacement parts? Download the stl files for the extruder below:

Direct Drive Extruder Block.stl
Direct Drive Guidler.stl