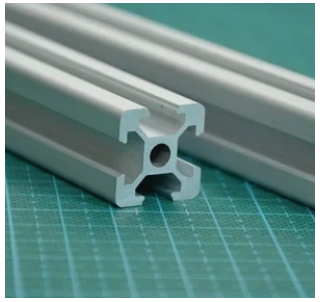
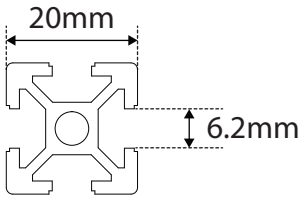
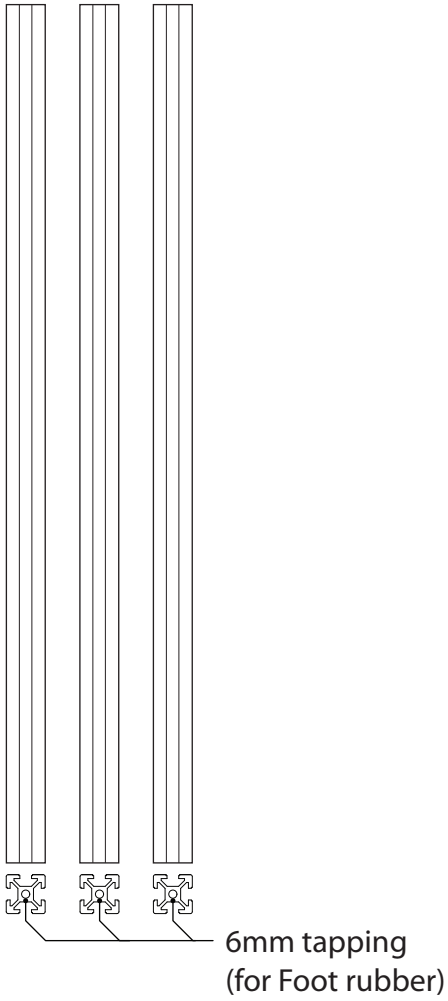
DS-Air assembly manual (Roller version)

Al profile 2020

there are some standard profile with 2020 width. you should
use the profile with 6.2mm groove(picture) not v-slot. because you are using
sliding rollers(picture) later which are moving slide through this groove.

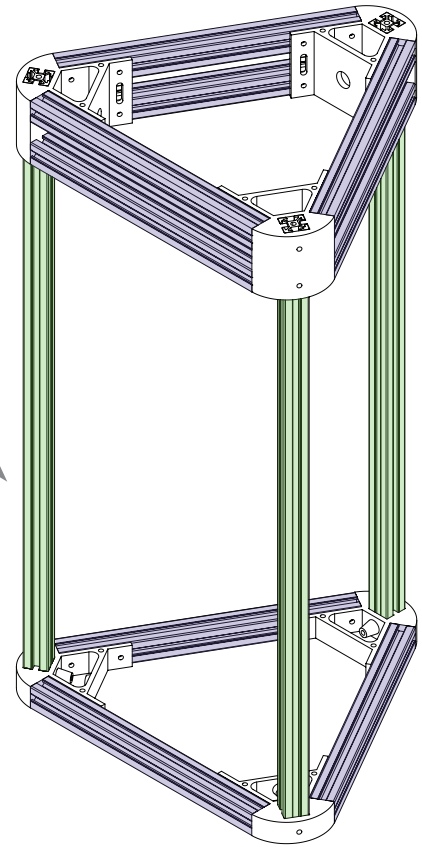


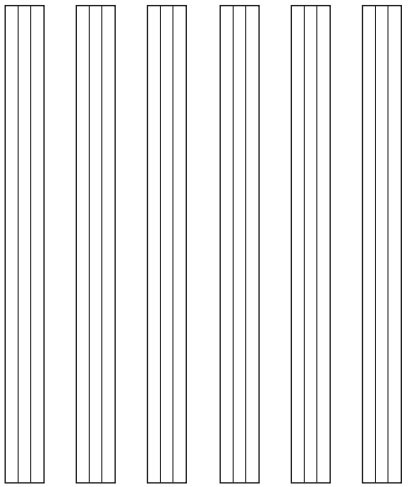




570mm(3ea)

Front view

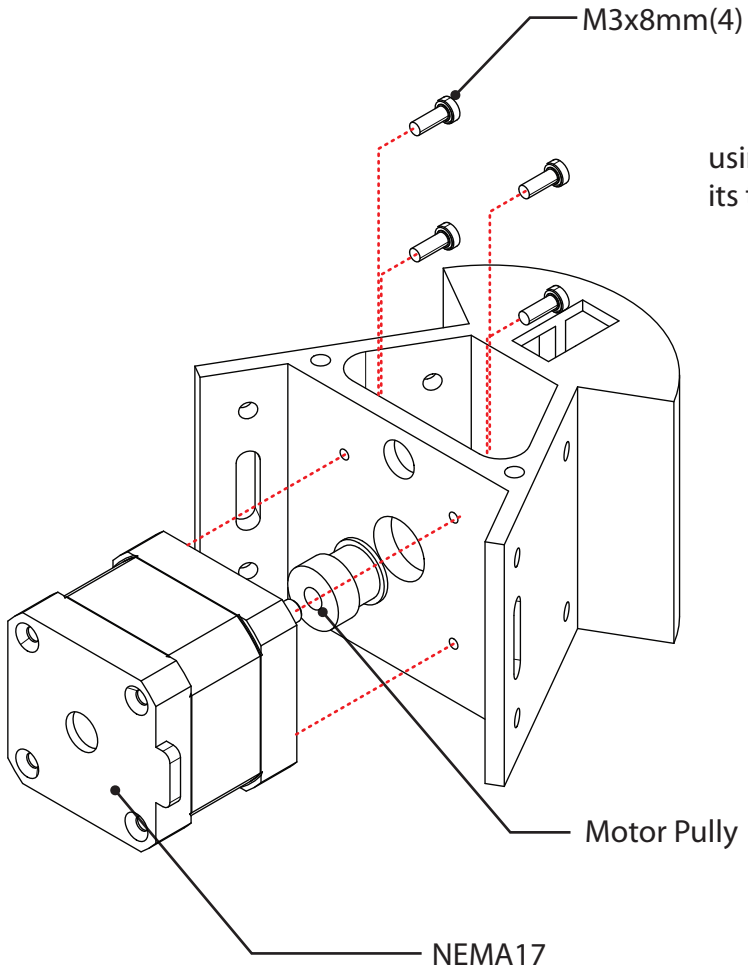




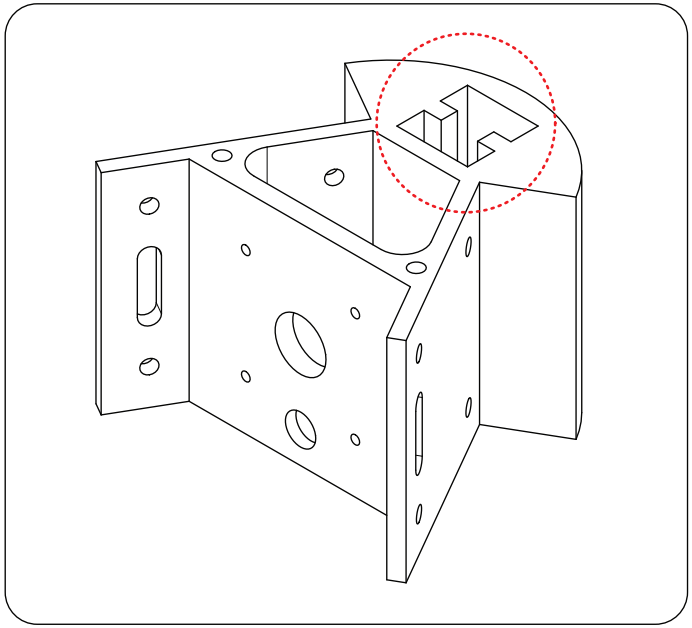
240mm(9ea)

[1] Motor assembly with Motor mount (3)

- NEMA 17 38~40mm stepMotor
- Motor belt pully (20 teeth, GT2, for 5mm belt)



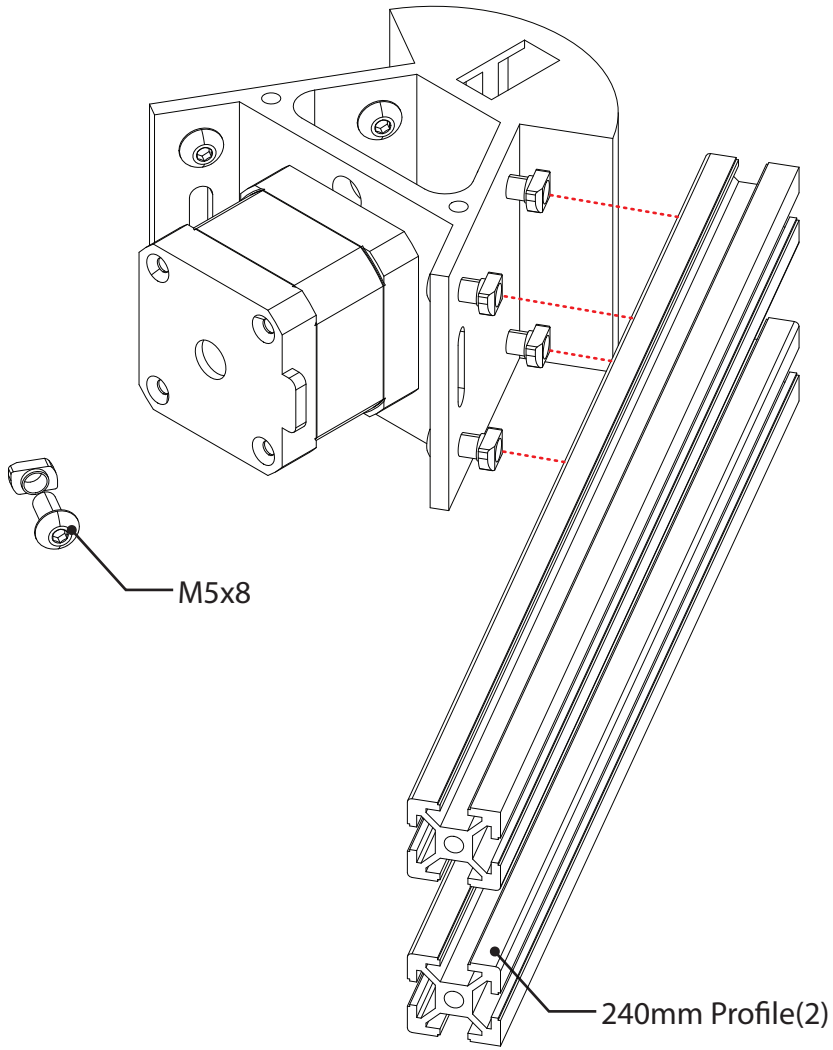
using L-rench to tighting.
its too narrow space



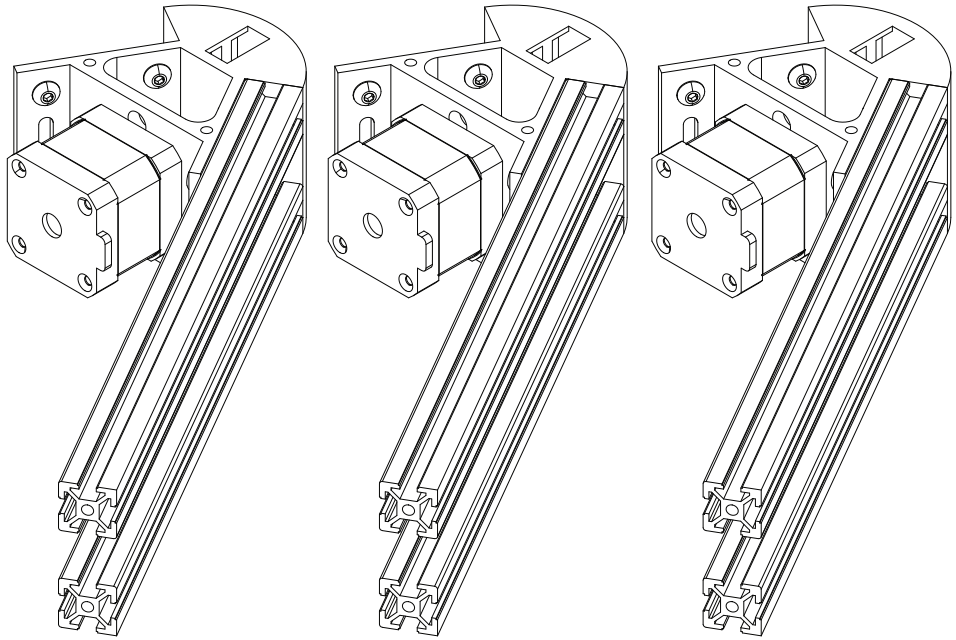
Opposite Side

[2] Frame assemble to Motor mount (3)

- Frame assemble to motor mount with blind nut(T-nut) and M5x8
- Firstly, assmeble only one side.
- Using L-rench, prepare nut & bolt part to motor mount.

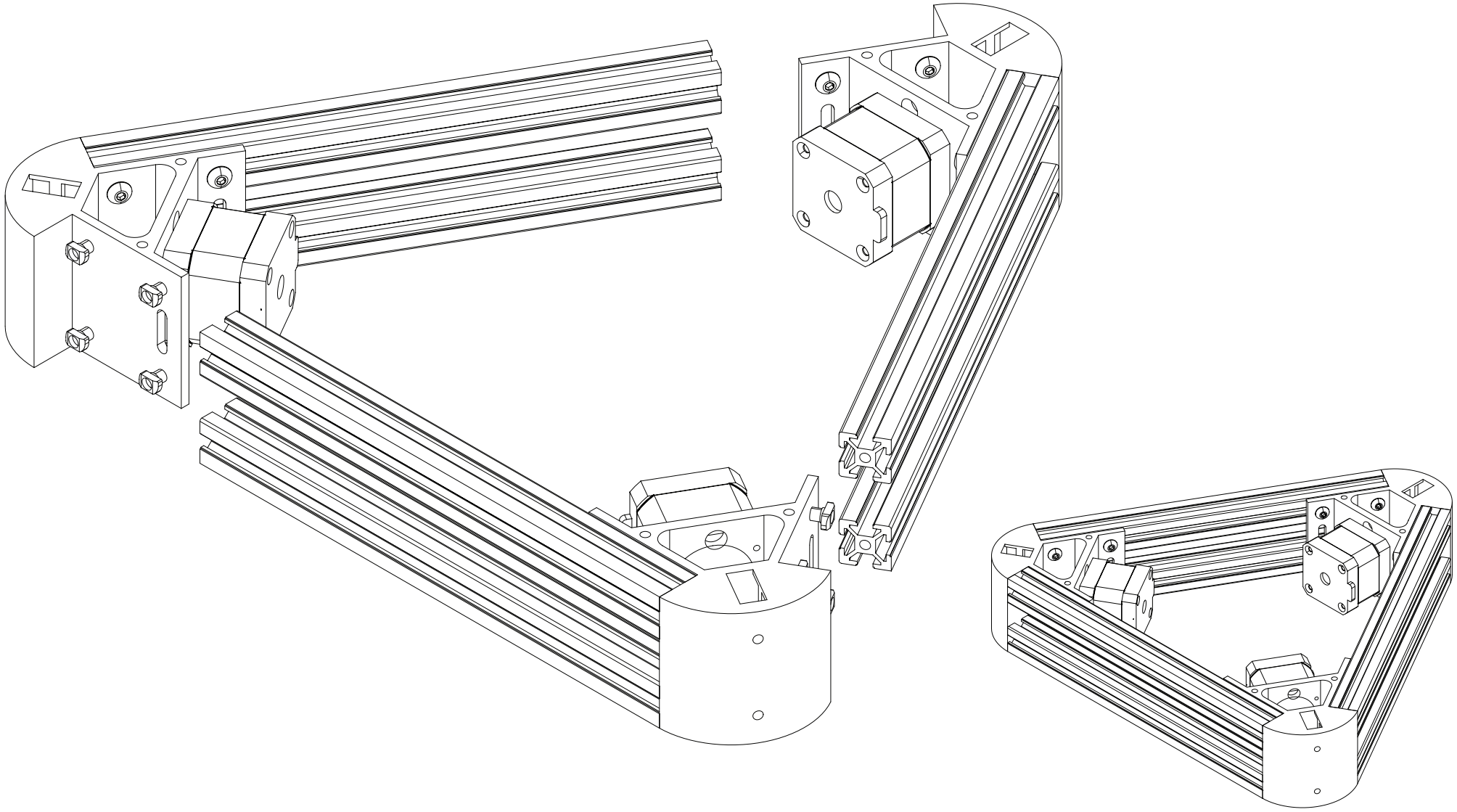


[3] Prepare 3 motor-frame assembly



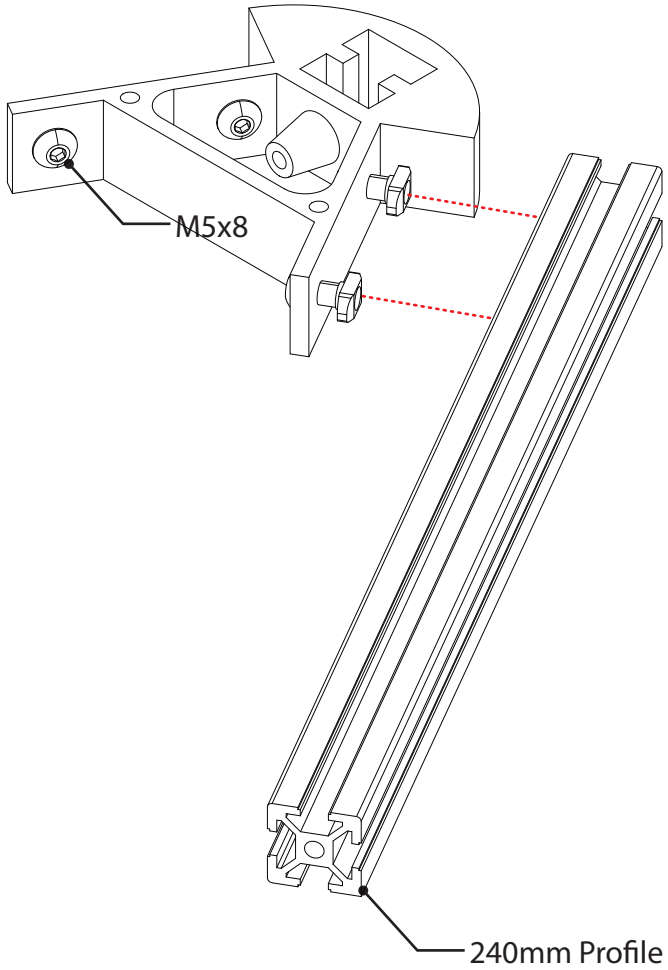
[4] Make triangular shape with 3 sub assembly

- Be patient with this job.
- moving slide the frame's groove to blind nut slowly.

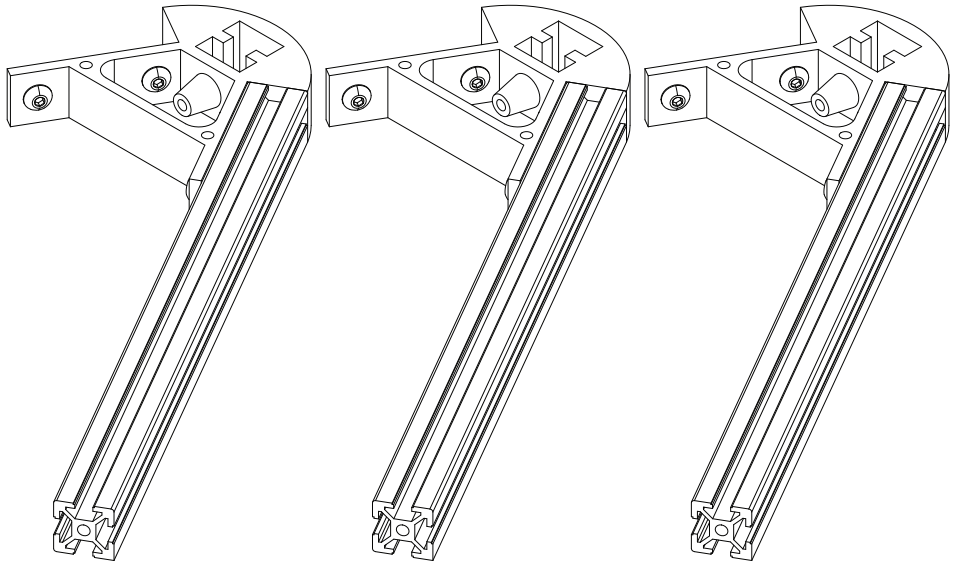


[5] Frame assemble to Bottom bracket (3)

- Frame assemble to Bottom bracket with blind nut(T-nut) and M5x8
- Firstly, assmeble only one side.
- Using L-rench, prepare nut & bolt part to motor mount.

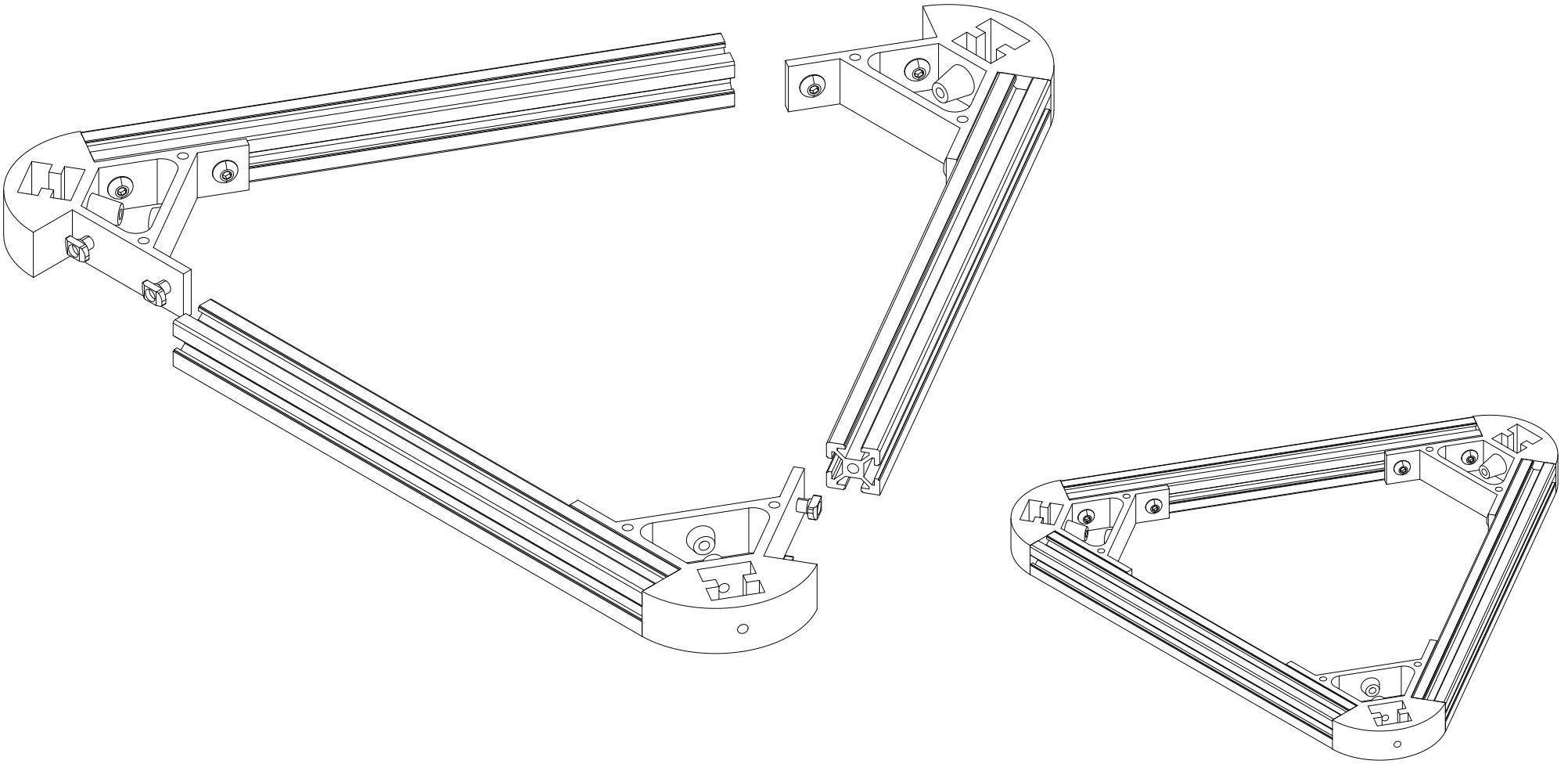


[6] Prepare 3 Bottom frame assembly



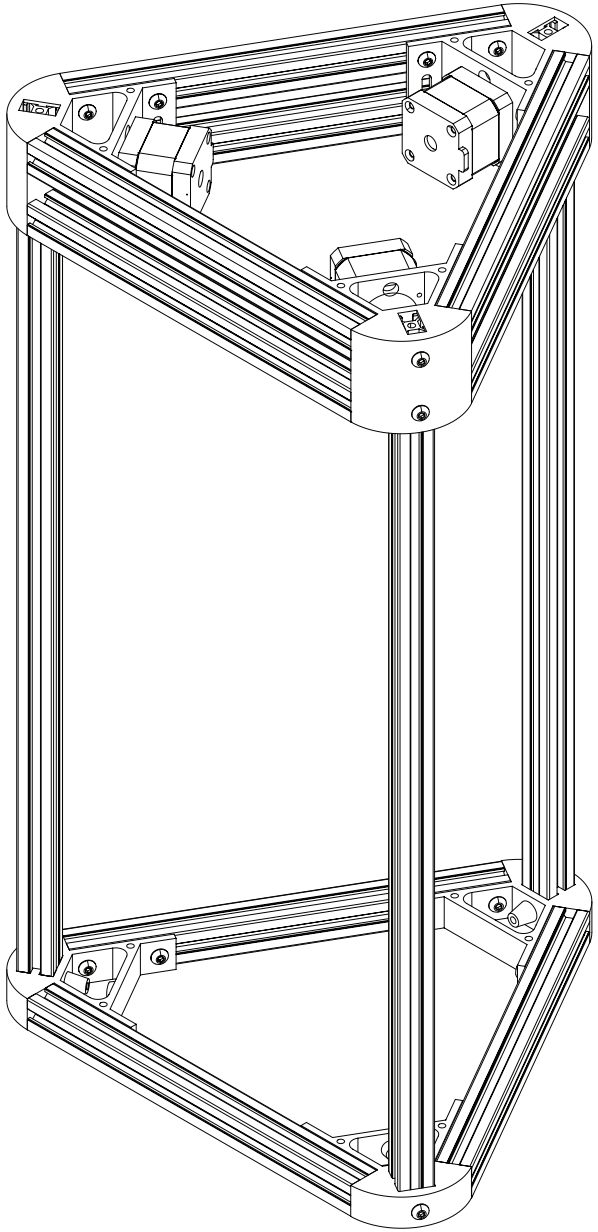
[7] Make triangular shape with 3 sub assembly

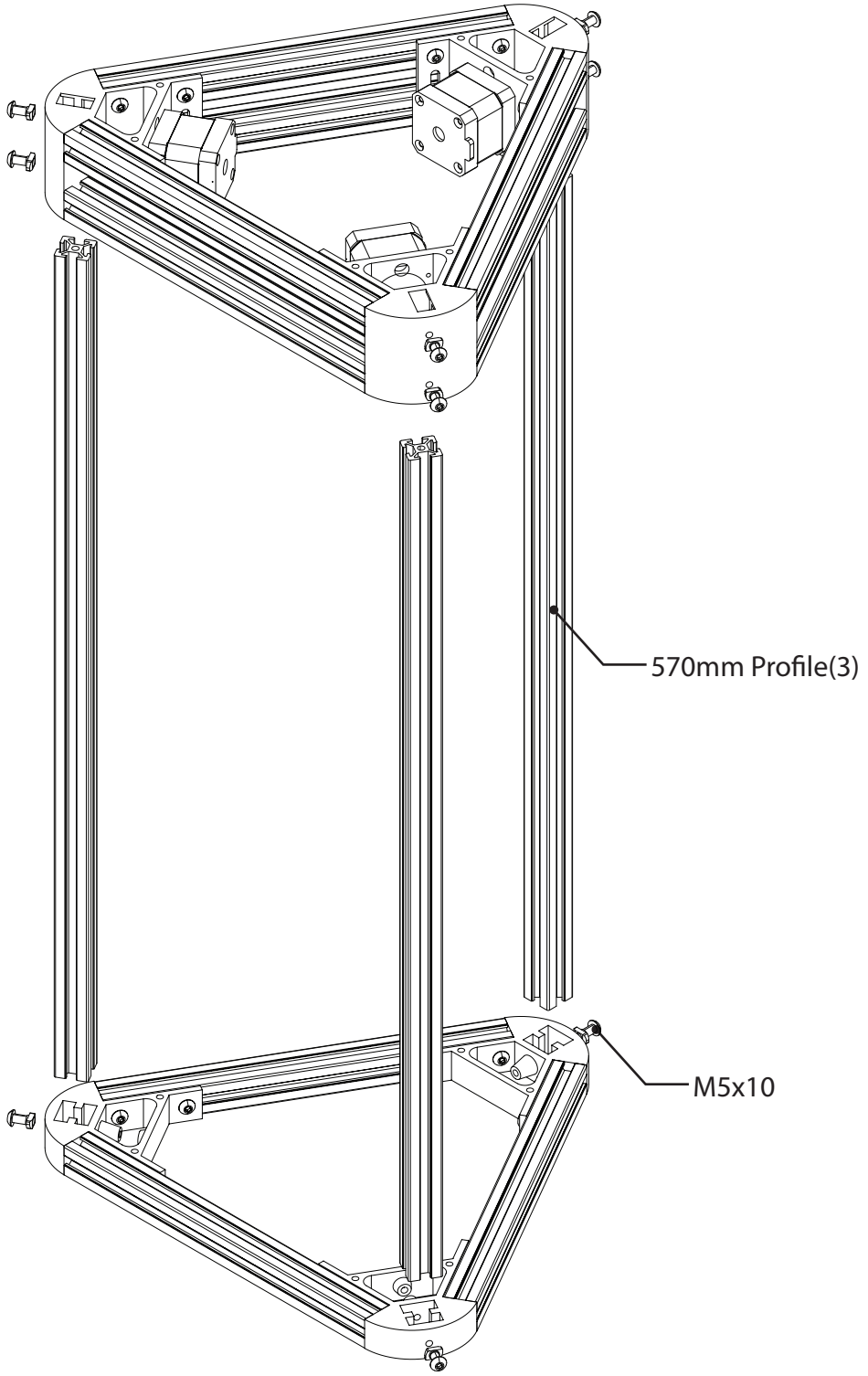
- Be patient with this job.
- moving slide the frame's groove to blind nut slowly.



[8] Final assemble of the frame

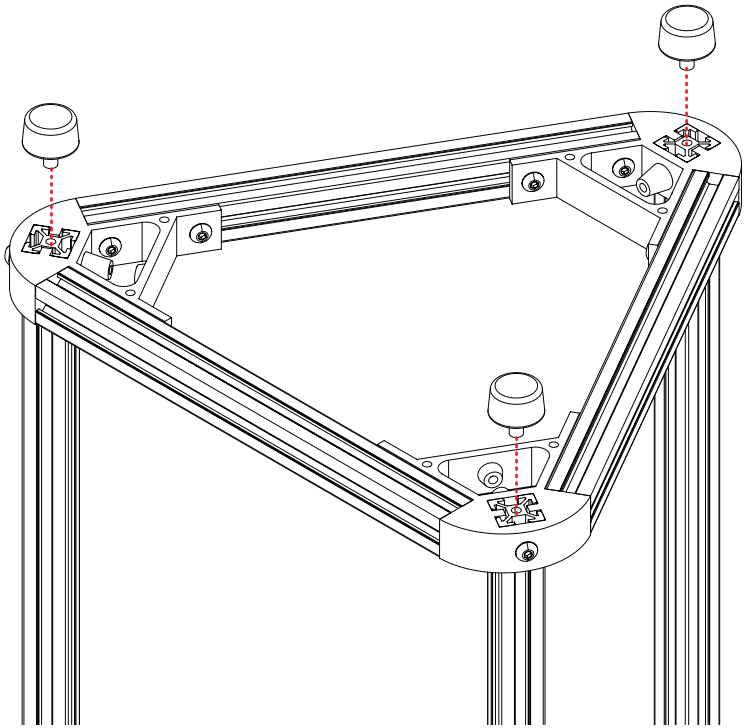
- Make tight with M5x10 bolt and Blind nut.
- Make sure that Bottom frame and Bracket must be flat.





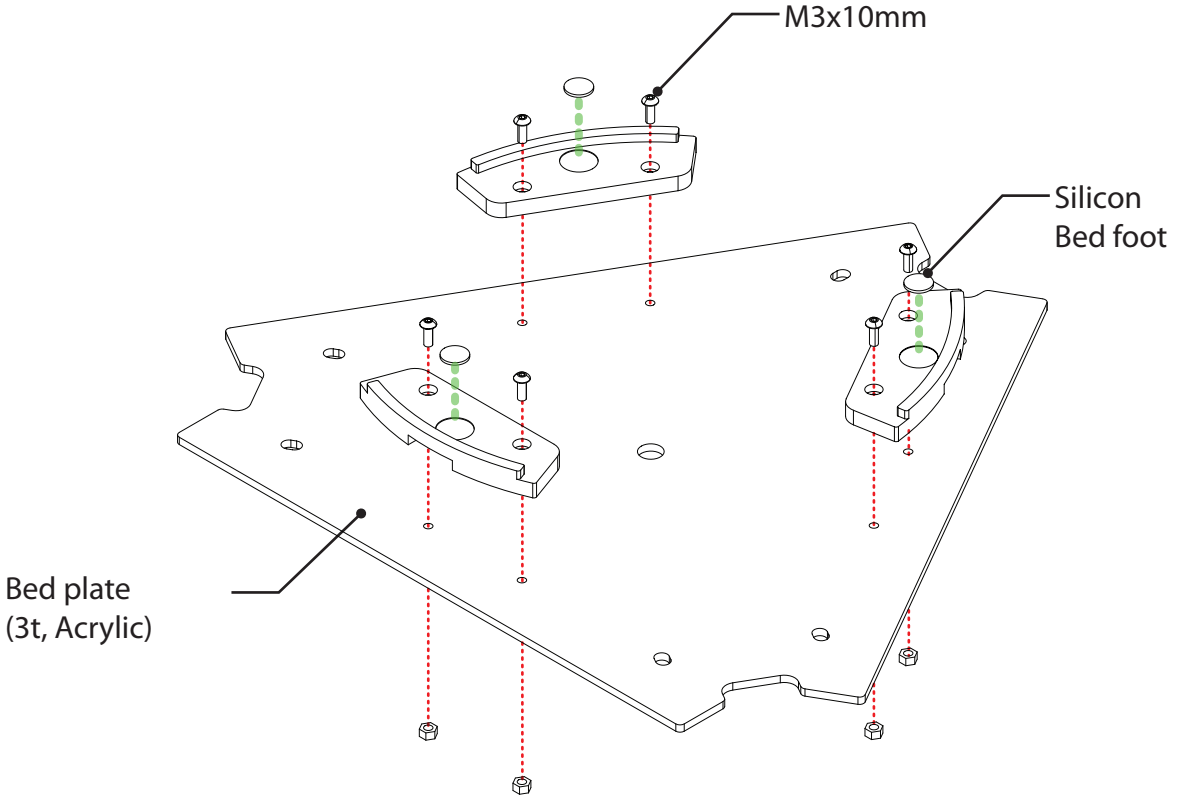
[9] Rubber foot assembly

- Prepare rubber foot with M6 screw
- Rotate tight in M5 screw hole of 570mm profile.



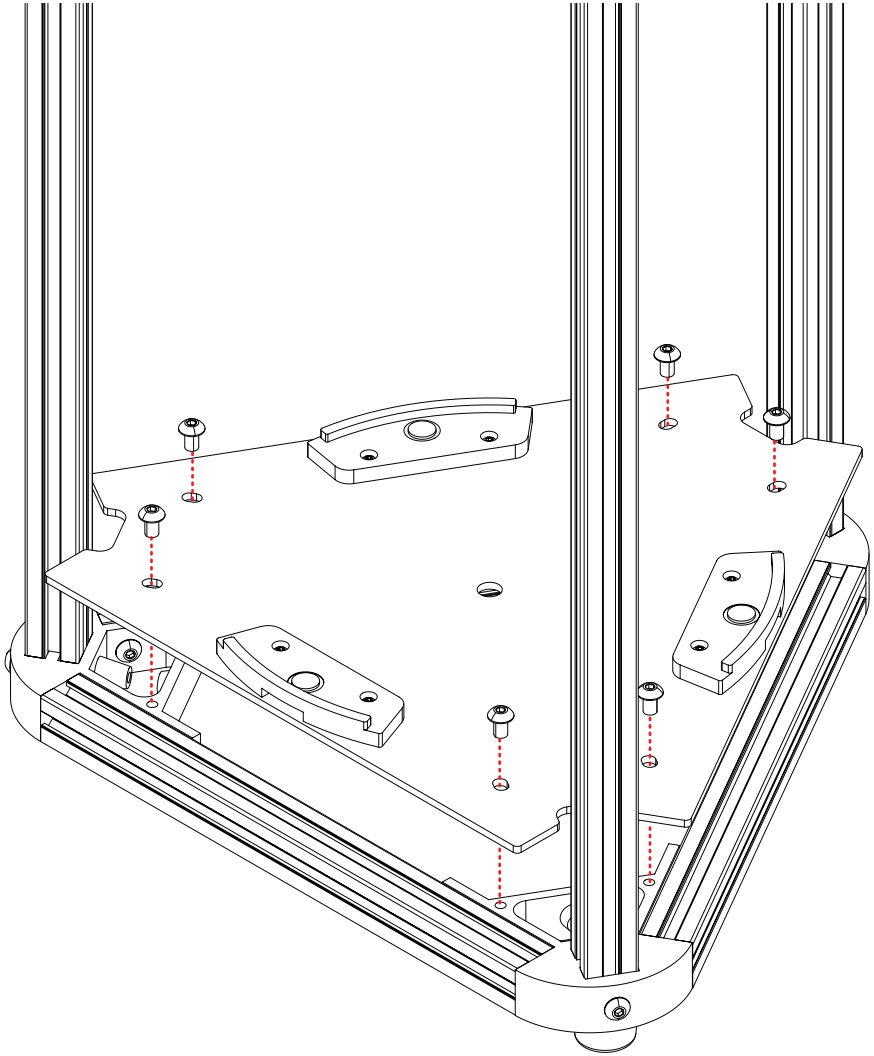
[10] Bed plate assembly

- Prepare laser-cut acrylic(3t) bed plate
- Attach bed holder with M3x10 to bed plate.
- Install silicon bed foot sticker to the pocket of bed holder

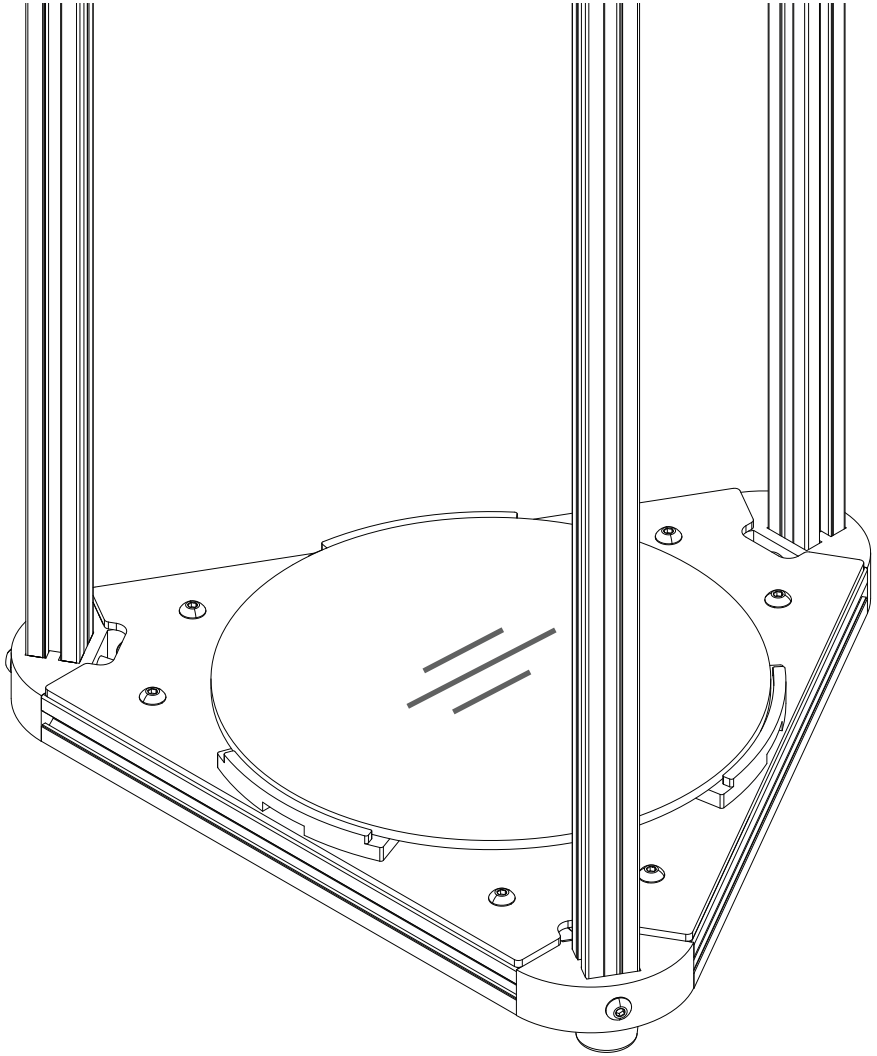


[11] Bed plate assemble to Frame

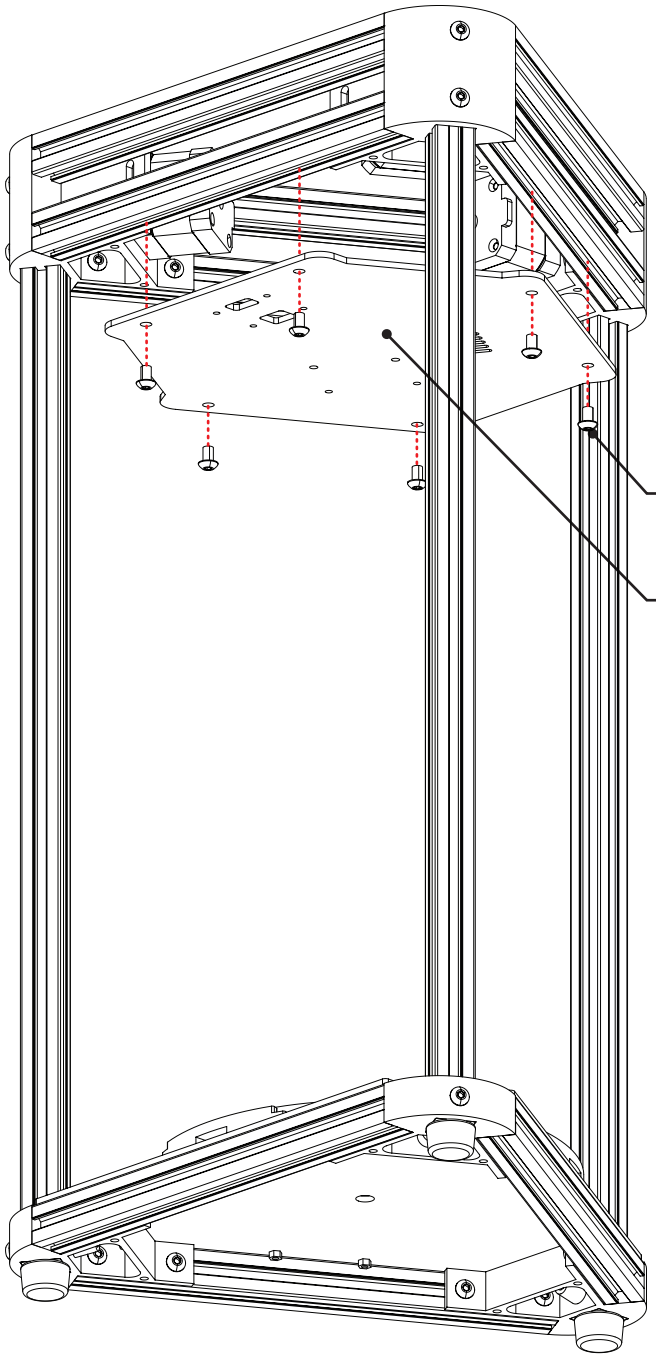
- Tap the M5 screw in Bottom frame bracket
- Using M5x8, attach bed plate to frame.



[12] Place a glass bed(4t) in bed foot silicon

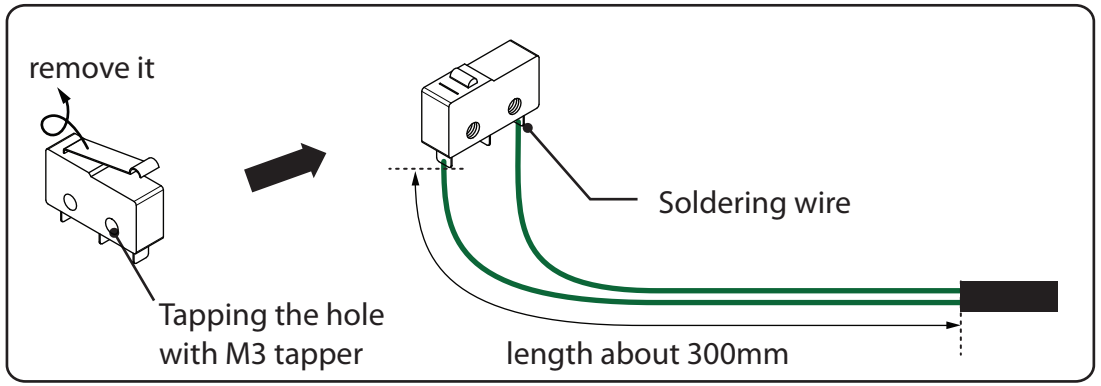


[13] Attach top hardware plate to frame



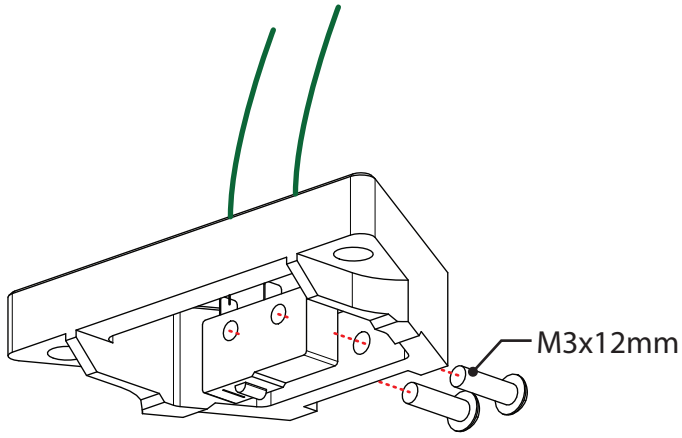
[14] Mechanical Endstop assemble(3)

- Prepare limit-switch and remove metal leg.
- connect 2-wire(30cm) to leg with soldering iron.
- connect 2pin header socket to one end of wire.



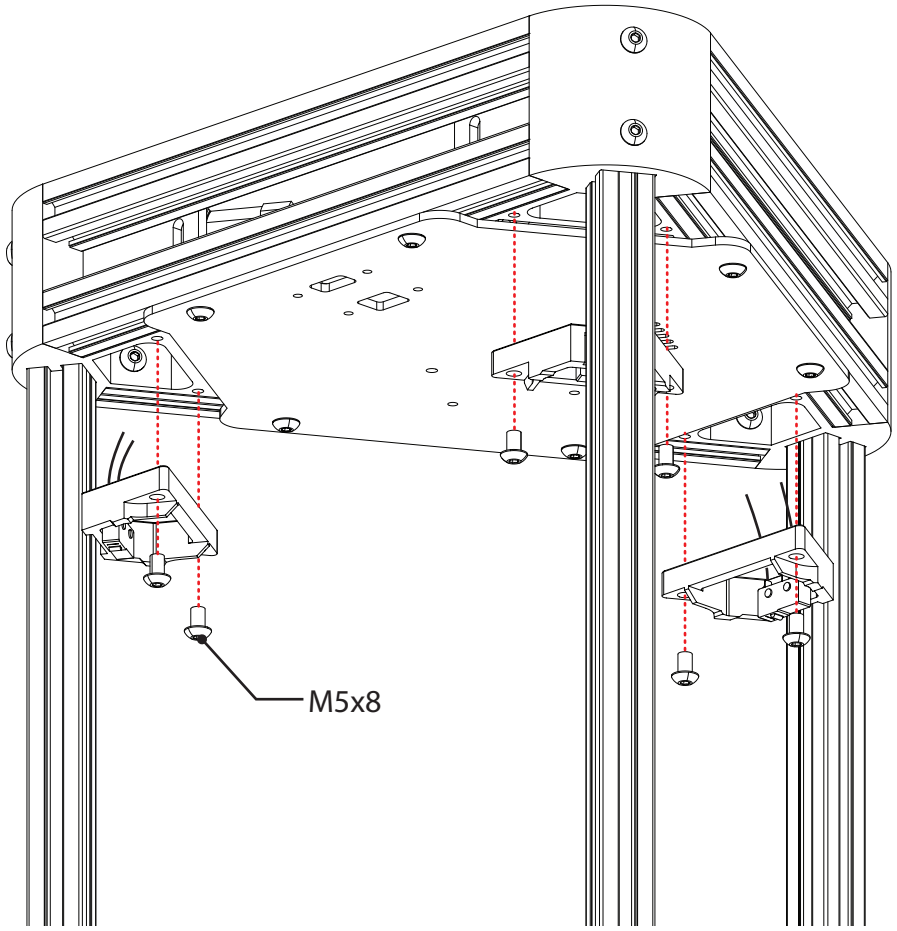
End stop switch preparation 24AWG
(end stop wire is no polarity)

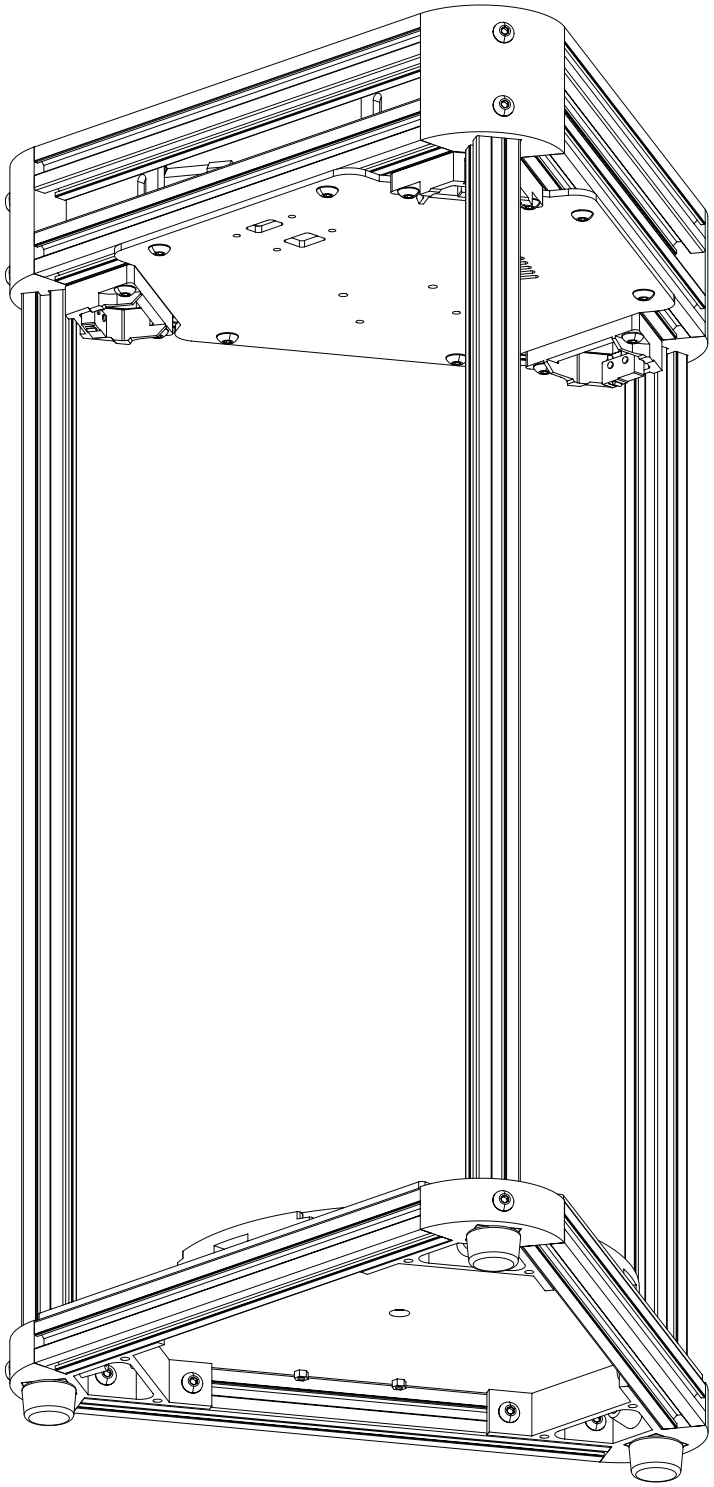
- Tap the 3mm screw to limit switch mounting holes
- Attach the switch to mounting bracket with M3x12



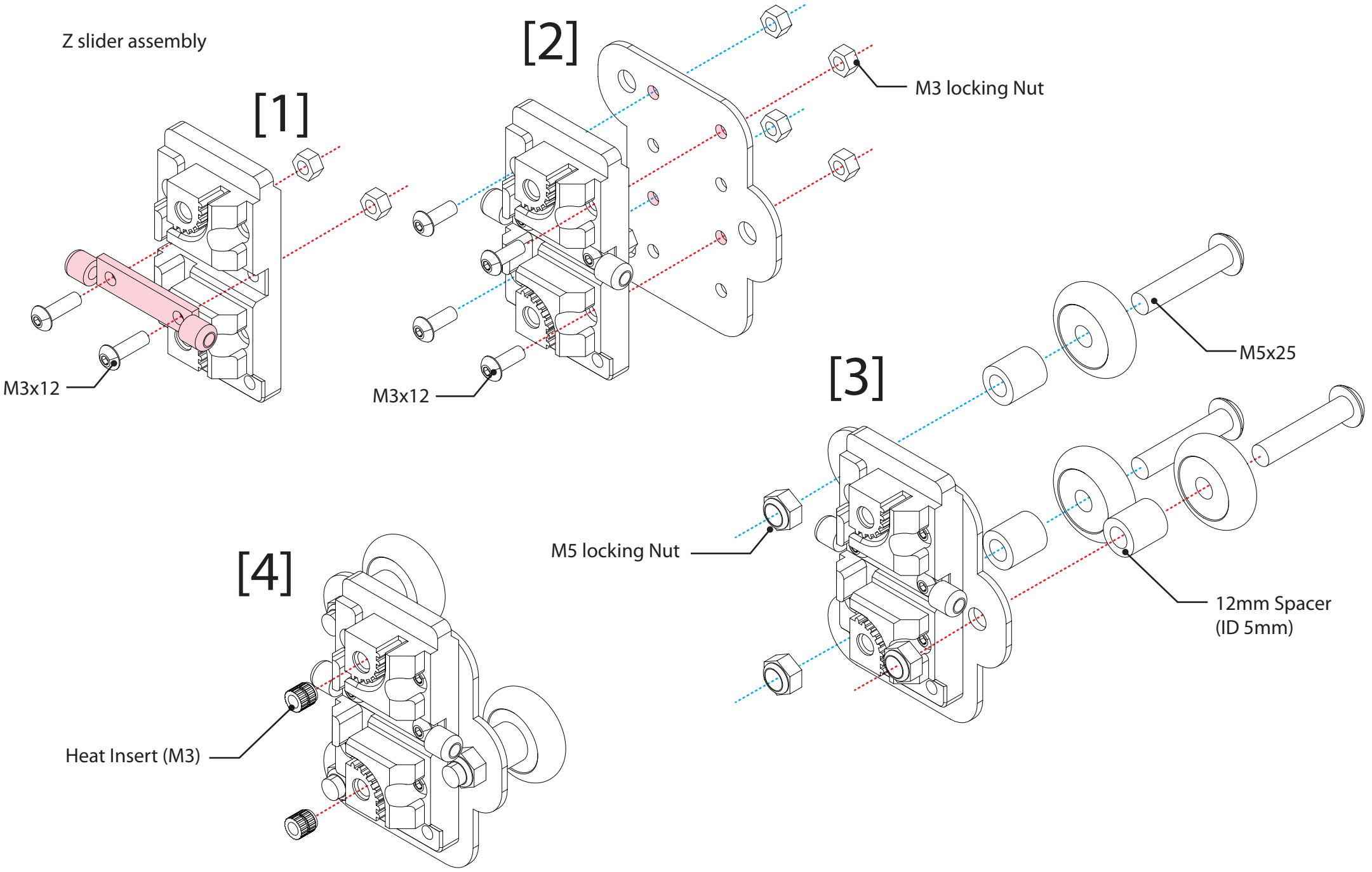
[15] Attach endstop assemble to Top frame bracket

- Firstly, tap 5mm screw to Top frame bracket.
- Using M5x8, securely attach the endstop assemble.

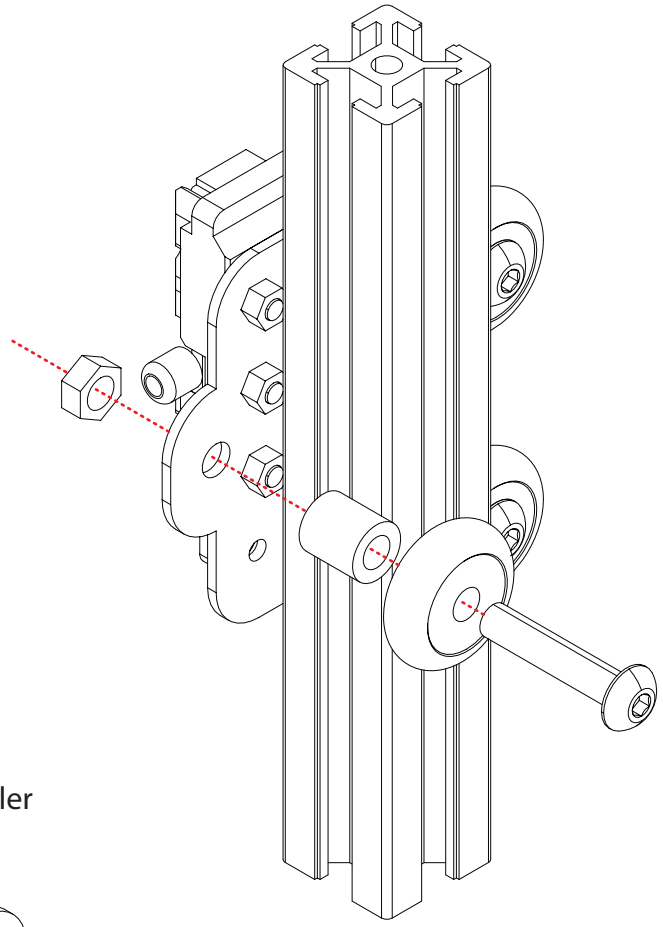




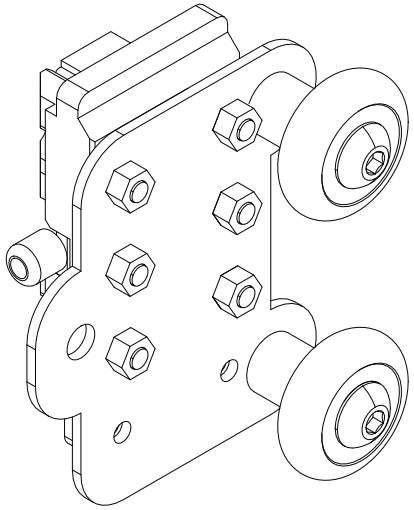
Z slider assembly



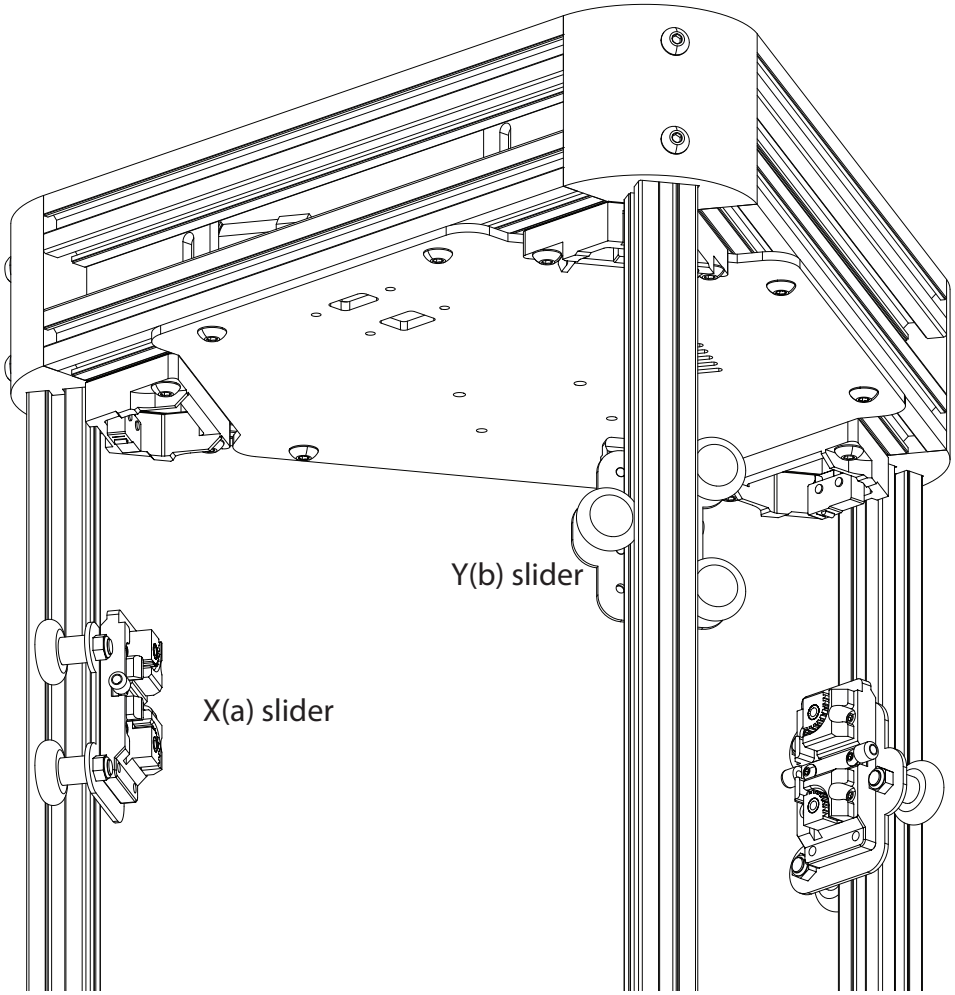
X,Y,Z slider assembled with Basic frame



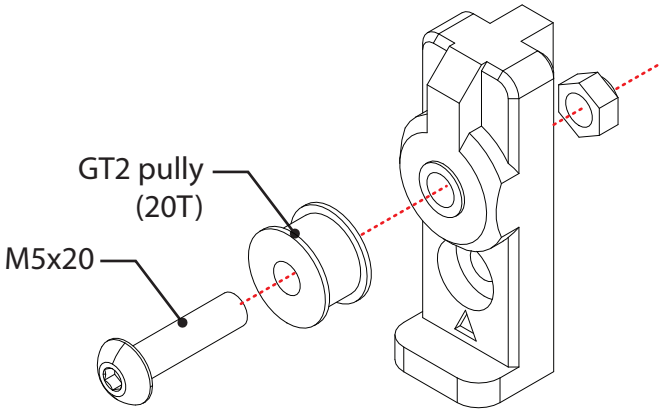
[1] release one roller



[2] tight it again along the rail

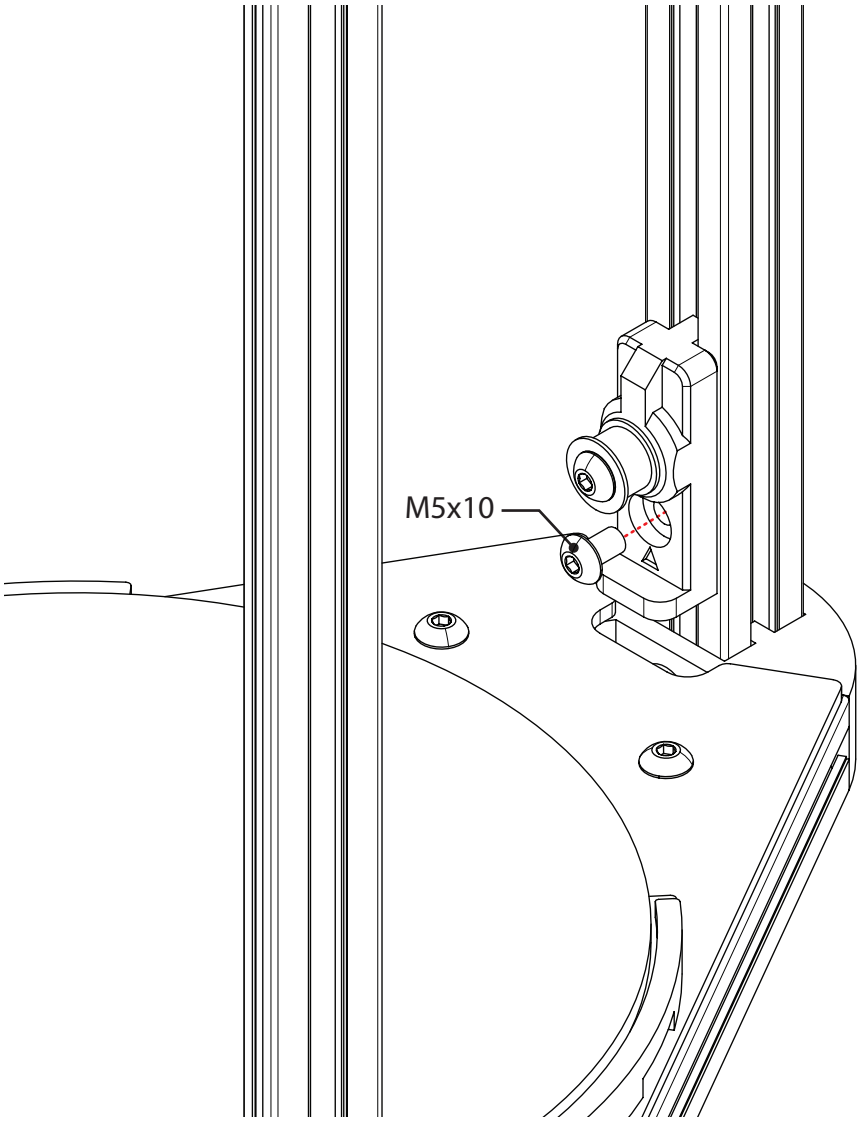


Motor Endpully assembly(3)



* At this stage, don't tight hard so the assembly can slide up and down freely and the location in frame is not important.

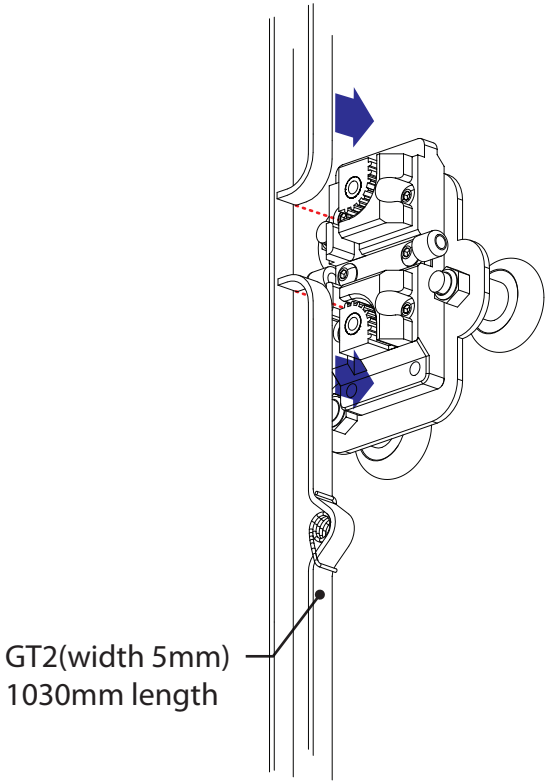
When you tight GT2 pully to 3D parts, Don't tighten too hard. check the pully to rotate freely.



X,Y,Z slider GT2 timing belt assembly

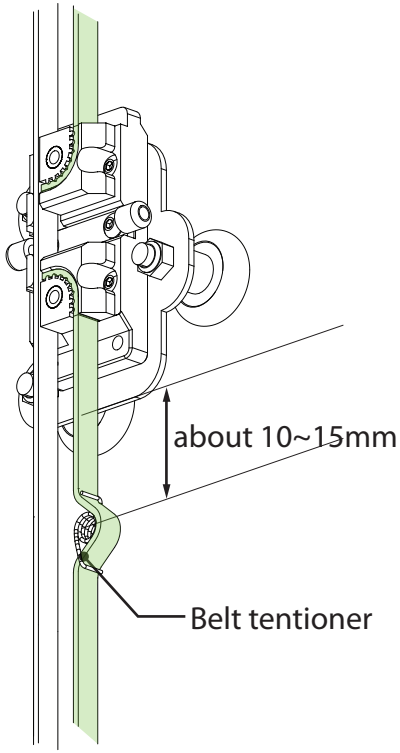
[1]

Prepare 1030mm GT2(width 5mm) belt and place around motor pully and endpully. both end of it place securely to the slot of slider.



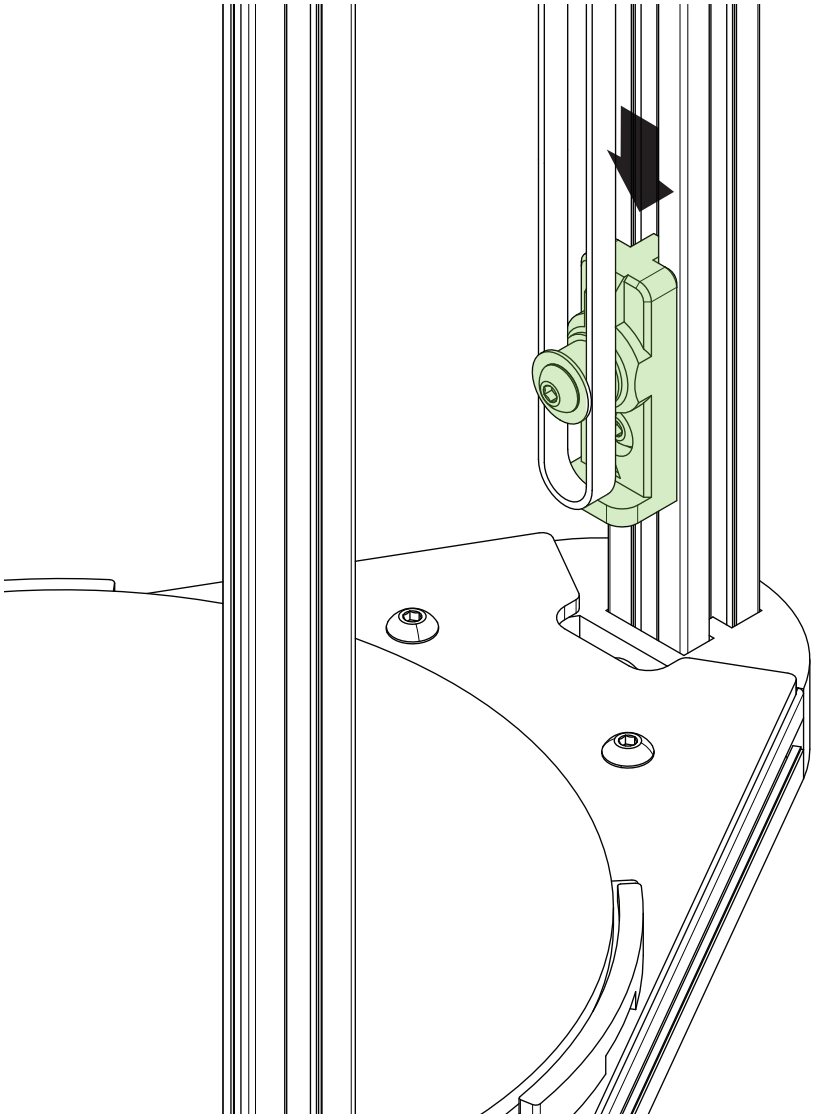
[2]

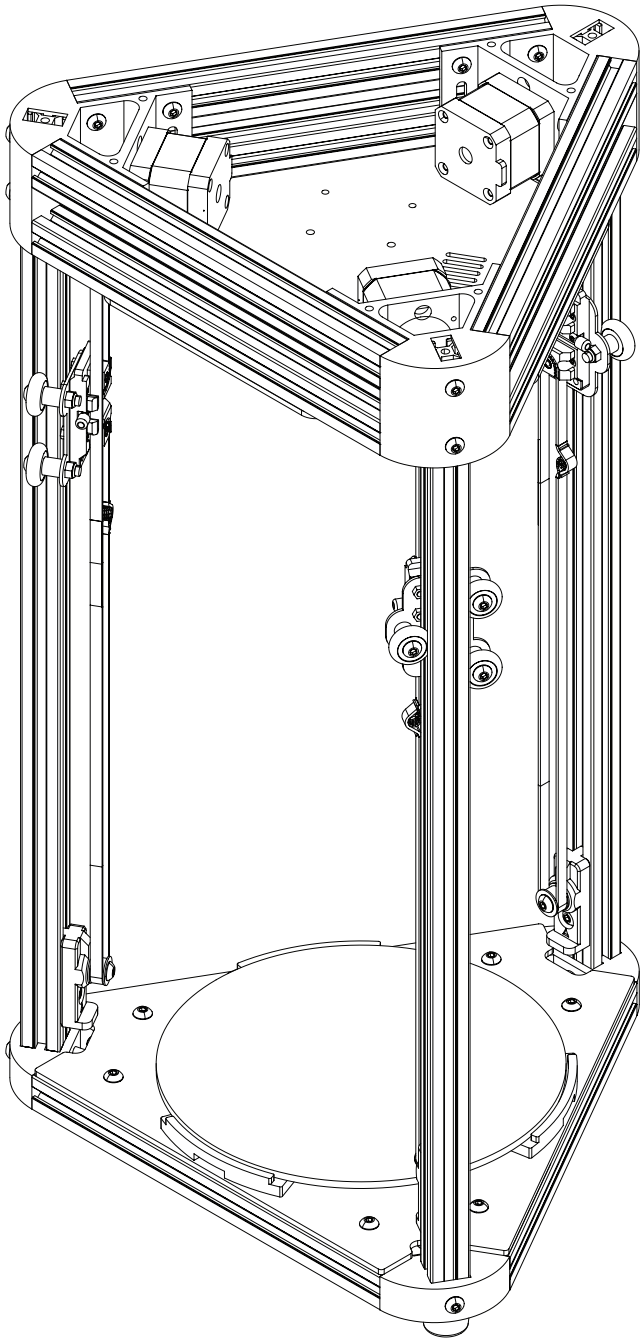
Belt tentioner has to place the position of about 10~20mm below the lower slot

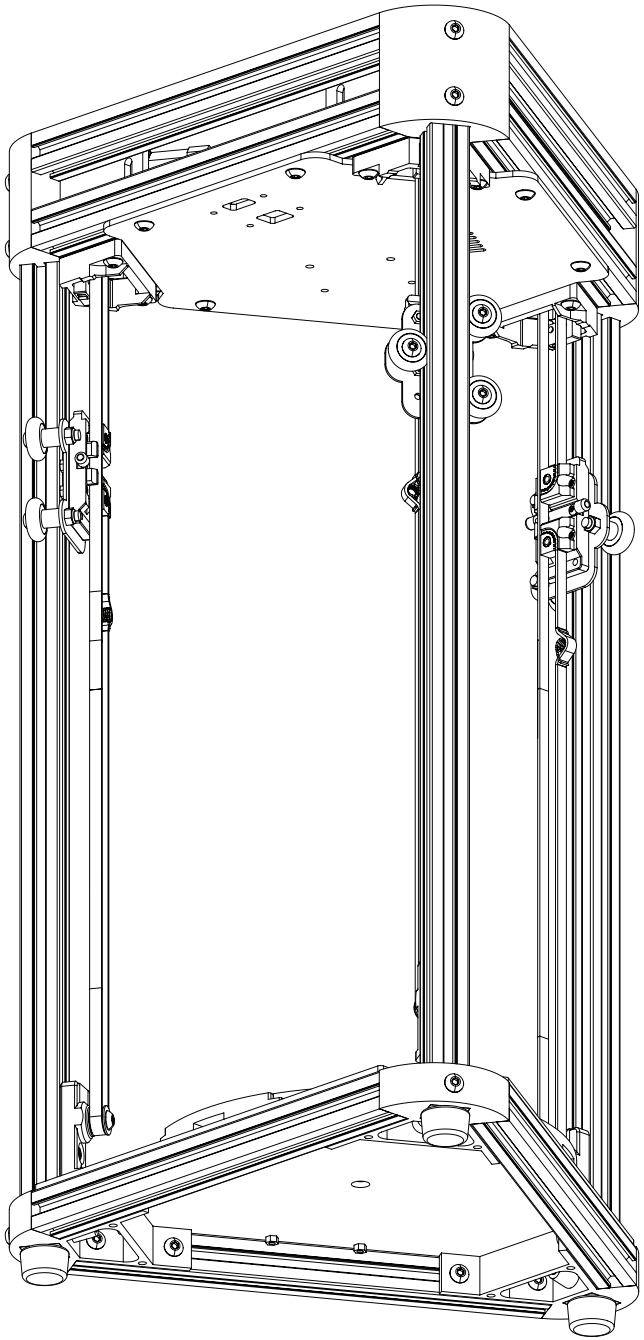


[3]

Loose the bolt of slider and push against the belt. then belt tentioner would be in fully tentioned. and lock the bolt of slider securely at the same time.

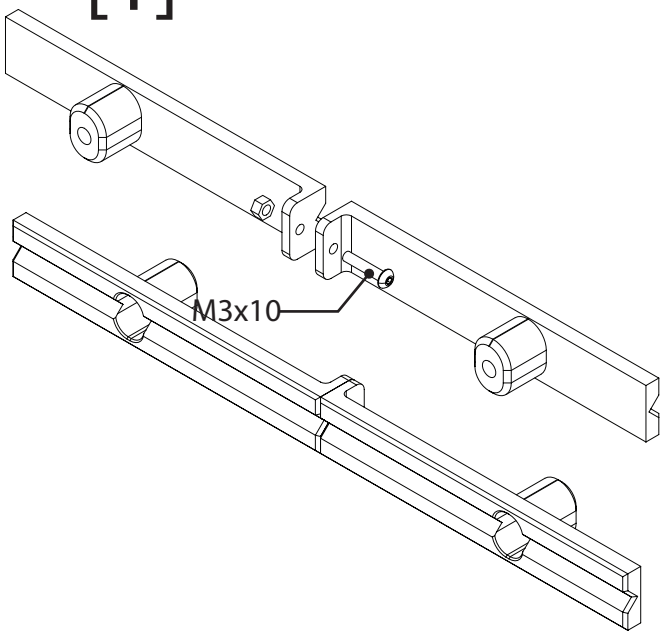




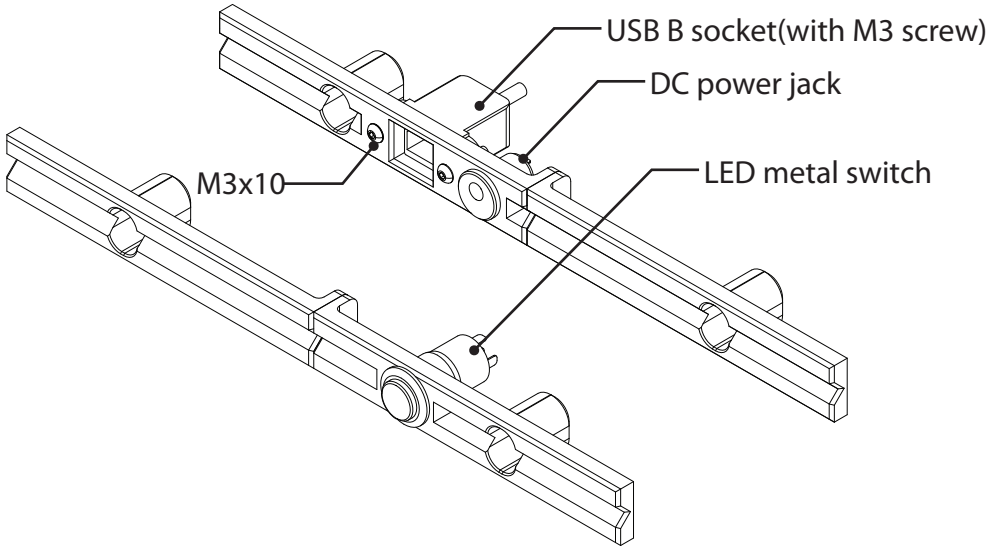


Top enclosure panel assembly

[1] Make 2 pieces of one panel. and connect with bolt.



[2] The other 2 panel can be attacked with same M3x10.
and USB port, Power socket, LED metal switch has to be installed.



LED Metal Switch(12v)
Self-locking(latch-type)
16mm dia.

Elbow B Male To USB B Female Socket

2.1mm DC Power Jack

[3] Attack Top front panel to Top Frame.