

BugBu 300 V1 Assembly Guide

(Recommended print settings for printer parts is no less than 6 walls and no less than 20% infill)

Welcome to the assembly guide for the BugBu corexy printer. This guide will serve as assembly instructions for the printer. It is a “300” as this is the footprint of the printer 300mm cubed. Upon completion, the printable area will be 215x/200y/200z

Any questions during assembly, please contact someone within the group on Discord. The github ([enter address here](#)) as well as printables ([enter address here](#)) will have the most recent updates in STL’s and CAD. Please refer to the github page for all slicer configurations and klipper firmware configurations or updates.

This is meant to be an affordable corexy build that is relatively easy to build, high prints speed, and quality prints. Any feedback is always welcome as we are always striving to make it better with a great experience for all users.

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Z Belt Routing:

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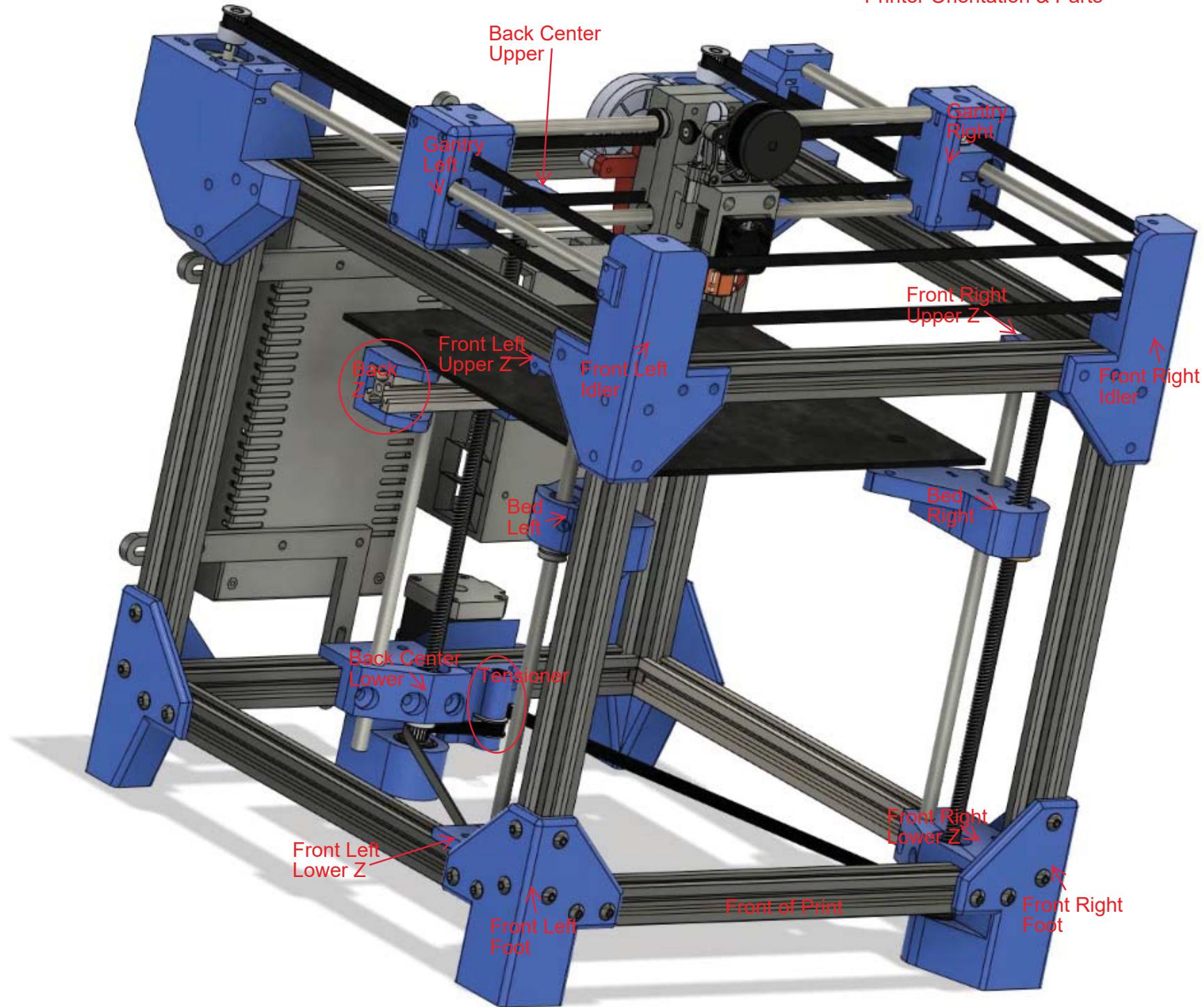
Wiring Diagram:

Pi Setup:

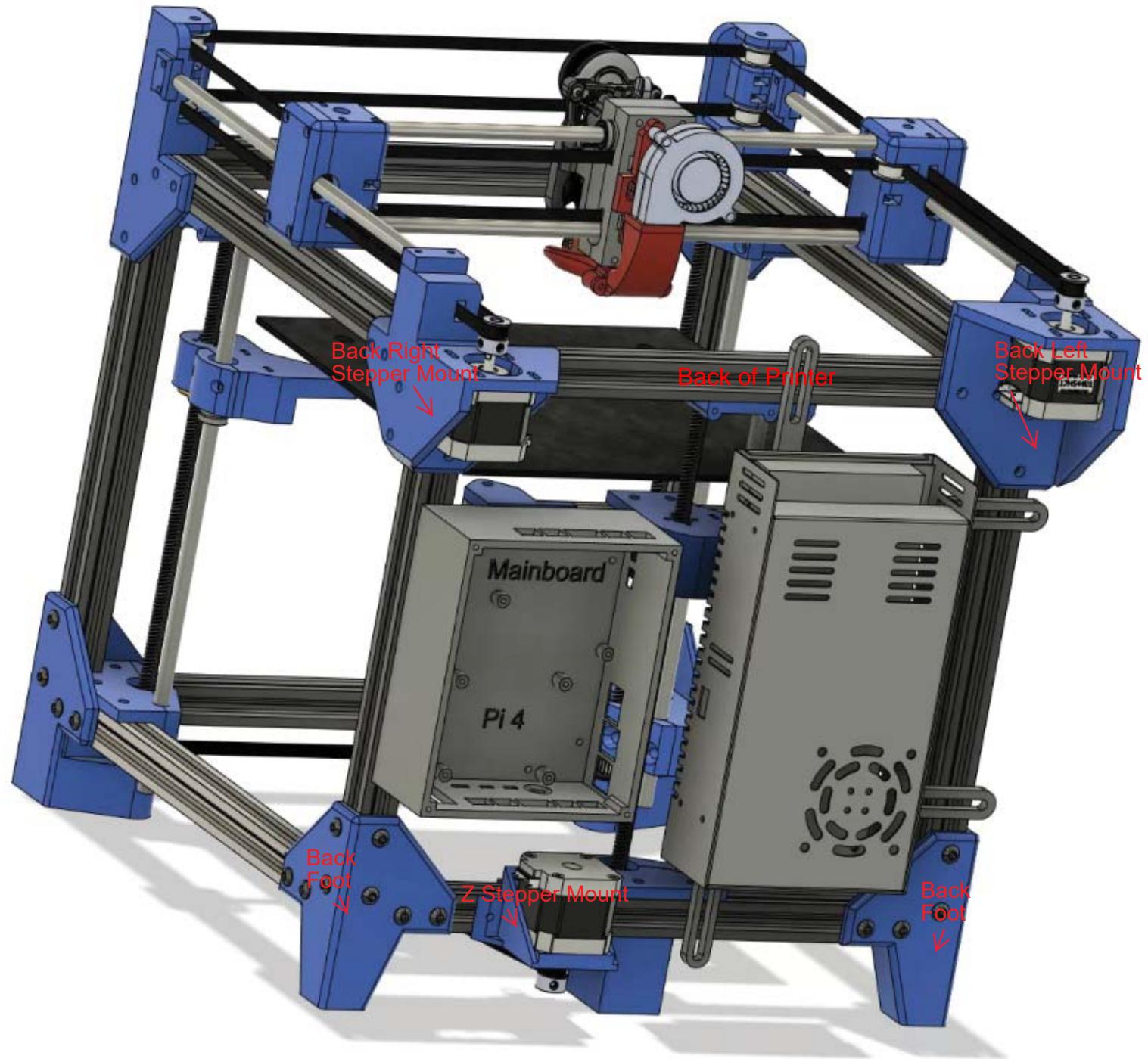
Firmware Setup:

Initial Startup:

Printer Orientation & Parts



Printer Orientation & Parts

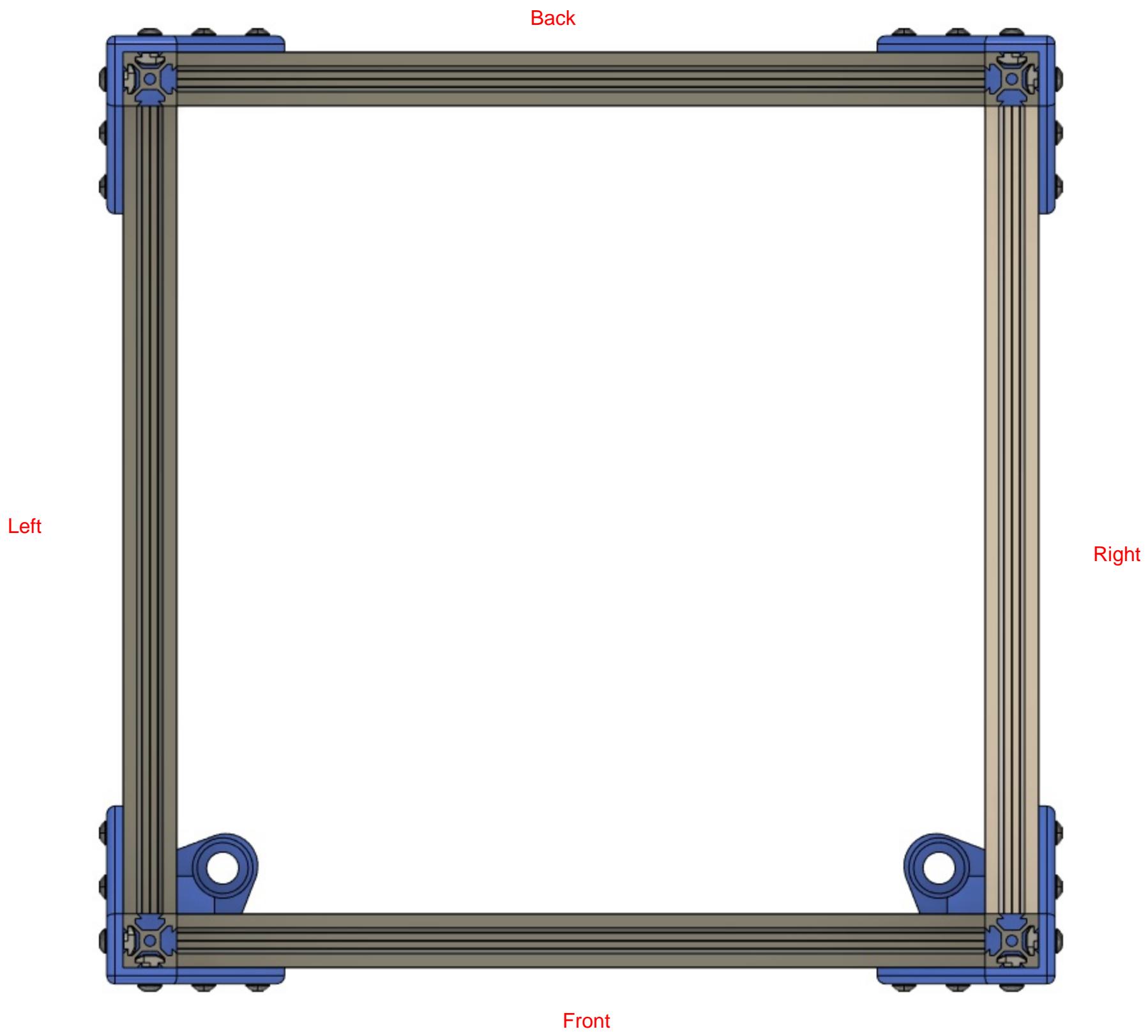


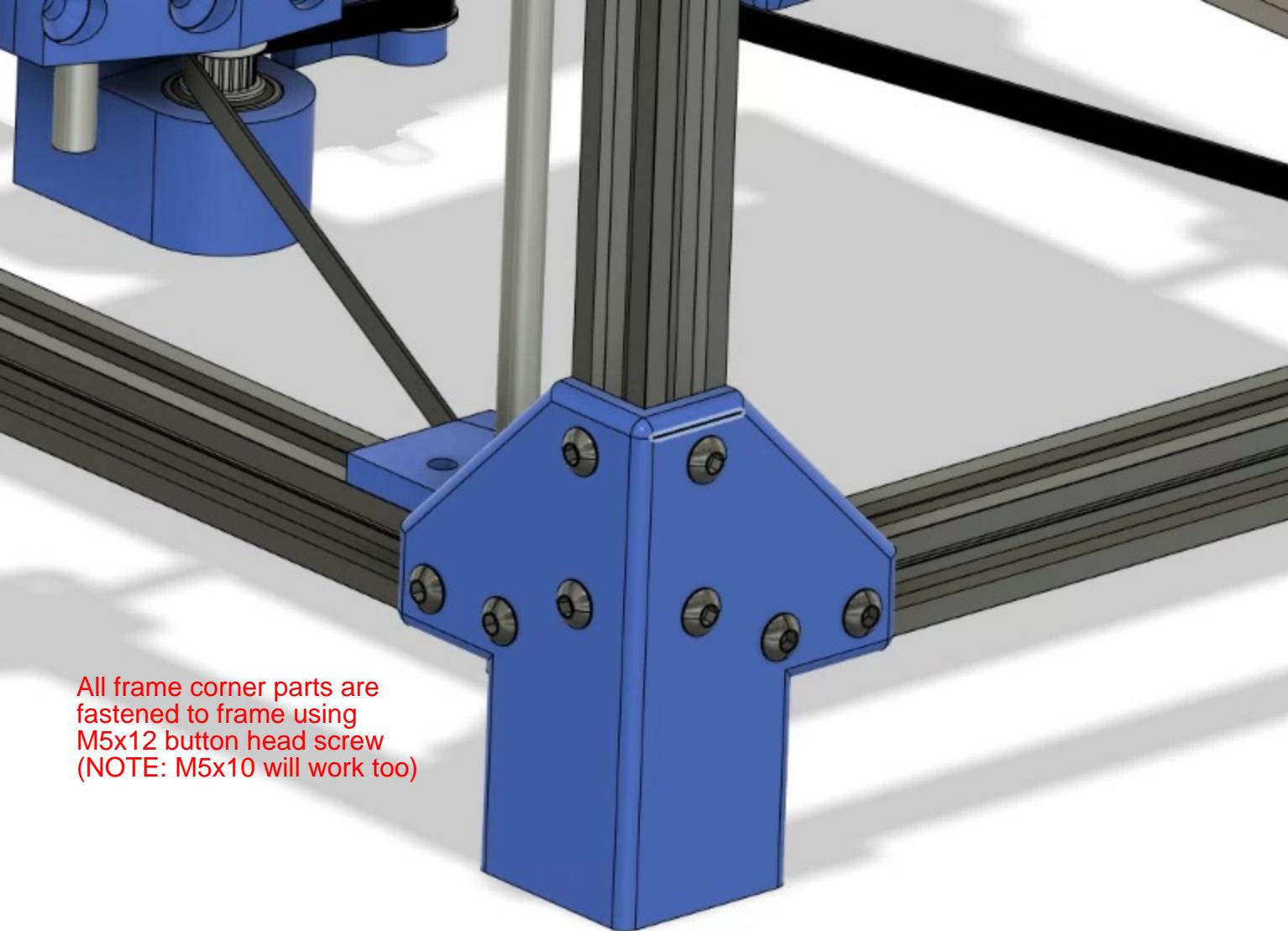
Section 1:

Frame Assembly

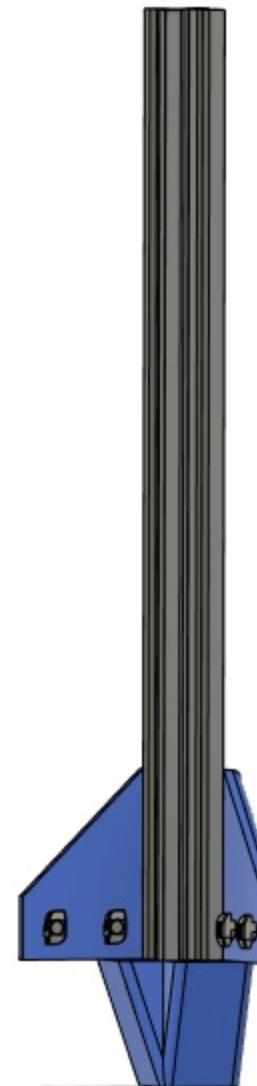
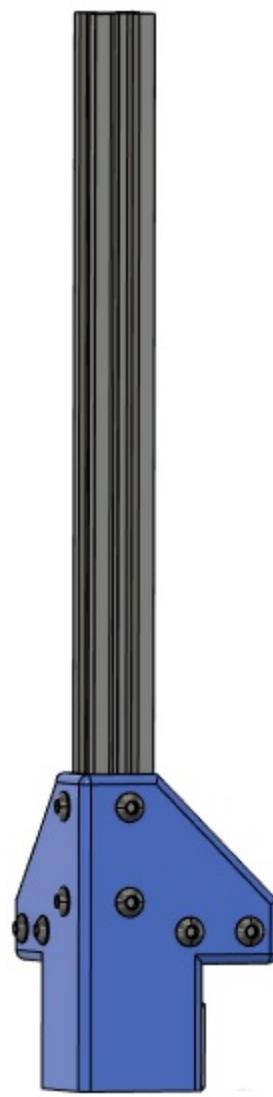
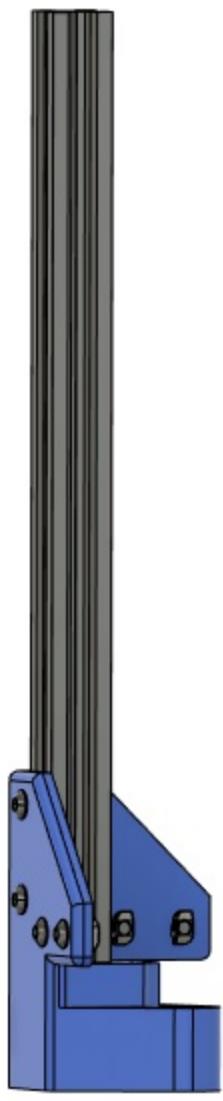
Components needed for this portion:

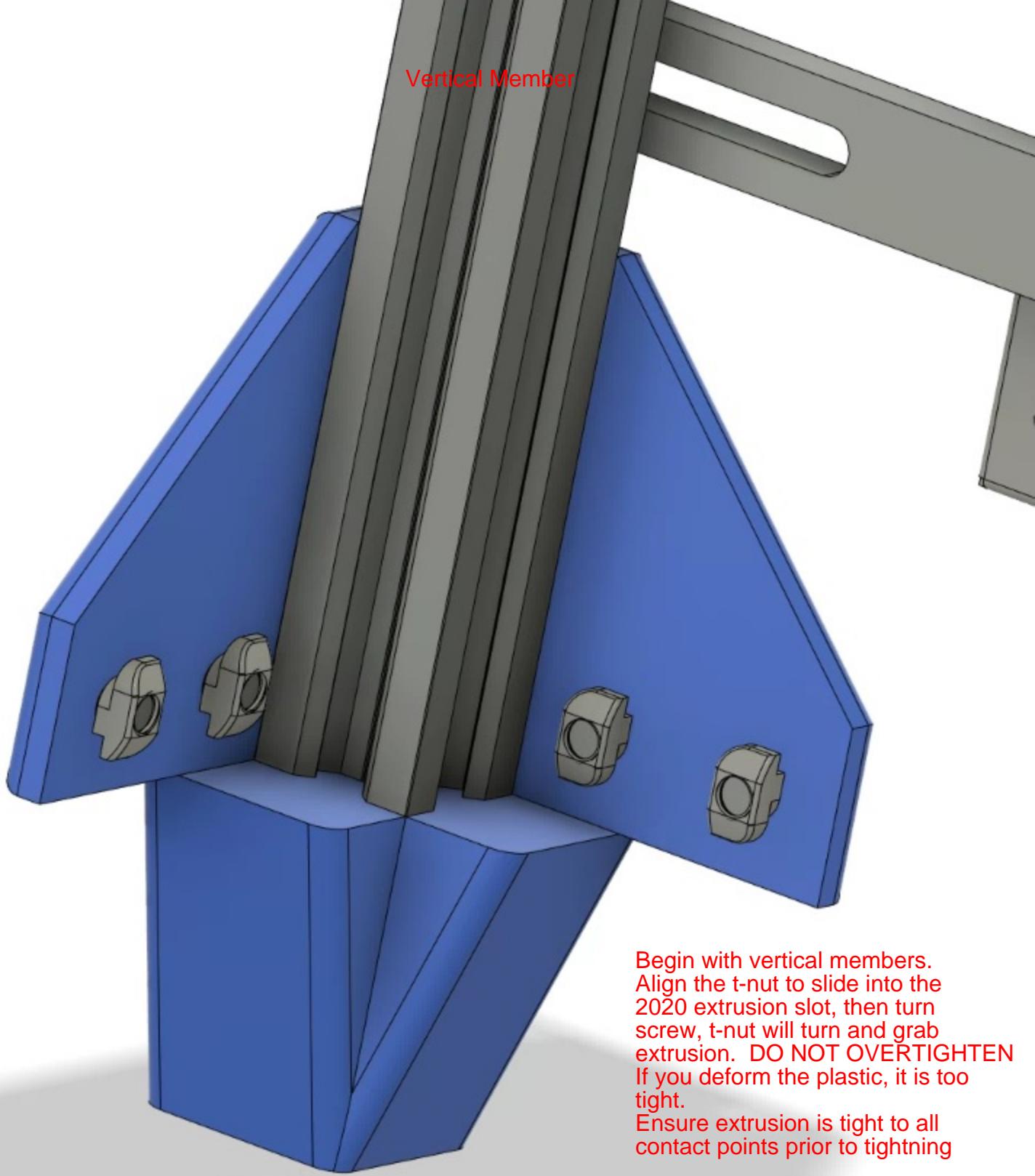
M5x12 or (M5x10) Button Head Screws	x64
M5 T-nuts	x64
M5x25 Button Head Screws	x4
M5 Nuts	x4
Front Right Foot	x1
Front Left Foot	x1
Back Feet	x2
Front Left Idler	x1
Front Right Idler	x1
Back Left Motor Mount	x1
Back Right Motor Mount	x1
300mm 2020 Extrusions	x12





All frame corner parts are
fastened to frame using
M5x12 button head screw
(NOTE: M5x10 will work too)





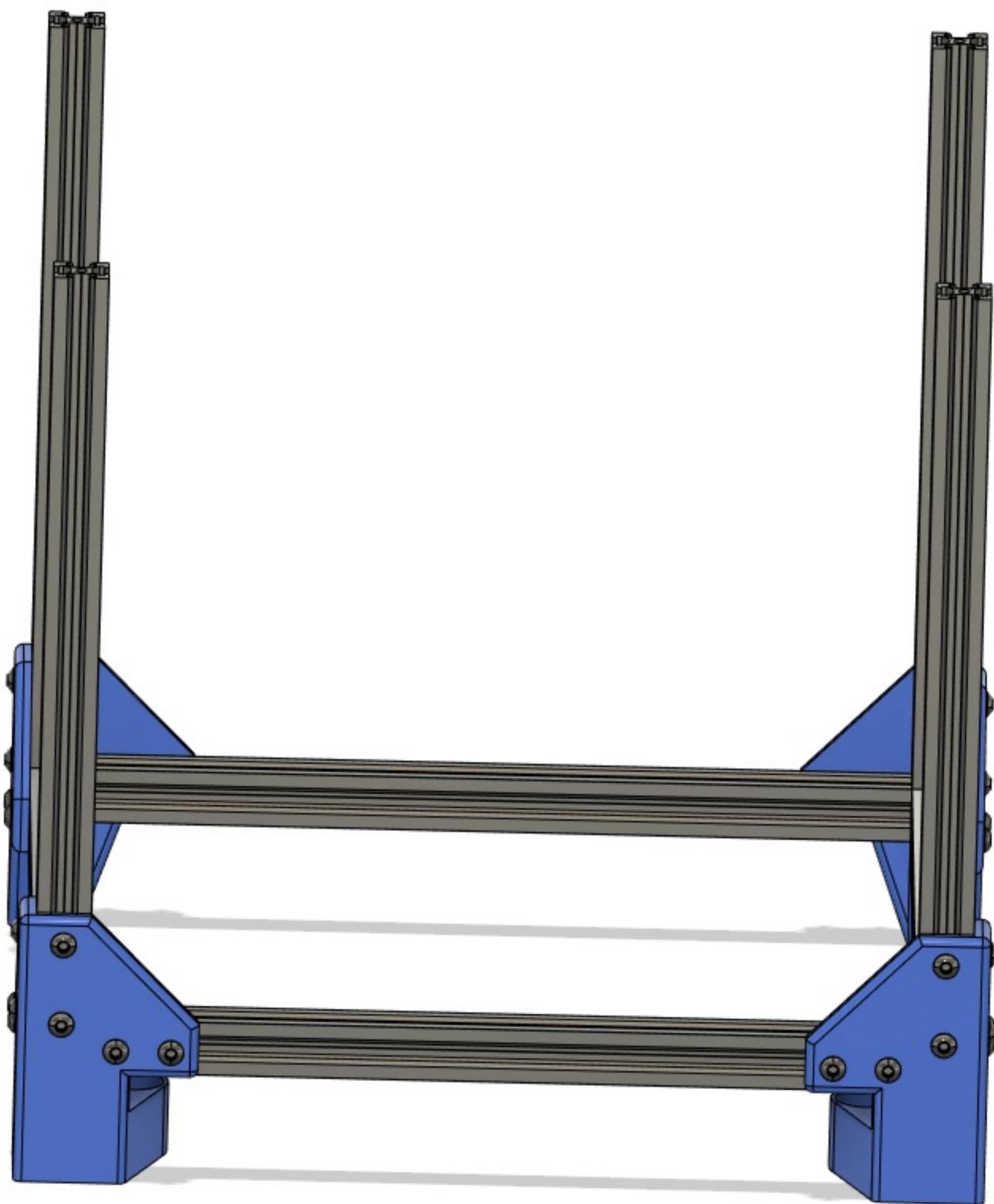
Begin with vertical members.
Align the t-nut to slide into the
2020 extrusion slot, then turn
screw, t-nut will turn and grab
extrusion. DO NOT OVERTIGHTEN
If you deform the plastic, it is too
tight.
Ensure extrusion is tight to all
contact points prior to tightening

Install horizontal members
after vertical. Affix with t-nut

Vertical Member

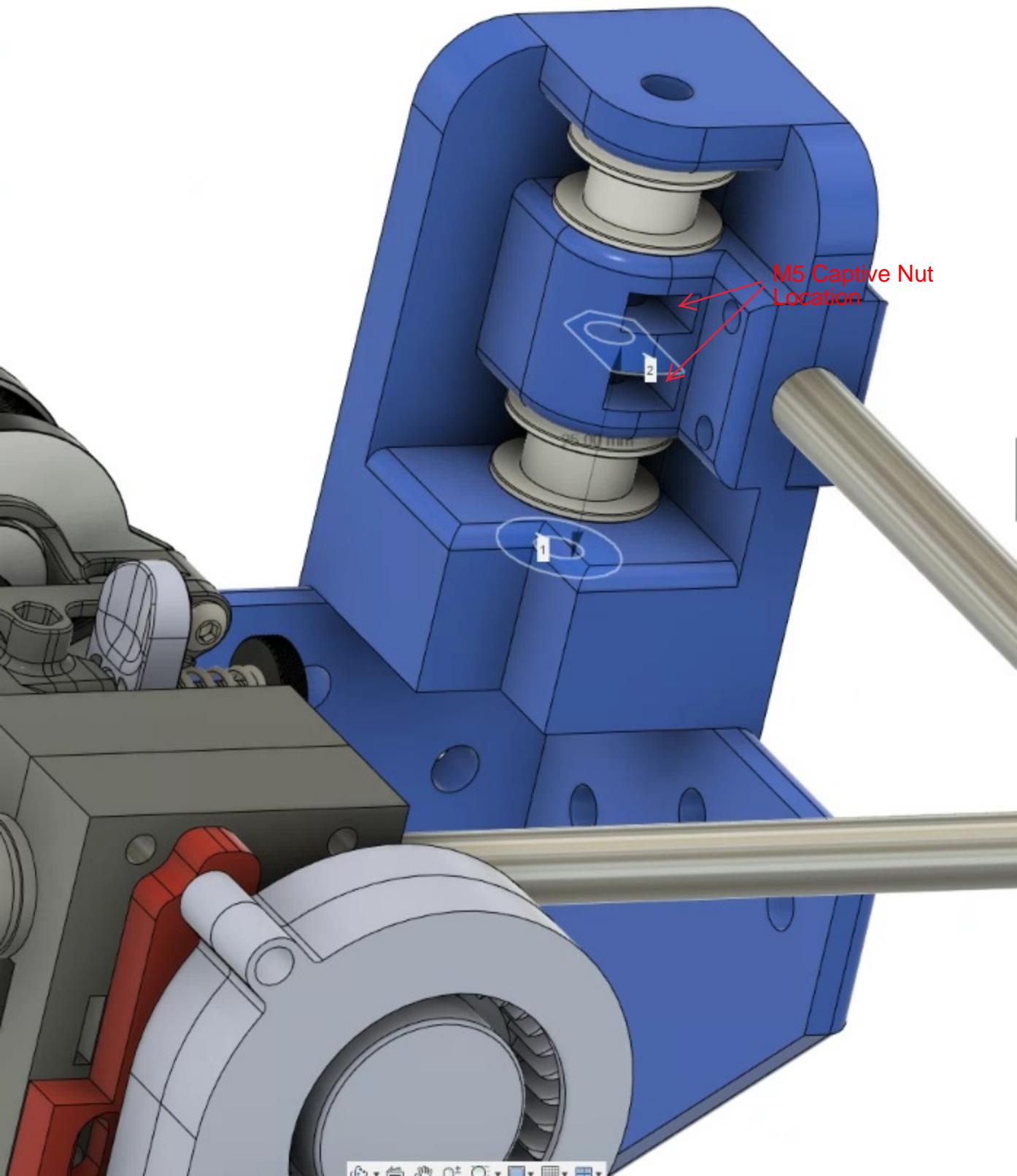
Horizontal Member

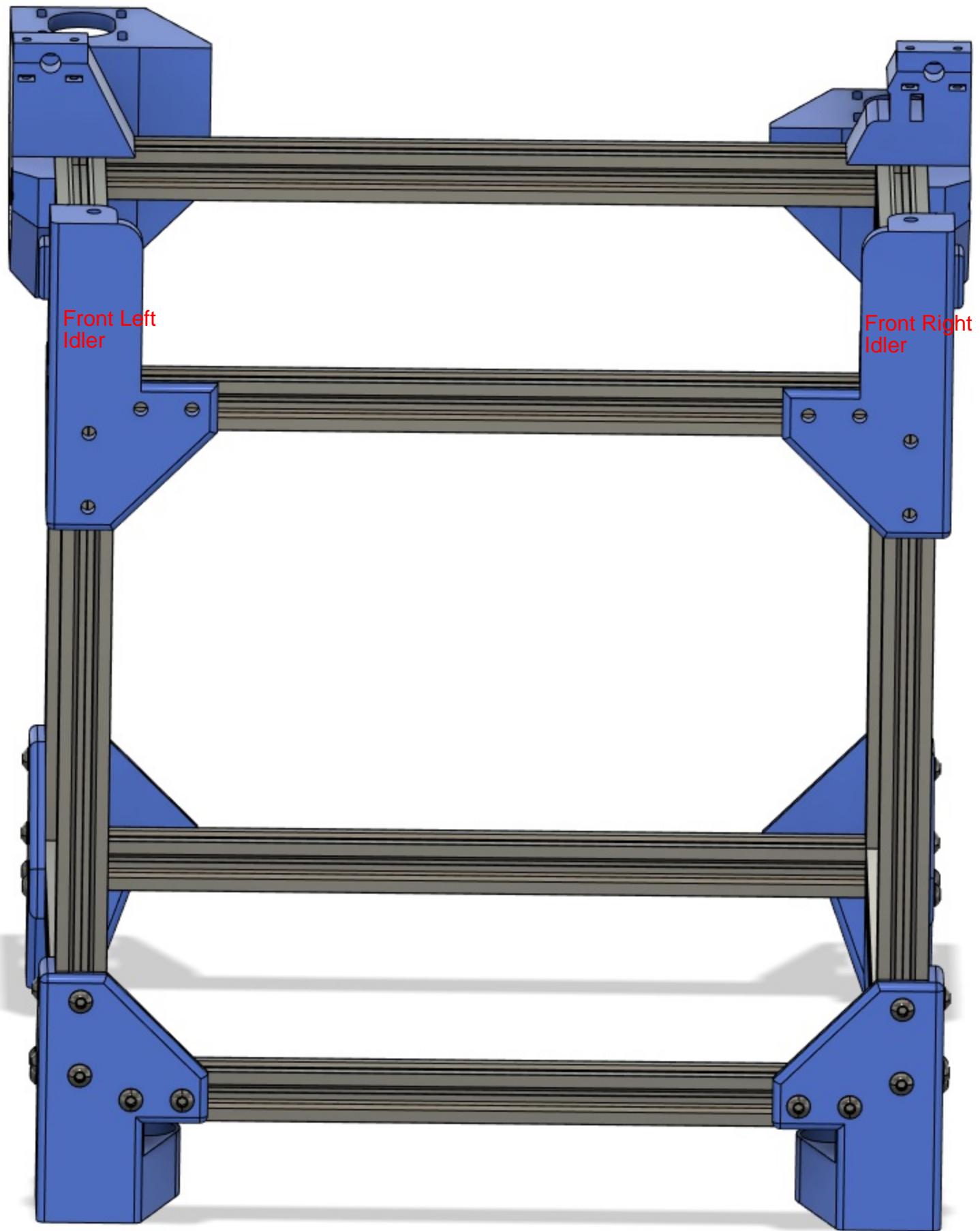
Horizontal Member

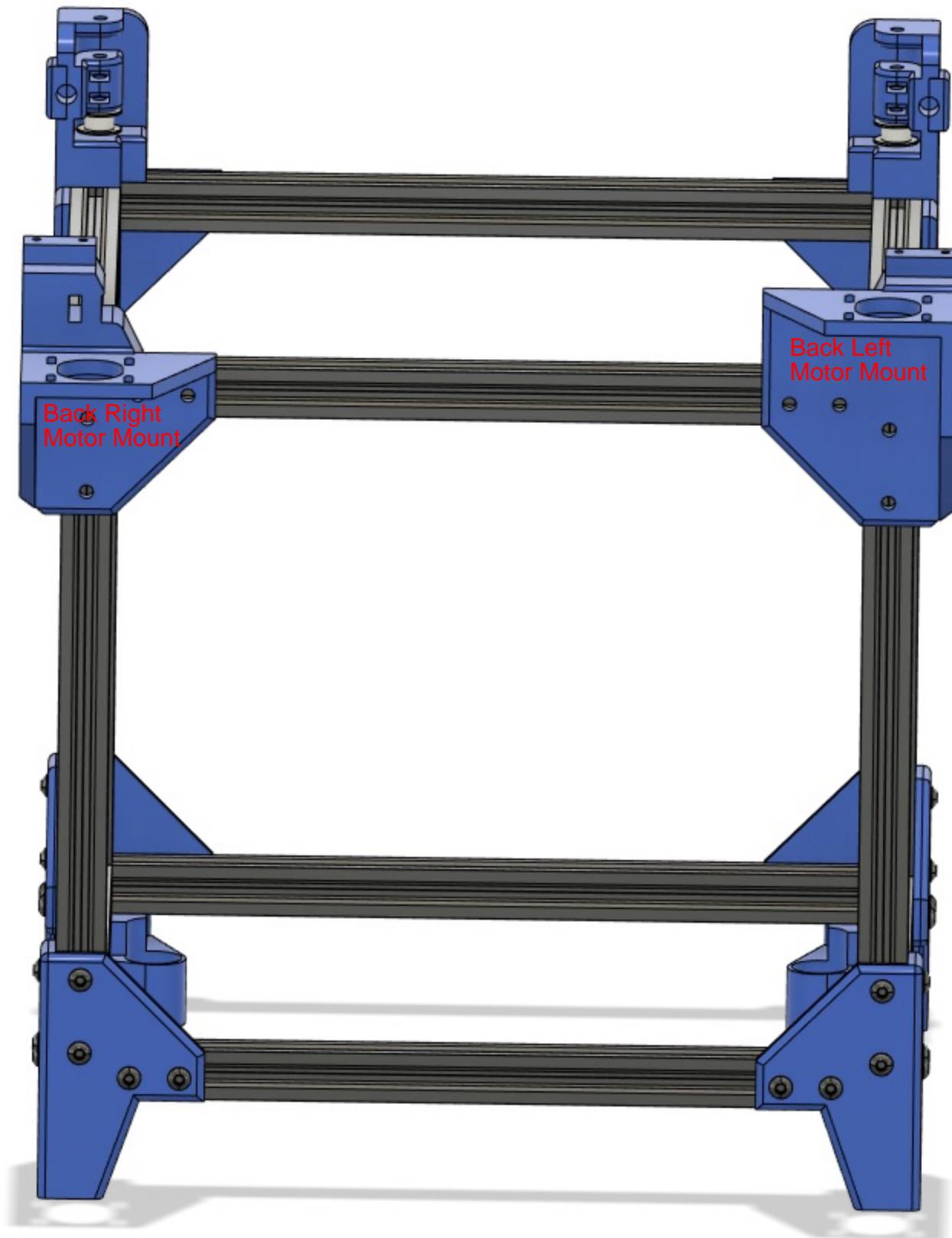




Prior to attaching the front idlers to the frame, the 20t gt2 idlers must be installed
Toothed or smooth idlers is fine, toothed is slightly more recommended
Using 2 M5 nuts per idler, insert into captive nut location
Use one M5x25 from bottom through idler and one M5x25 from top through
idler. Tighten bolts, do not over tighten





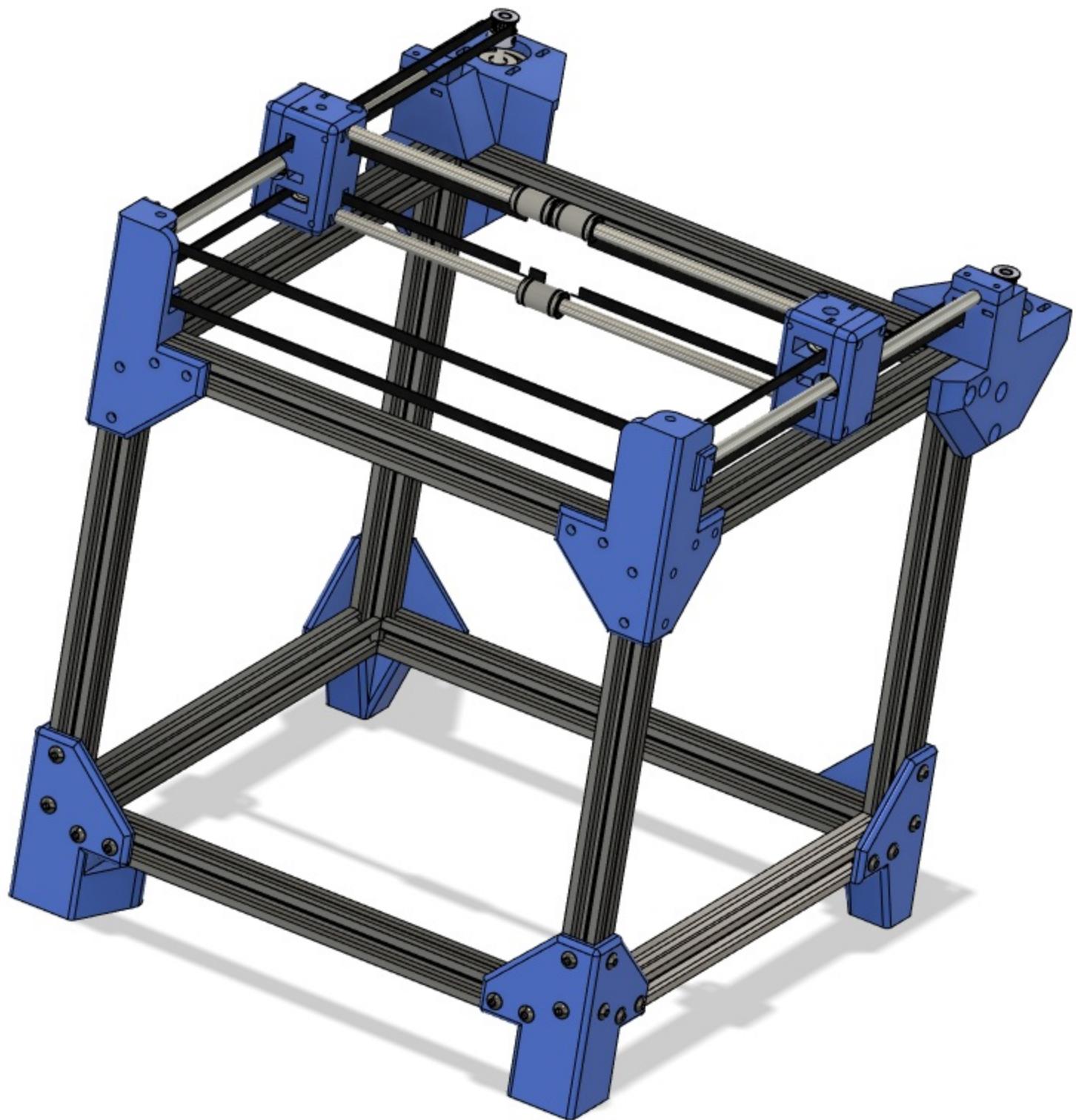


Section 2:

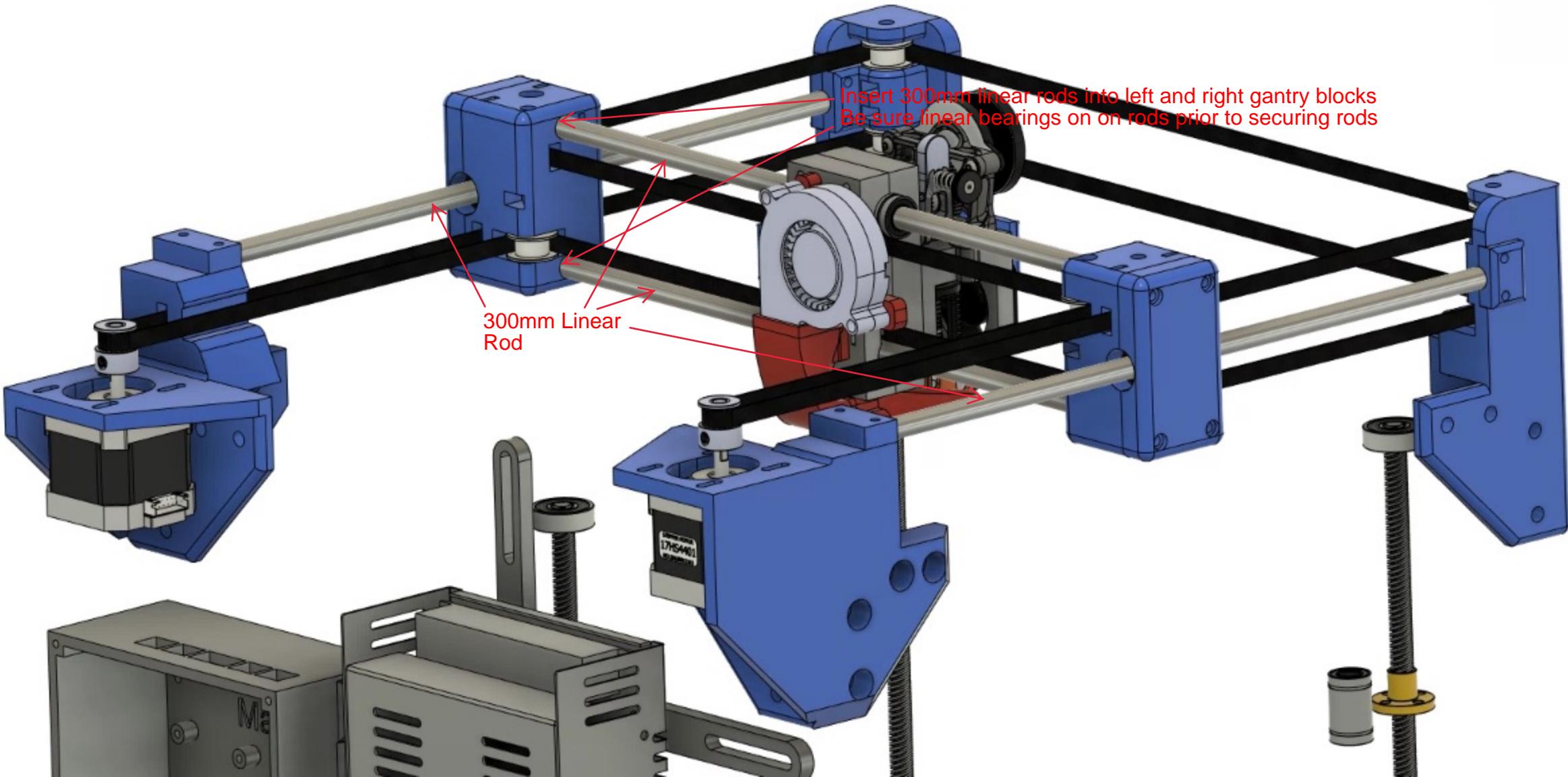
Gantry Assembly

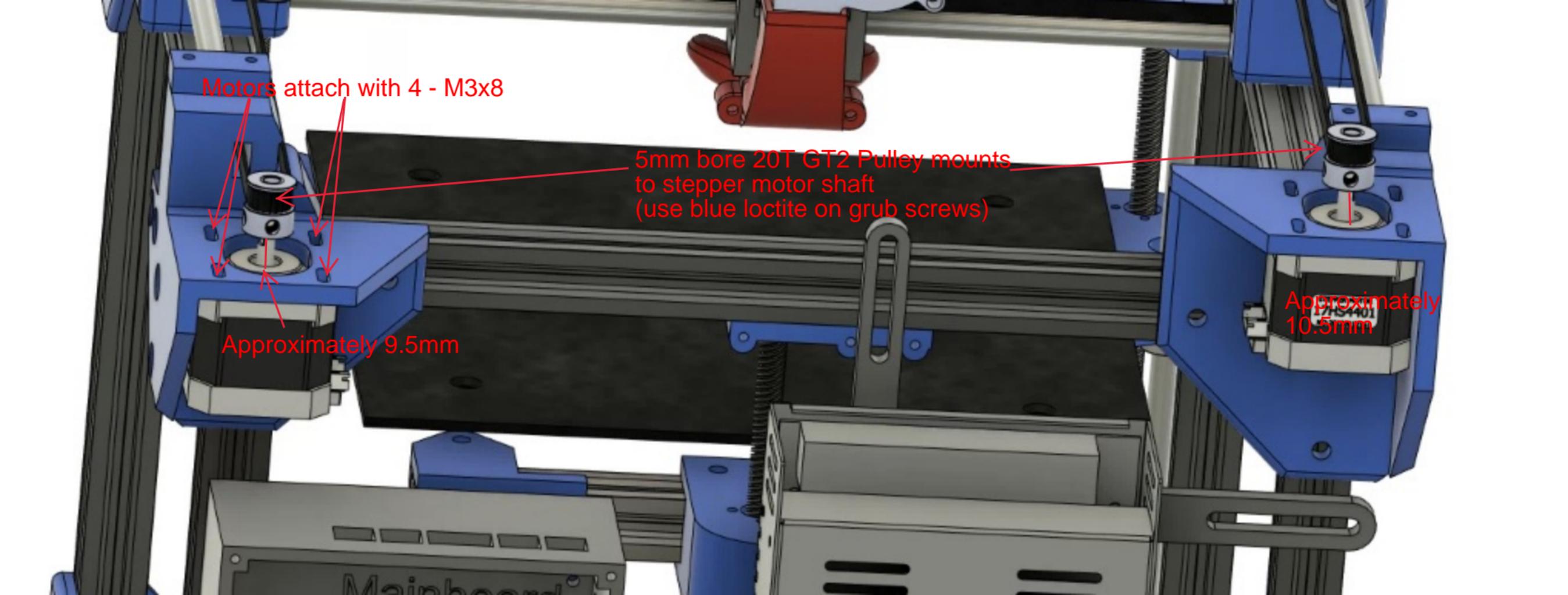
Components needed for this portion:

M3x8	x8
M3x16	x8
M3x20	x20
M5x35	x4
M3 Nuts	x28
M5 Nuts	x4
300mm Linear Rods	x4
8mm Linear Bearings	x4
20t GT2 idlers	x4
Nema 17 Stepper Motor	x2
5mm Bore 20T GT2 Pulley	x2



Gantry System





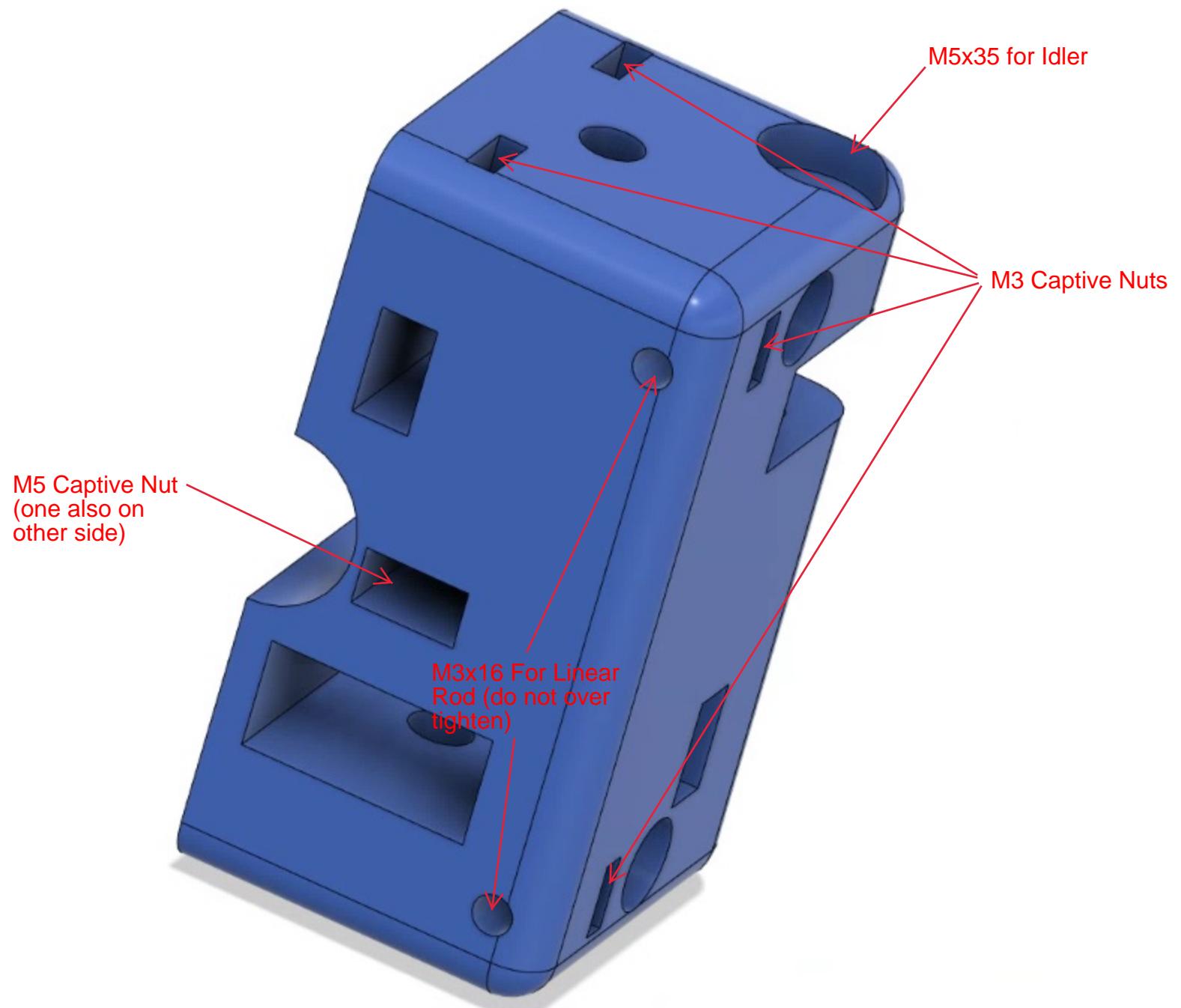
Motors attach with 4 - M3x8

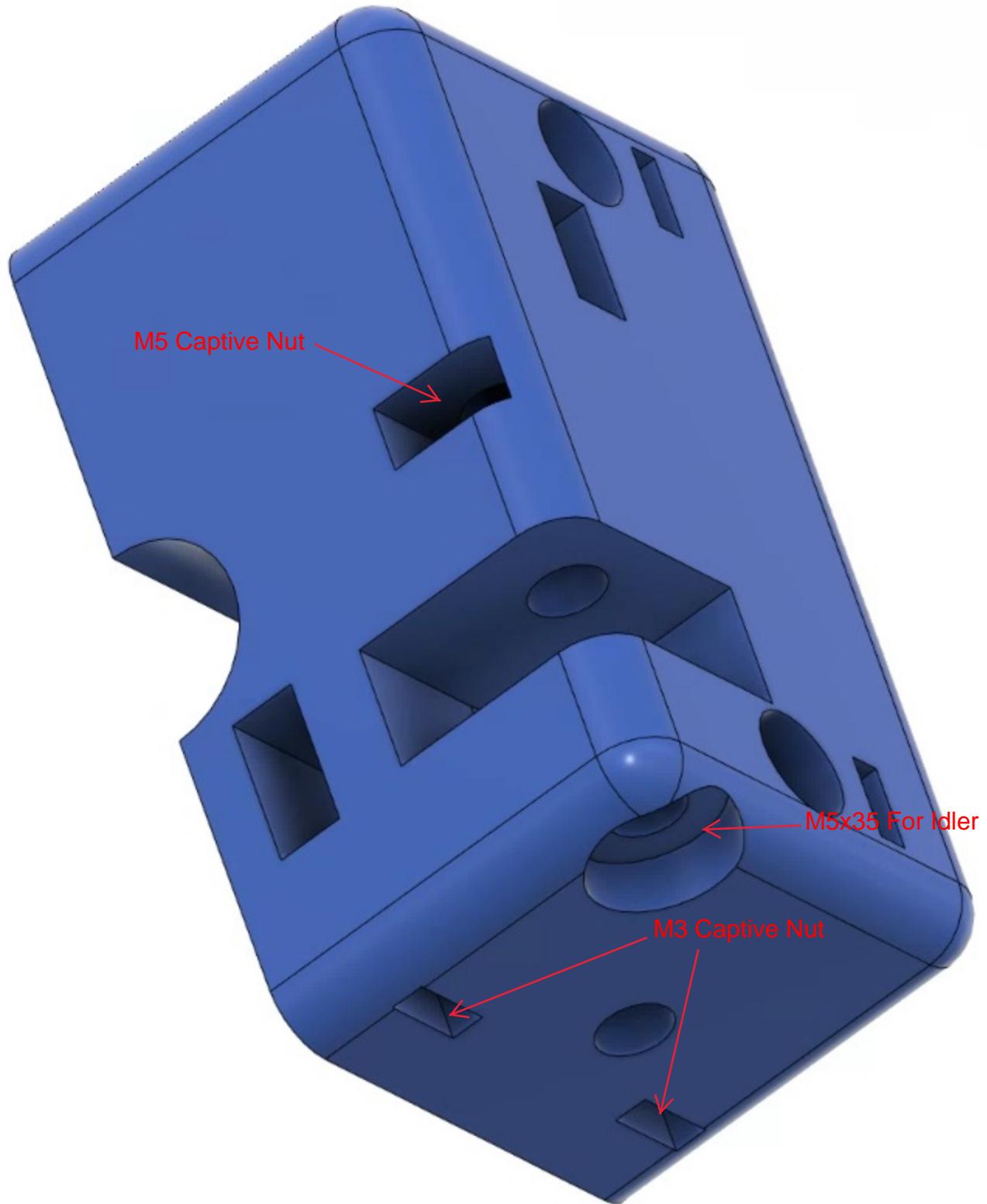
Approximately 9.5mm

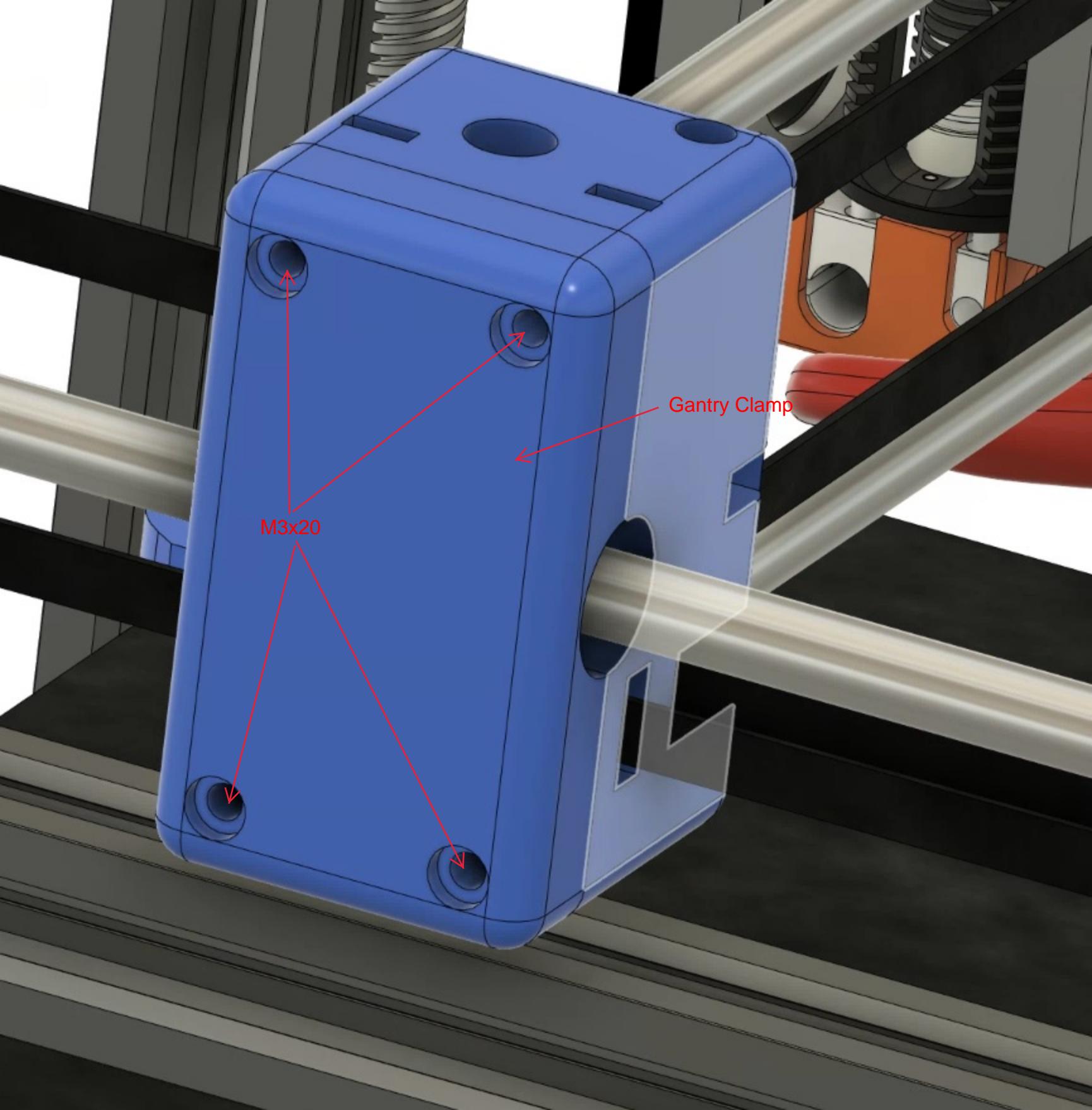
5mm bore 20T GT2 Pulley mounts
to stepper motor shaft
(use blue loctite on grub screws)

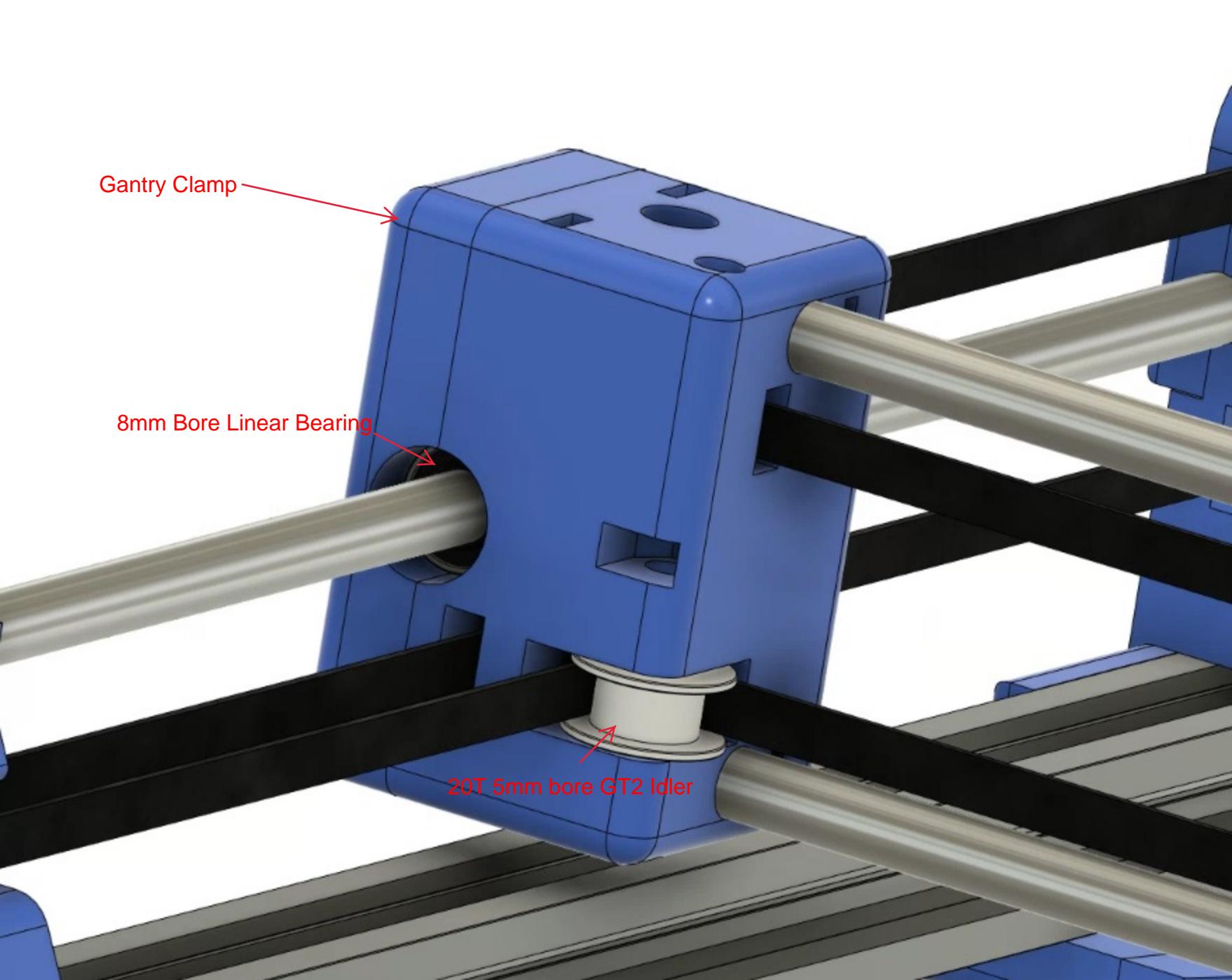
Approximately
10.5mm

There are 6 M3 Captive Nuts on each gantry block and 2 M5





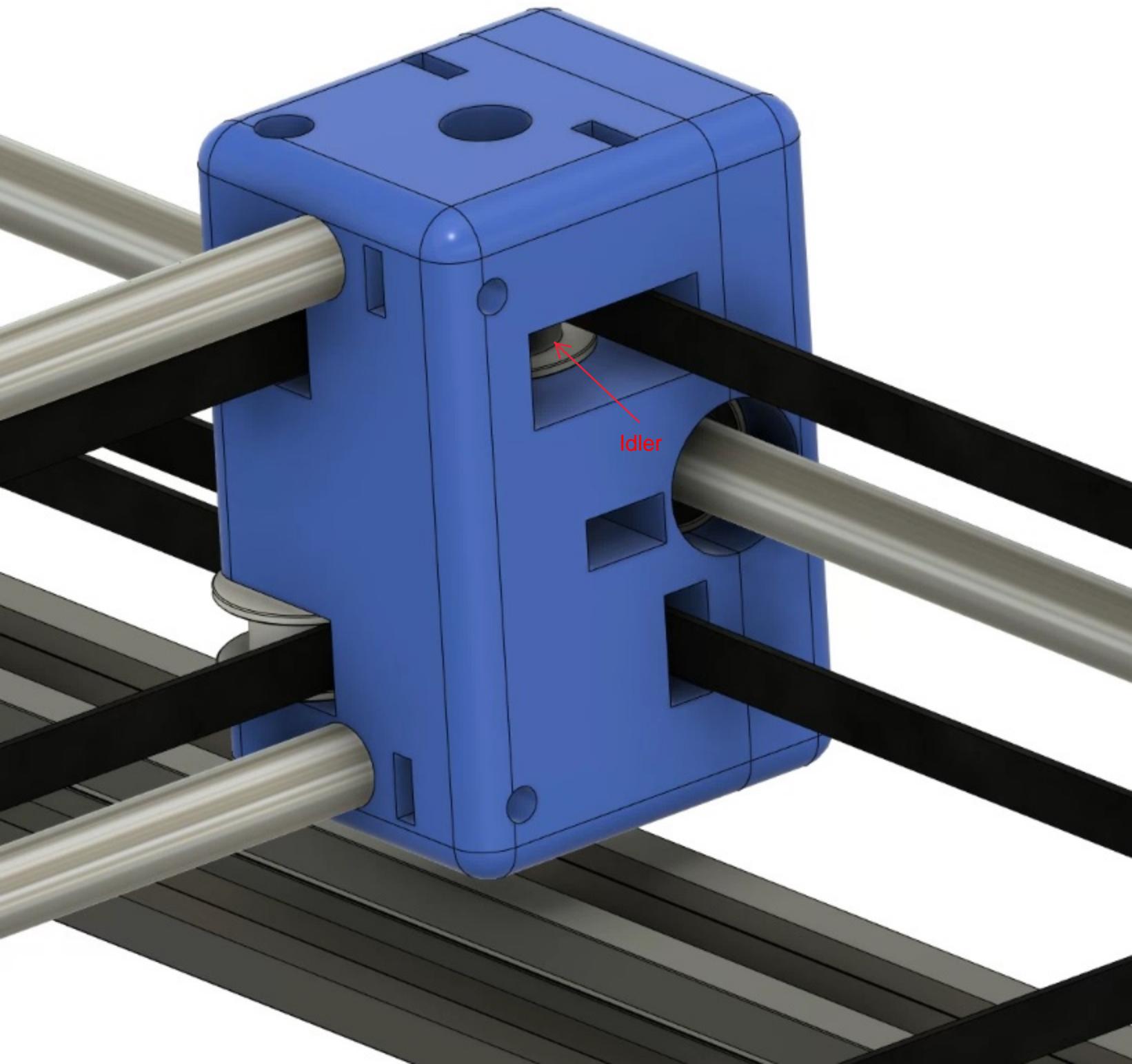




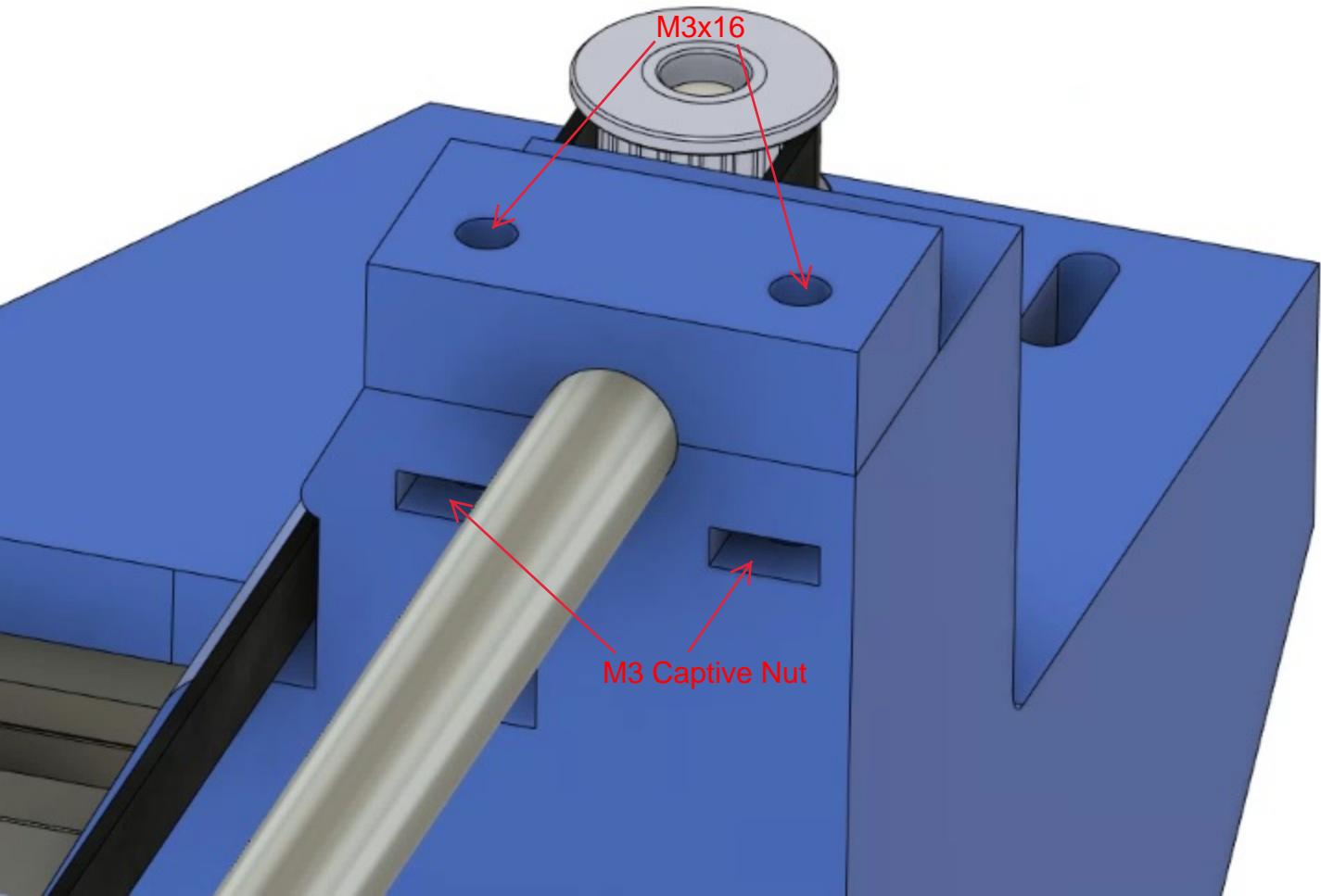
Gantry Clamp

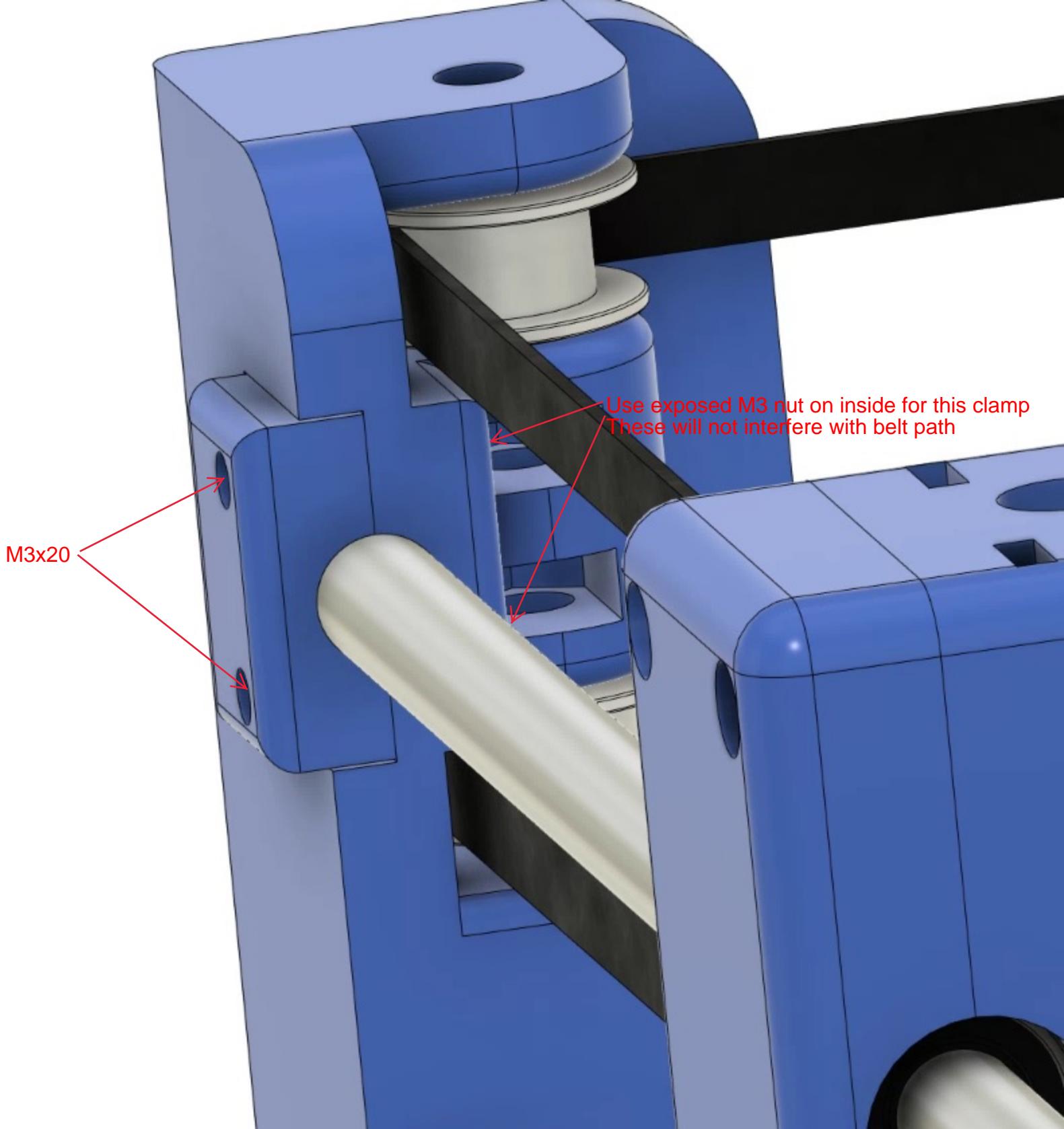
8mm Bore Linear Bearing

20T 5mm bore GT2 Idler



Idler



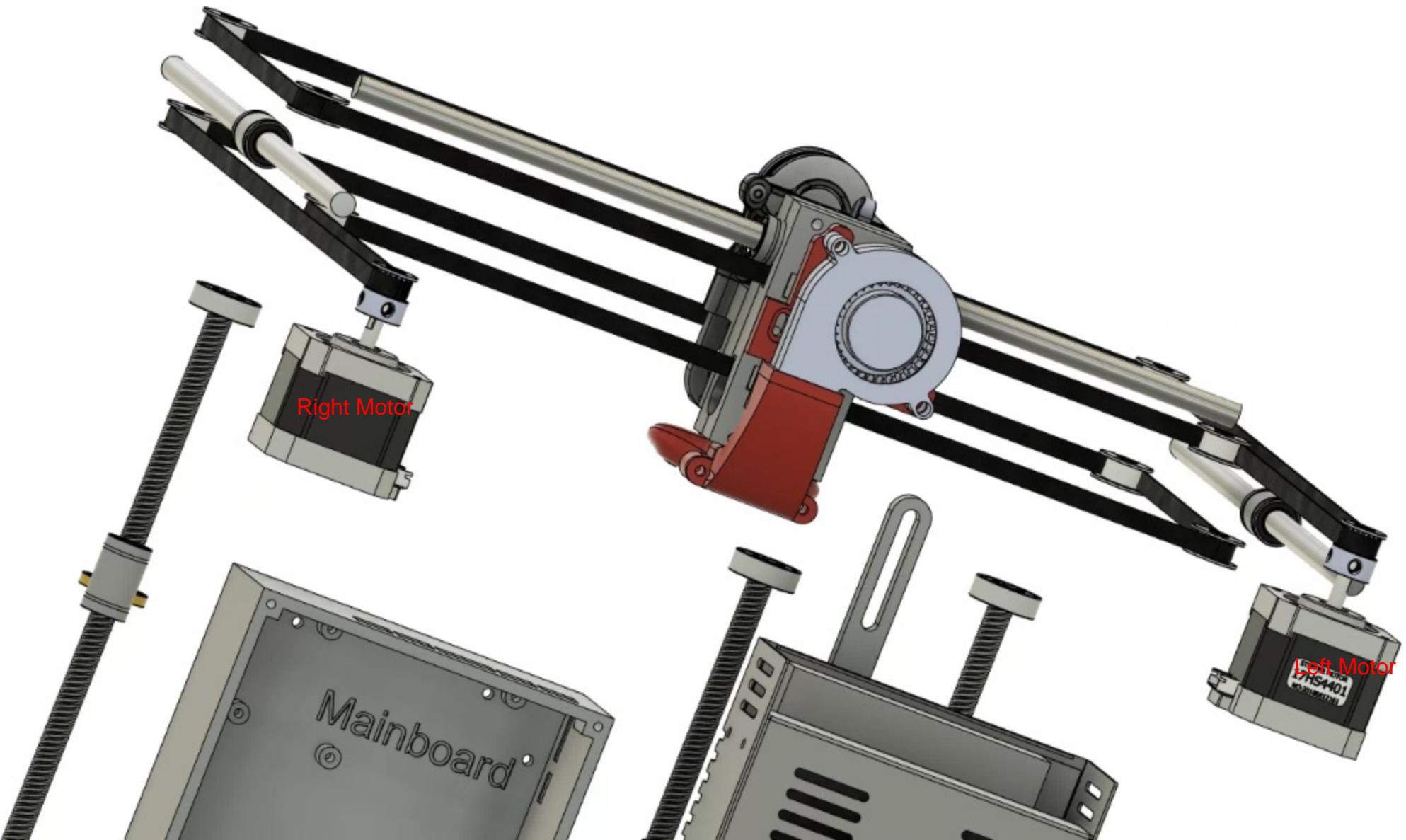


Section 3:

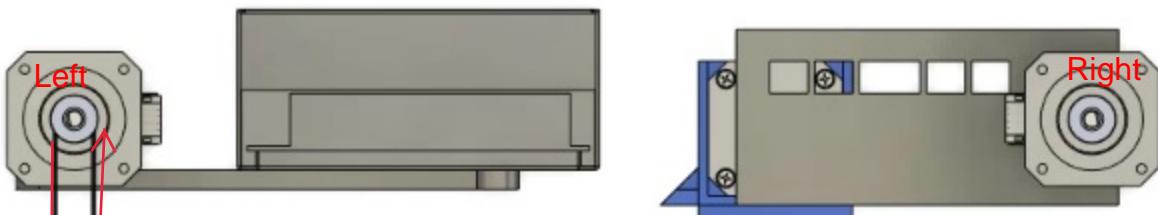
X/Y Belt Patch

Components needed for this portion:

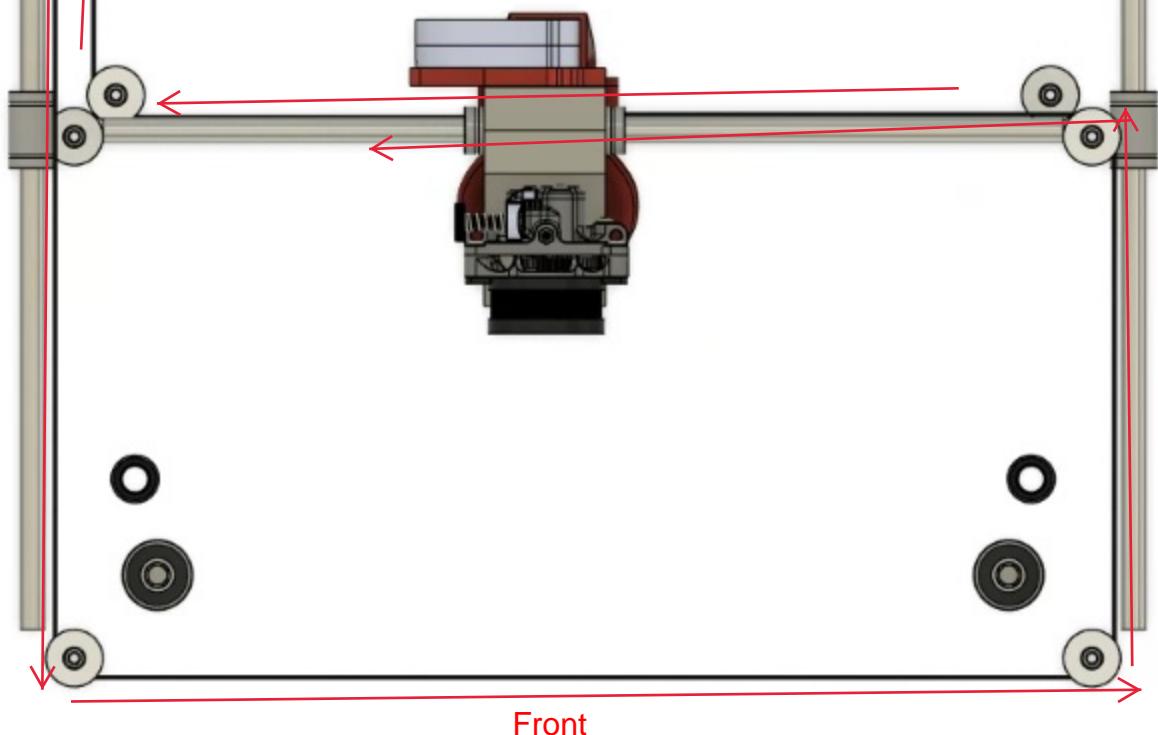
GT2 6mm Belt, up to 5 meters in length



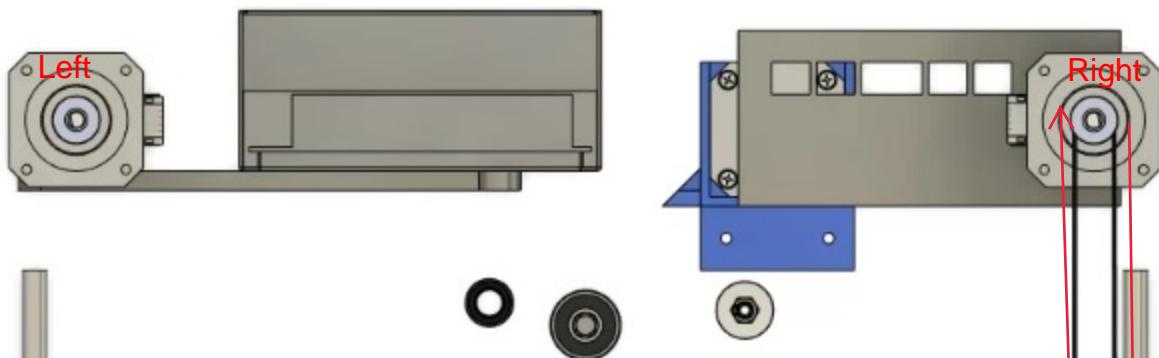
Back



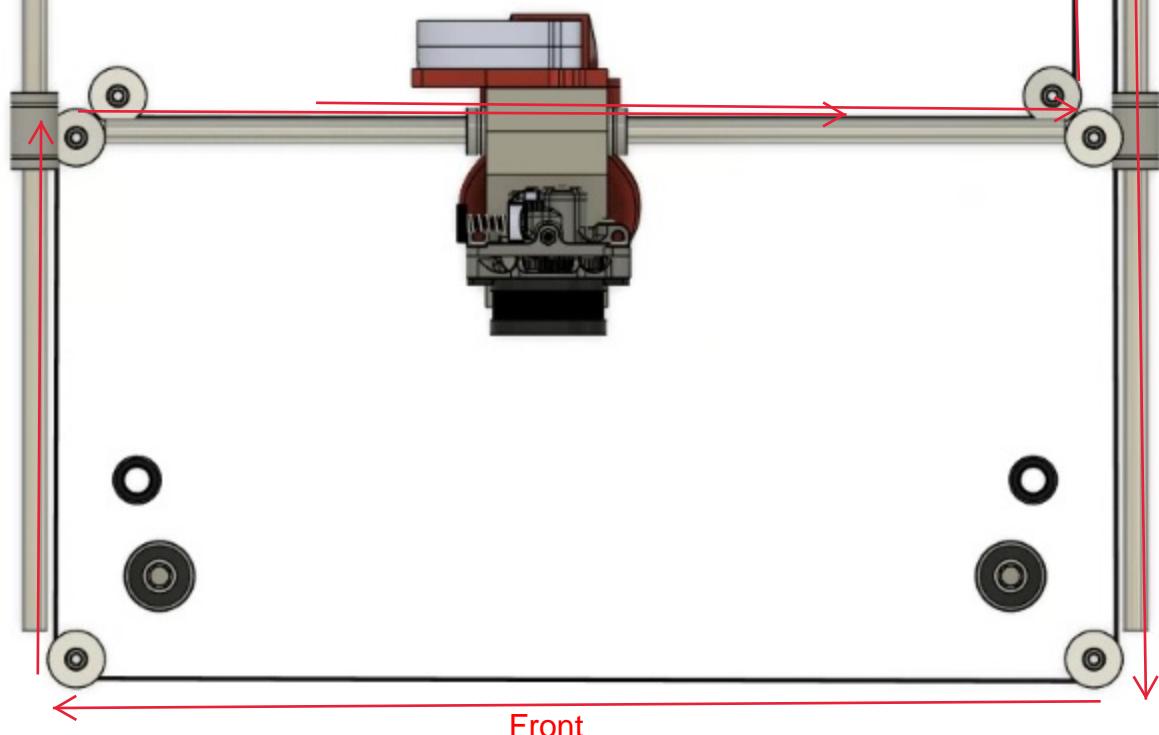
Route belt from print carriage location,
extend past for some excess to cut later



Back



Route belt from print carriage location,
extend past for some excess to cut later

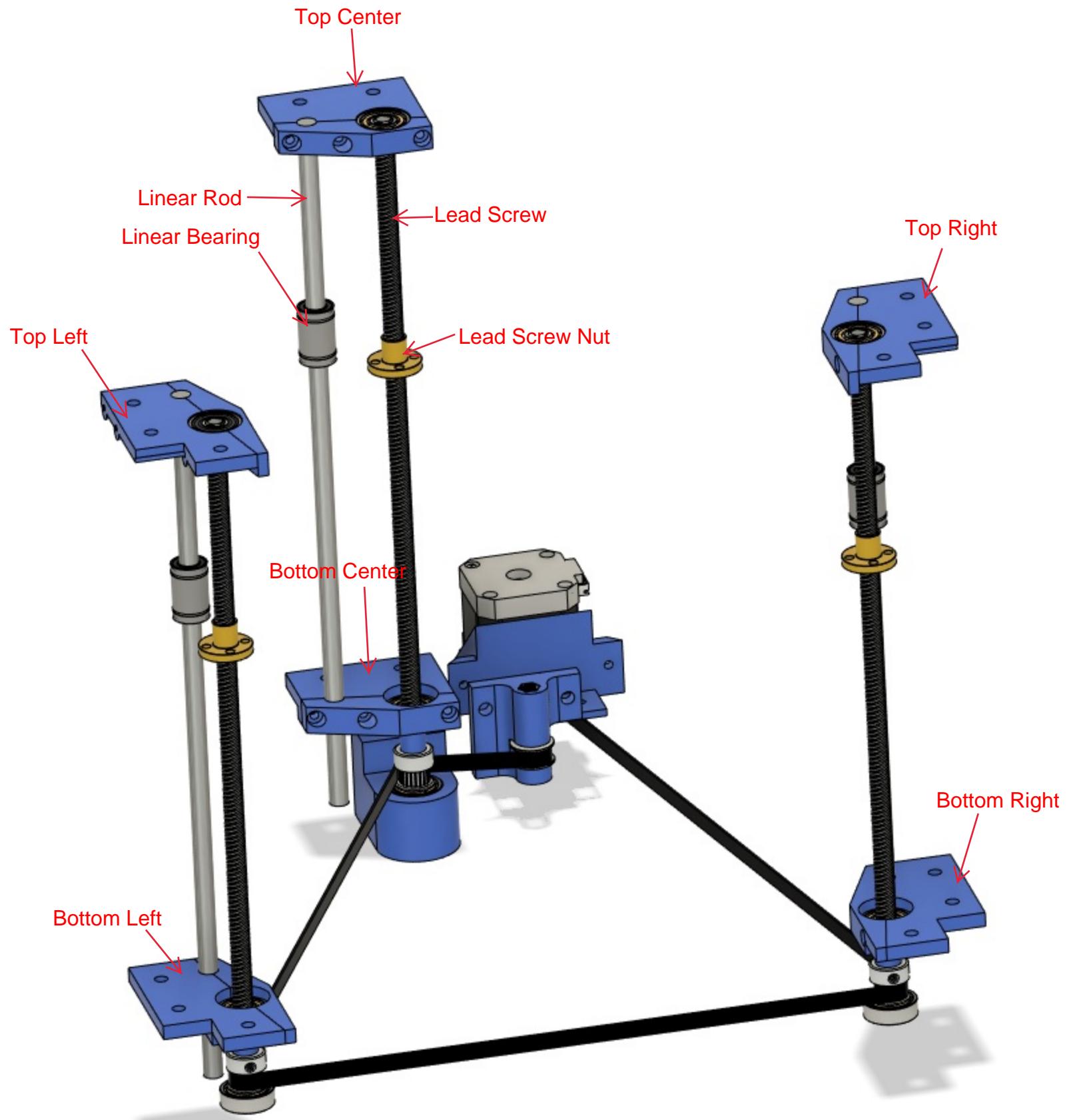


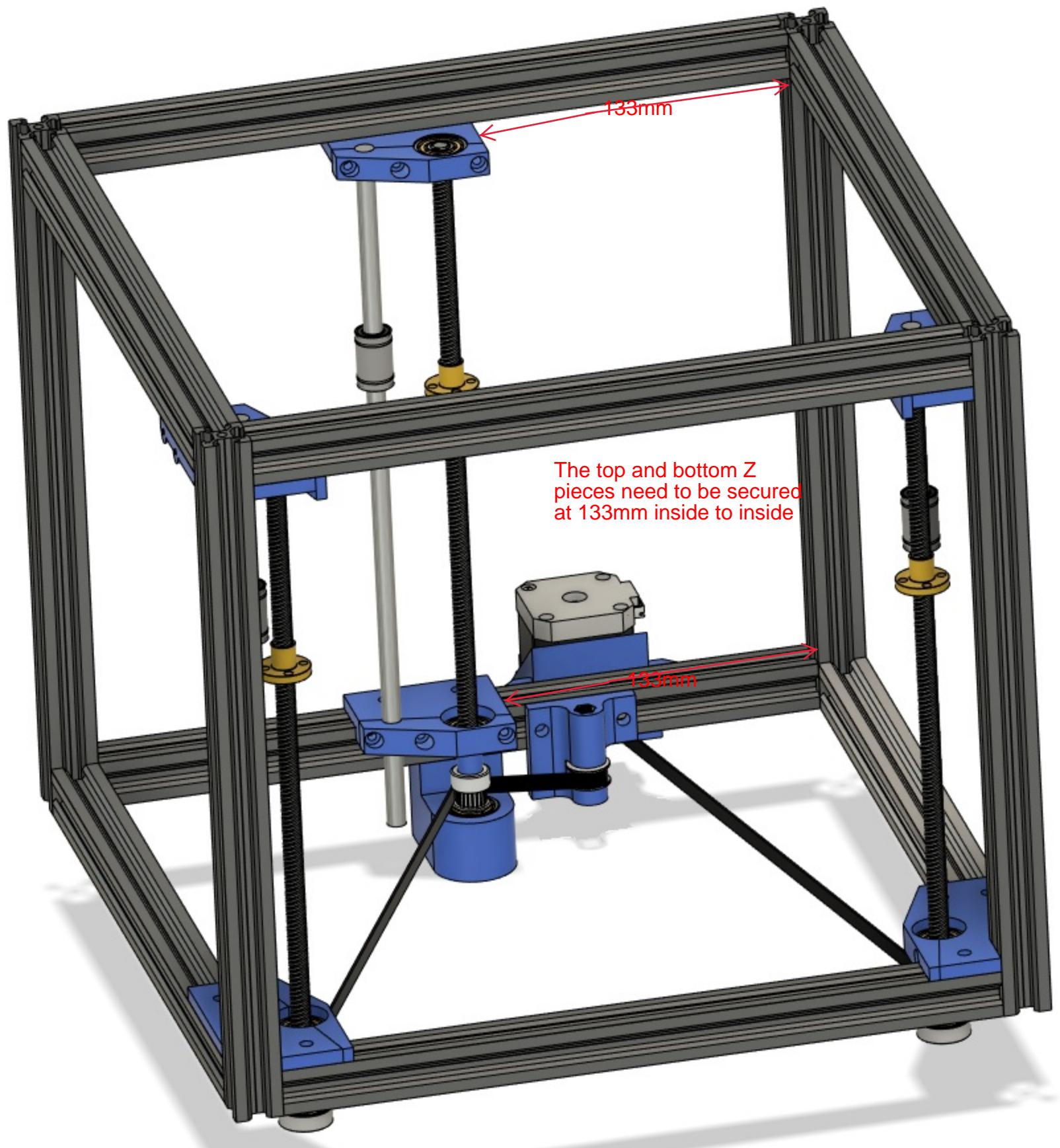
Section 4:

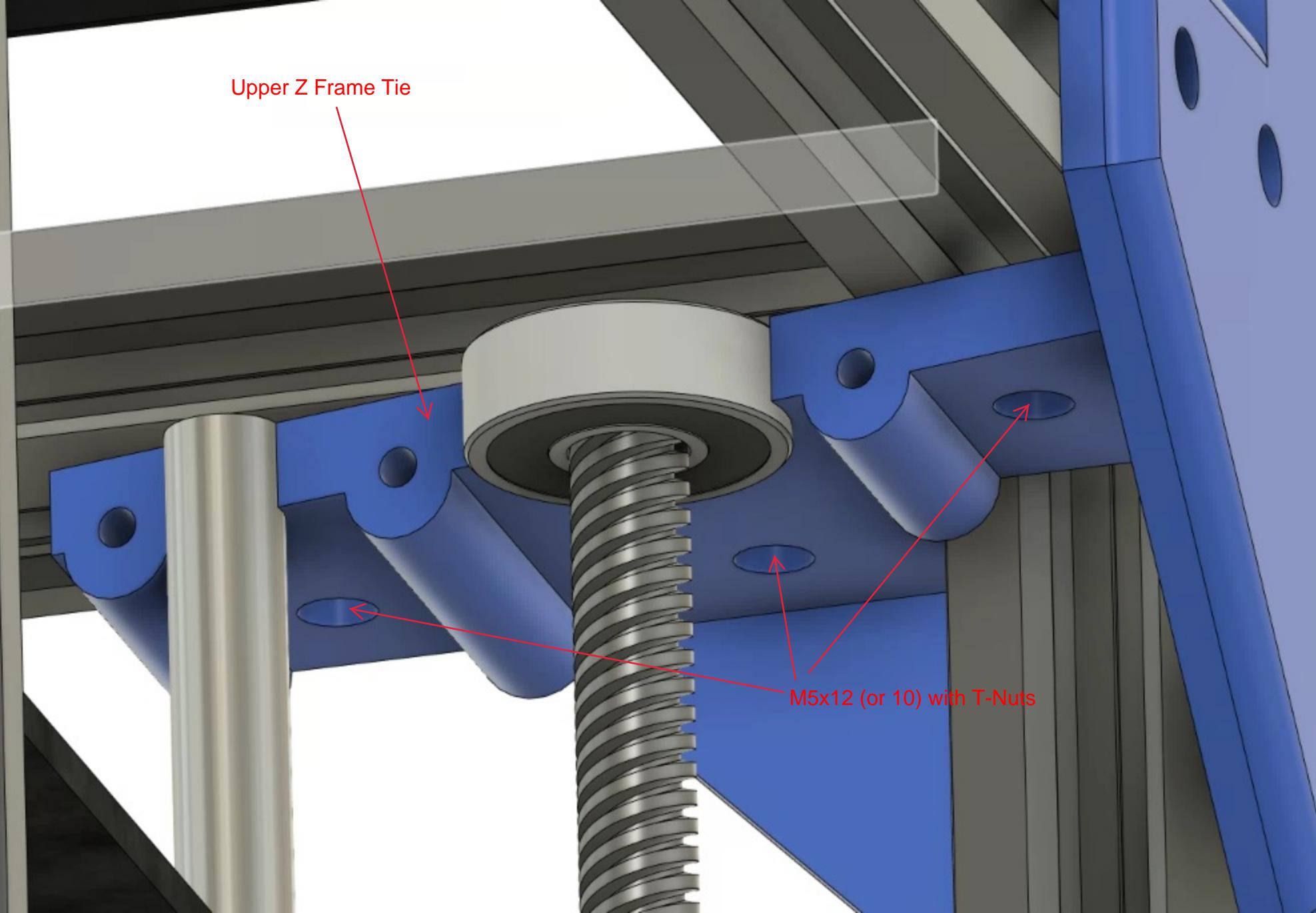
Z System

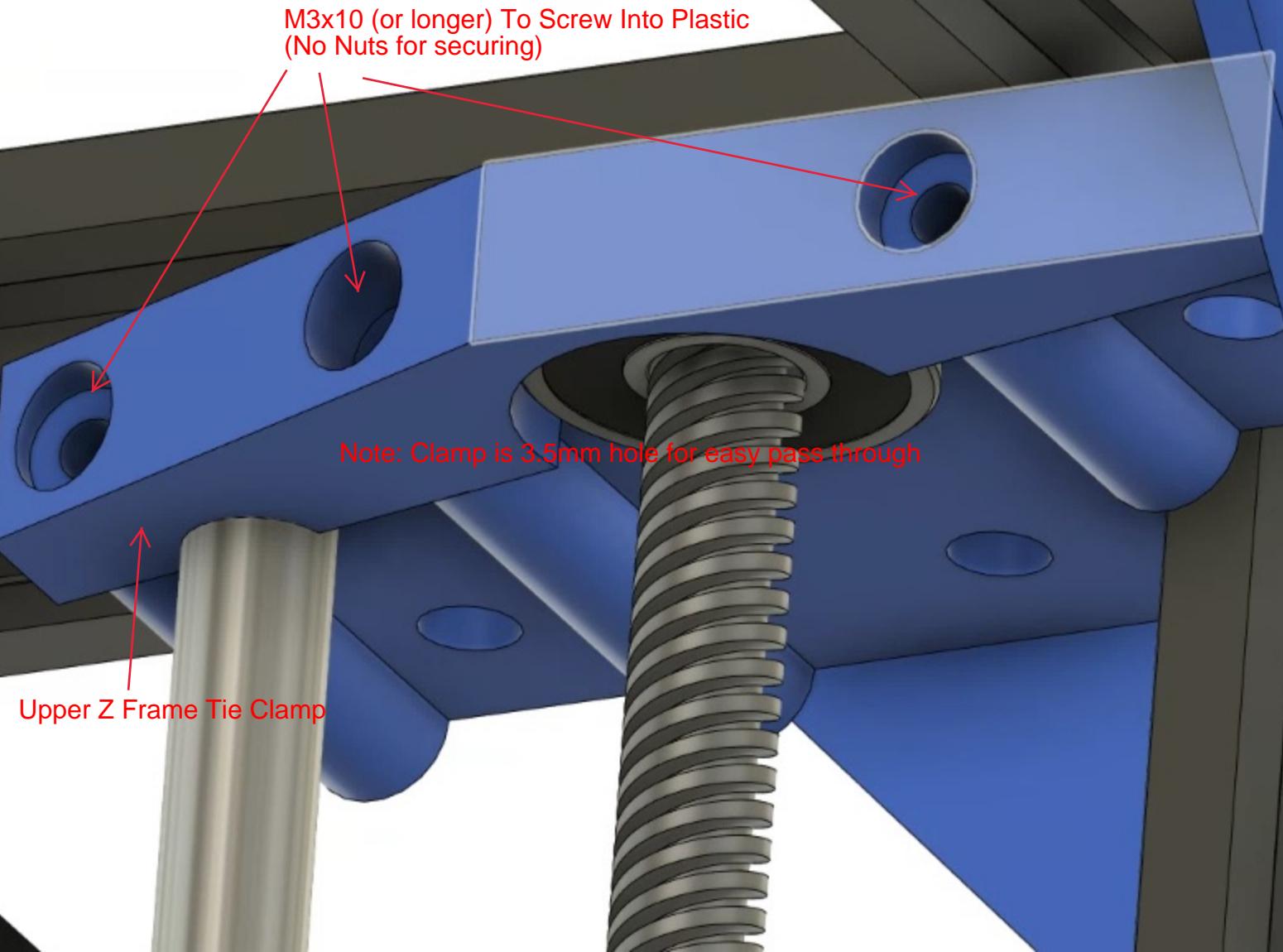
Components needed for this portion:

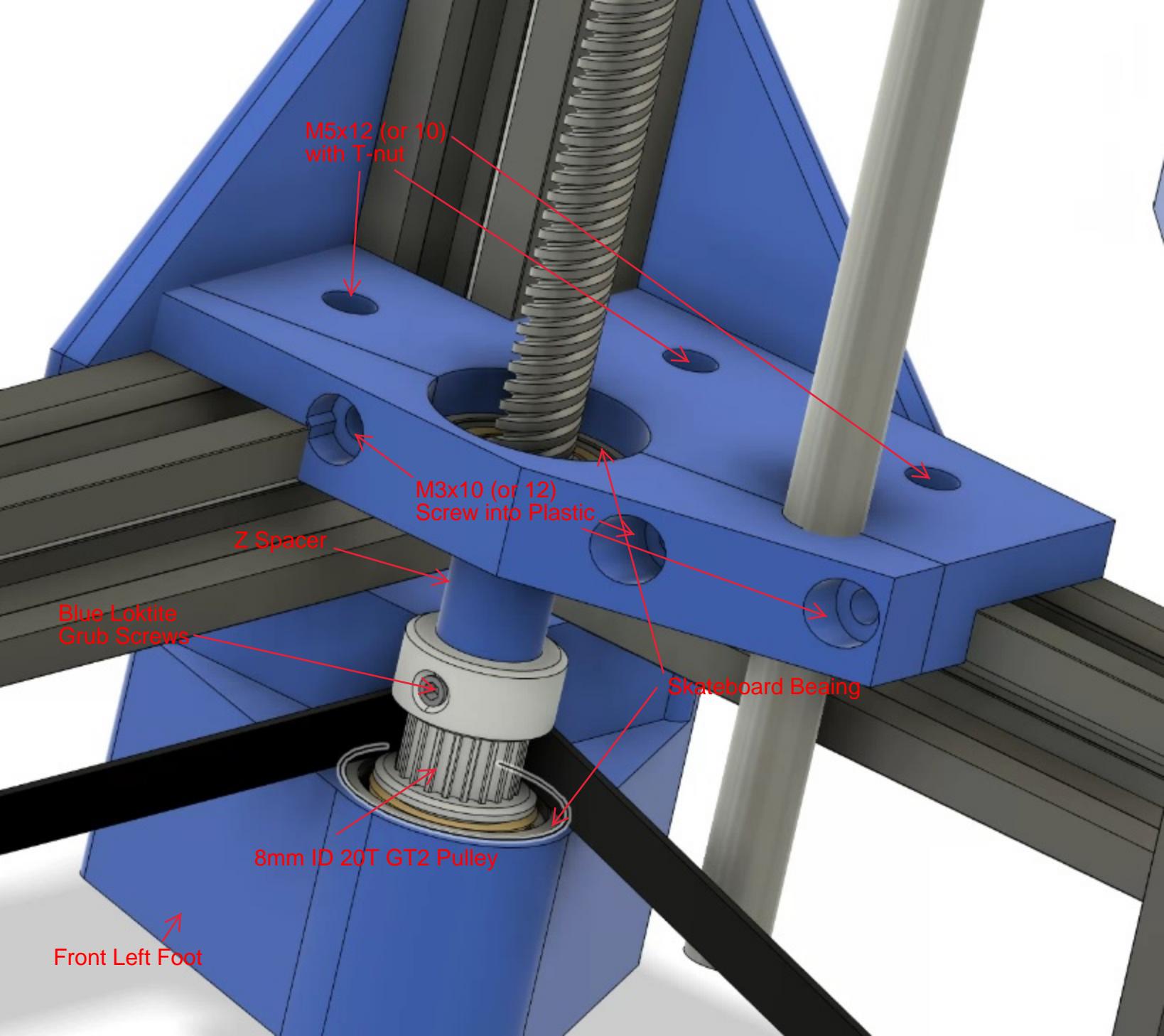
GT2 6mm Belt 1100 closed loop	x1
Skateboard Bearings (608-2RS 8x22x7)	x9
300mm x 8mm Linear Rod	x3
8mm Linear Bearing	x3
300mm x 8mm 4 start 8x8 Lead Screw	x3
Lead Screw Nut	x3
M5x12 (or 10)	x20
M5 T-nut	x20
M5x40	x1
M5 Nut	x1
M3x12 (or 10)	x22
M3 T-nut	x4
20T GT2 5mm Bore Idler	x1
20T GT2 8mm Bore Pulley	x3

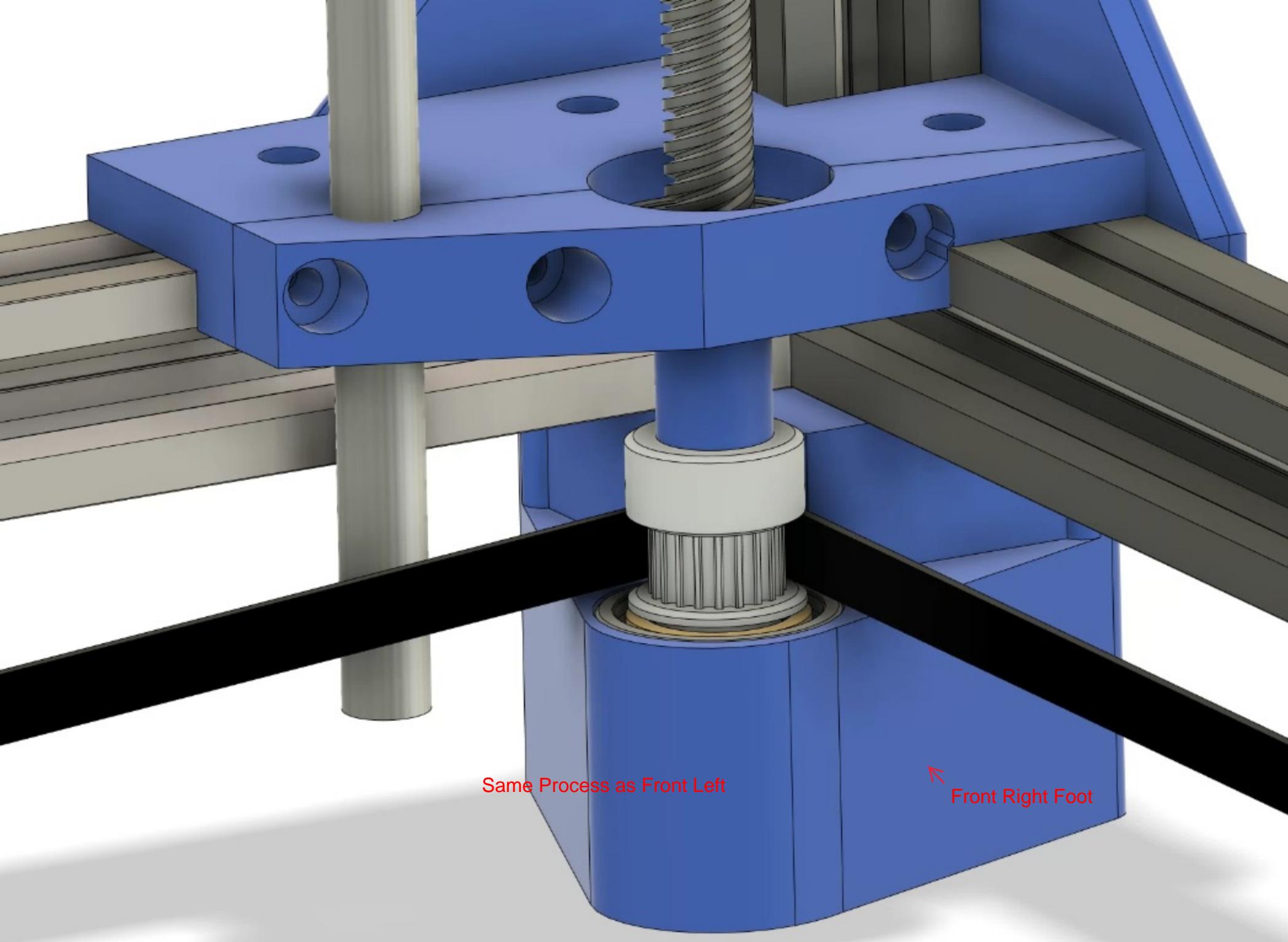












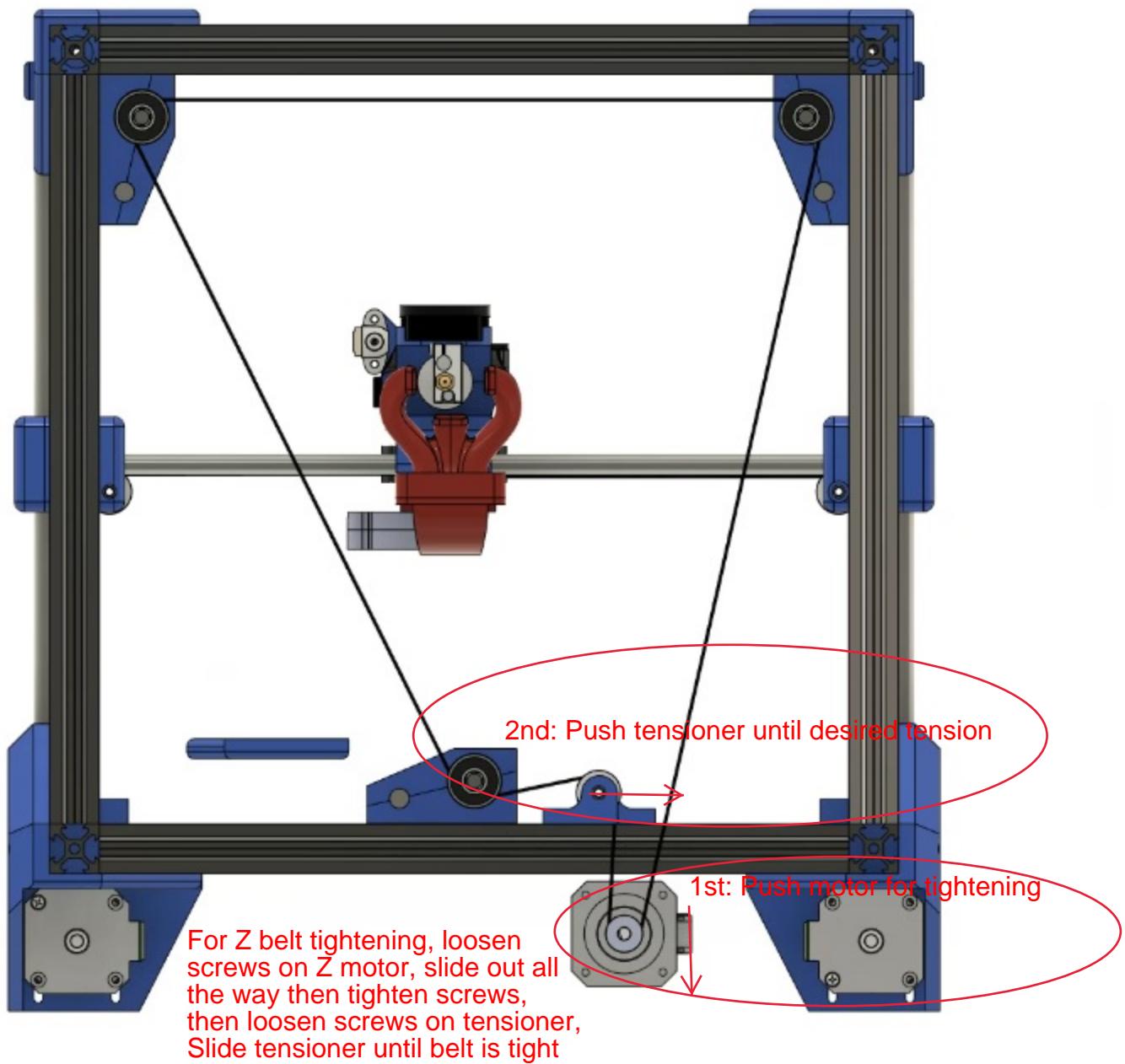
Same Process as Front Left

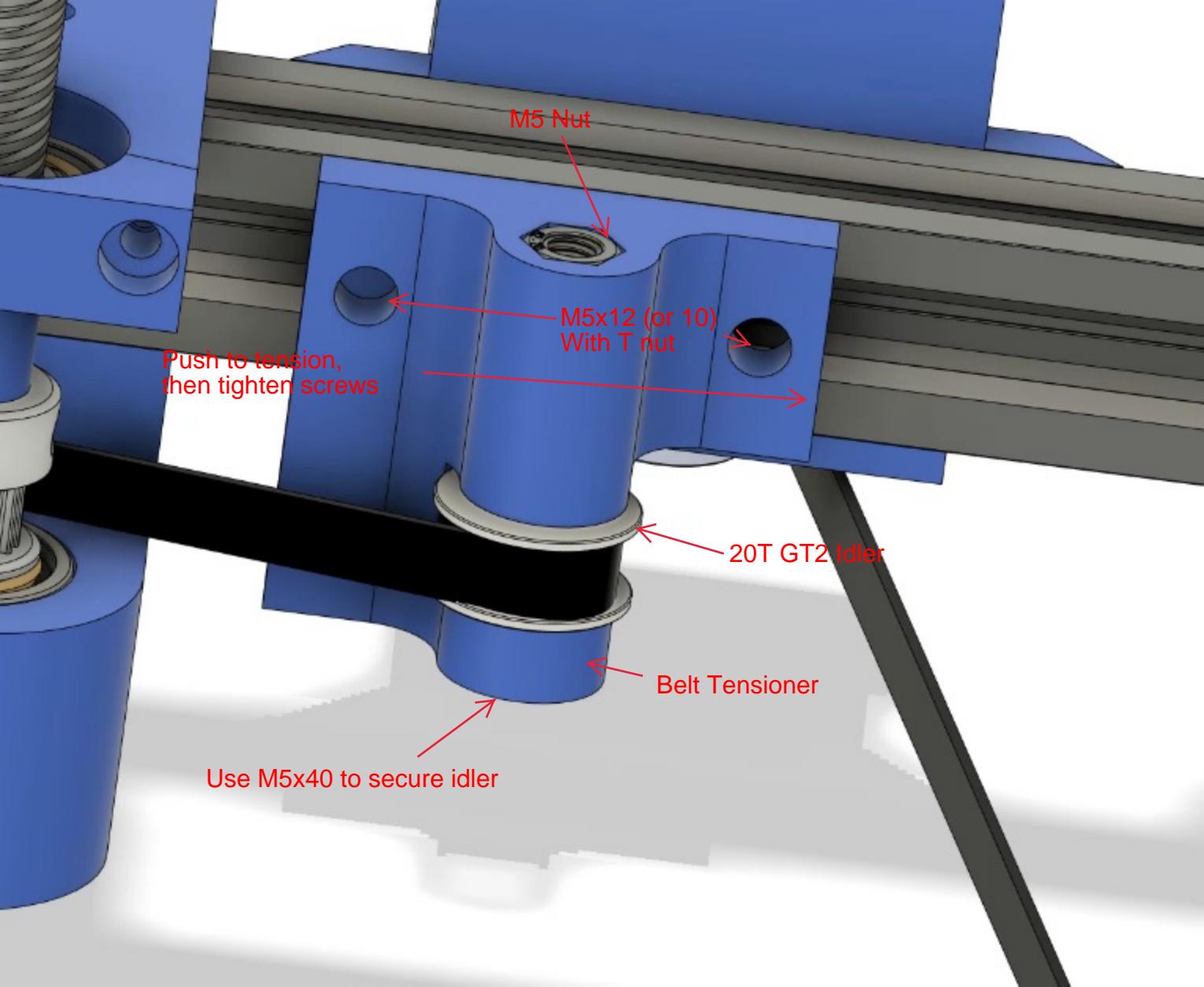
↗
Front Right Foot

Same Process as Front Left

← Back Center

Z Belt Routing



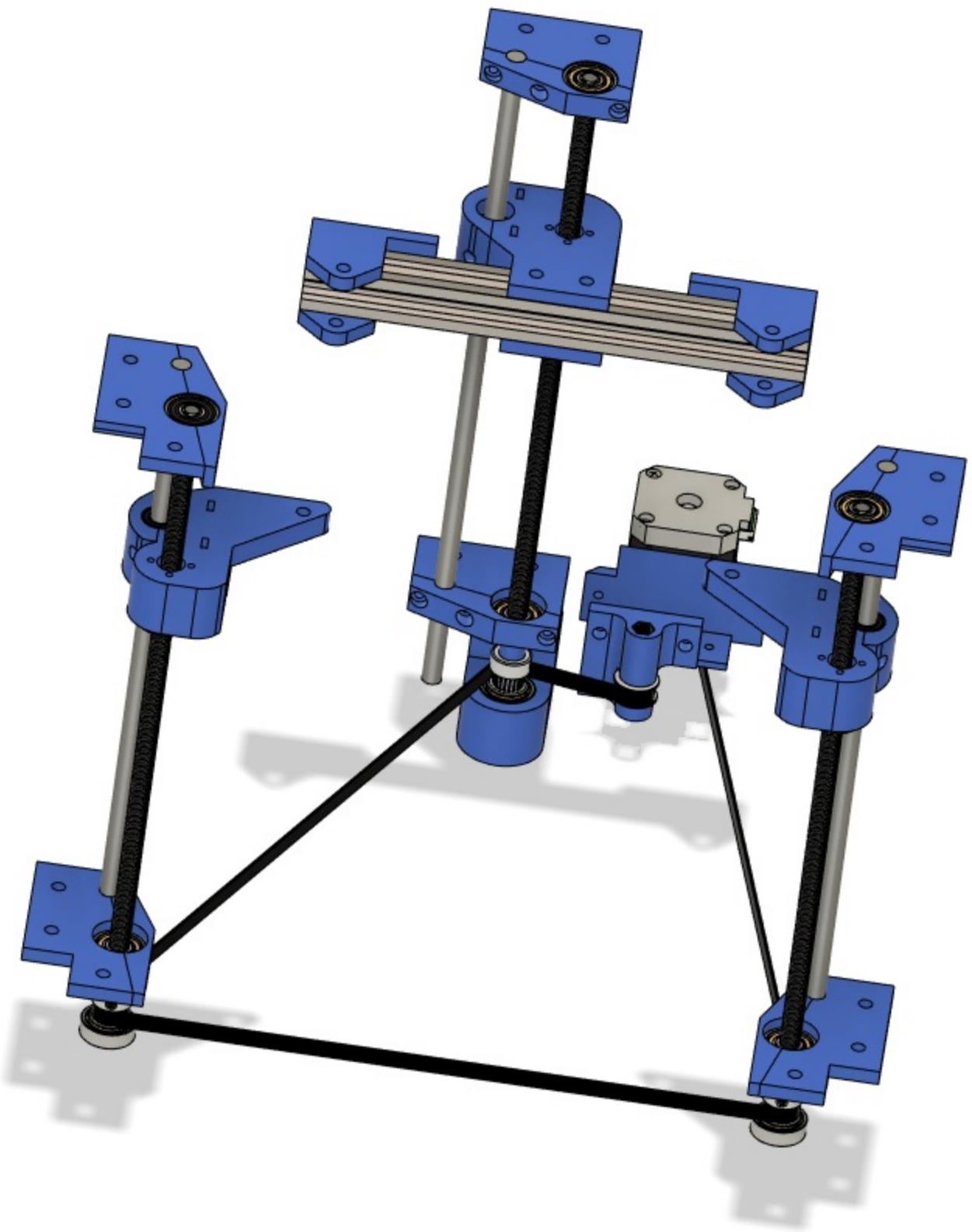


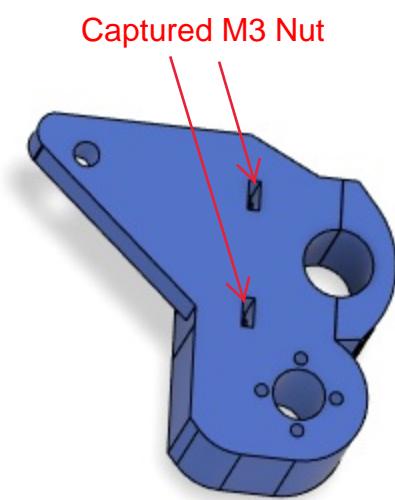
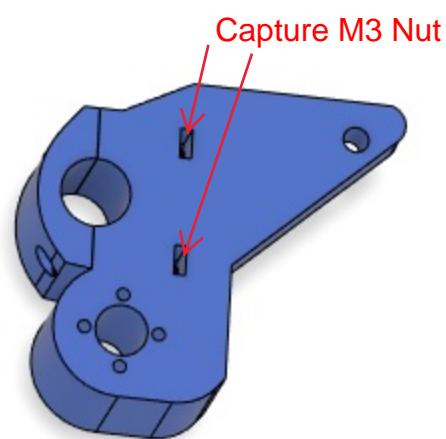
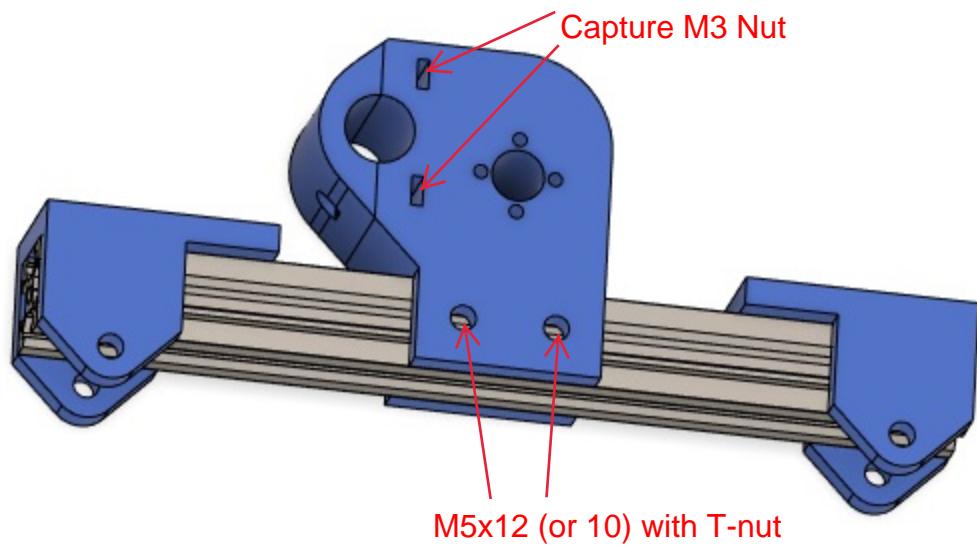
Section 5:

Print Bed System

Components needed for this portion:

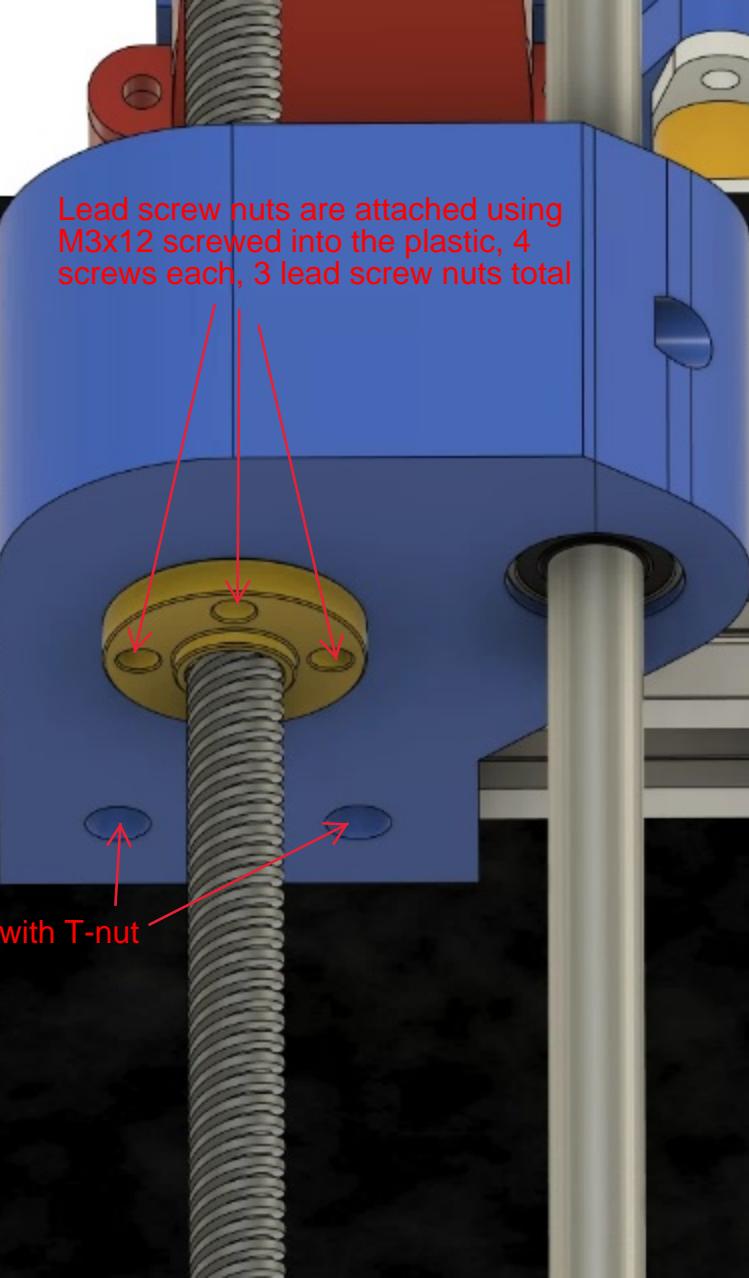
235x235 Ender 3 Heated Bed	x1
M3x30	x6
M3 Nut	x6
M3x12 (or 10)	x12
M5x12 (or 10)	x8
M5 T-nut	x8
M4x40 Recessed Head	x4
M4 Nut	x4
Print Bed Spring	x4





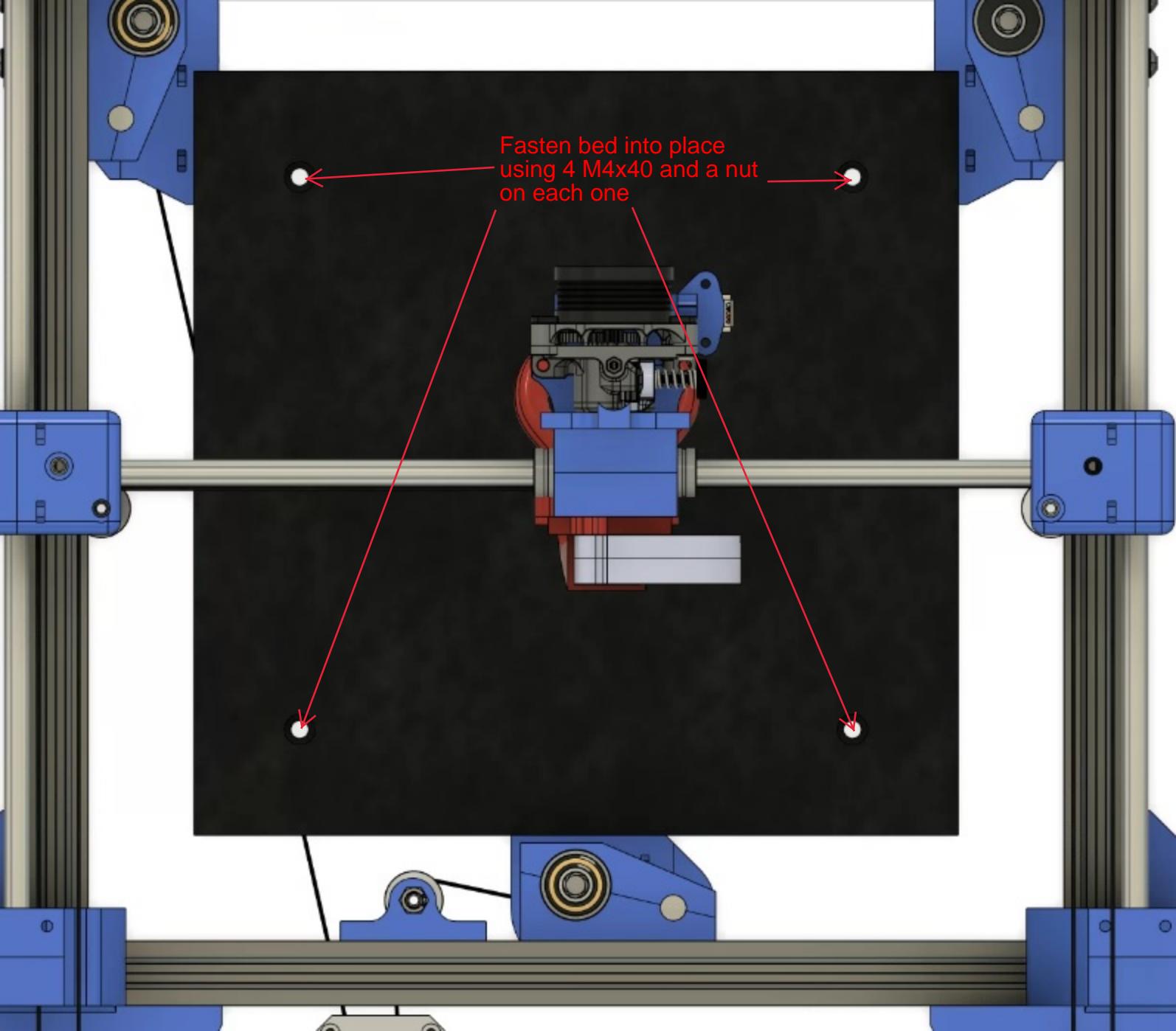


M5x12 (or 10) with T-nut



Lead screw nuts are attached using M3x12 screwed into the plastic, 4 screws each, 3 lead screw nuts total

M5x12 (or 10) with T-nut



Fasten bed into place
using 4 M4x40 and a nut
on each one

The diagram shows a black rectangular bed plate centered between two vertical blue support posts. A horizontal grey rod passes through the center of the bed plate. On each side of the bed plate, there are two circular mounting holes. Red arrows point from the text "Fasten bed into place using 4 M4x40 and a nut on each one" to these four holes. The background features blue mechanical components at the top and bottom.

Section 6:

Print Head

Components needed for this portion:

M3x30 **x4**

M3x16 **x6**

M3x20 (or 25) **x3**

M3x25 **x2**

M3x12 **x6**

M3x10 **x2**

M3 Nut **x16**

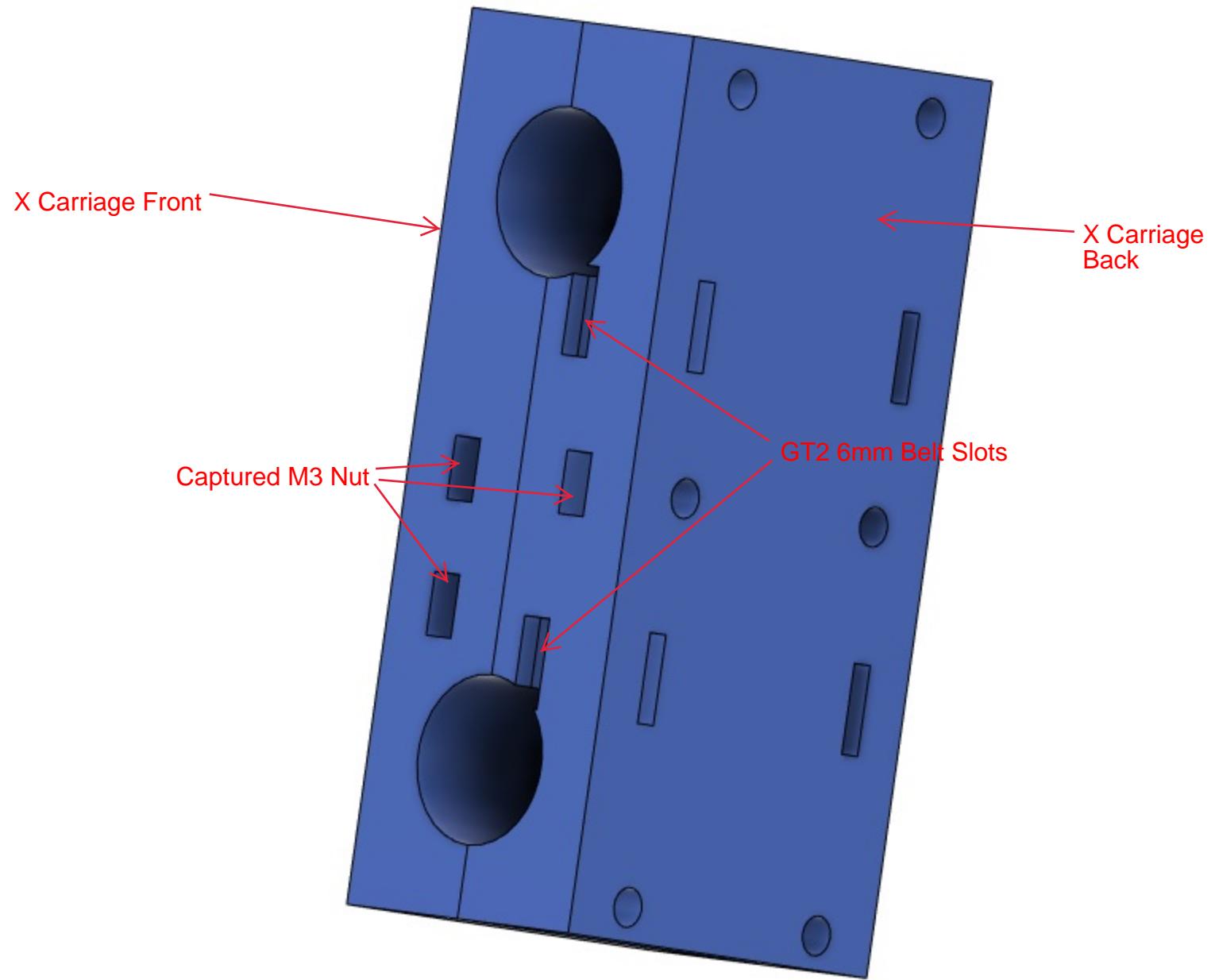
3010 24V Fan

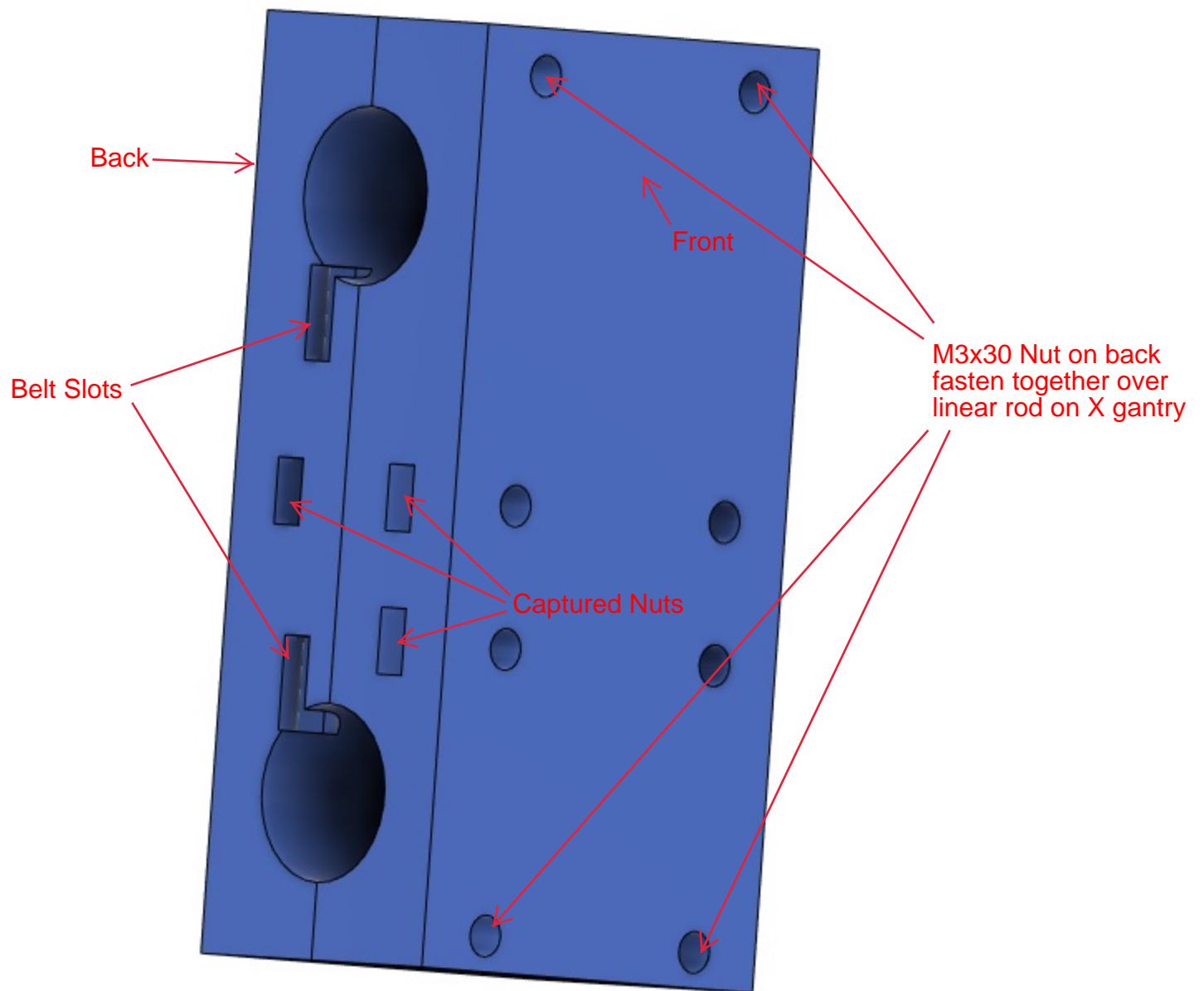
5015 24v Blower Fan

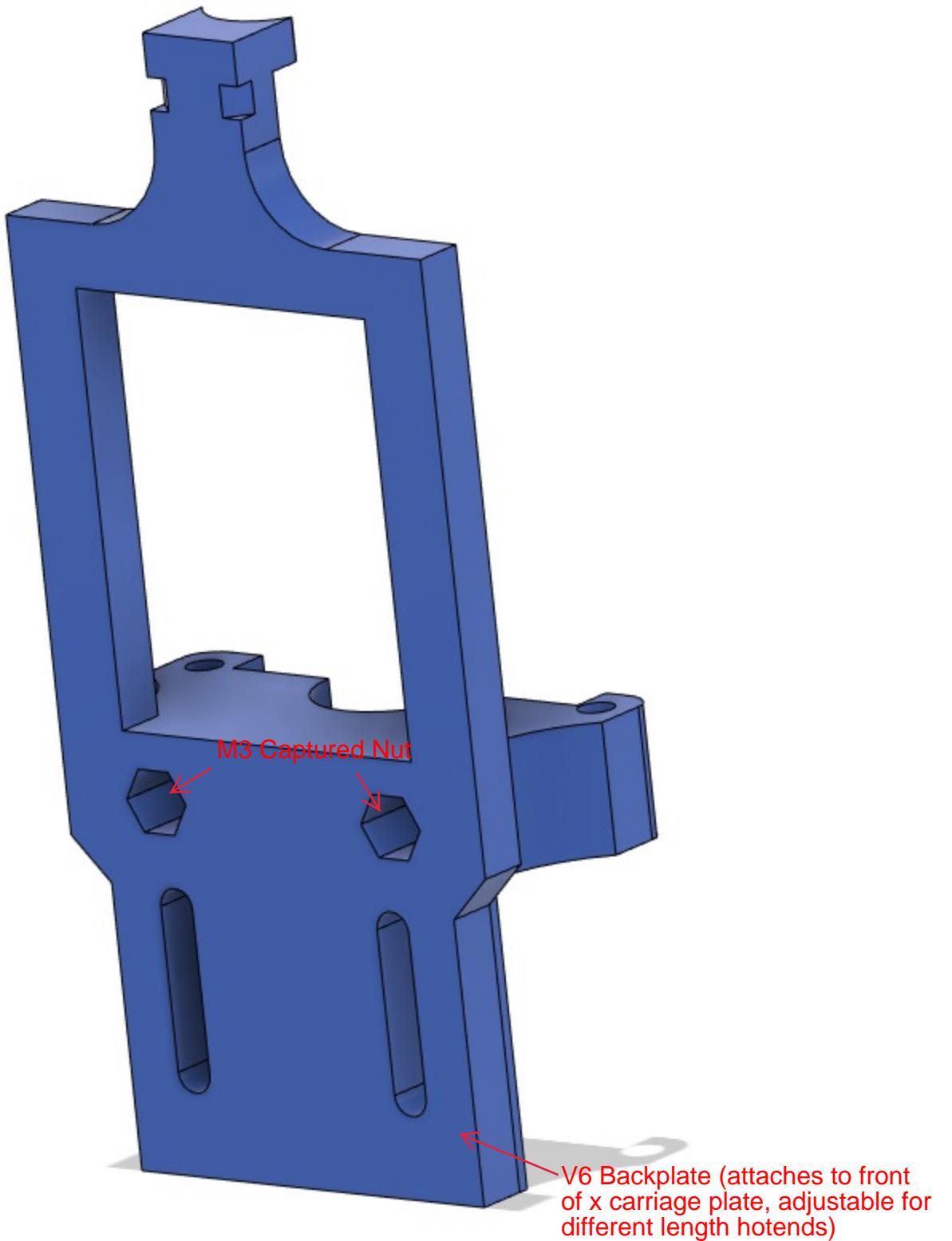
J-head (V6) Hot End

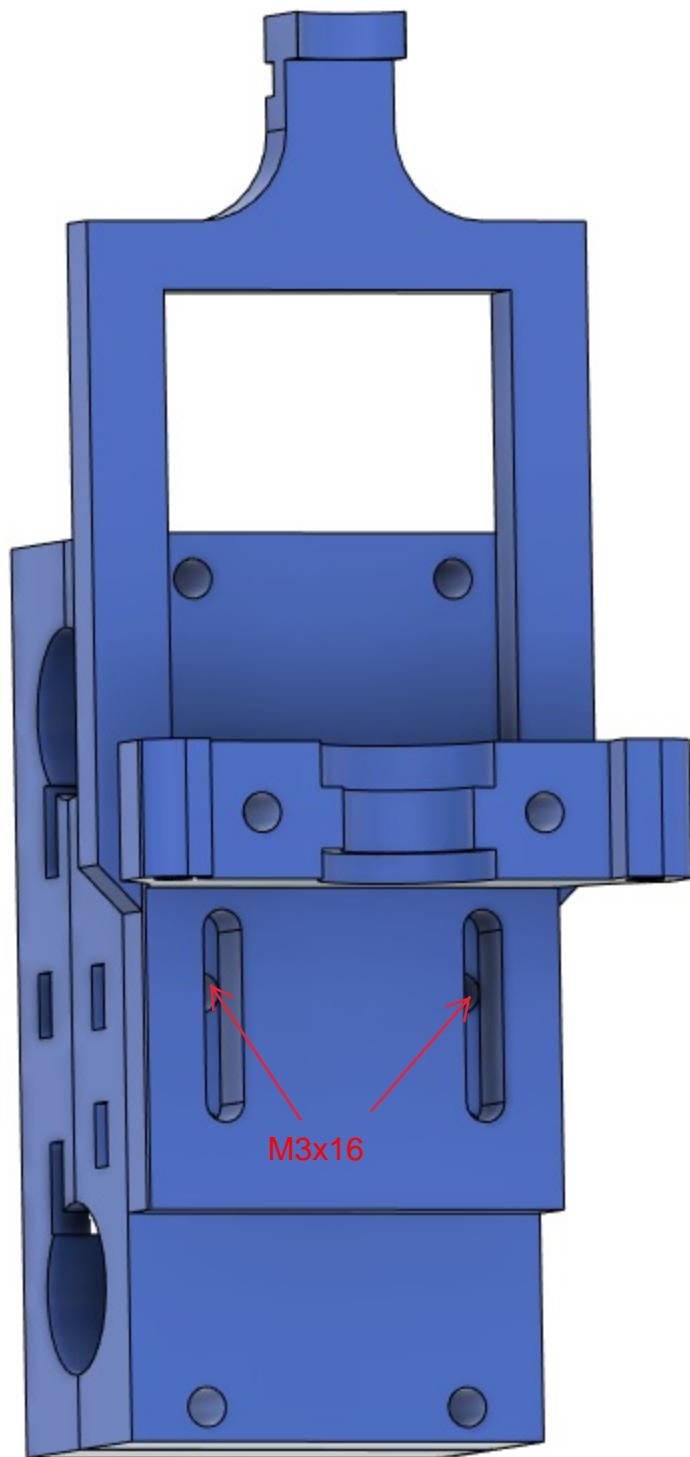
Sherpa Mini Extruder

BLTouch









Adjust mount so hotend
sits a few mm below
part cooling duct

