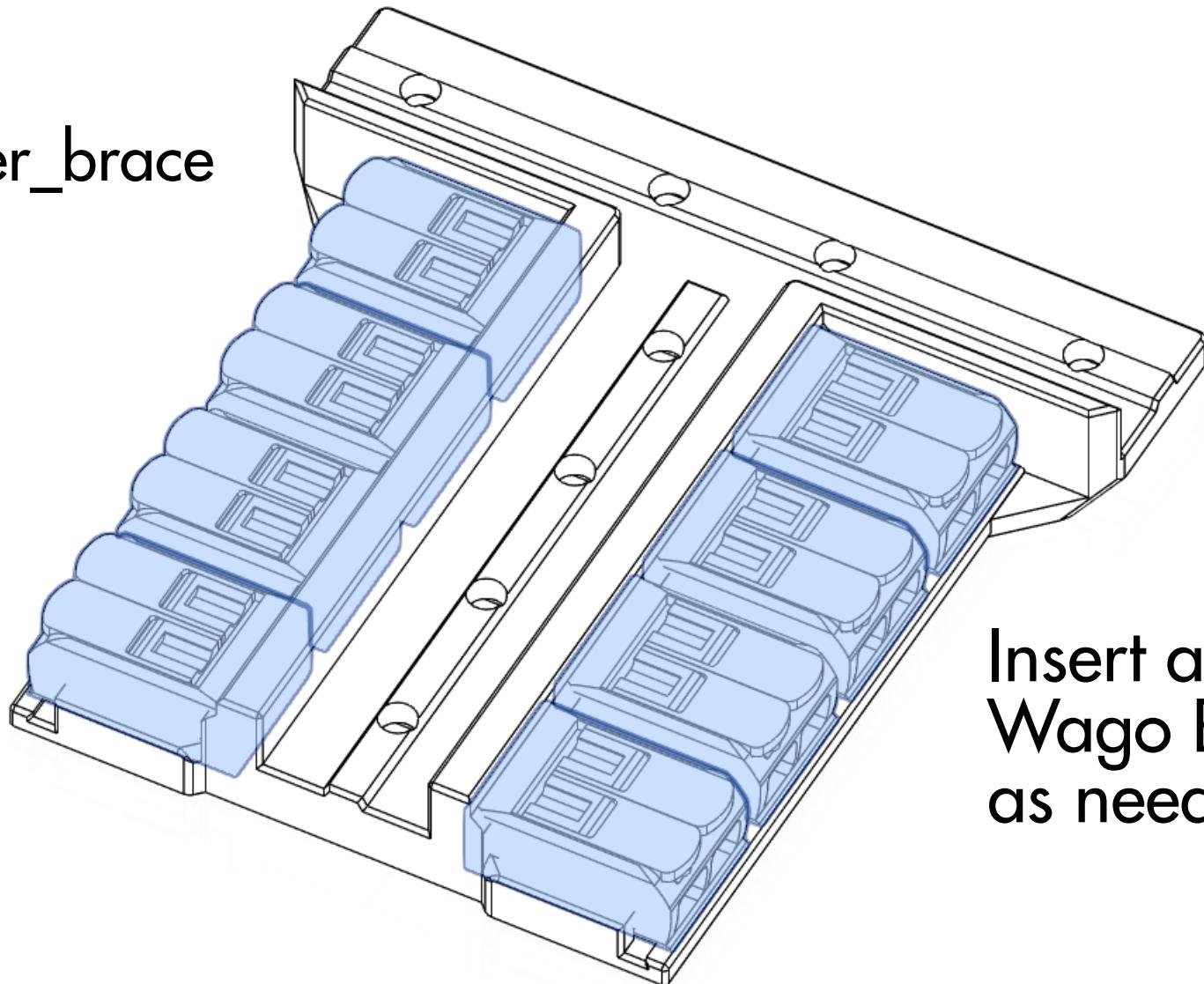


Mastur Mods

Bed Assembly

P1

`bed_center_brace`



Insert as many
Wago Blocks
as needed.

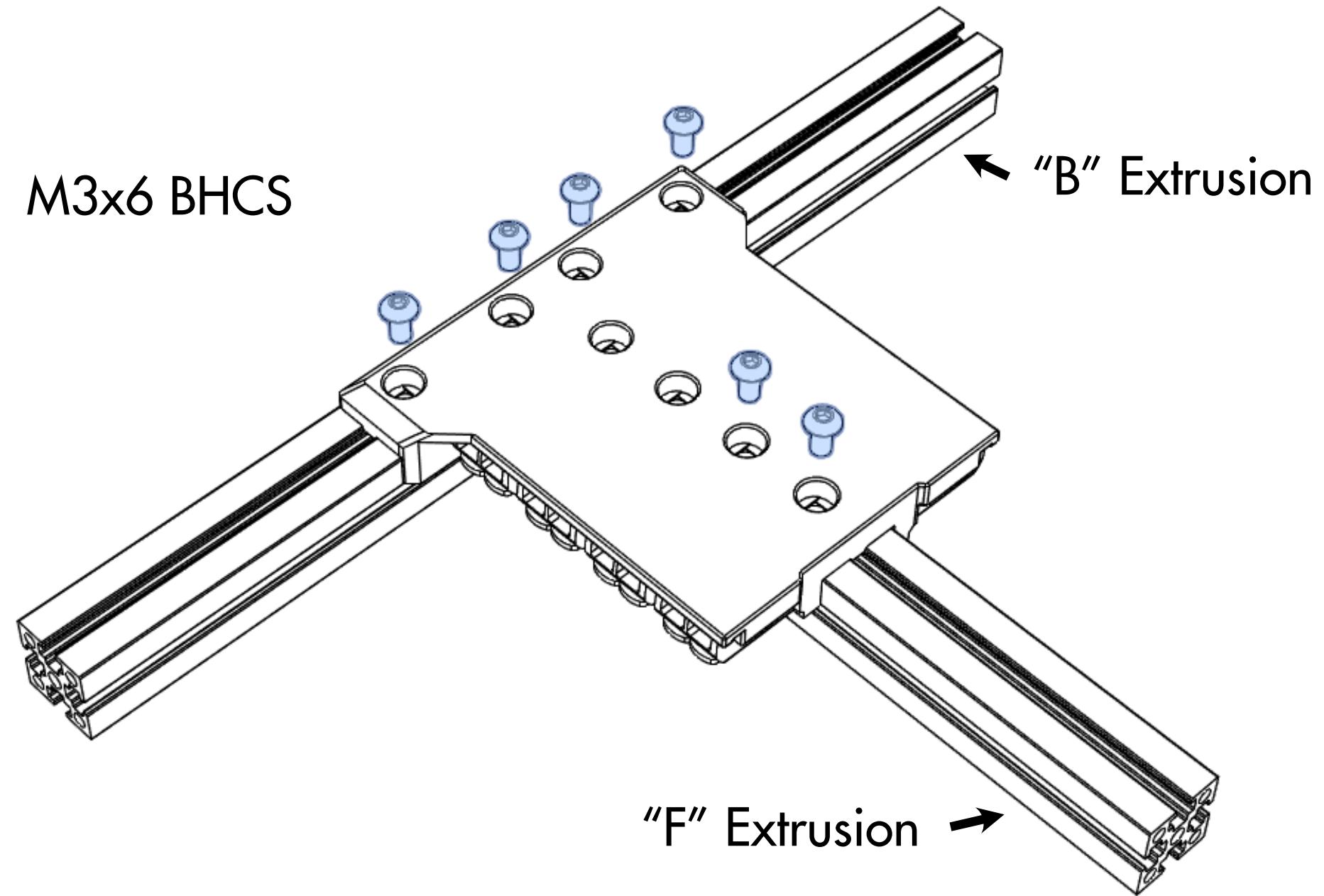


Mastur Mods

Bed Assembly

P2

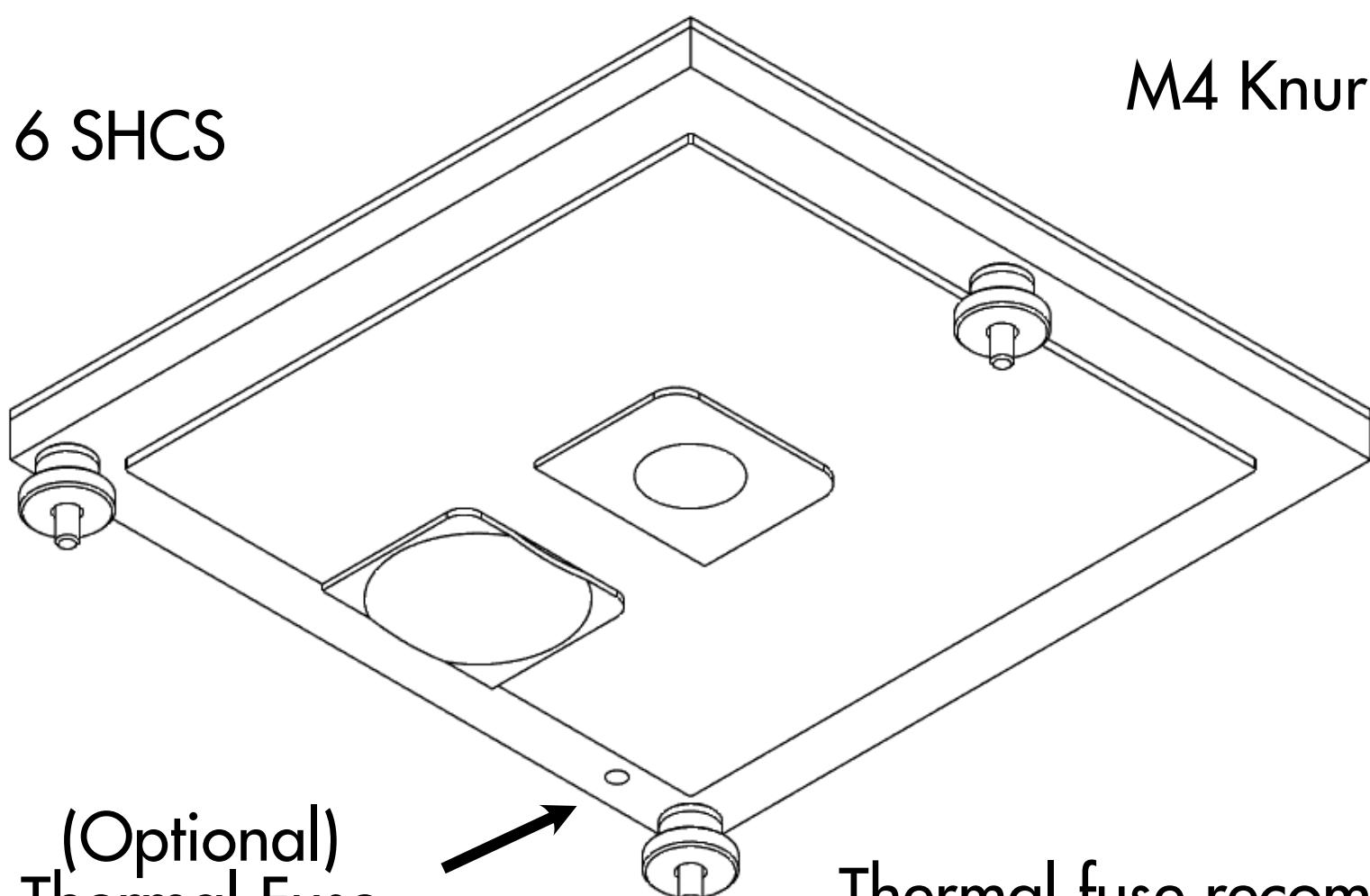
M3x6 BHCS



Mastur Mods

Bed Assembly

P3



M3x16 SHCS

M4 Knurled Nut

(Optional)
Thermal Fuse

Thermal fuse recommended
for mains heater pads.

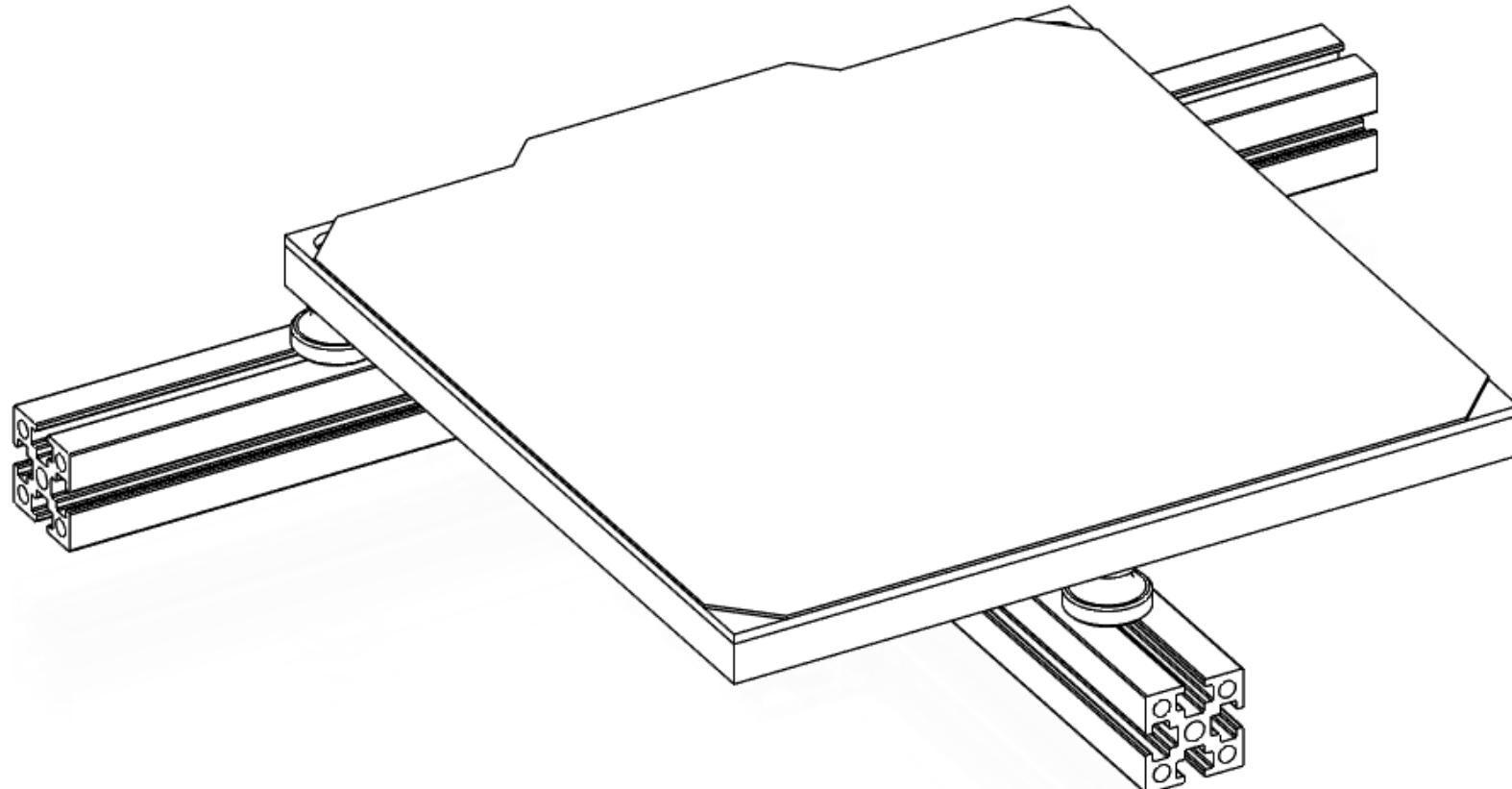


Mastur Mods

Bed Assembly

P4

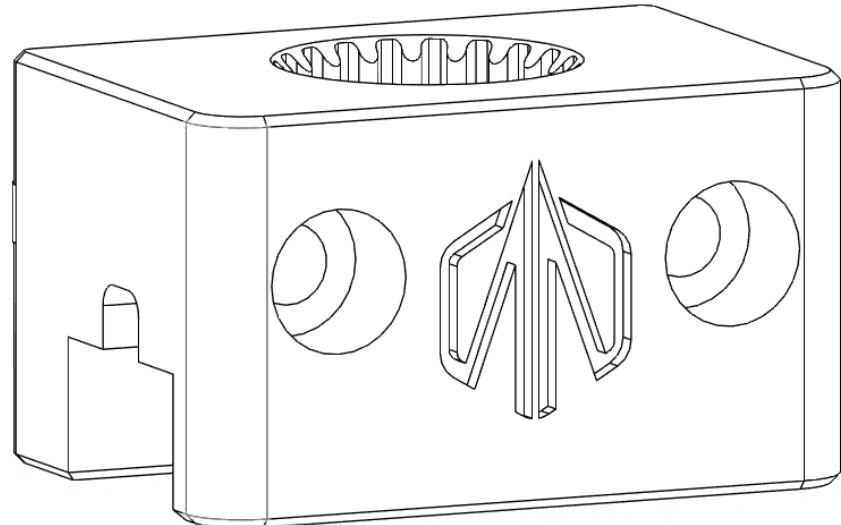
Affix to extrusions.



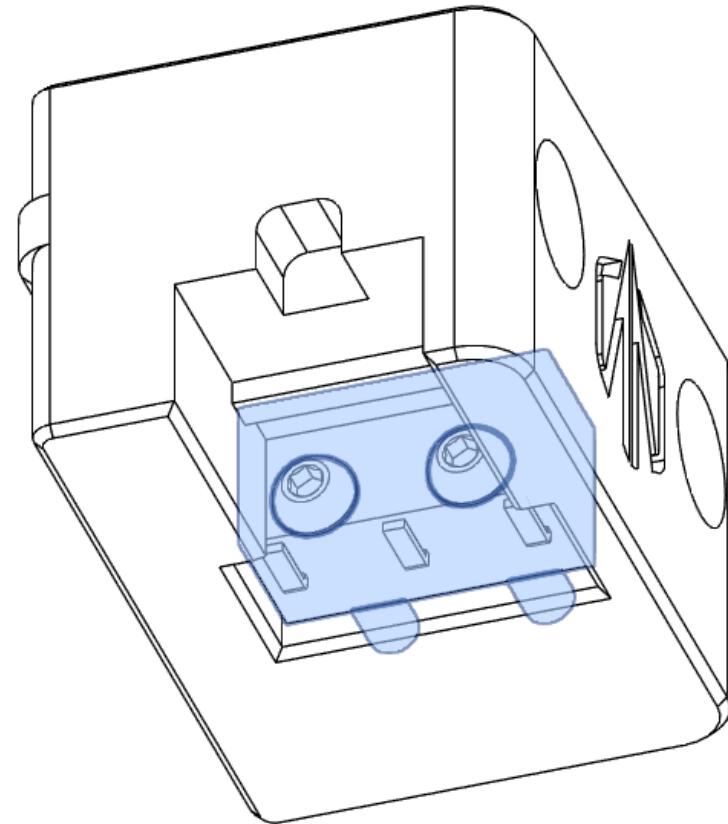
Mastur Mods

Bed Assembly

P5



z_endstop_housing



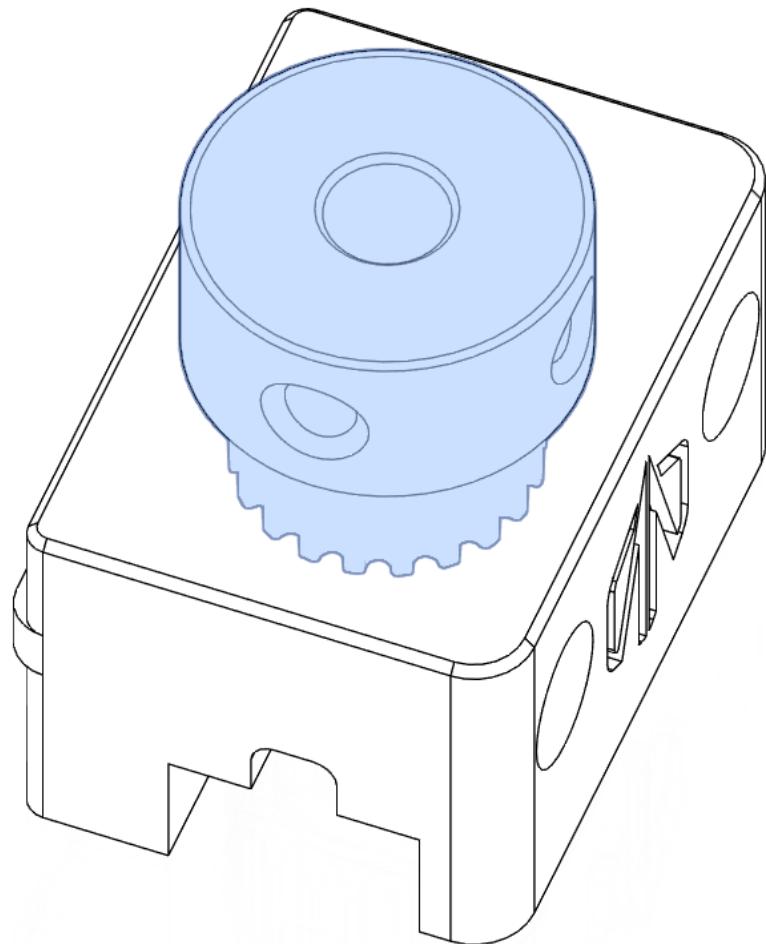
Omron D2F M2x10 Self Tapping



Mastur Mods

Bed Assembly

P6



Deflanged 20T Pulley

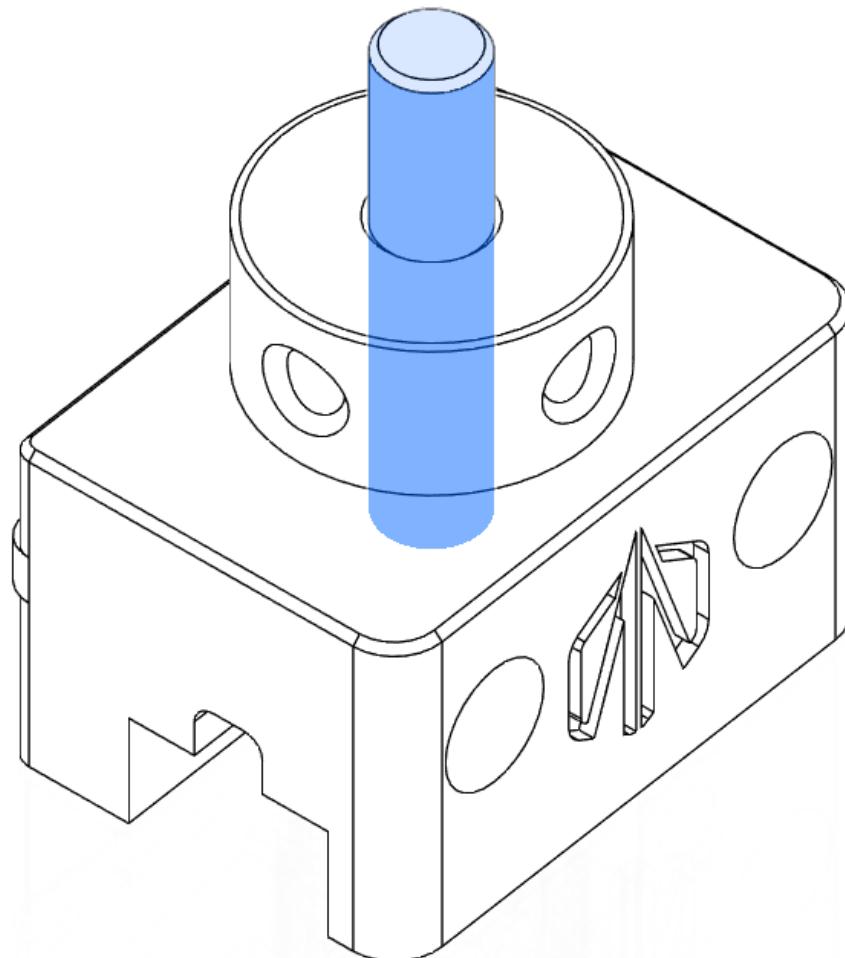


Mastur Mods

Bed Assembly

P7

5x25mm Pin



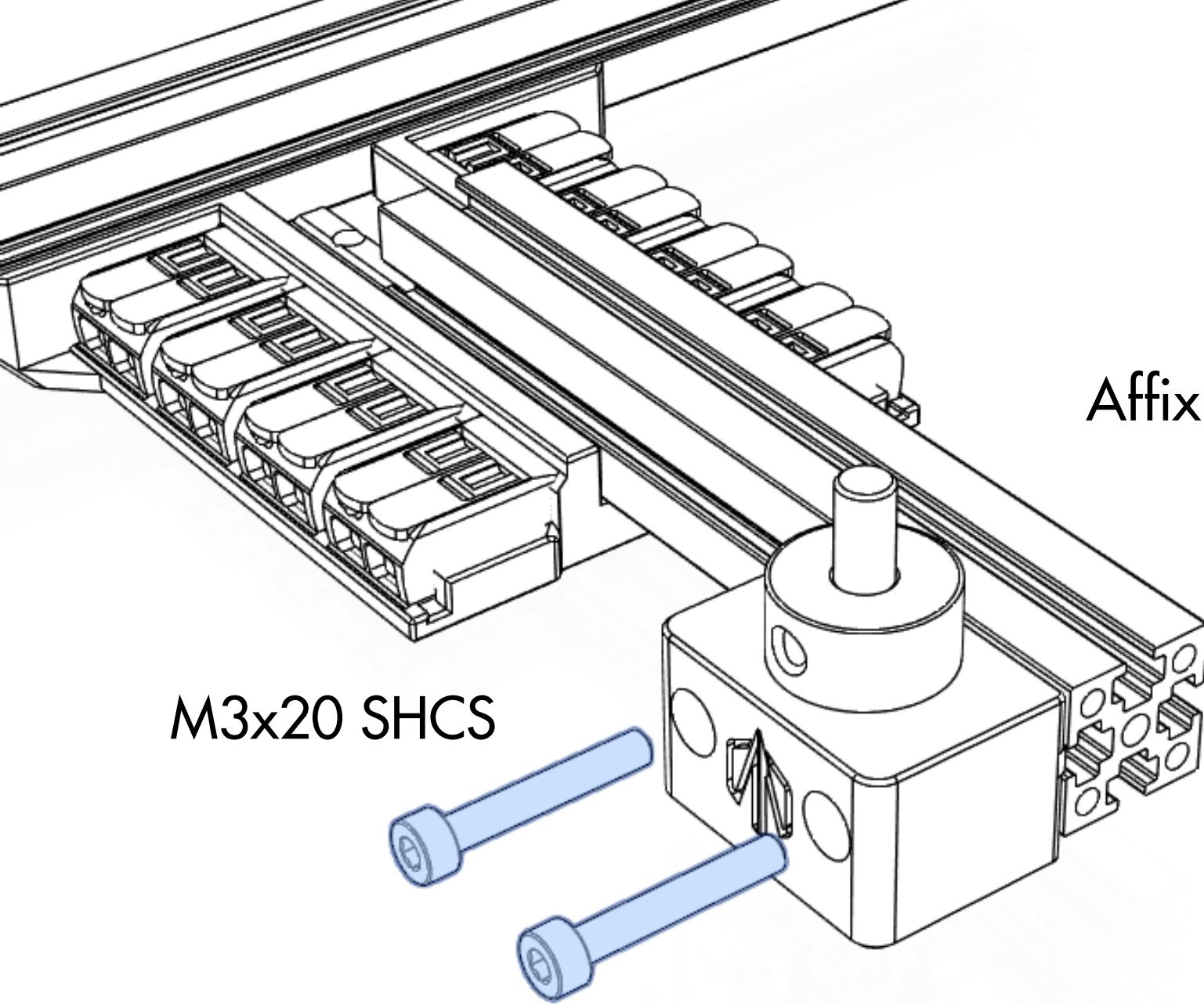
You can use a grub screw to keep the pin captive if you put a notch in the 5mm pin. But the grub screw should have thread locker and should only be inserted just enough to prevent the pin from falling out and rubbing against the pin during travel.



Mastur Mods

Bed Assembly

P8

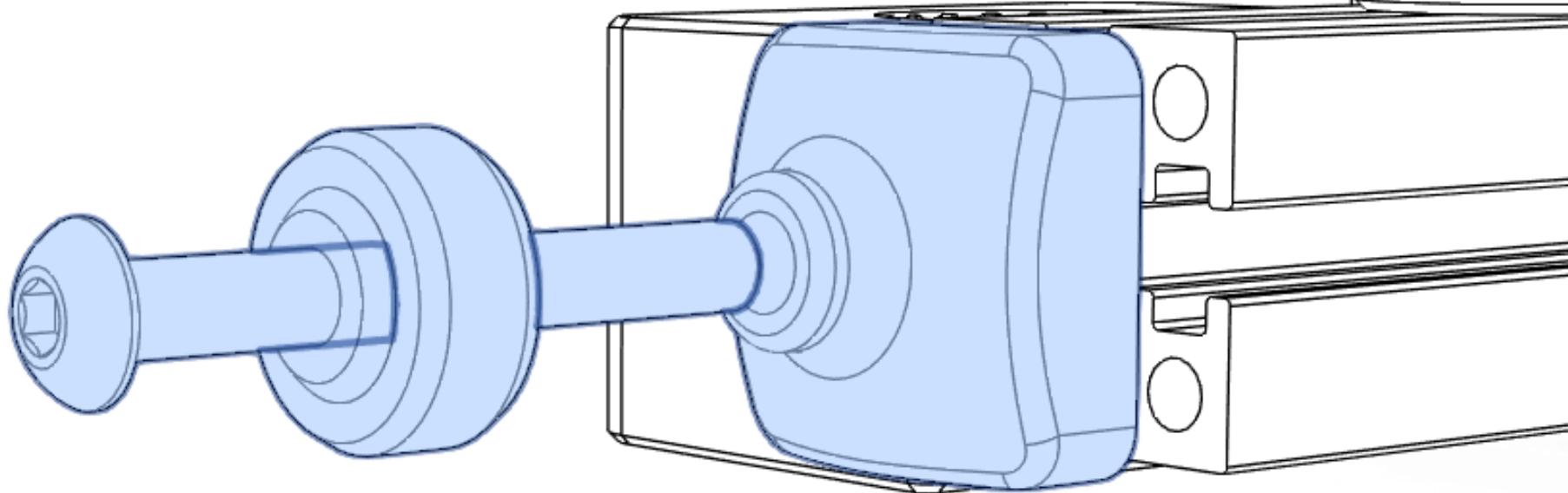


Mastur Mods

Bed Assembly

P9

KGLM-03



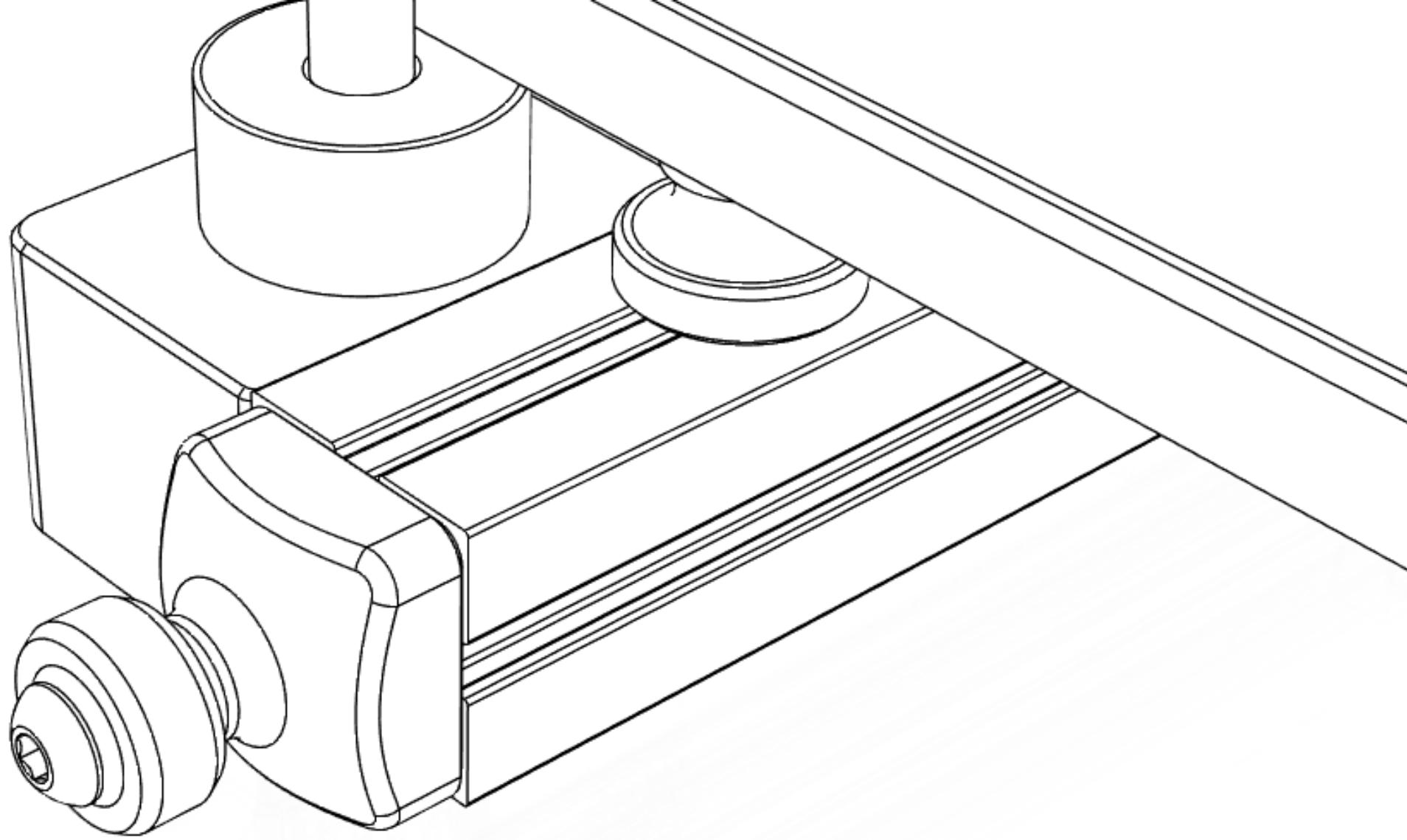
[a]_bed_mount_rear



Mastur Mods

Bed Assembly

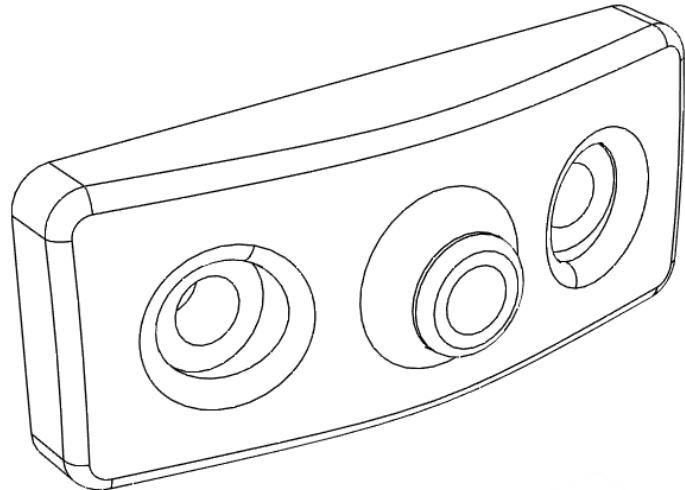
P10



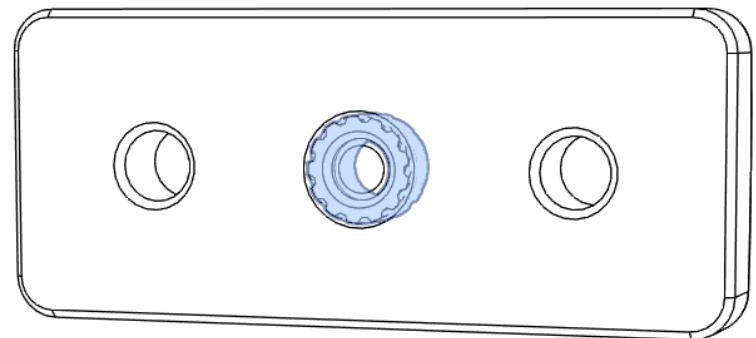
Mastur Mods

Bed Assembly

P11



bed_mount_front_x2



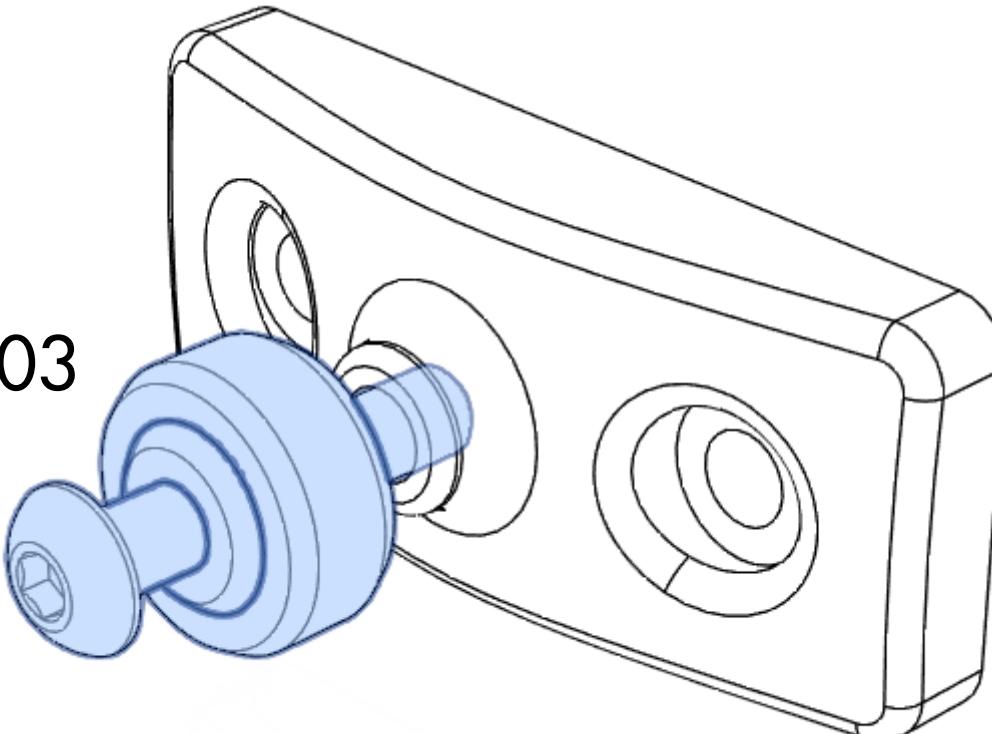
M3 Heatset Insert



Mastur Mods

Bed Assembly

P12



KGLM-03

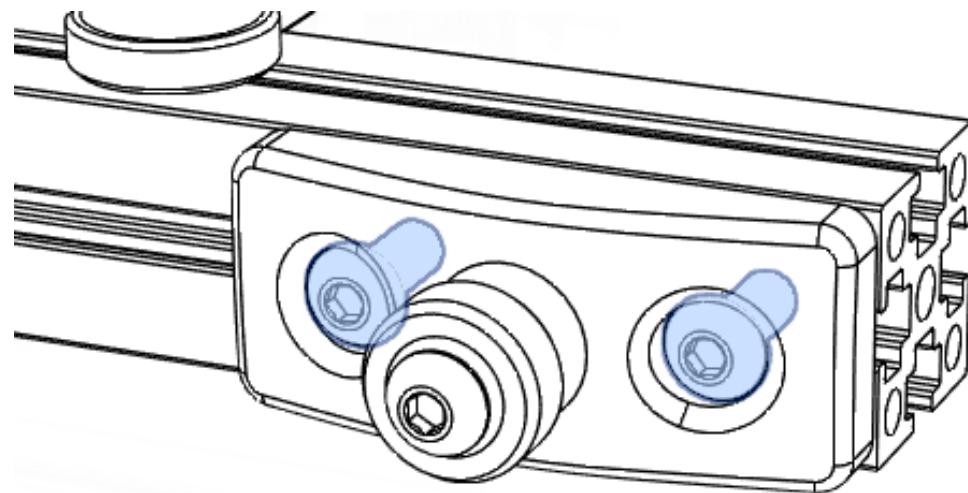
M3x16



Mastur Mods

Bed Assembly

P13



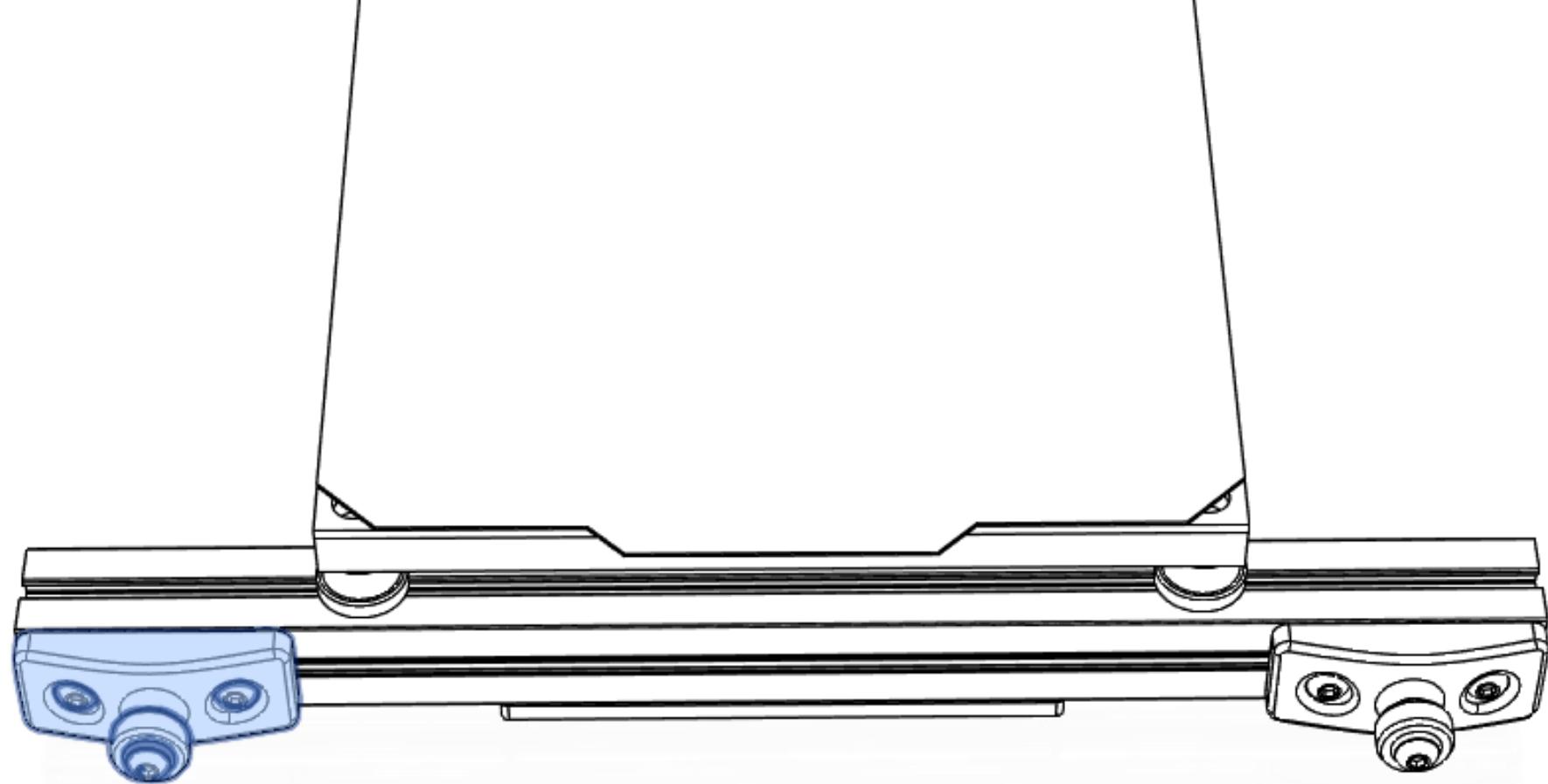
M3x8



Mastur Mods

Bed Assembly

P14



Repeat pages 11-13 for the front left joint.



Mastur Mods

Bed Assembly

P15



Mastur Mods

Frame Assembly

P16

Don't fully tighten screw
It will be used for blind joints!

B Extrusion



M3x8 BHCS

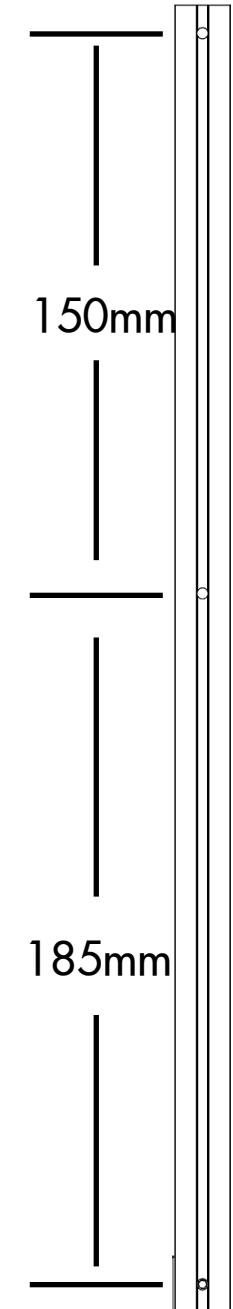
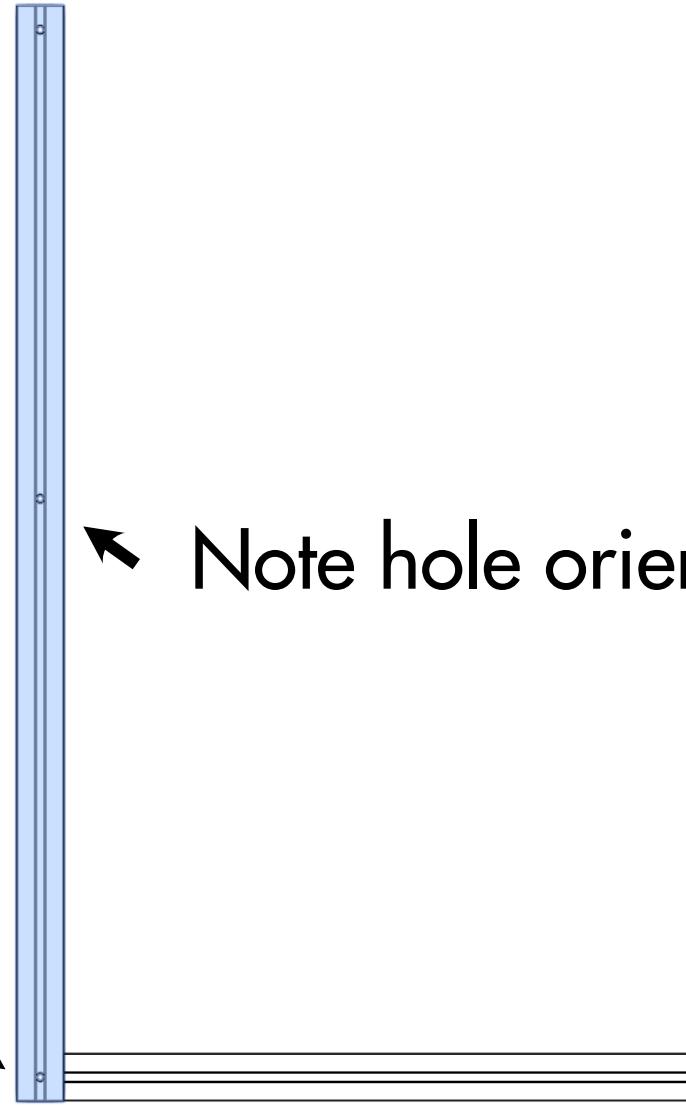


Mastur Mods

Frame Assembly

P17

D Extrusion



Mastur Mods

Frame Assembly

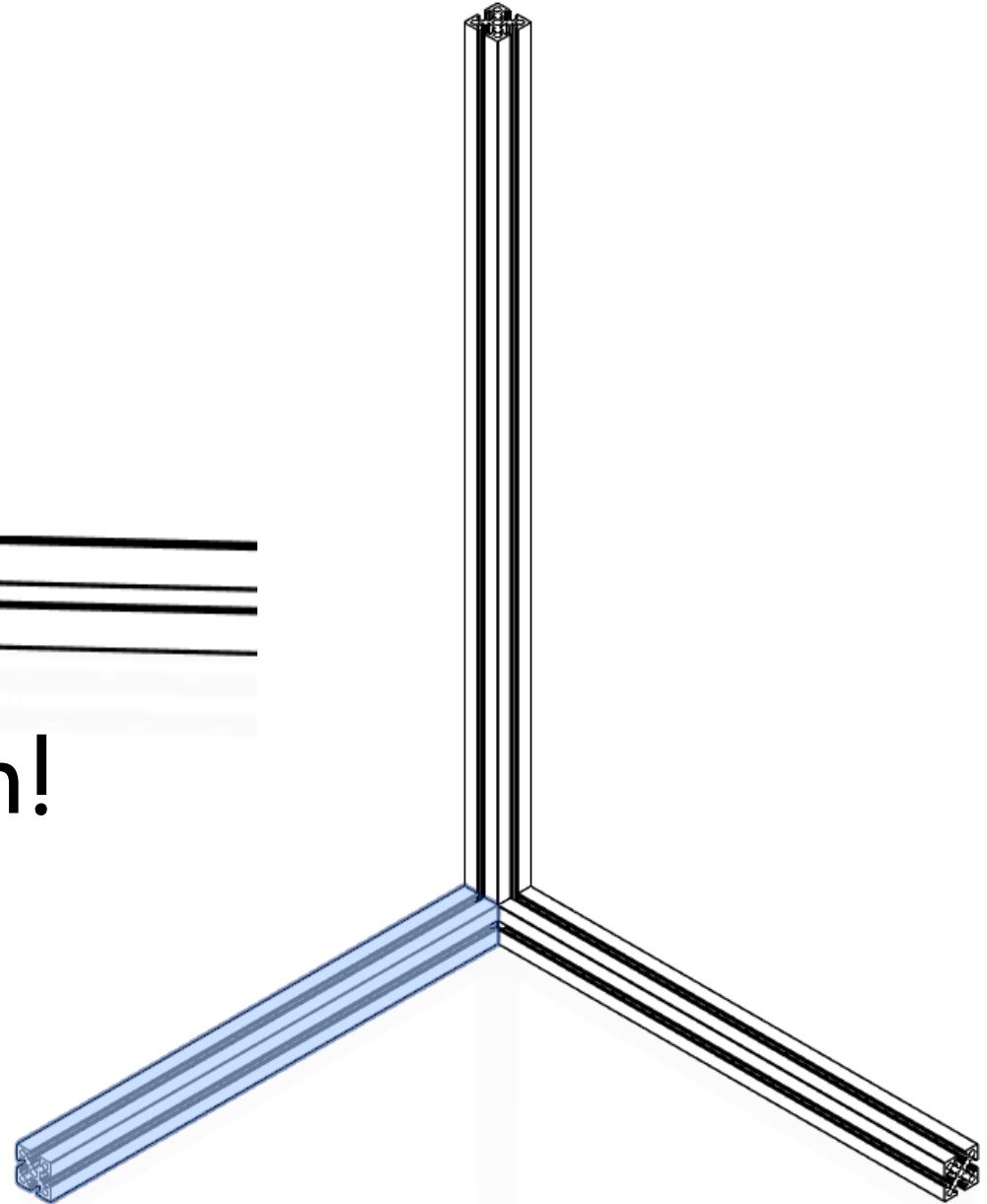
P18



Note hole orientation!

E Extrusion

M3x8 BHCS

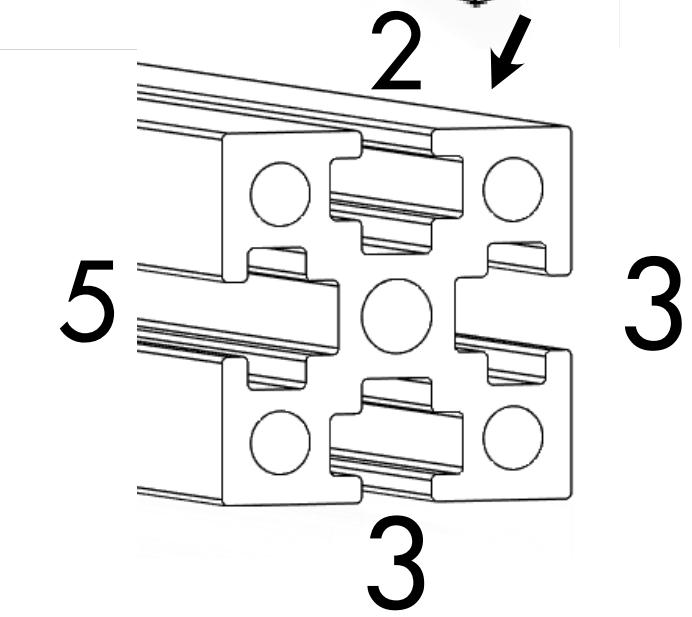
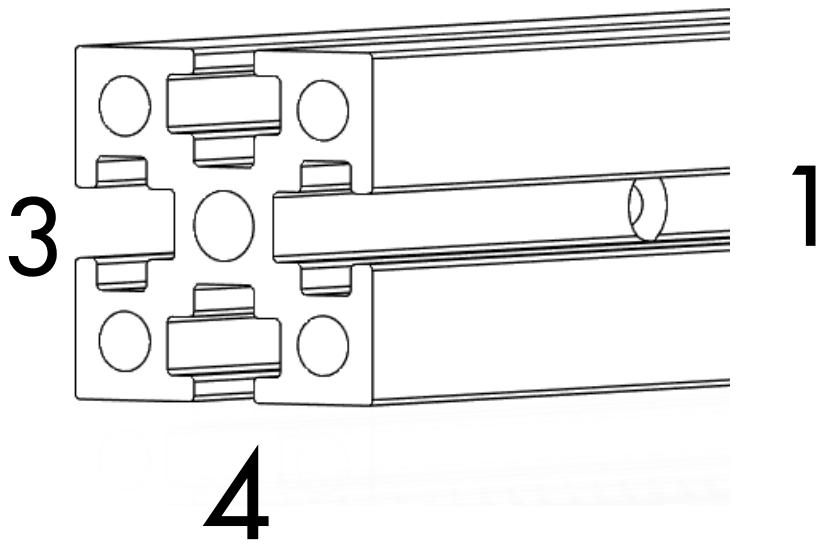


Mastur Mods

Frame Assembly

P19

Preload M3 Nuts!

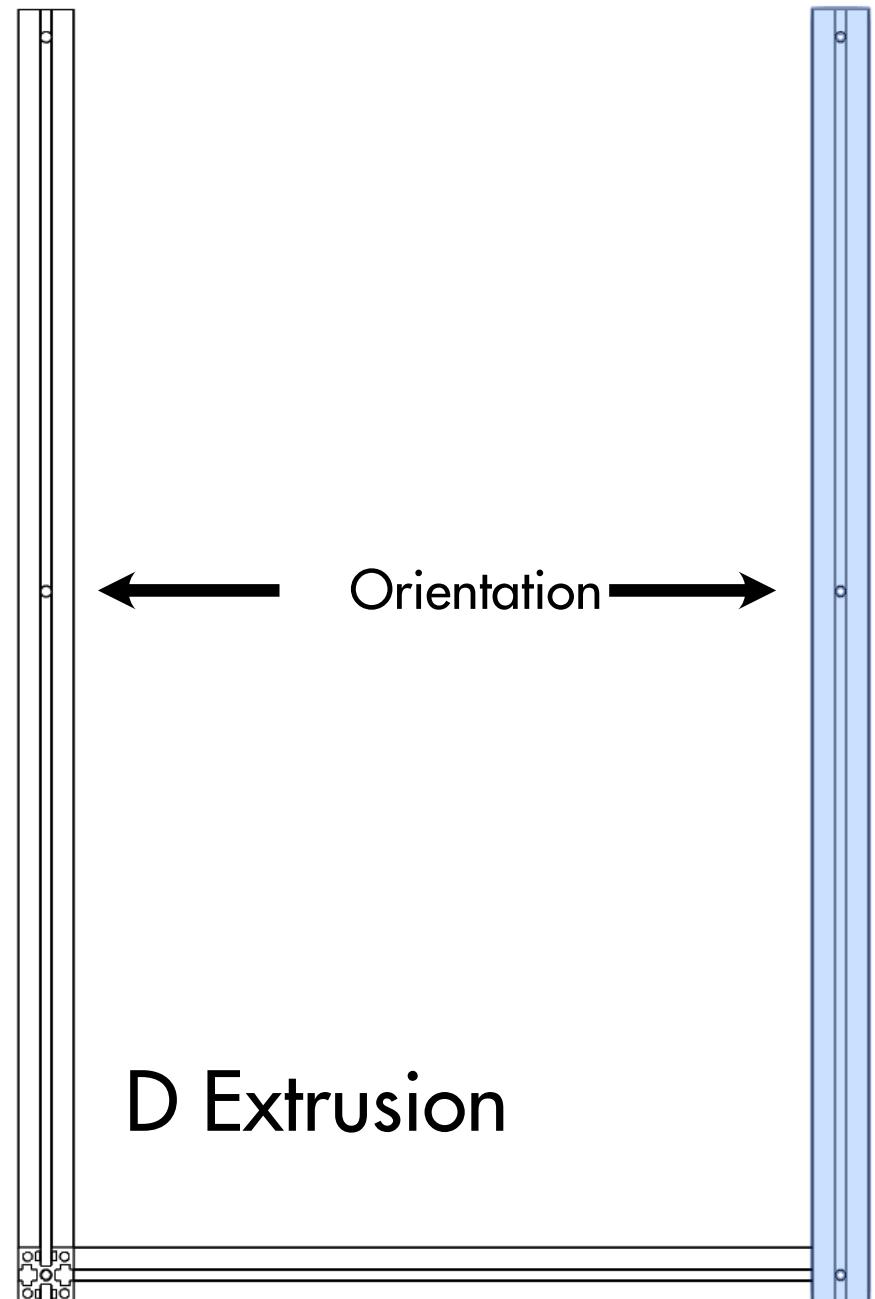
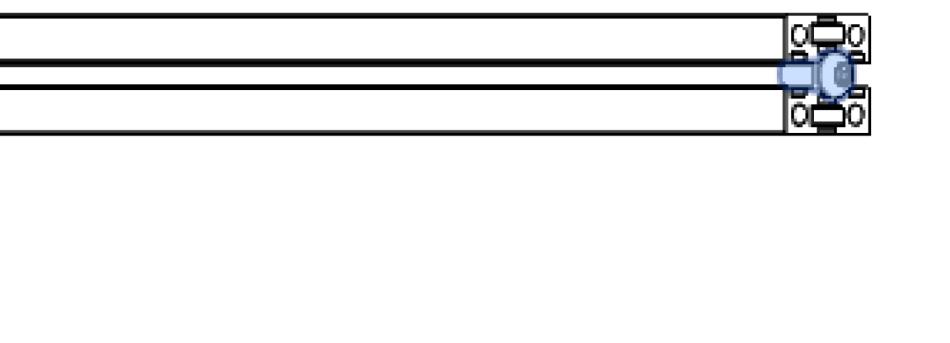


Mastur Mods

Frame Assembly

P20

M3x8 BHCS
For Blind Joints!



Mastur Mods

Frame Assembly

P21

M3x8 BHCS - For Blind Joints!



E Extrusion



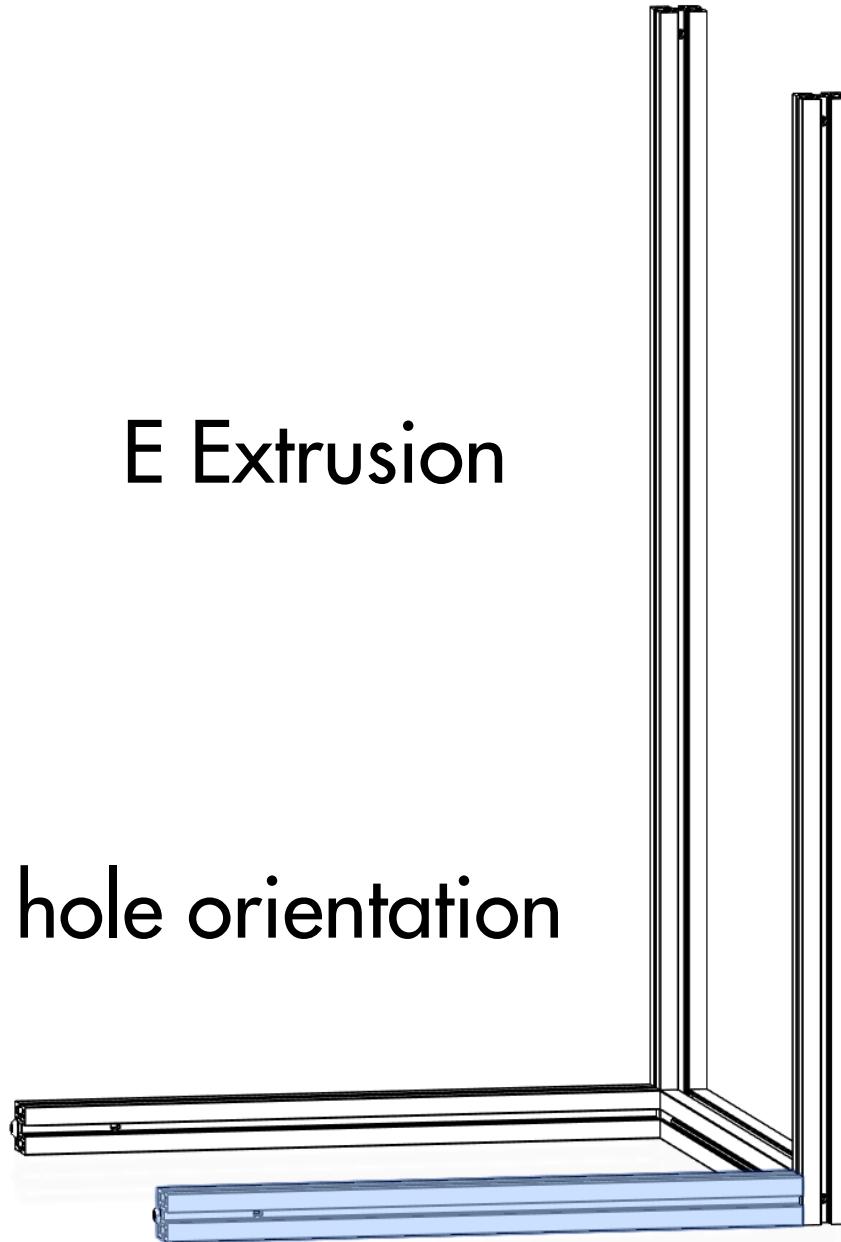
Mastur Mods

Frame Assembly

P22

E Extrusion

Note hole orientation

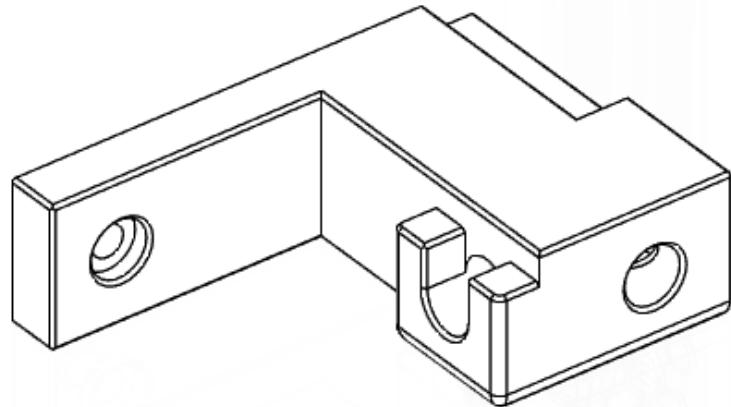


Mastur Mods

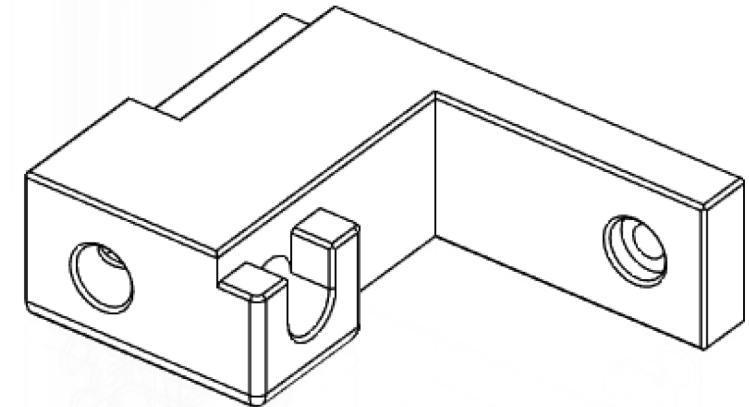
Frame Assembly

P23

frame_brace_front



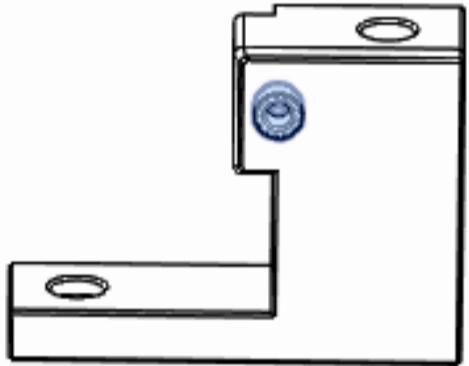
frame_brace_front_mirror



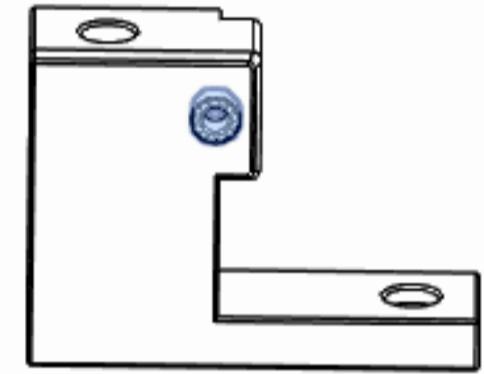
Mastur Mods

Frame Assembly

P24



M3 Heatset Inserts



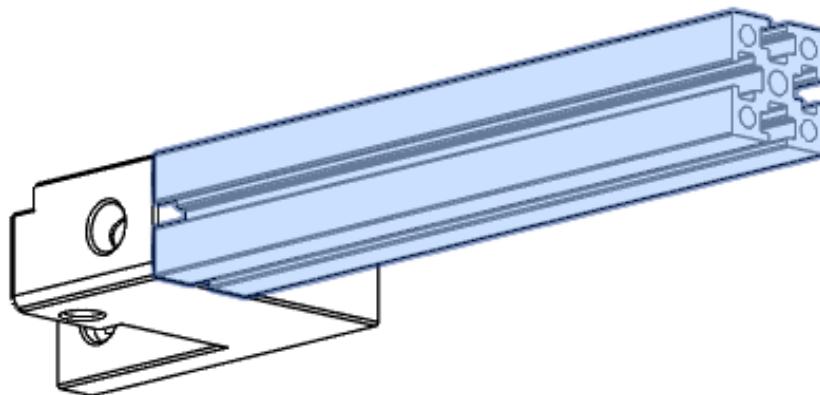
Mastur Mods

Frame Assembly

P25

M3x10 BHCS

F Extrusion



Preload 4 M3 Hex Nuts into the bottom extrusion channel



Mastur Mods

Frame Assembly

P26



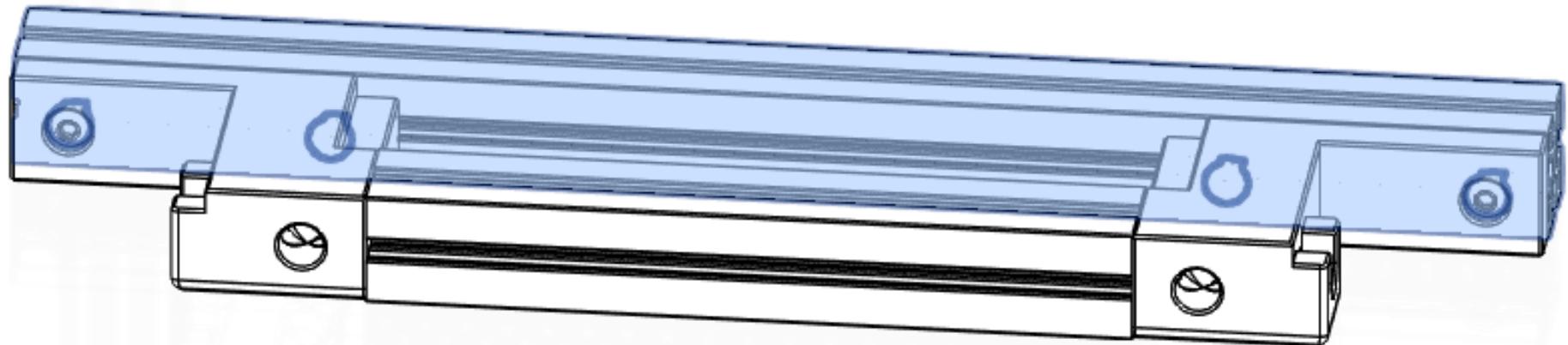
Mastur Mods

Frame Assembly

P27

4x M3x8 BHCS

B Extrusion

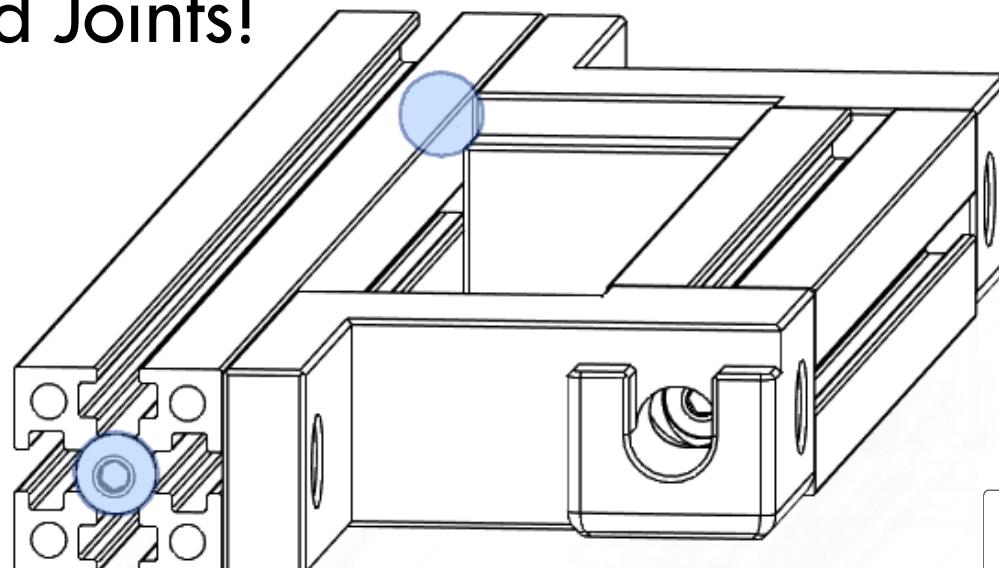


Mastur Mods

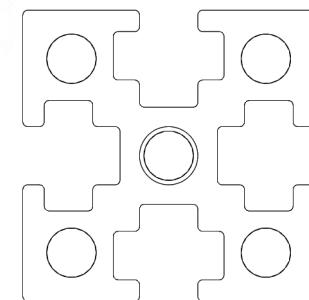
Frame Assembly

P28

M3x8 BHCS
For Blind Joints!



2



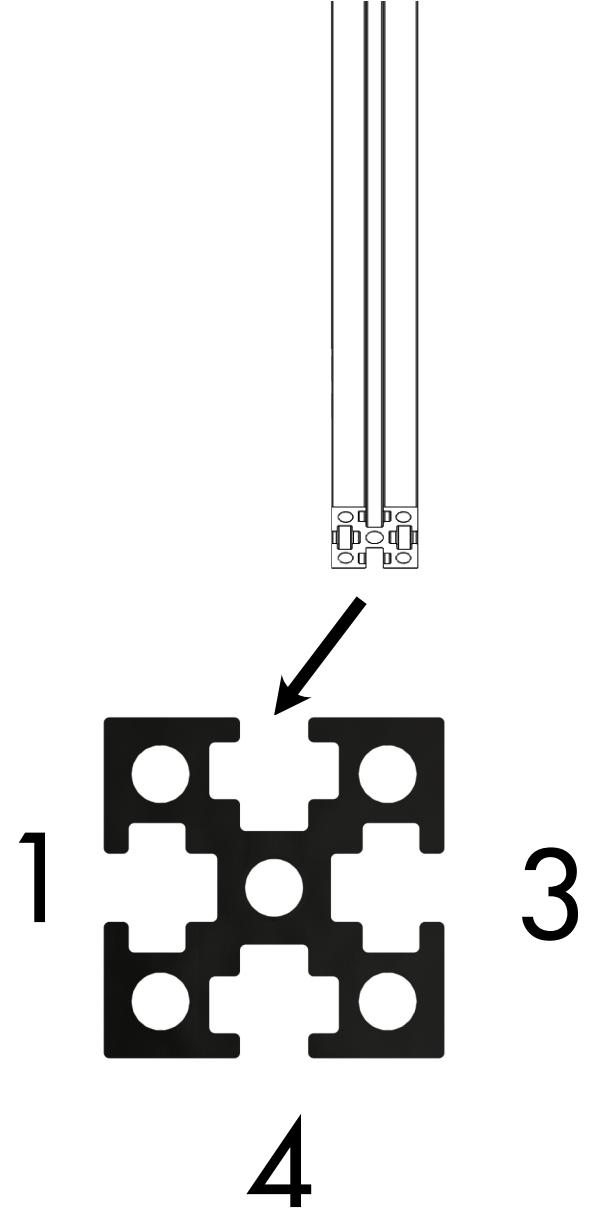
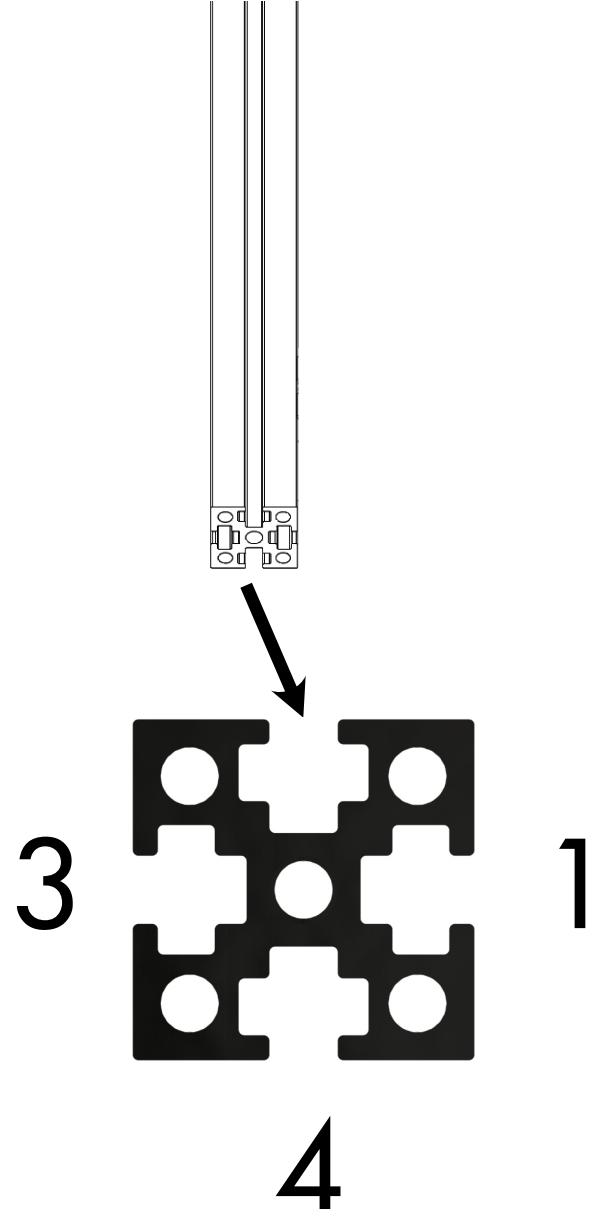
2



Mastur Mods

Frame Assembly

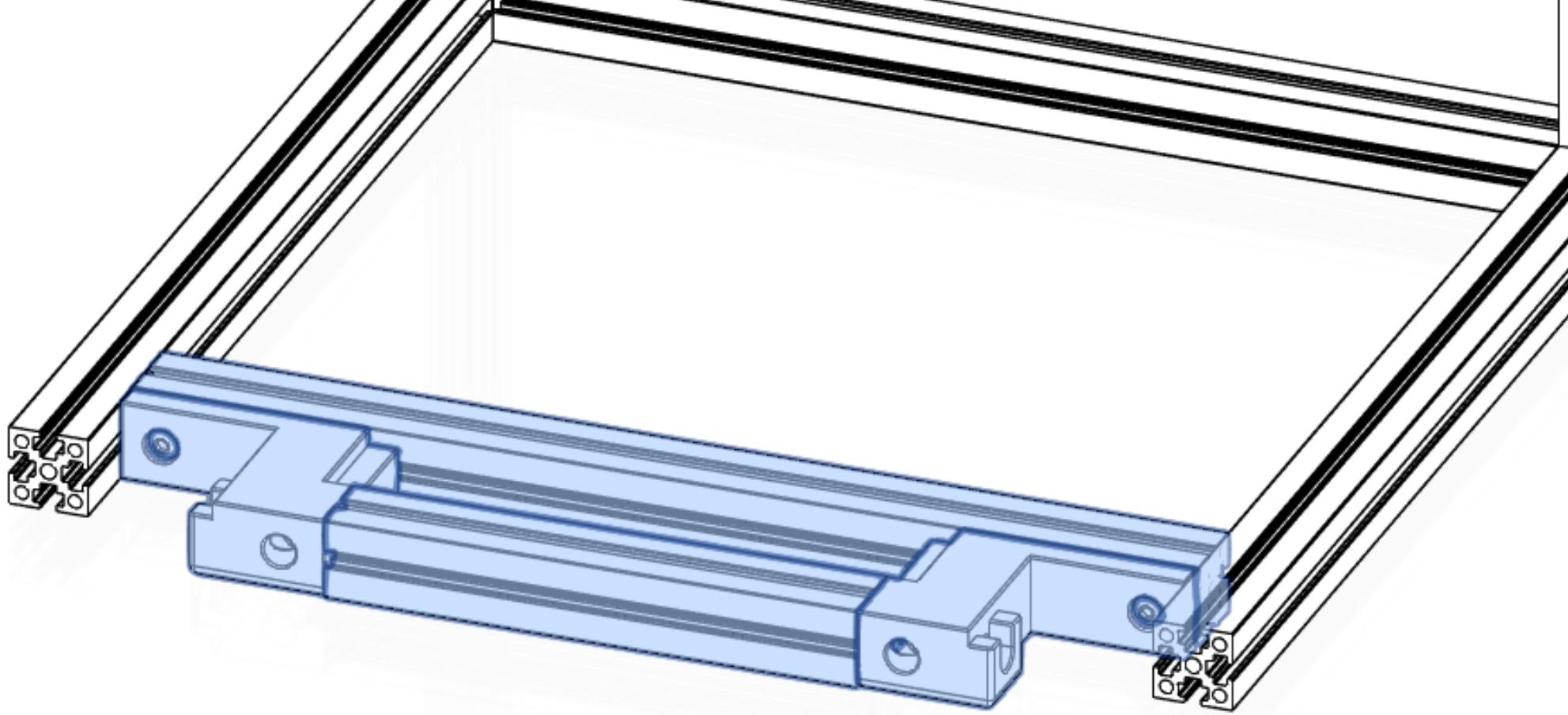
P29



Mastur Mods

Frame Assembly

P30



Tighten using blind joints



Mastur Mods

Frame Assembly

P31



M3x8 for blind joints

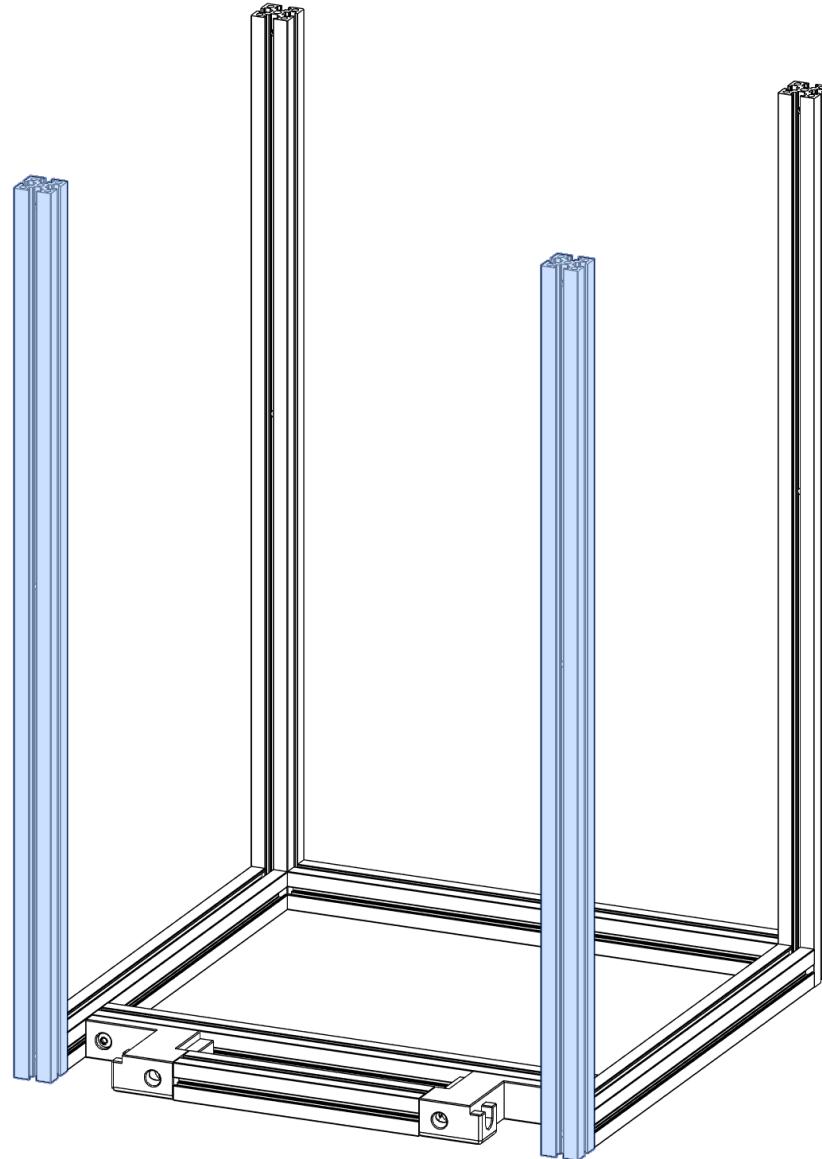


Mastur Mods

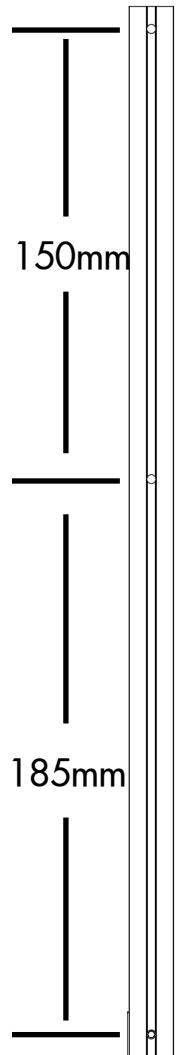
Frame Assembly

P32

2x "C" Extrusions



Tighten Blind Joints!

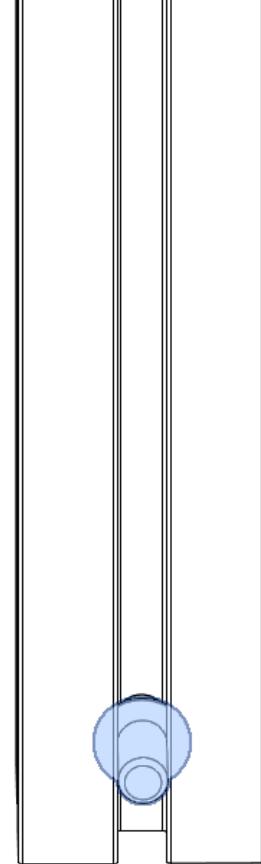


Mastur Mods

Frame Assembly

P33

G Extrusion



M3x6 BHCS
Blind joint access behind

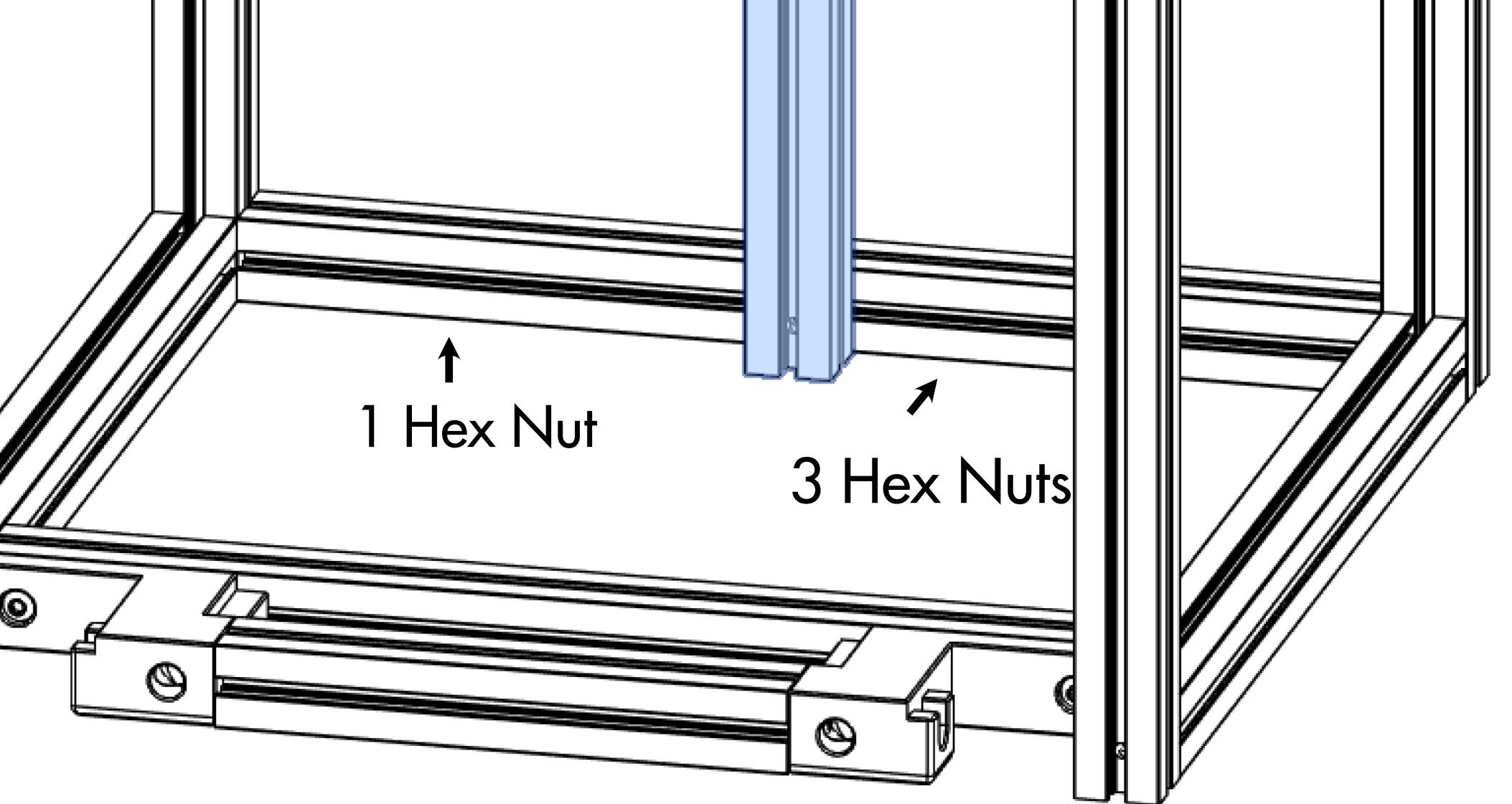
It's easier to thread the M3x6 into the nut and then slide the extrusion over the top. See next page for proper orientation.



Mastur Mods

Frame Assembly

P34

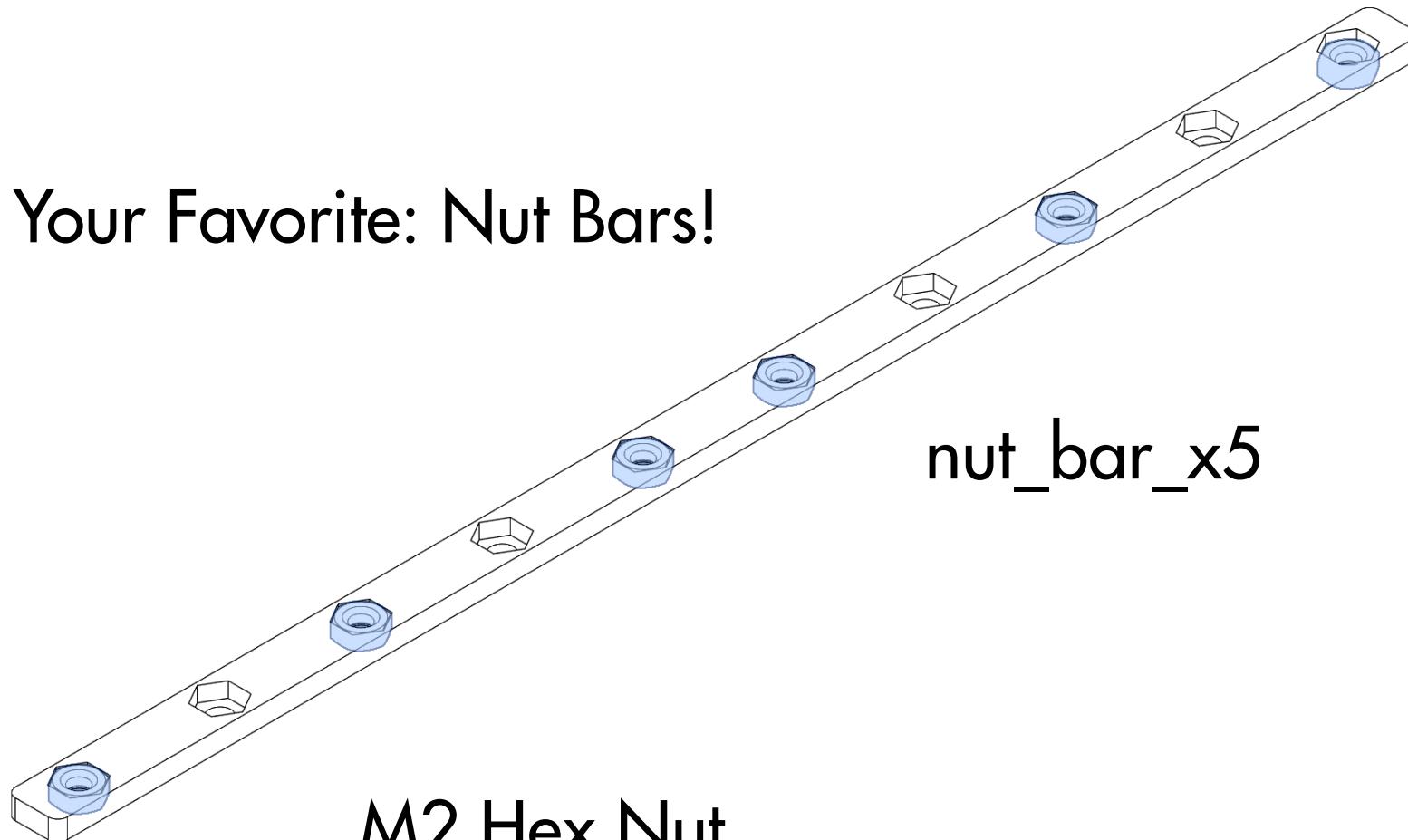


Mastur Mods

Frame Assembly

P35

Your Favorite: Nut Bars!



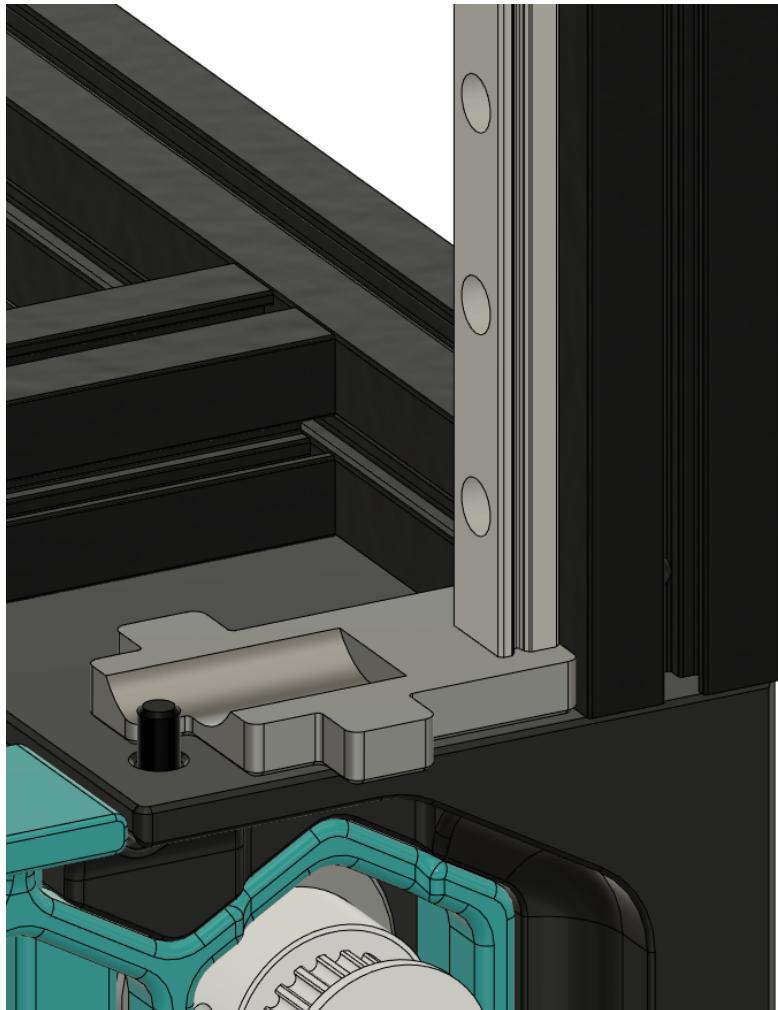
M2 Hex Nut



Mastur Mods

Frame Assembly

P36



A Helpful Tool:
Pandoras_Box_Multitool



Mastur Mods

Frame Assembly

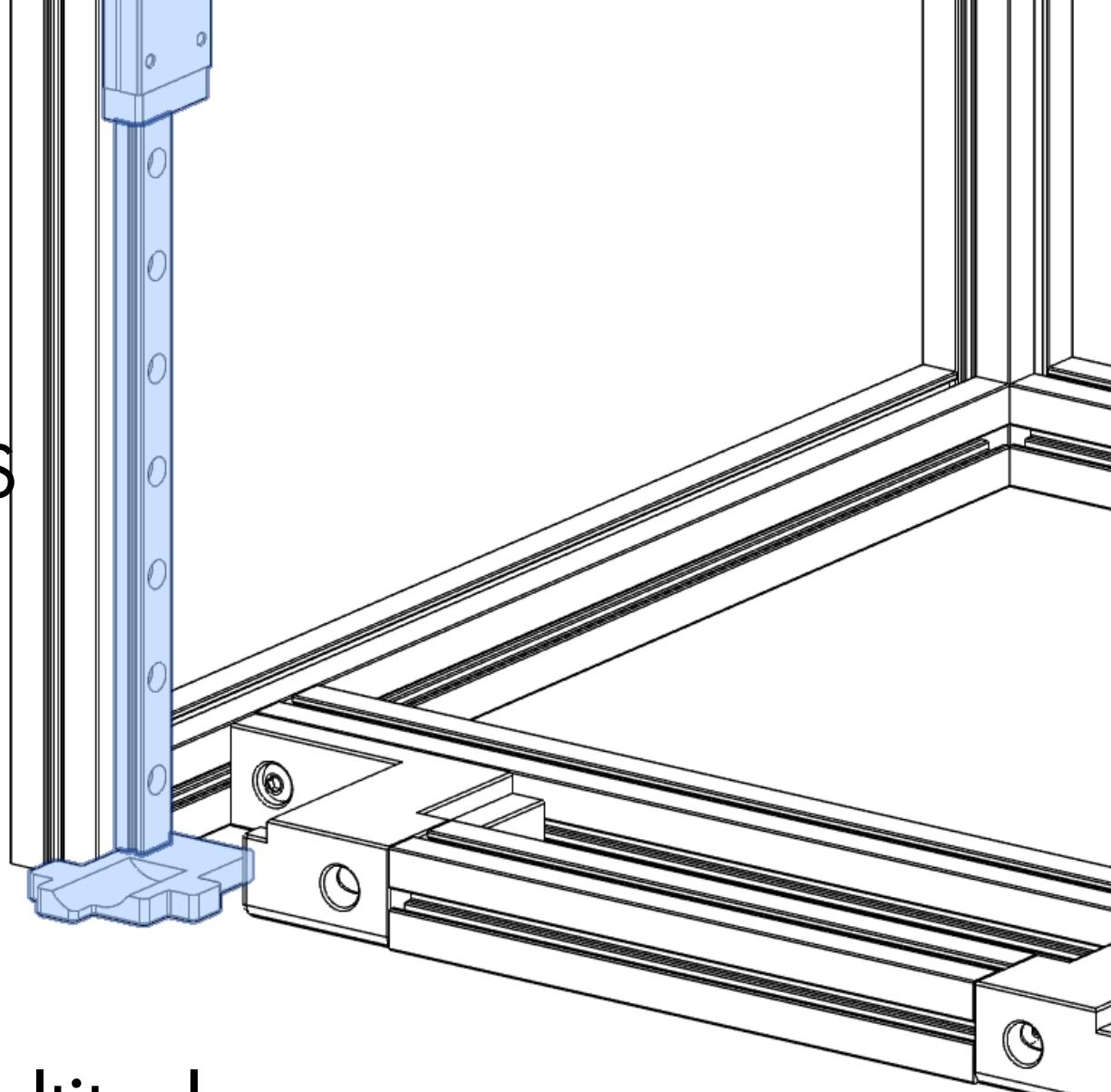
P37

150mm MGN7H
& Nut Bar

Secure with M2x8 SHCS

Place on flat surface!

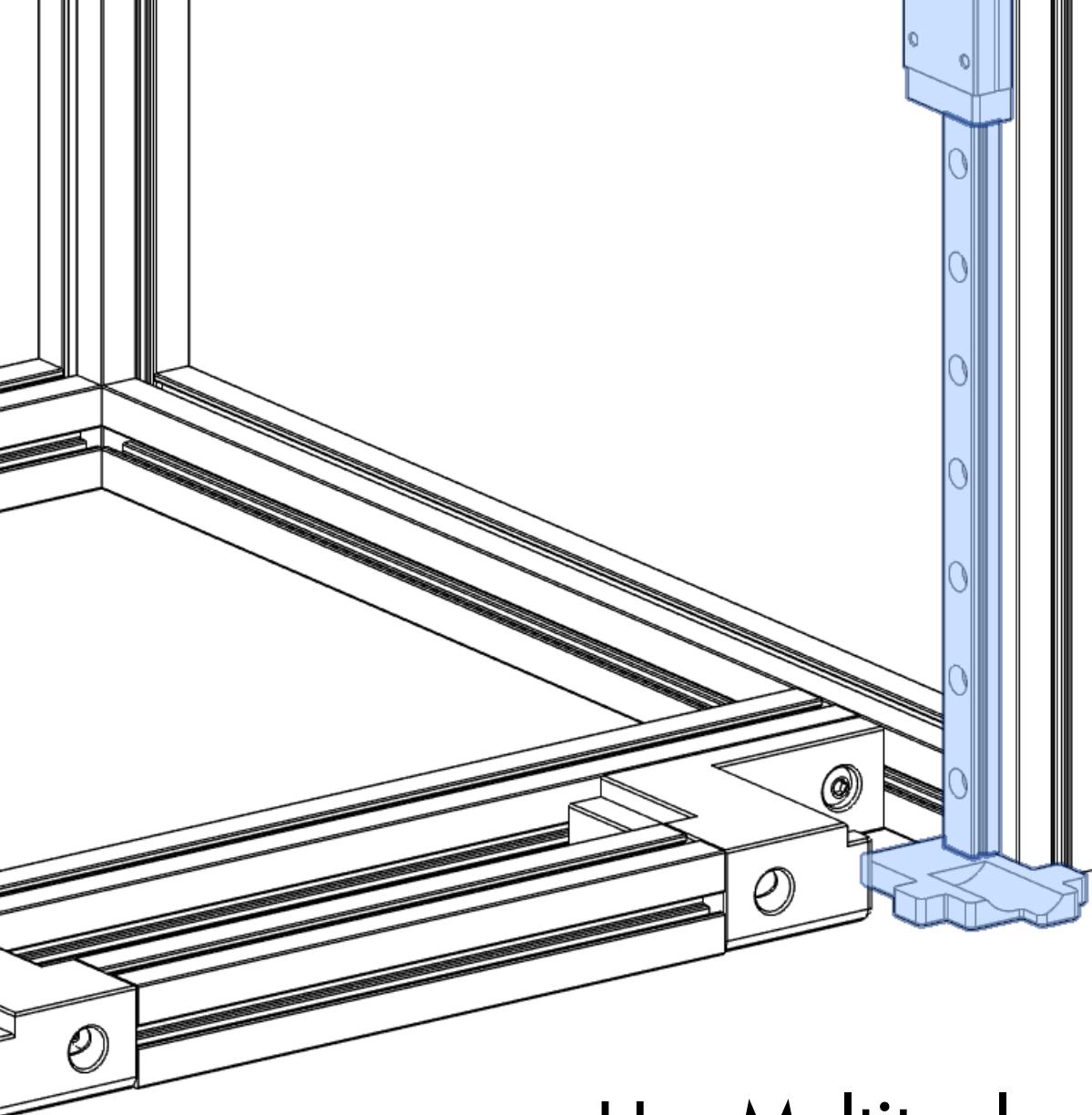
Use Multitool as a spacer



Mastur Mods

Frame Assembly

P38



150mm MGN7H
& Nut Bar

Secure with M2x8 SHC

Place on flat surface!

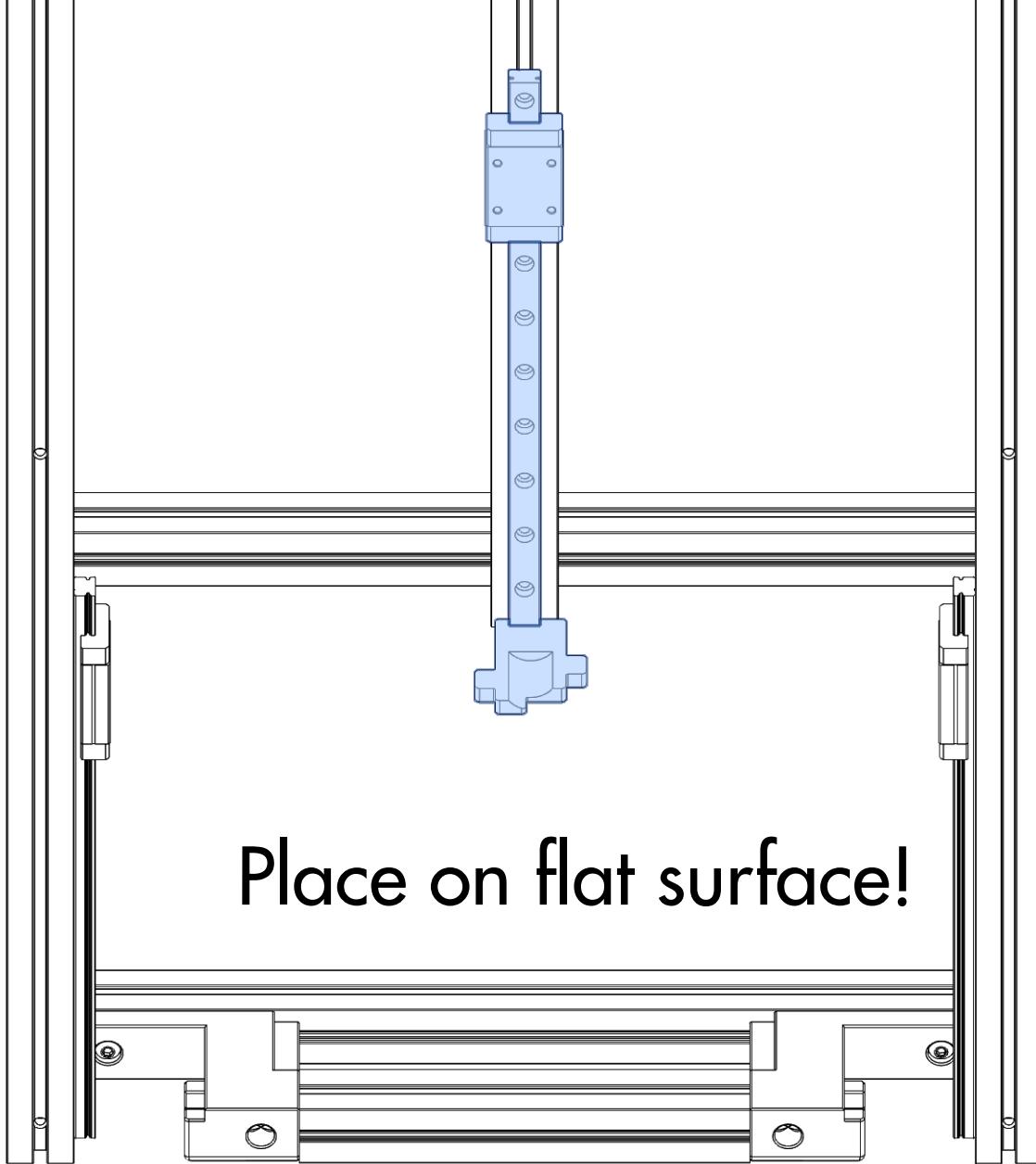
Use Multitool as a spacer

P39

Frame Assembly

Master Mob





150mm MGN7H
& Nut Bar

Secure with M2x8 SHCS

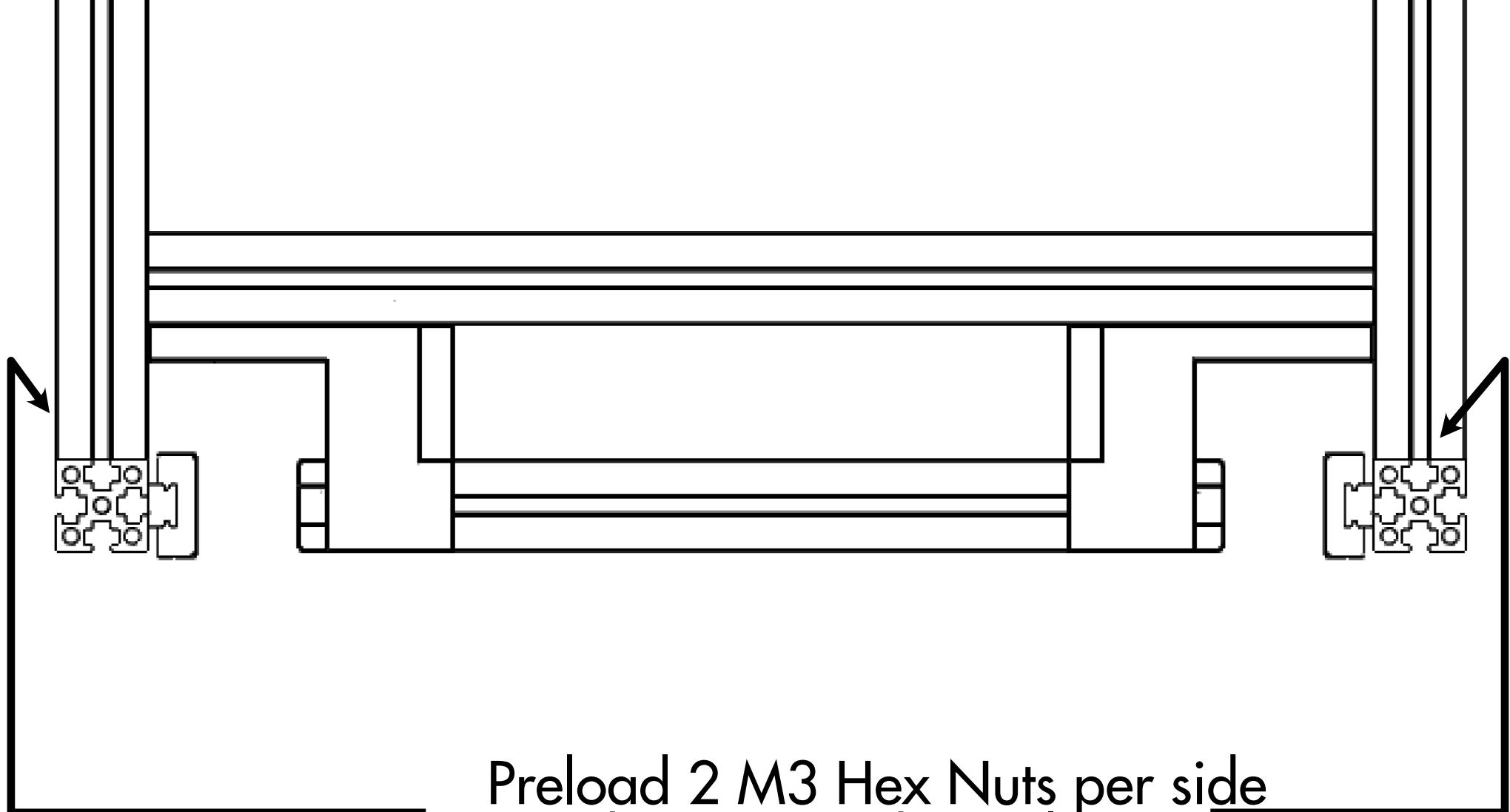
Use Multitool as
a spacer



Mastur Mods

Frame Assembly

P40



Preload 2 M3 Hex Nuts per side
into the interior channel.

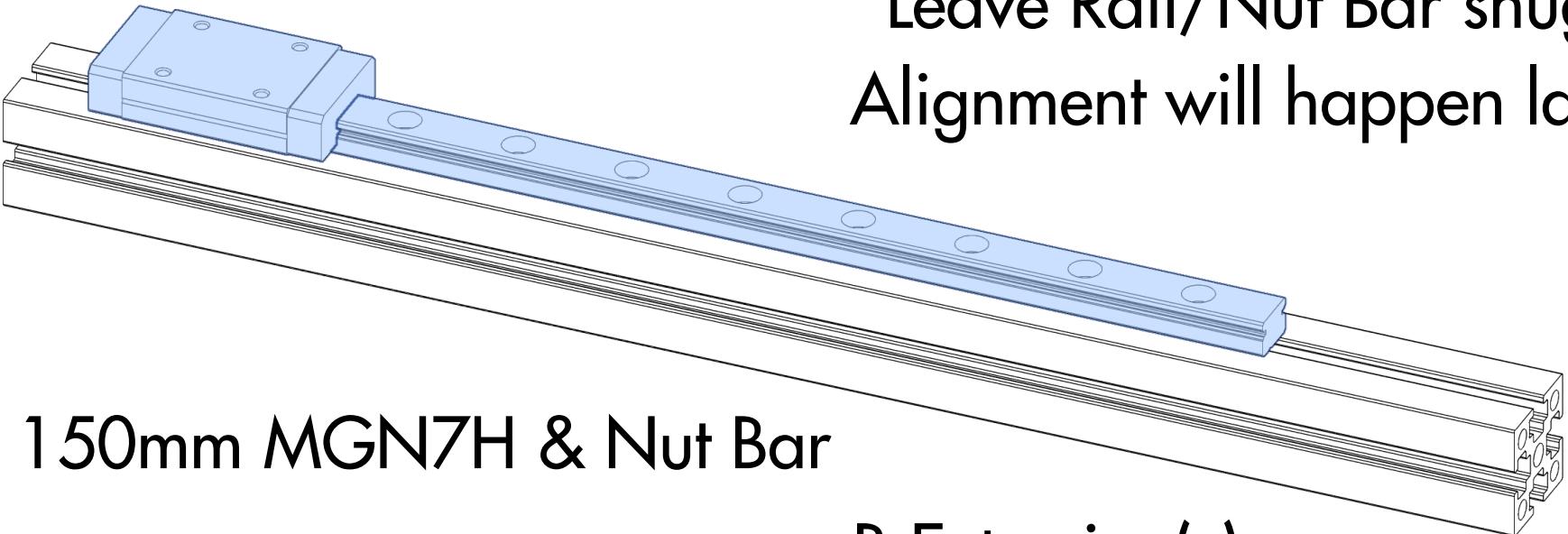


Mastur Mods

Frame Assembly

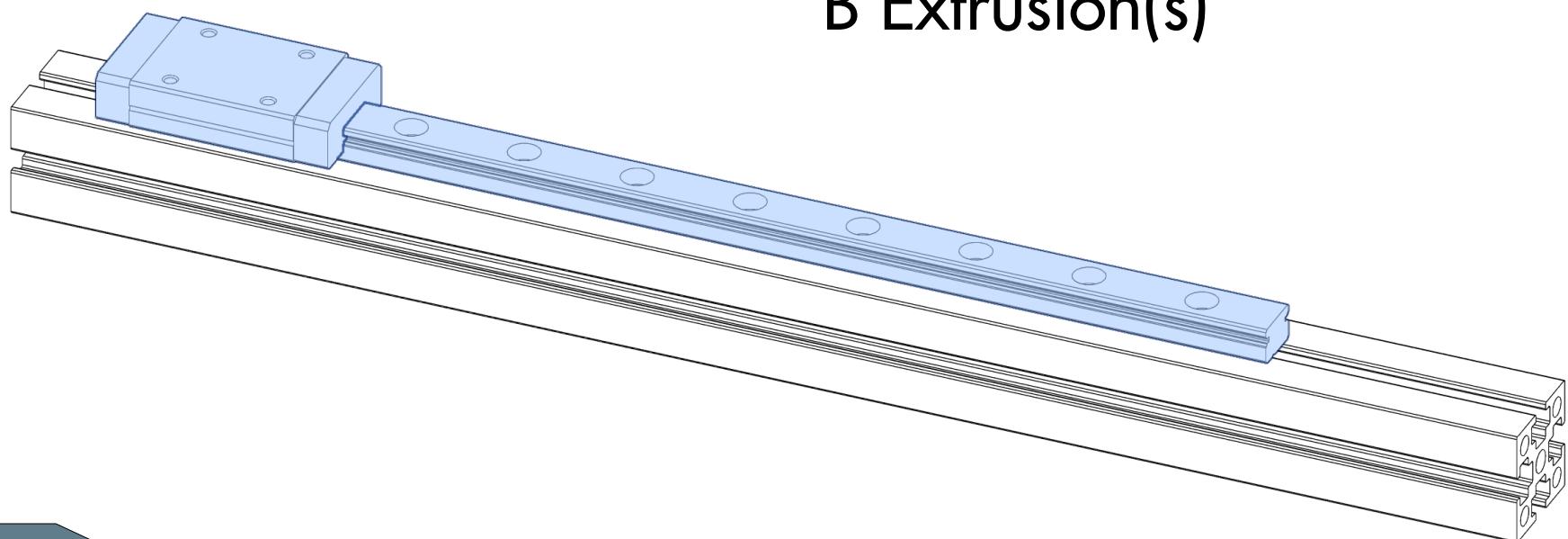
P41

Leave Rail/Nut Bar snug,
Alignment will happen later



150mm MGN7H & Nut Bar

B Extrusion(s)



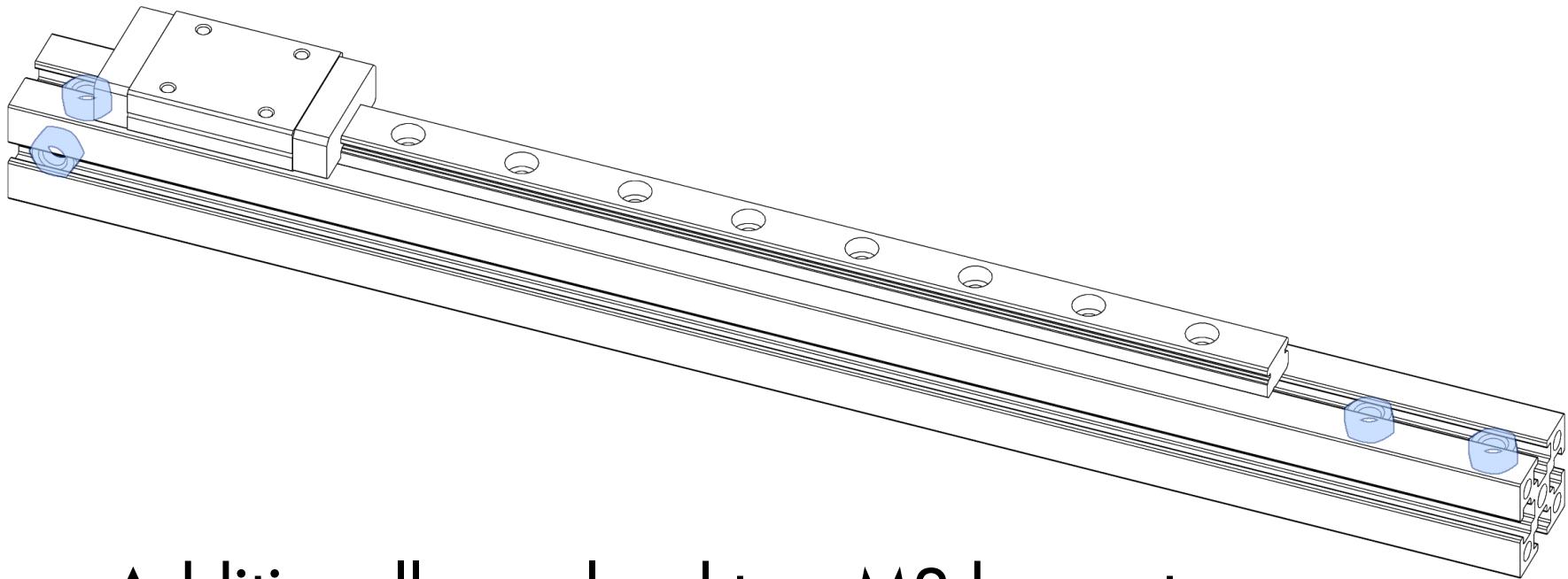
Mastur Mods

Frame Assembly

P42

Right Gantry

Preload M3 Hex Nuts as shown



Additionally, preload two M3 hex nuts
into the bottom of the extrusion.



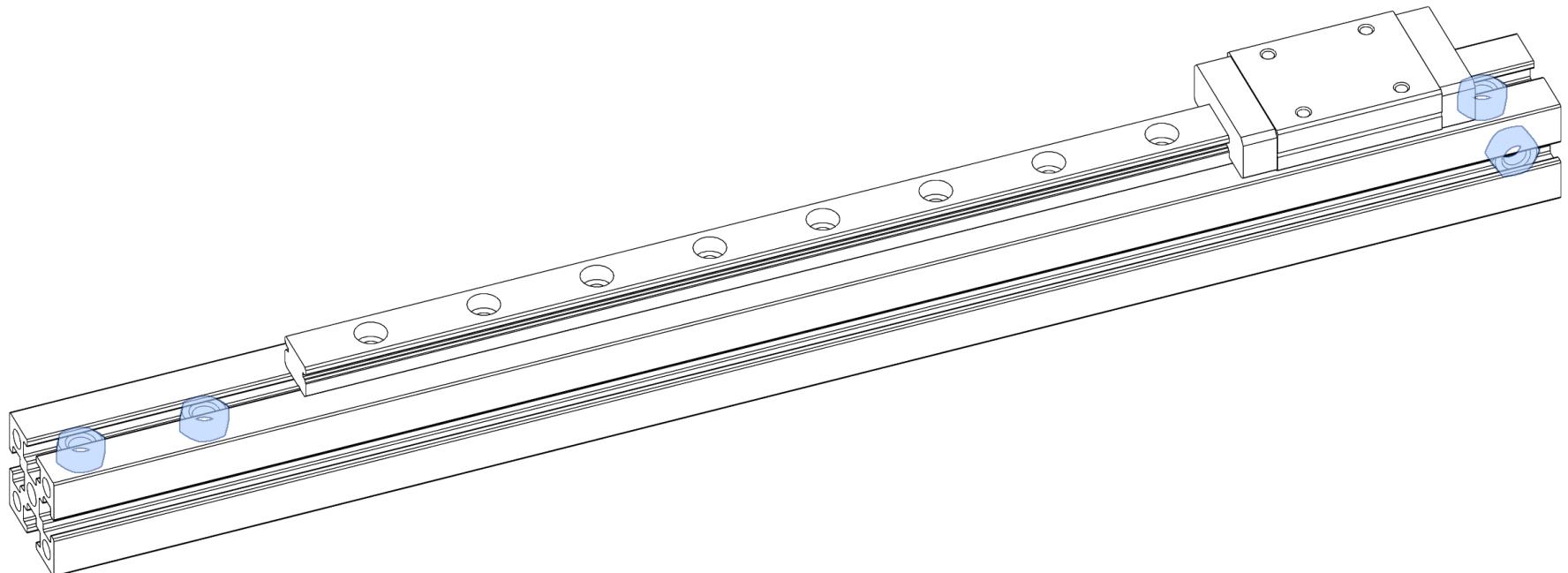
Mastur Mods

Frame Assembly

P43

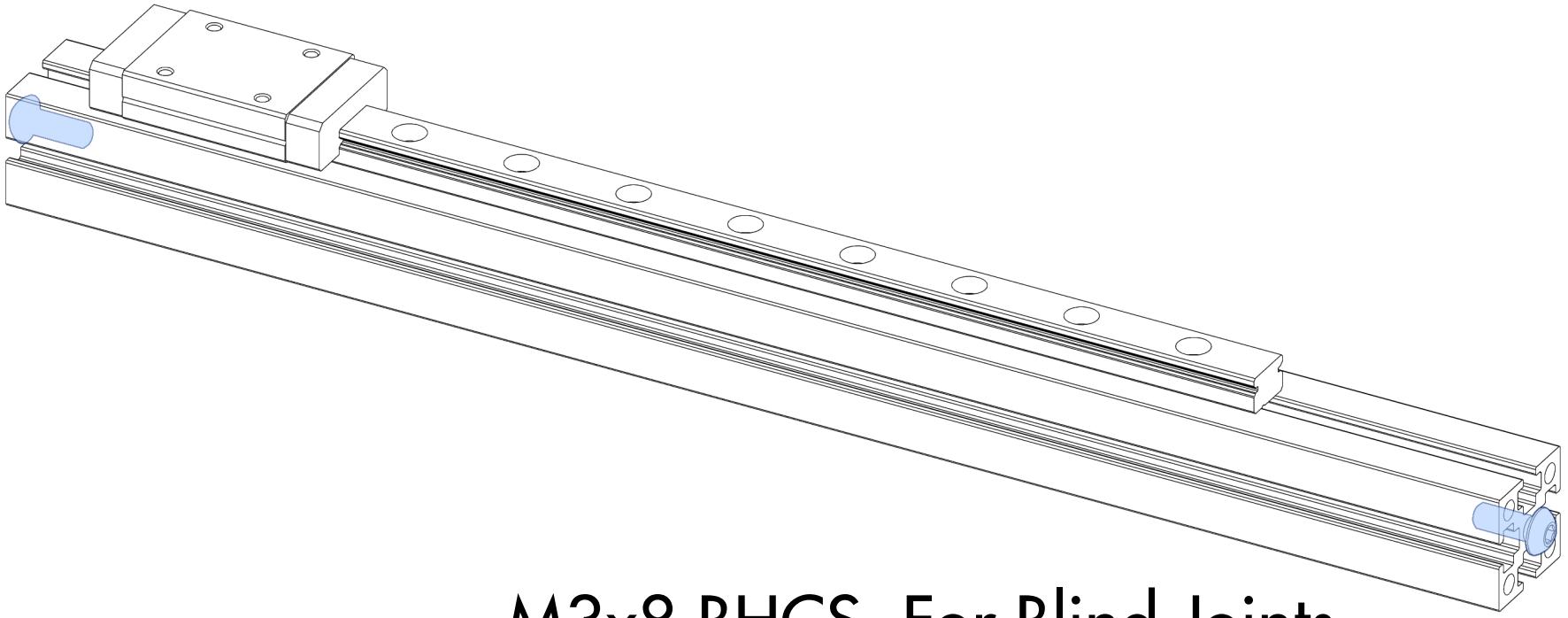
Left Gantry

Preload M3 Hex Nuts as shown

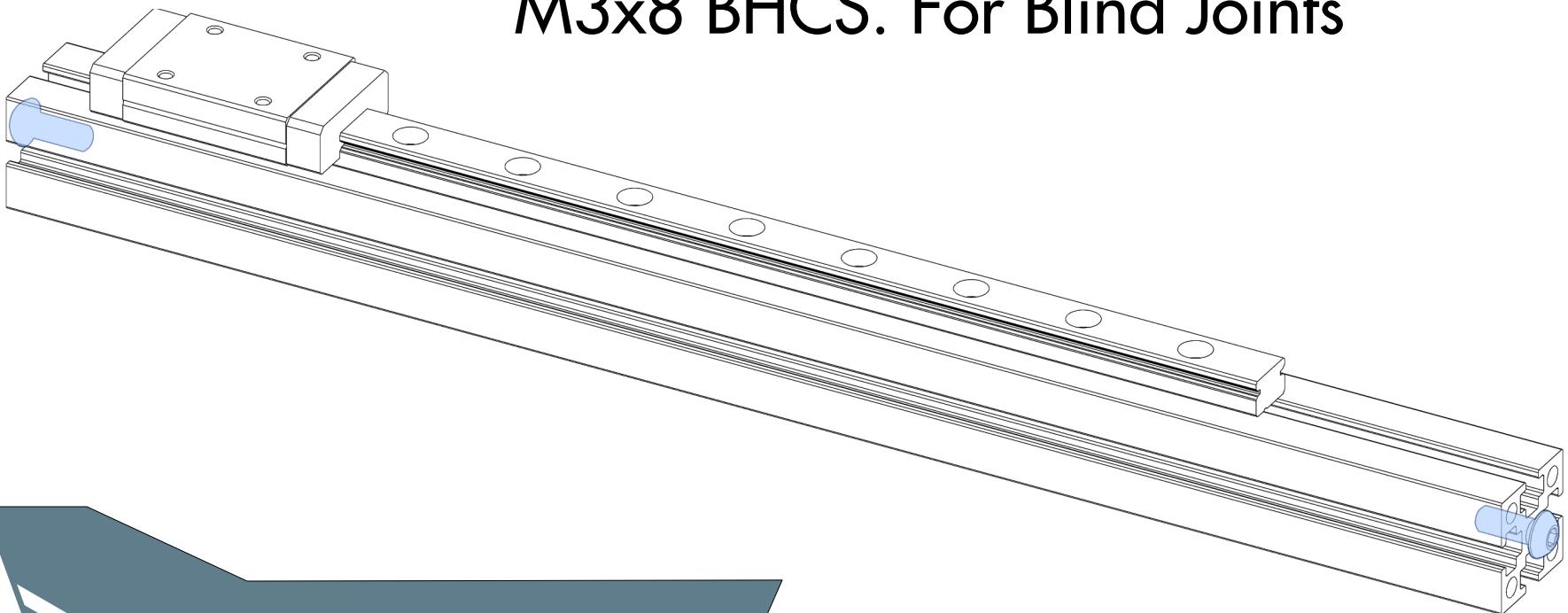


Additionally, preload two M3 hex nuts into the bottom of the extrusion.





M3x8 BHCS. For Blind Joints

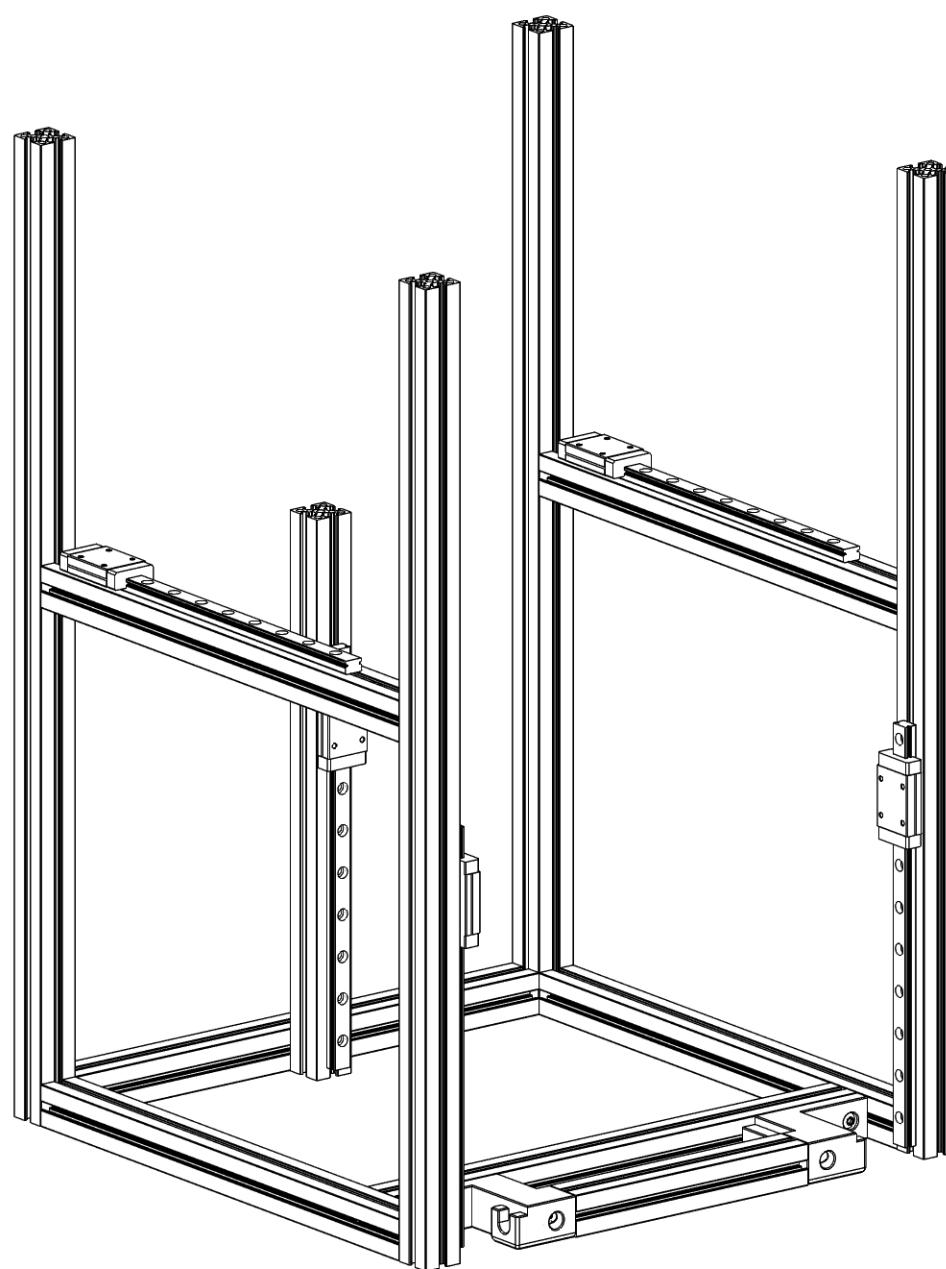


Mastur Mods

Frame Assembly

P45

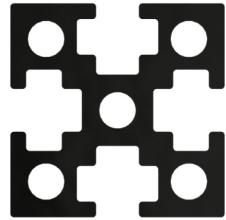
Tighten Blind Joints



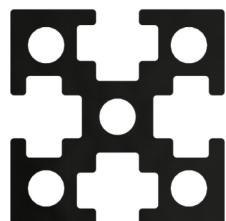
Mastur Mods

Frame Assembly

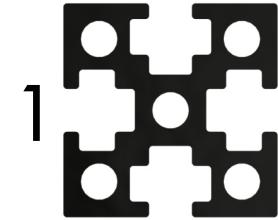
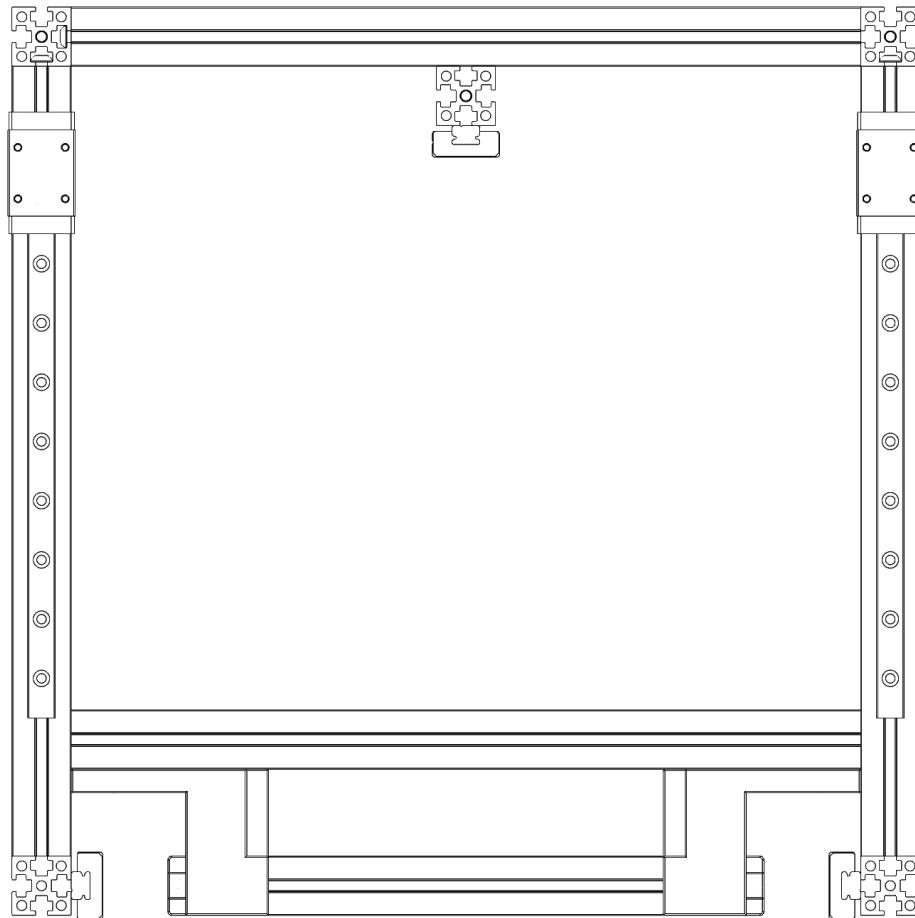
P46



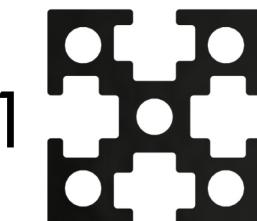
1



1

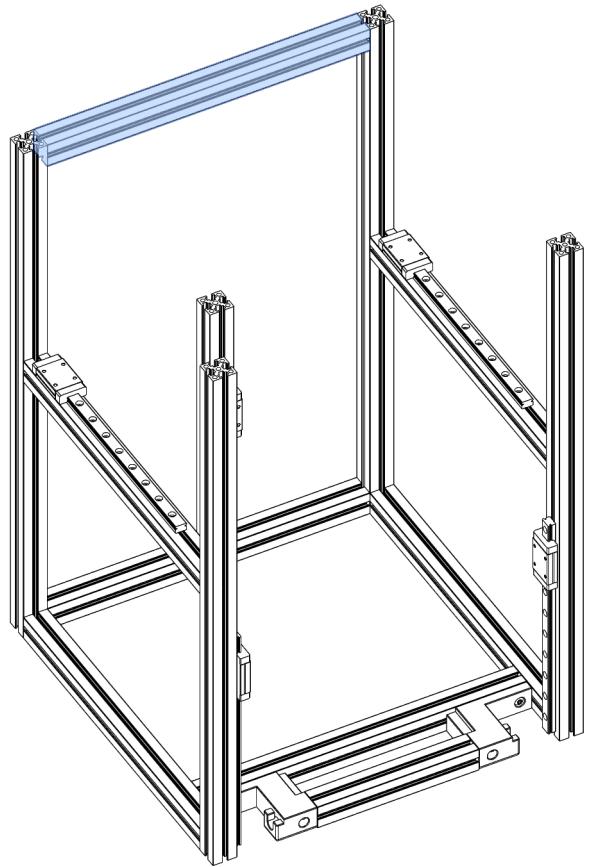


1

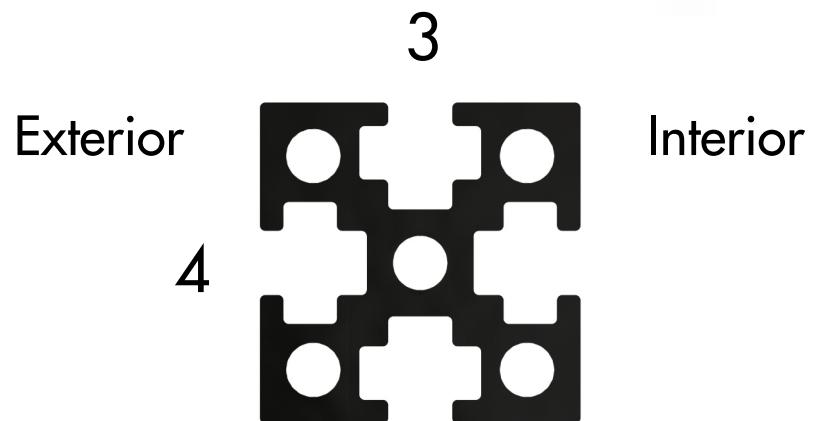
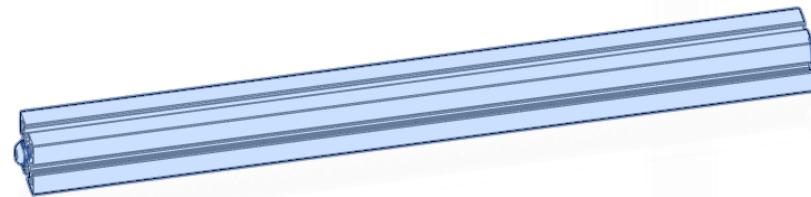


1

*Mastur Mods**Frame Assembly**P47*



"B" Extrusion



2x M3x8 BHCS for the ends for blind joints.

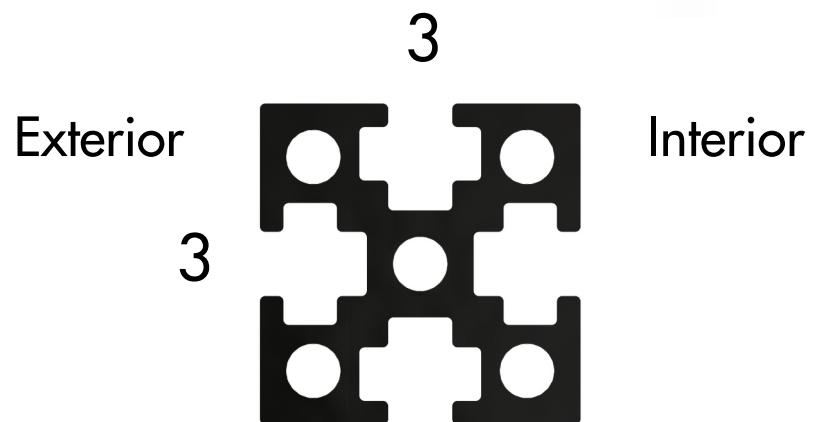
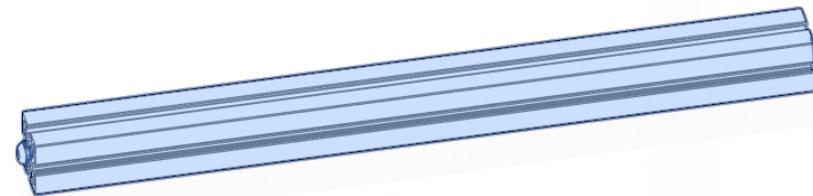
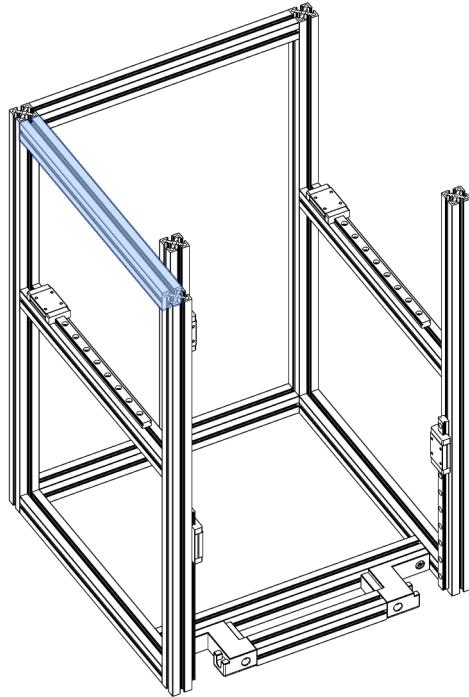


Mastur Mods

Frame Assembly

P48

"B" Extrusion



2x M3x8 BHCS for the ends for blind joints.

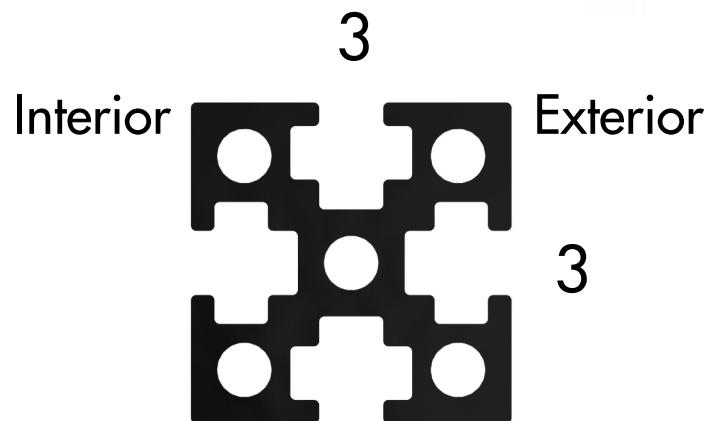
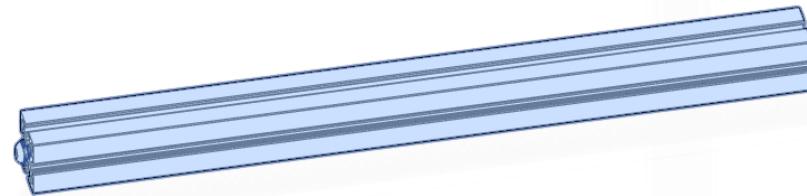
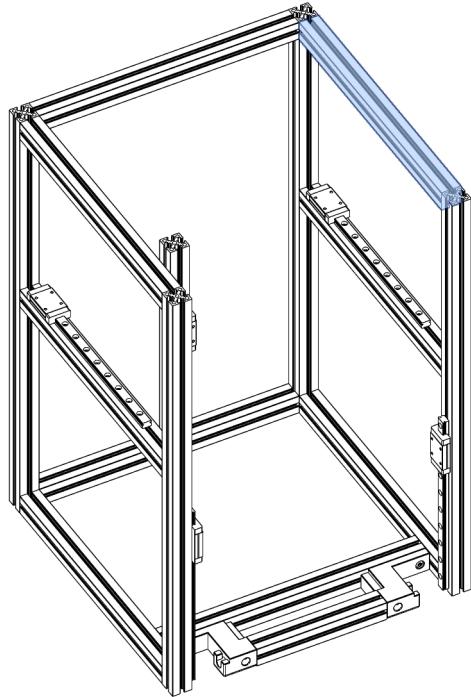


Mastur Mods

Frame Assembly

P49

"B" Extrusion



2x M3x8 BHCS for the ends for blind joints.

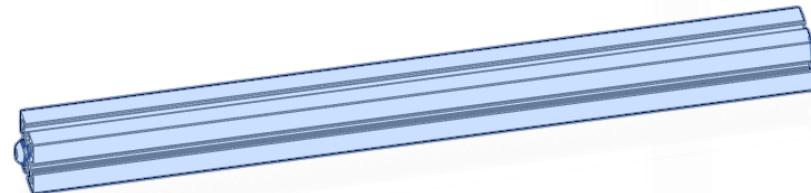
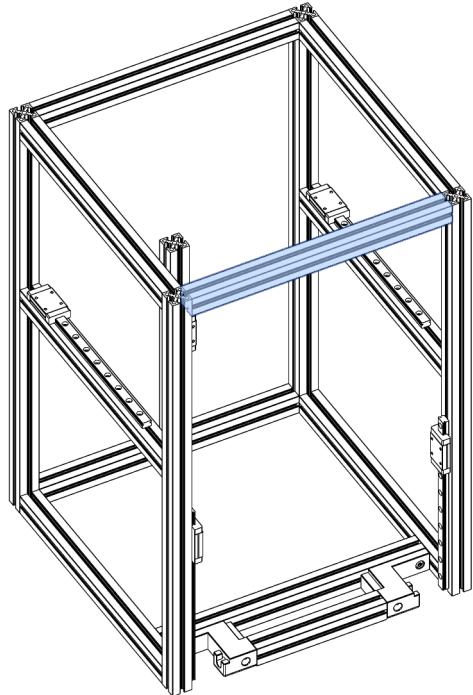


Mastur Mods

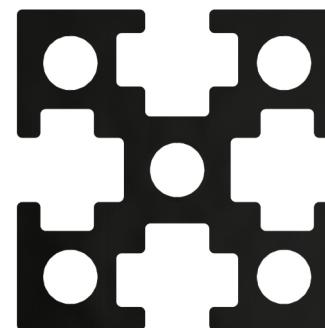
Frame Assembly

P50

"B" Extrusion



3



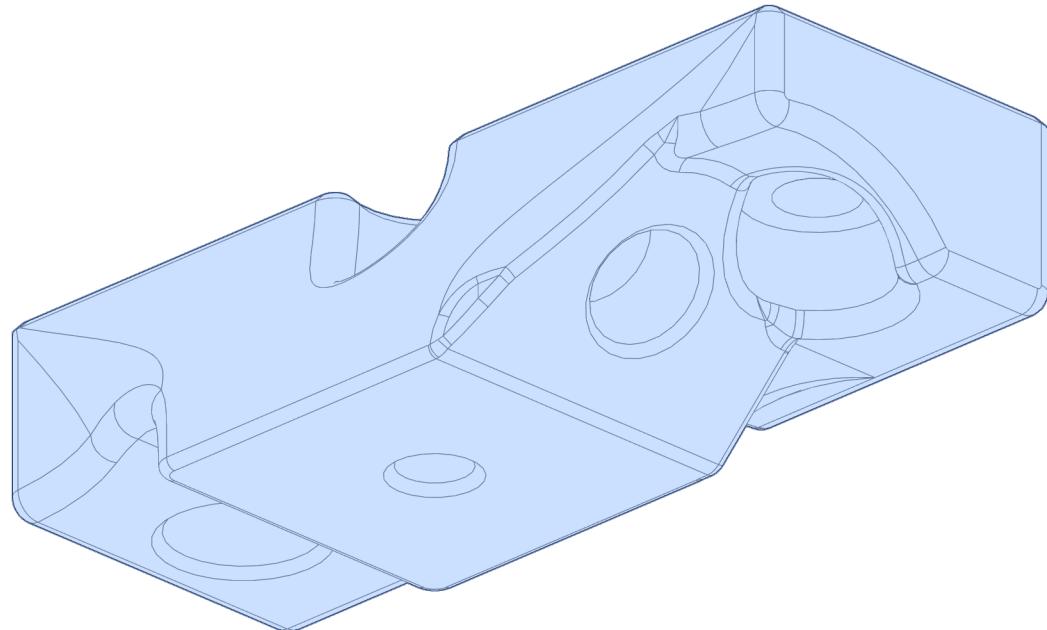
2x M3x8 BHCS for the ends for blind joints.



Mastur Mods

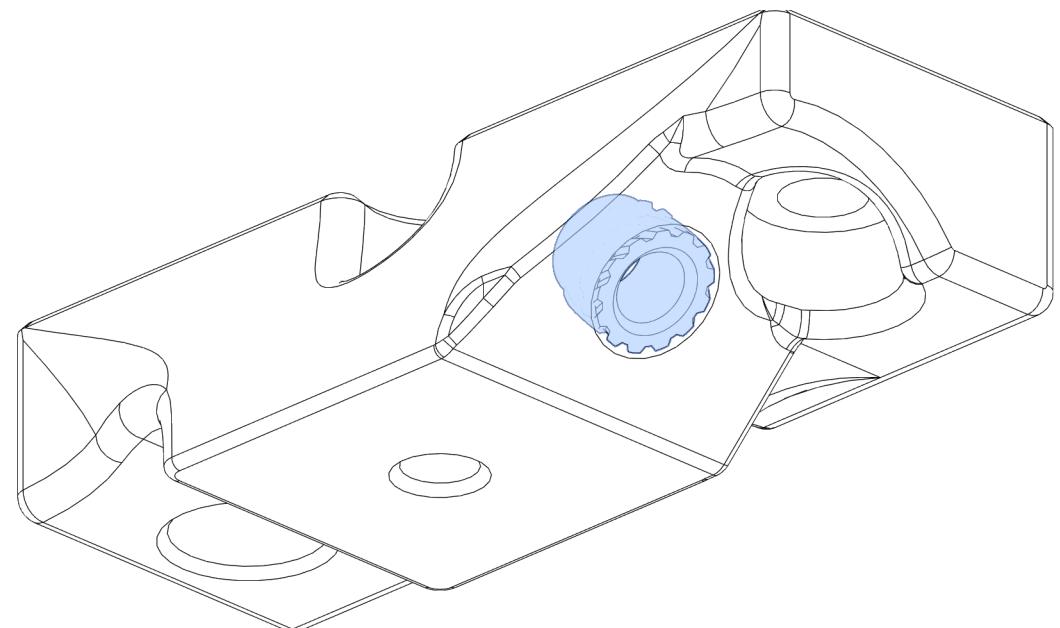
Frame Assembly

P51



frame_brace_gantry

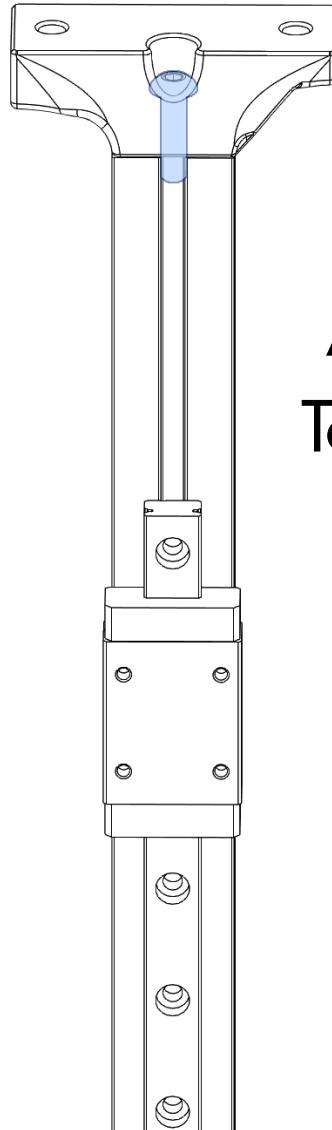
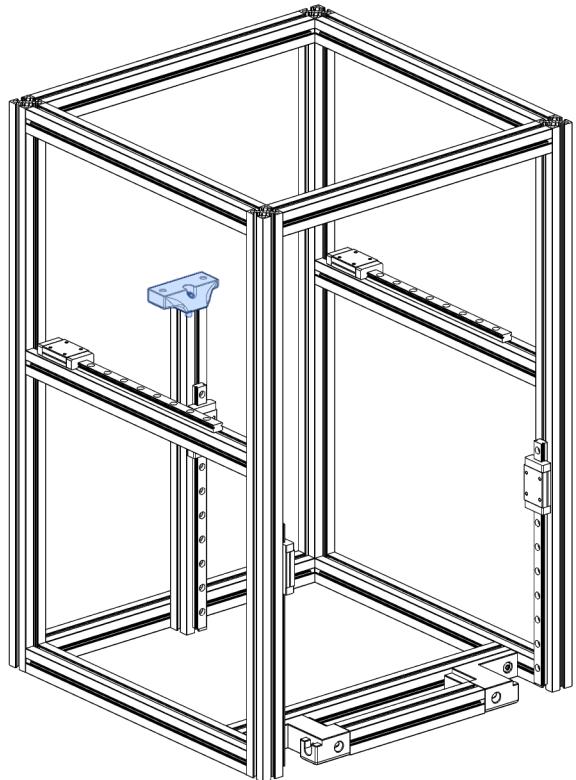
M3 Heatset Insert



Mastur Mods

Frame Assembly

P52



Affix with a M3x12 BHCS
To the middle rear extrusion

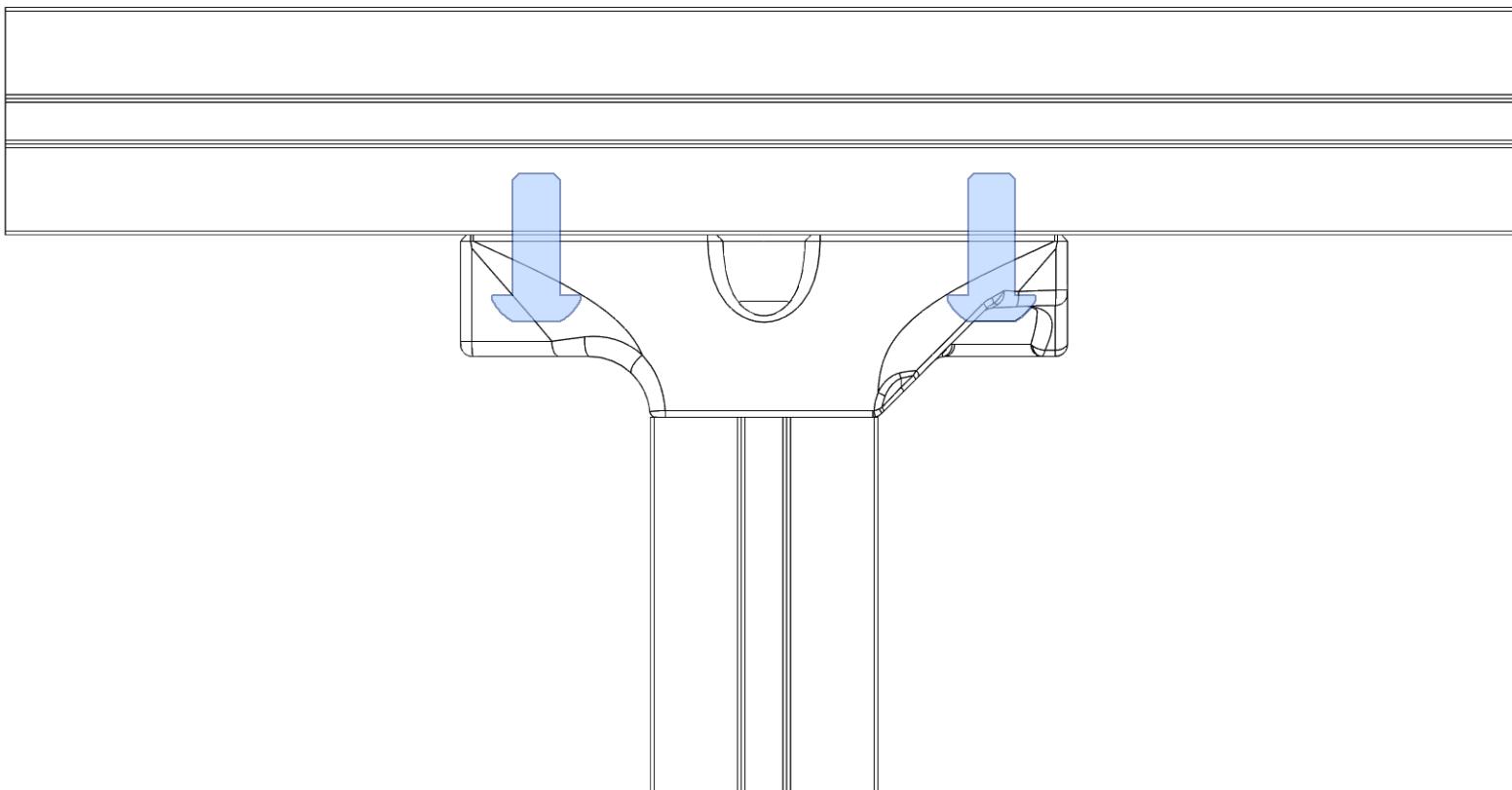


Mastur Mods

Frame Assembly

P53

Affix "G" Extrusion using M3x8 BHCS



Mastur Mods

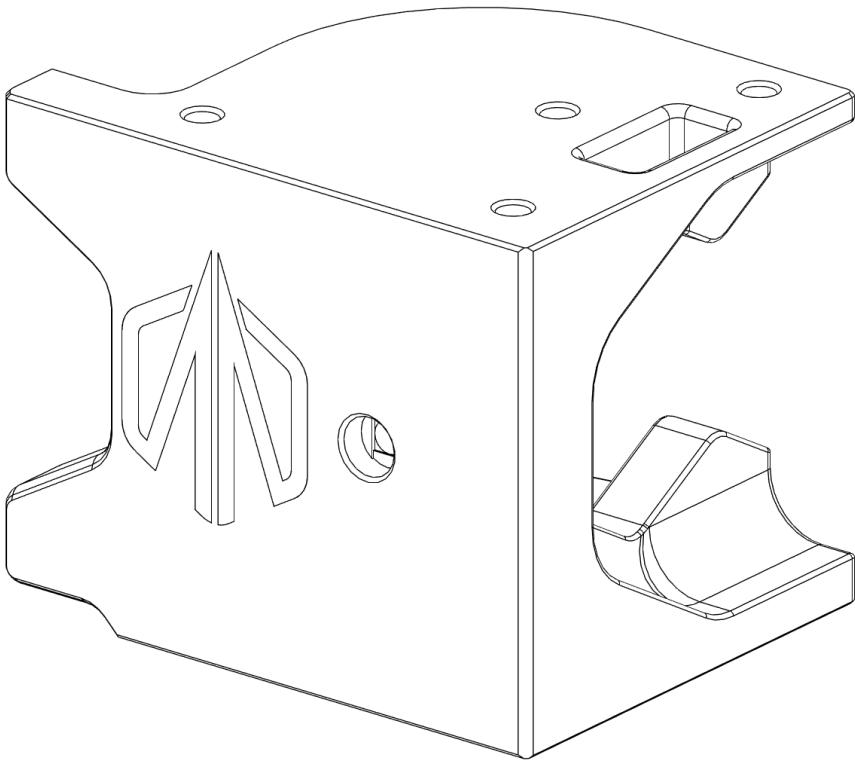
Frame Assembly

P54

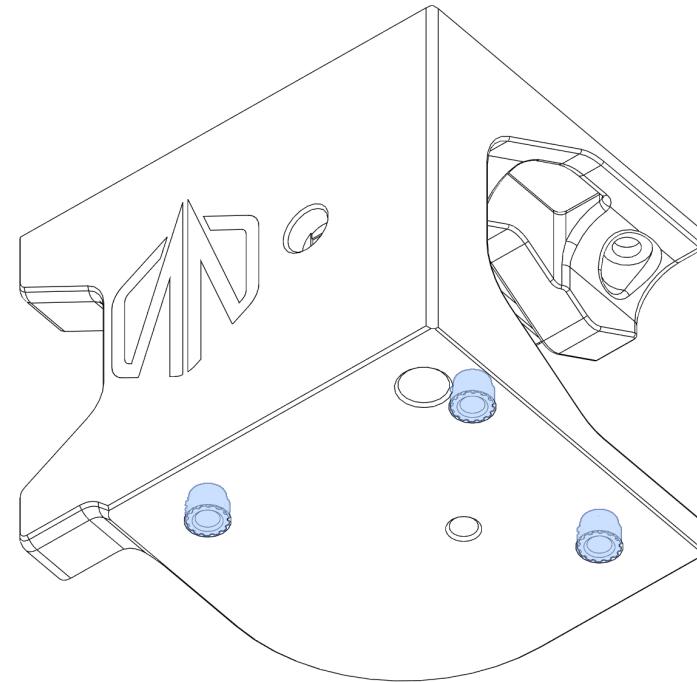


Mastur Mods

Corner Post Assembly P55



`leg_front_left`

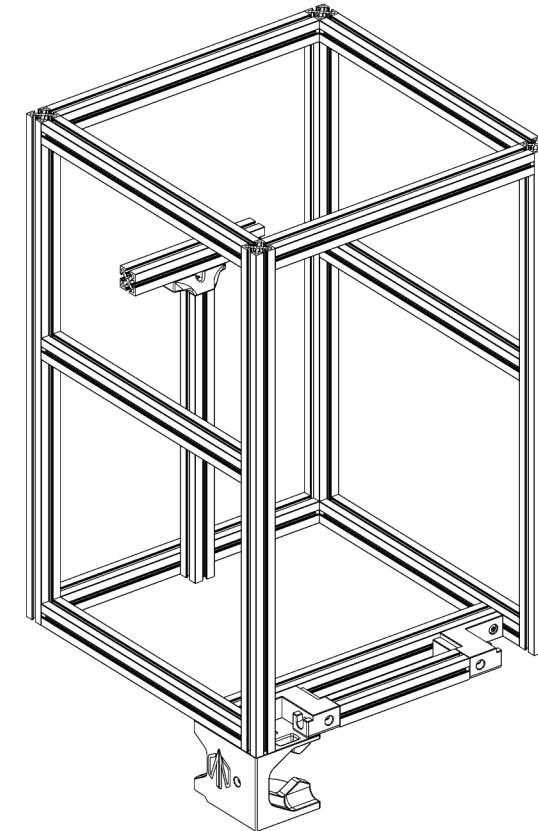
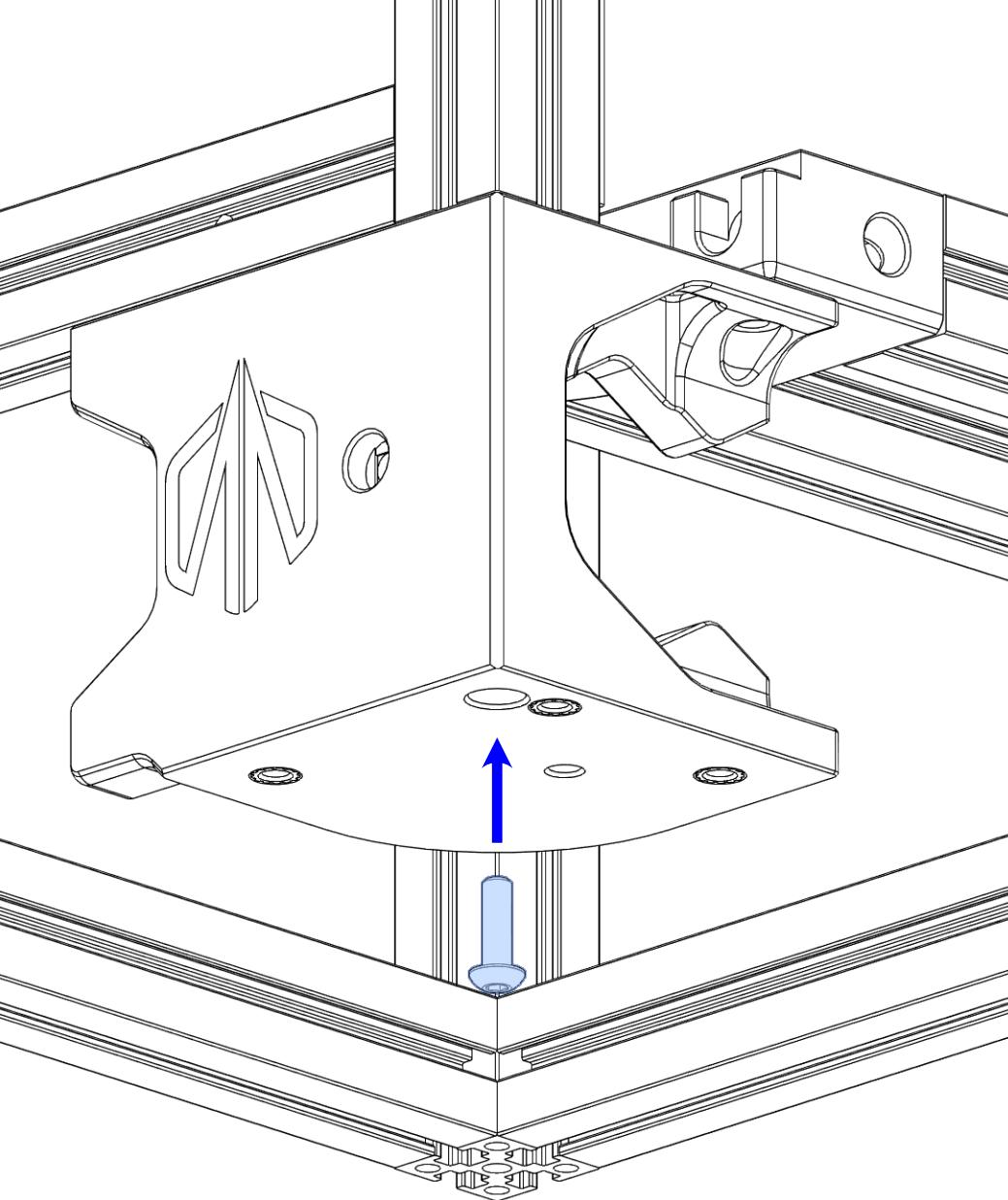


Insert M3 Heatset Inserts as shown.



Mastur Mods

Corner Post Assembly P56



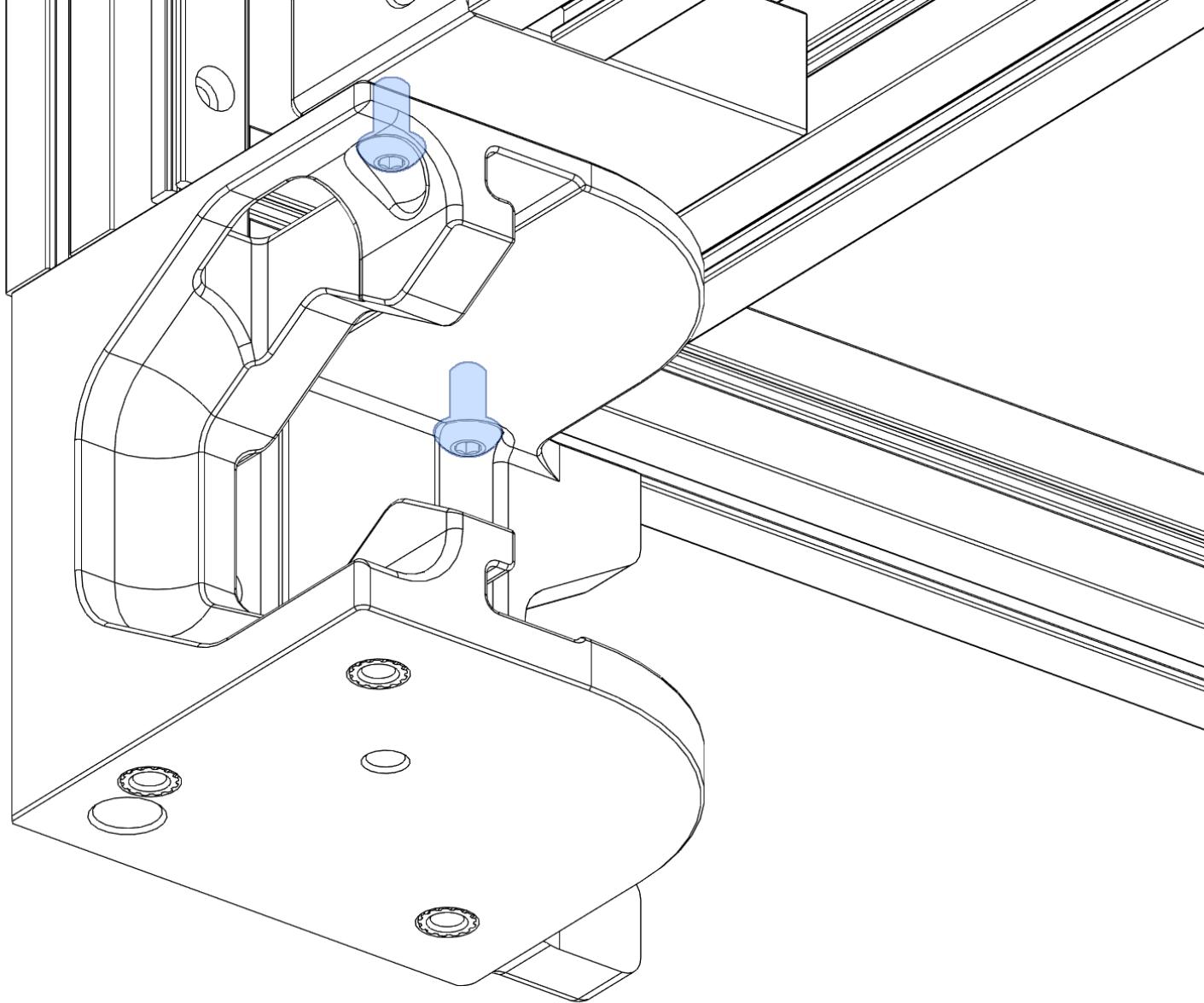
Insert M3x10 BHCS into channel
Screw into front left extrusion



Mastur Mods

Corner Post Assembly P57

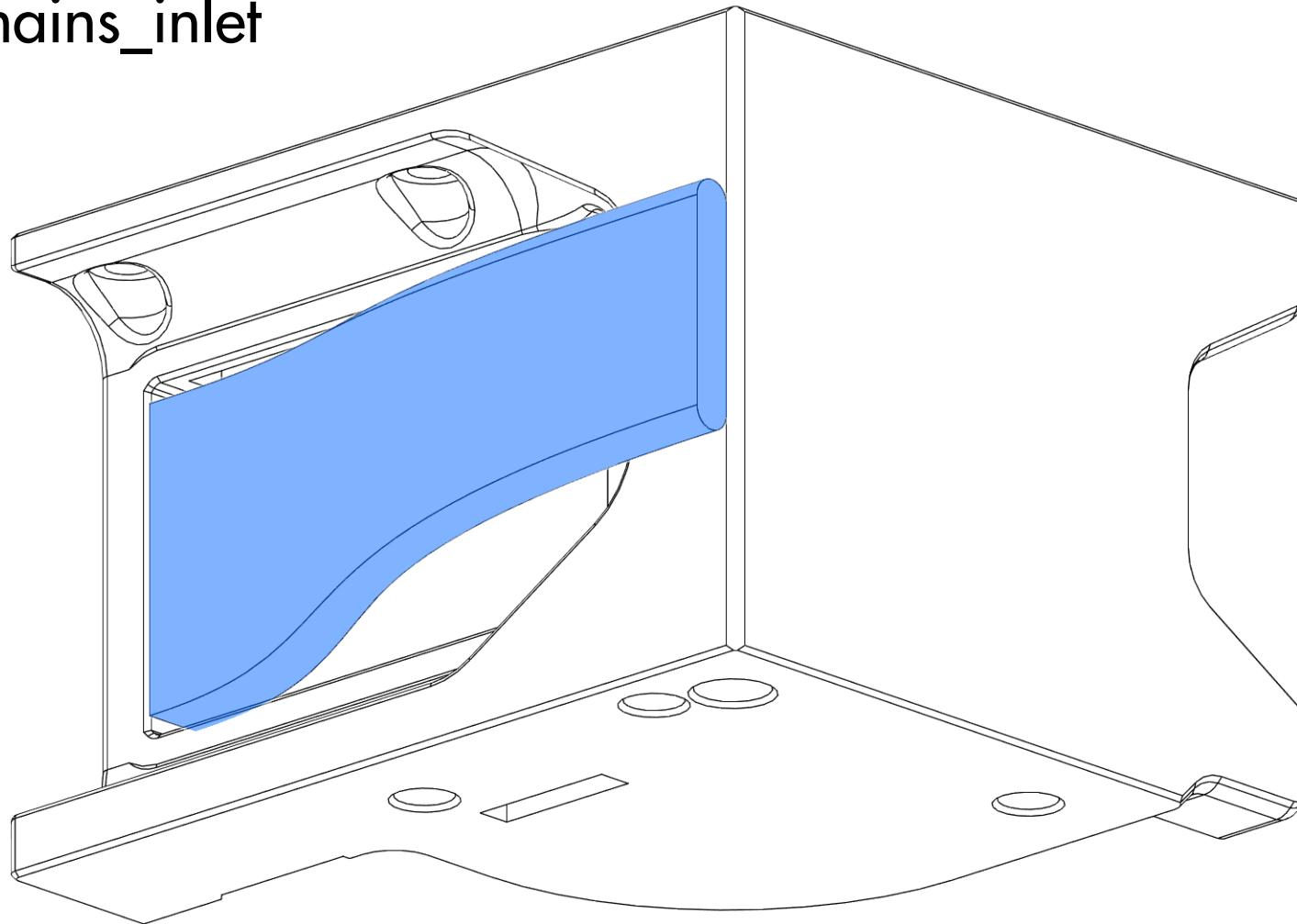
M3x6 BHCS x2



Mastur Mods

Corner Post Assembly P58

leg_mains_inlet

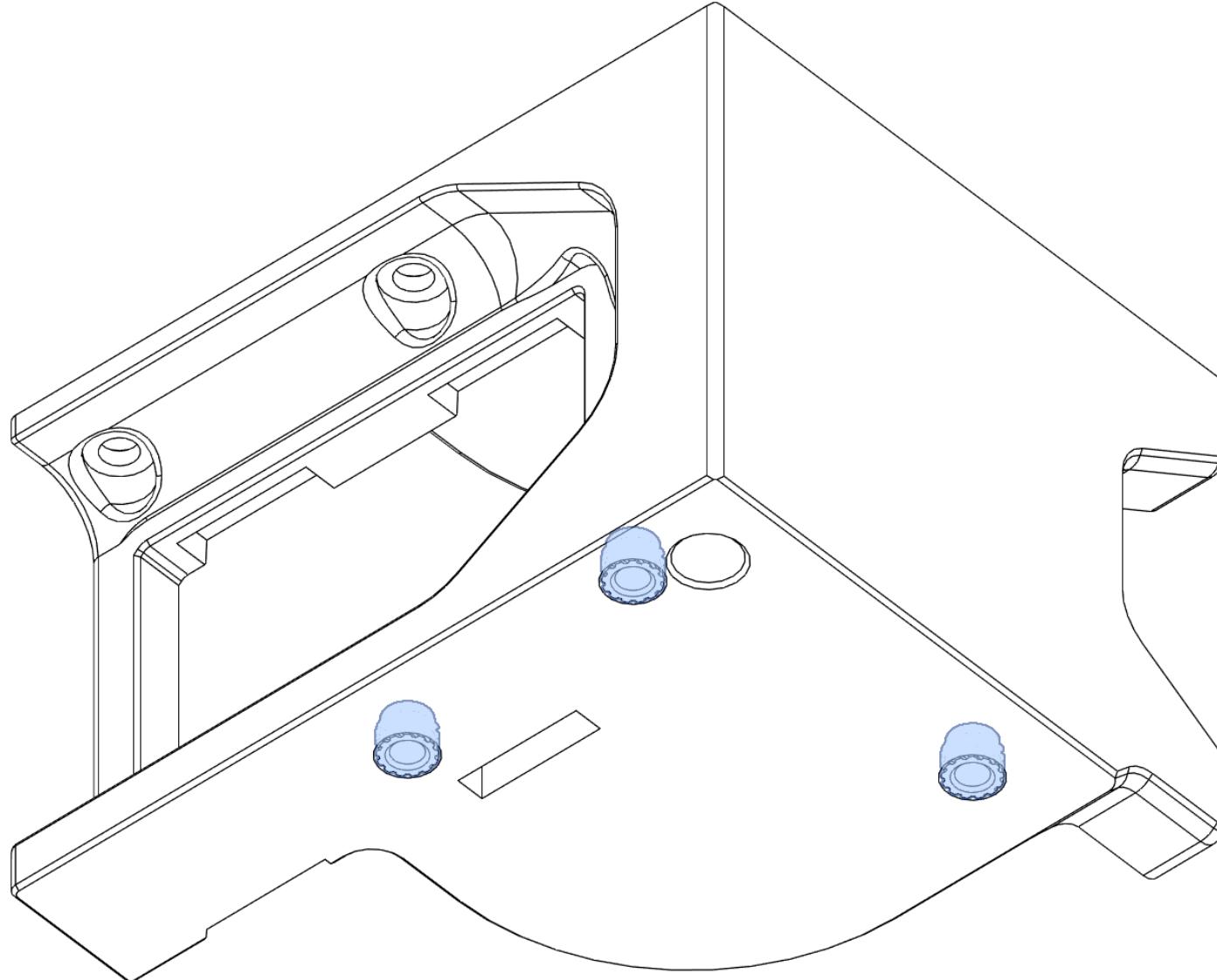


Remove highlighted support structure



Mastur Mods

Corner Post Assembly P59

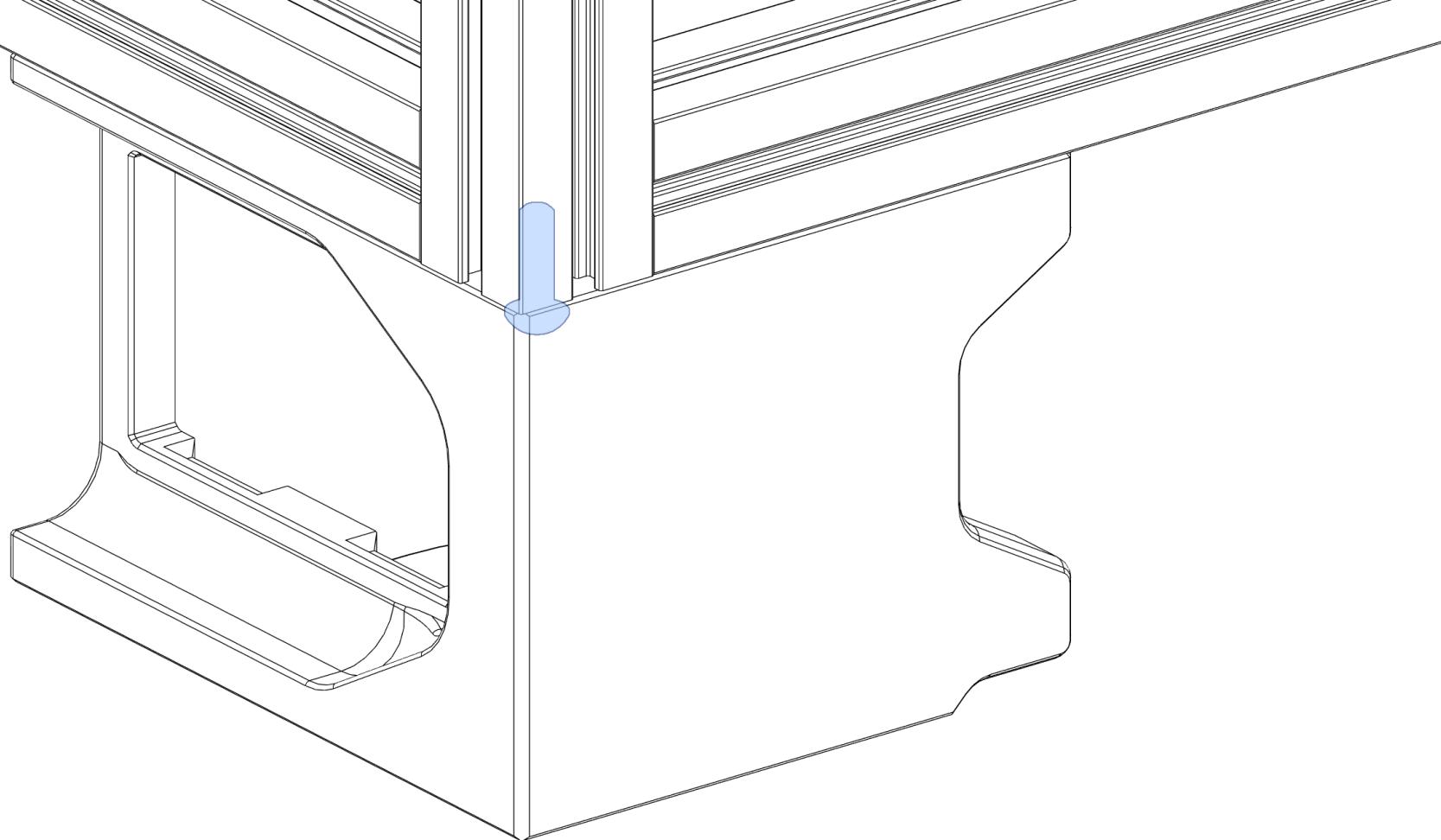


Insert M3 Heatsets



Mastur Mods

Corner Post Assembly **P60**

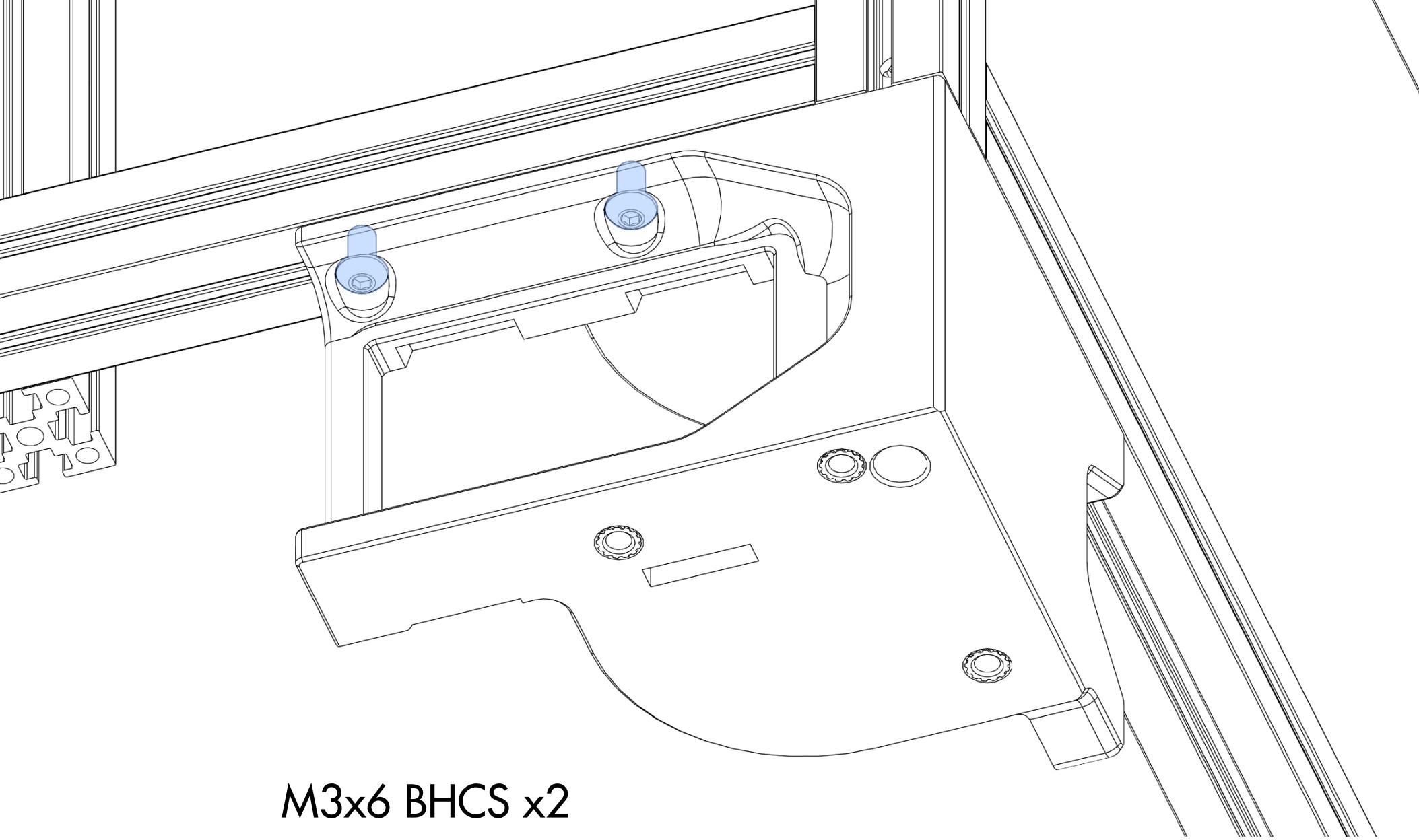


Like the other corner, insert a M3x10.



Mastur Mods

Corner Post Assembly P61



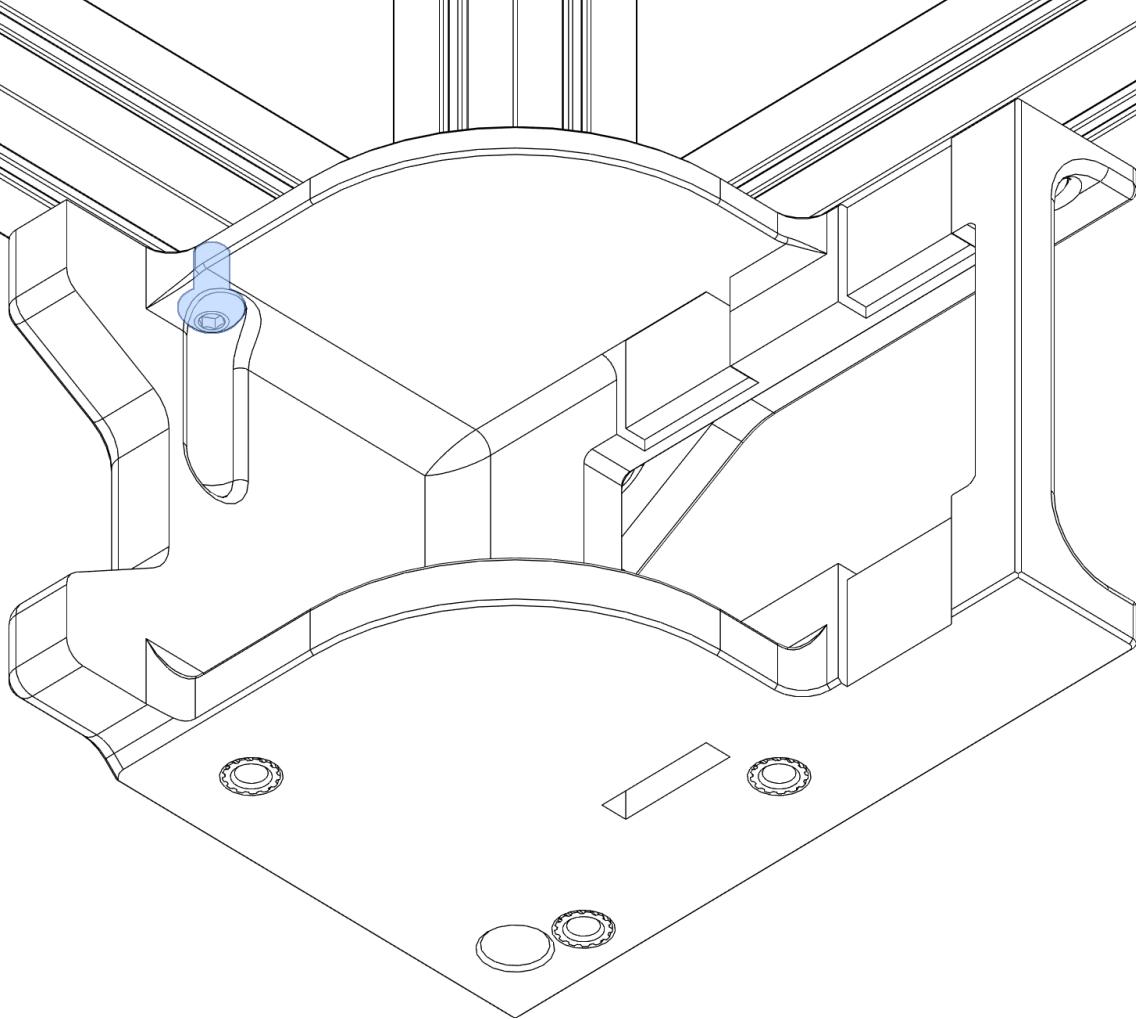
M3x6 BHCS x2



Mastur Mods

Corner Post Assembly P62

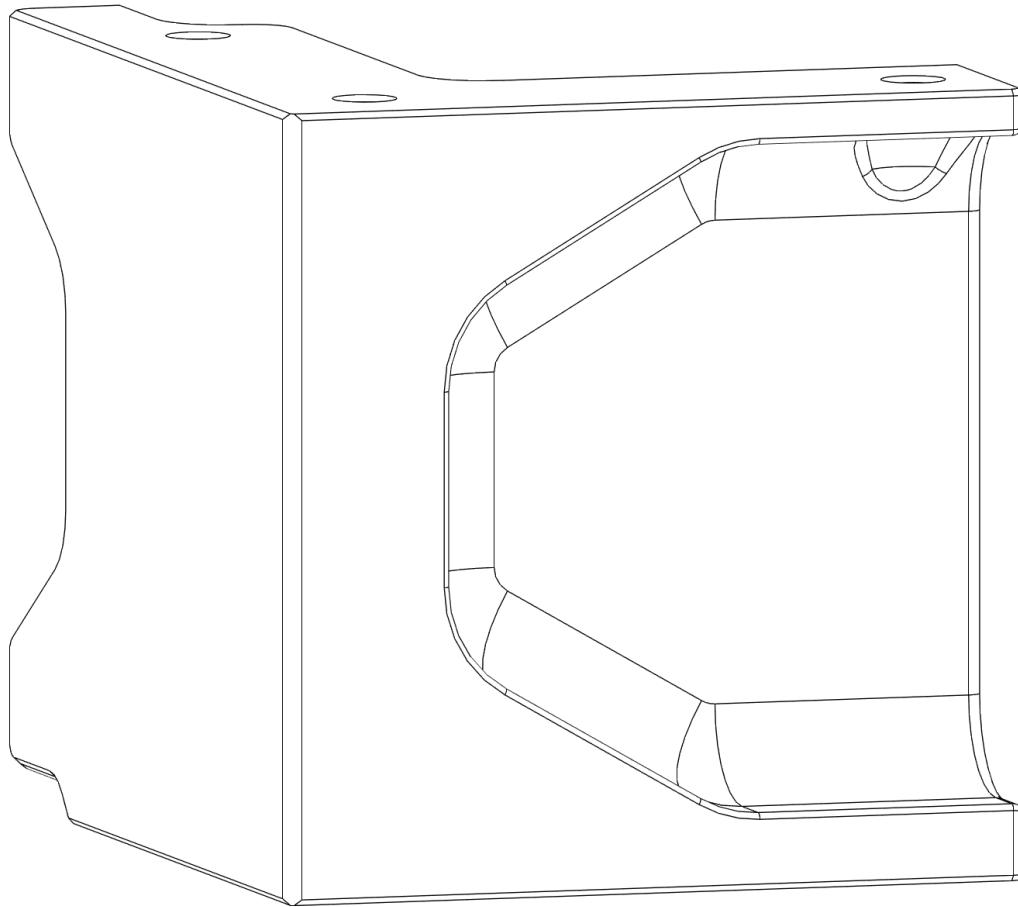
M3x6 BHCS



Mastur Mods

Corner Post Assembly P63

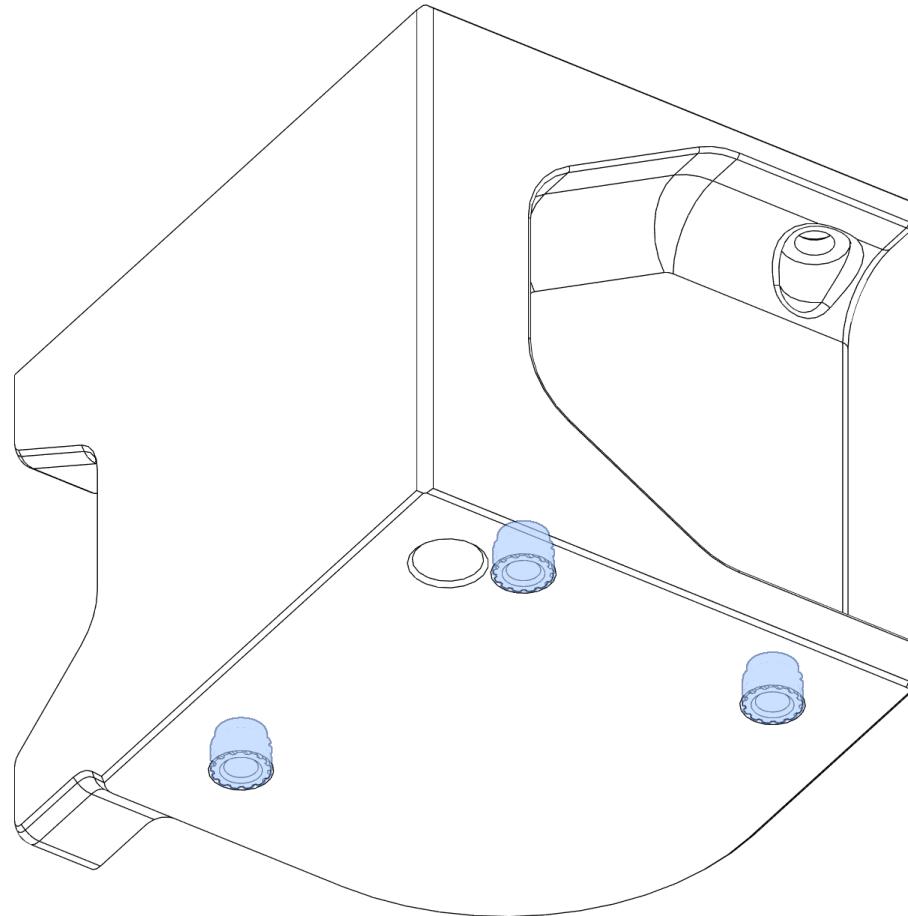
`leg_rear`
(Back right leg)



Mastur Mods

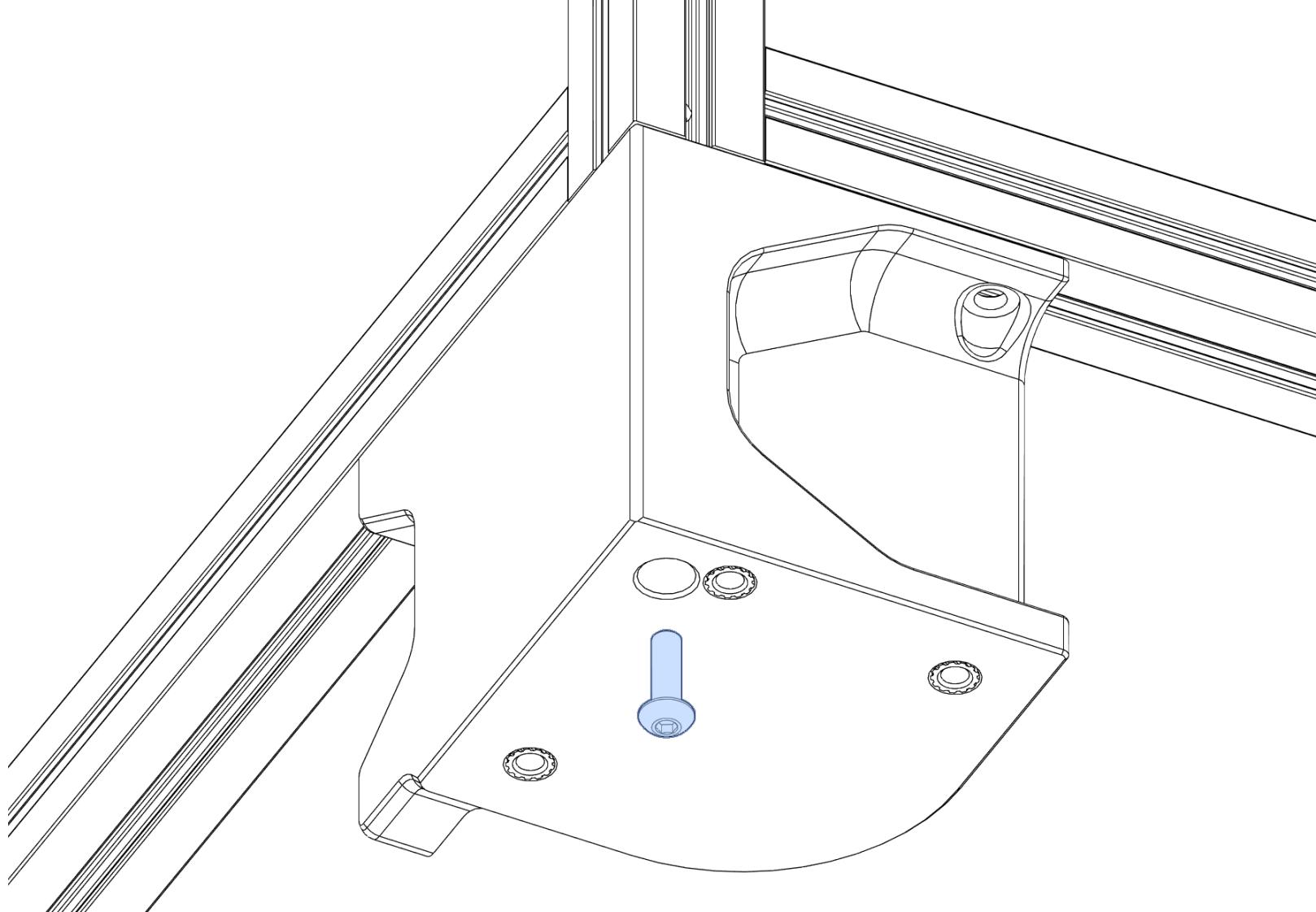
Corner Post Assembly P64

Insert M3 Heatsets



Mastur Mods

Corner Post Assembly P65



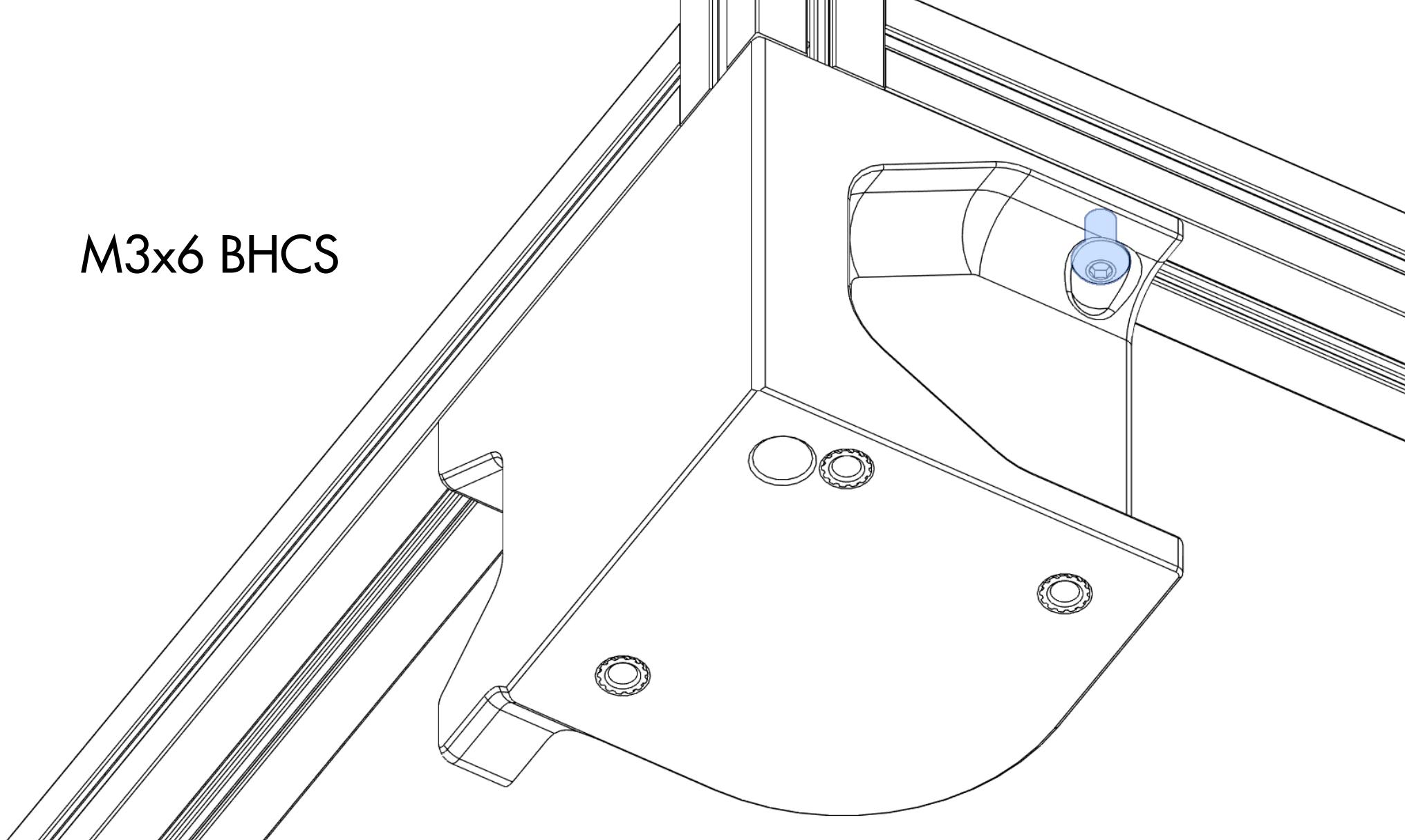
Akin to previous legs, insert a M3x10 BHCS & bolt to the extrusion.



Mastur Mods

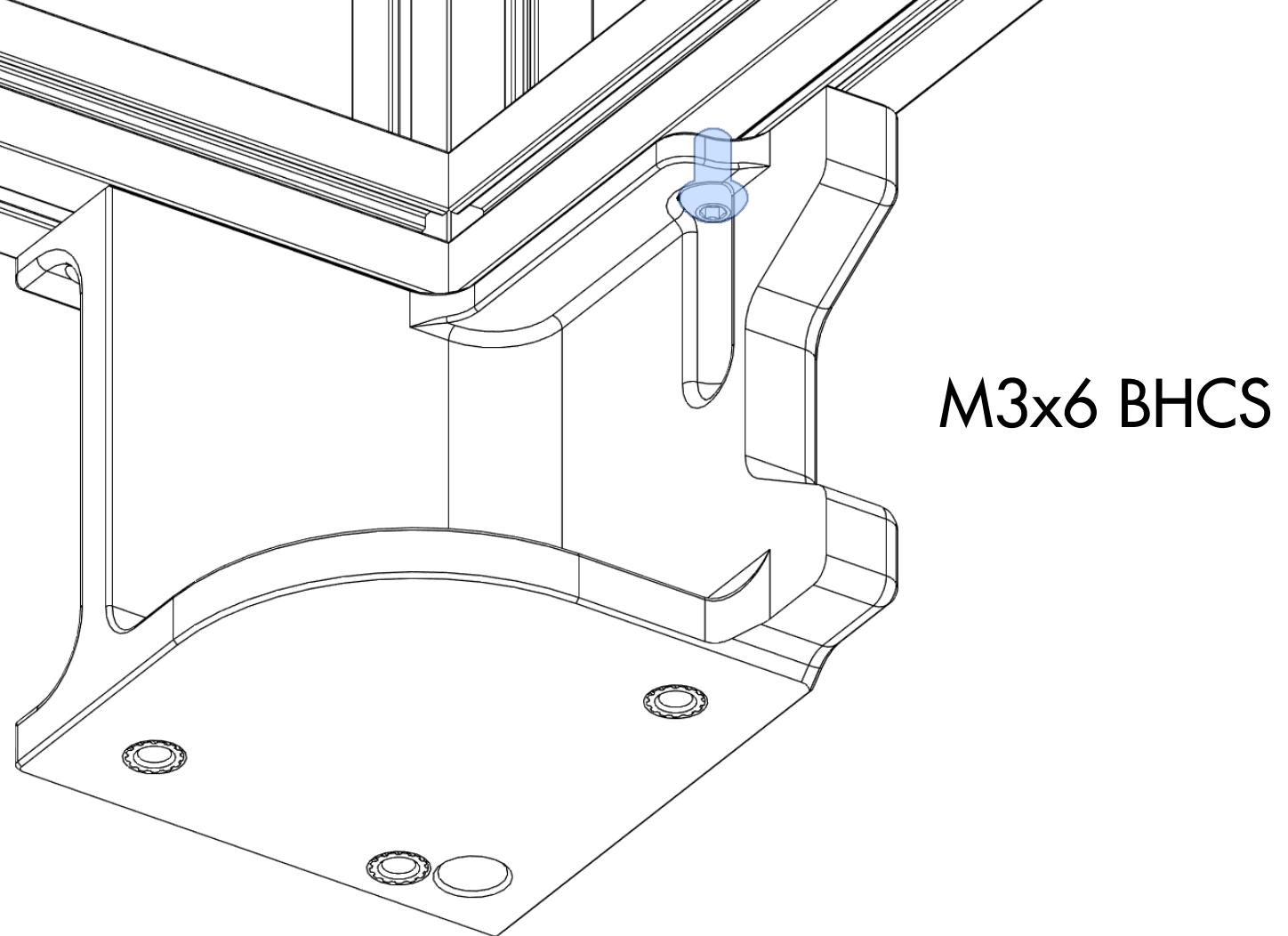
Corner Post Assembly P66

M3x6 BHCS



Mastur Mods

Corner Post Assembly P67

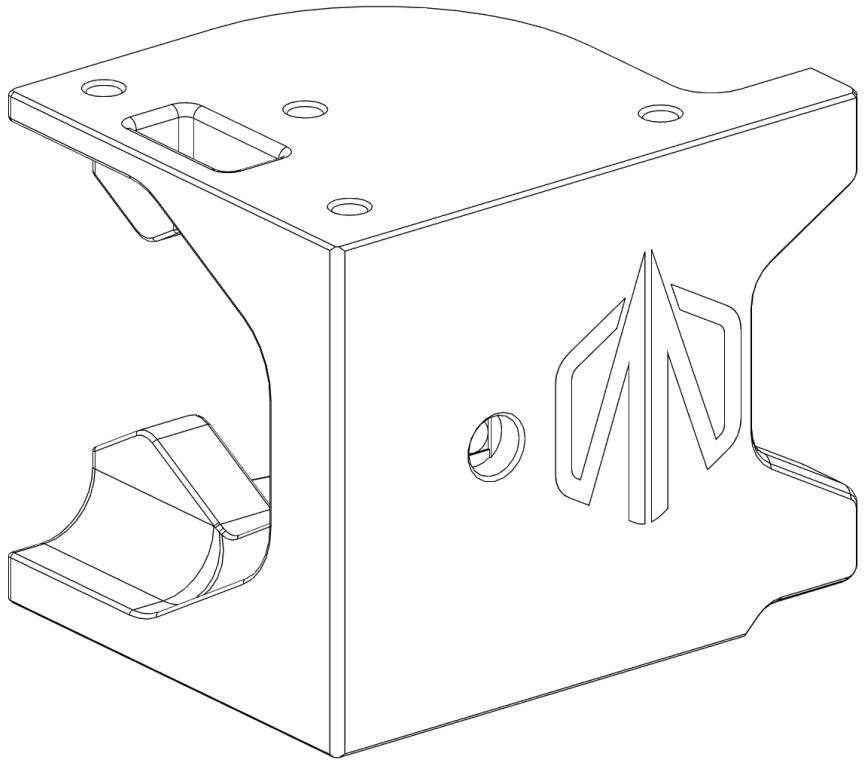


M3x6 BHCS

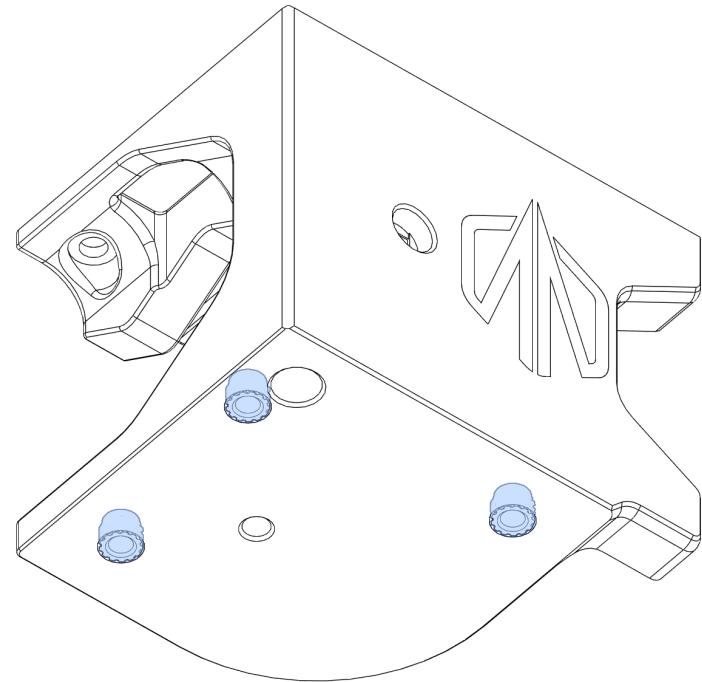


Mastur Mods

Corner Post Assembly P68



`leg_front_right`

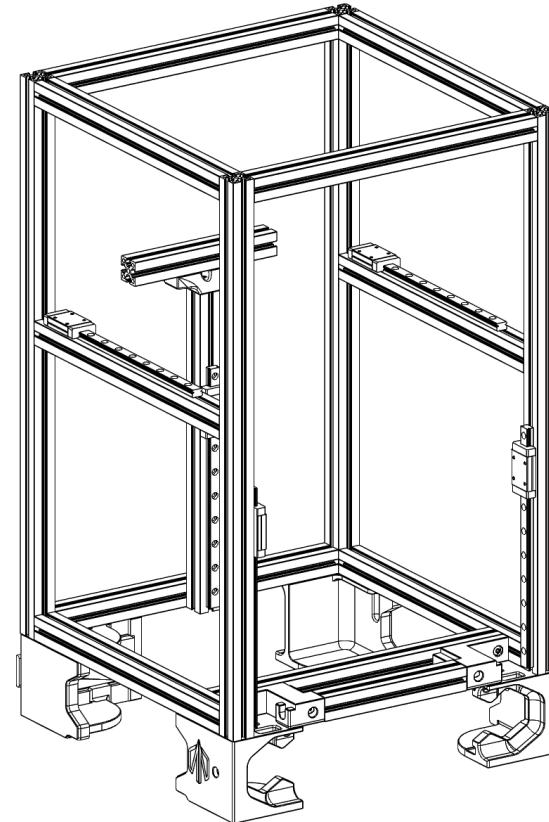
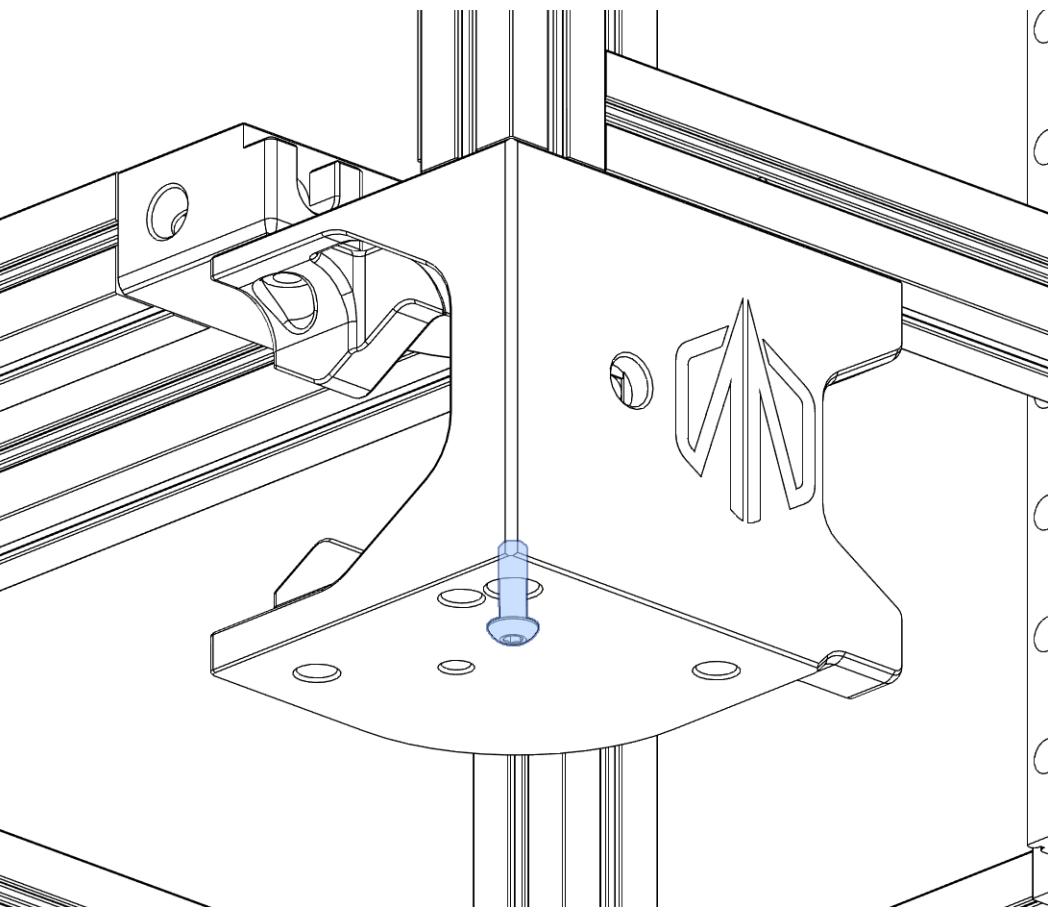


Insert M3 Heatset Inserts as shown.



Mastur Mods

Corner Post Assembly P69

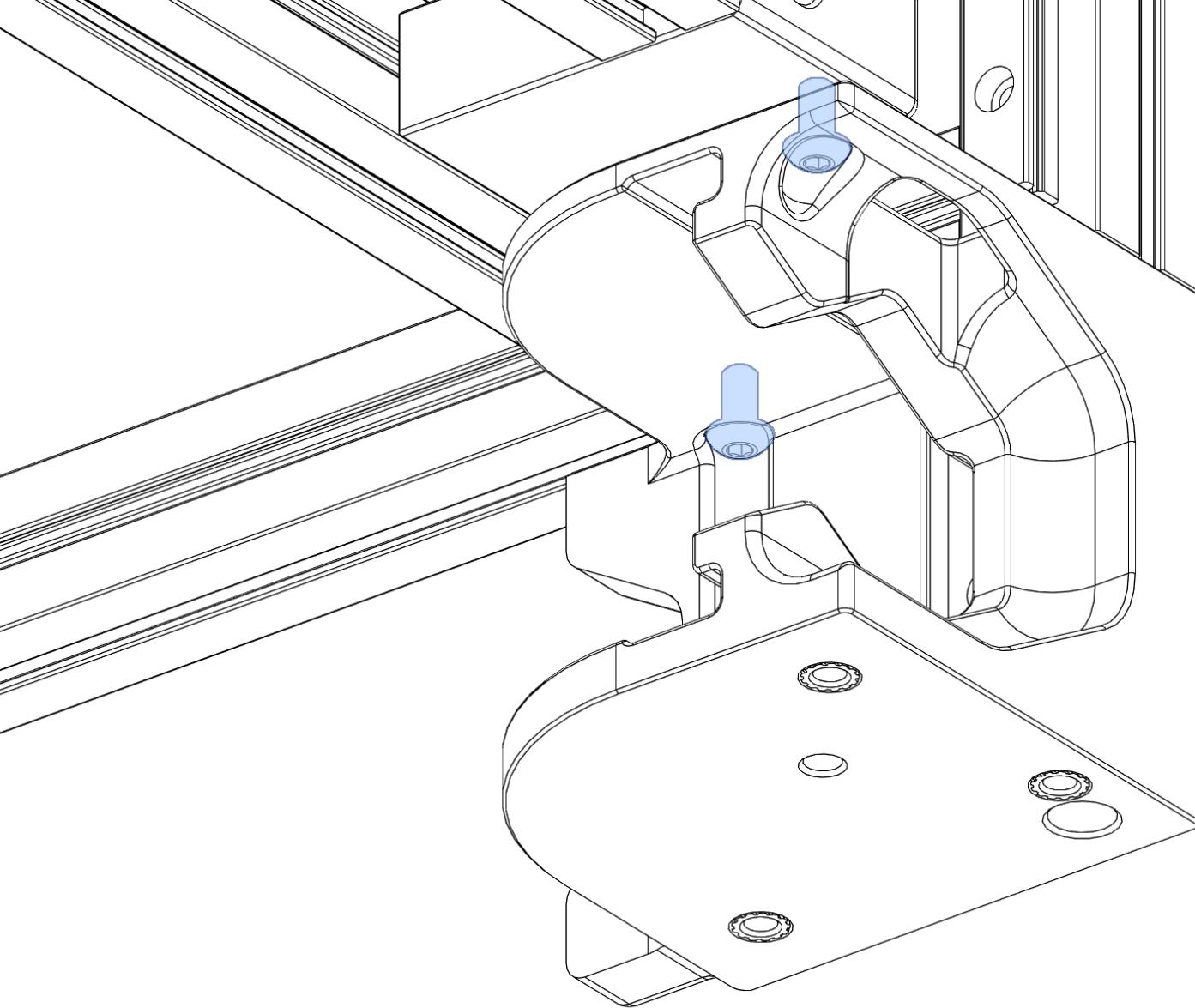


Insert M3x10 BHCS into channel
Screw into front right extrusion



Mastur Mods

Corner Post Assembly P70



M3x6 BHCS x2



Mastur Mods

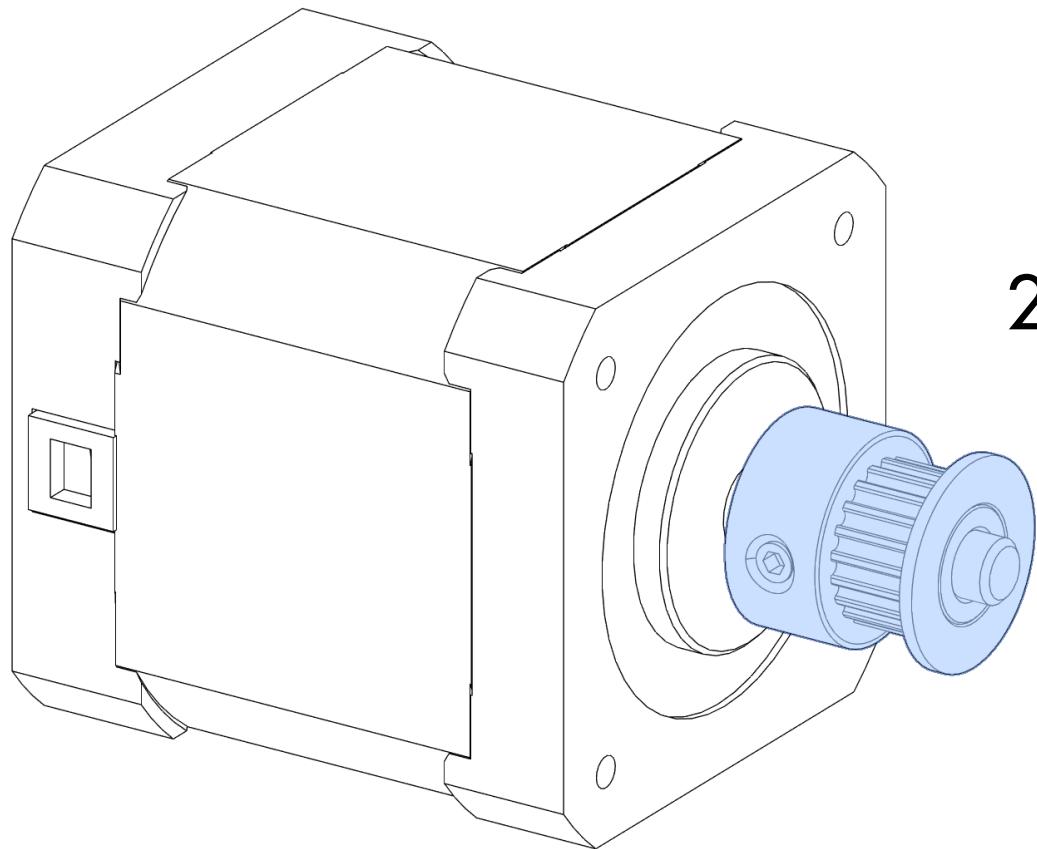
Corner Post Assembly P71



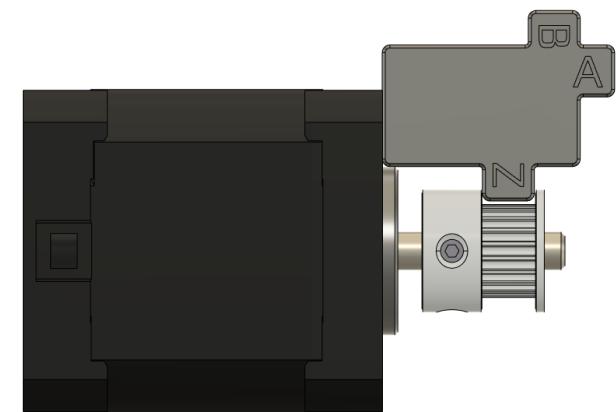
Mastur Mods

Z Axis Motion

P72



20t Pulley



NEMA 17 Stepper Motor

Utilize the multitool for pulley alignment

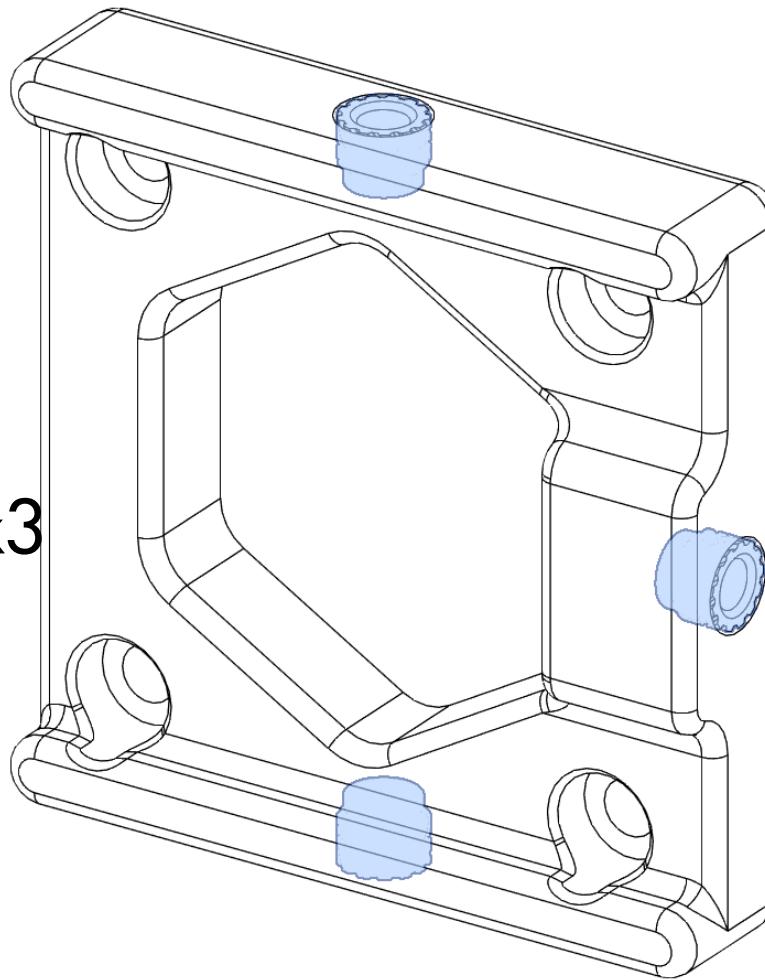


Mastur Mods

Z Axis Motion

P73

M3 Heatset Inserts x3



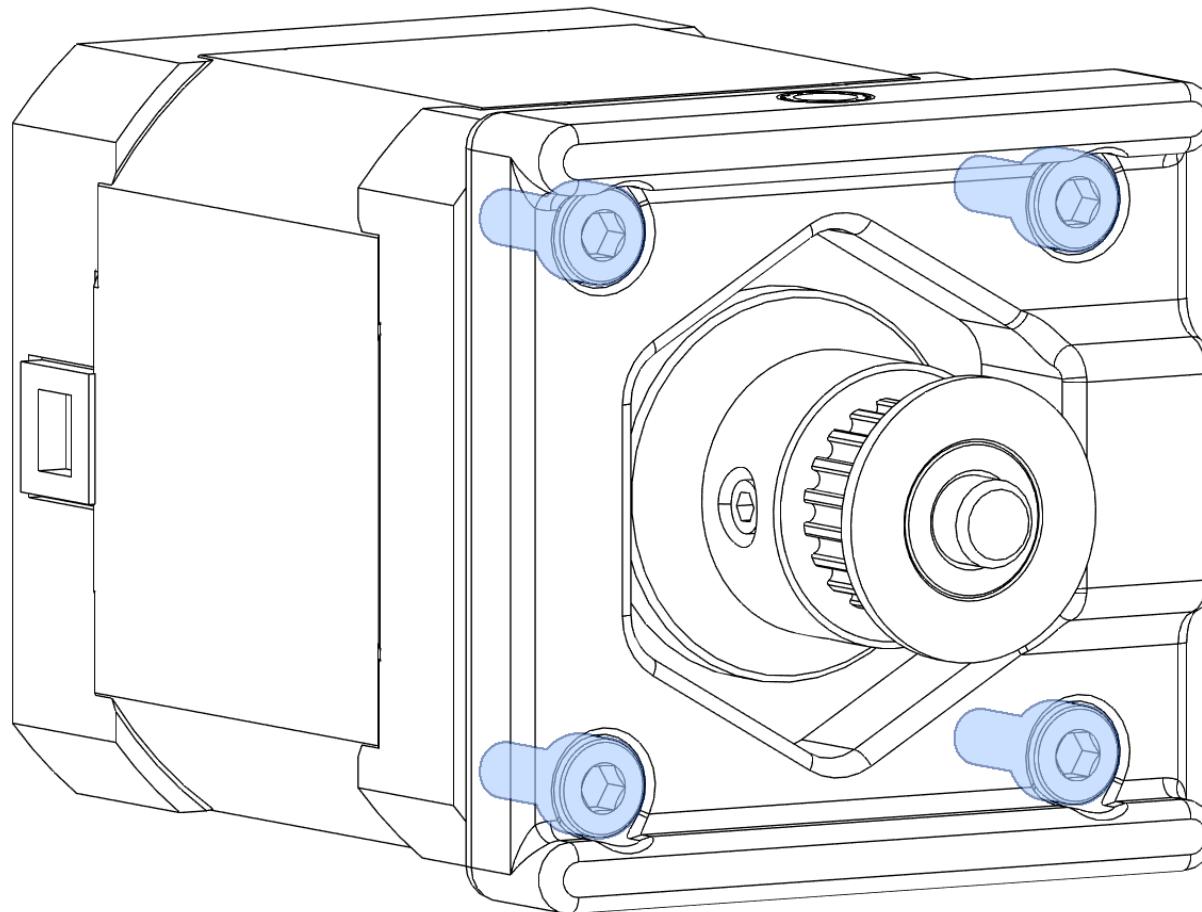
a_drive_frame_front_nema17_x2



Mastur Mods

Z Axis Motion

P74



M3x8 SHCS x4

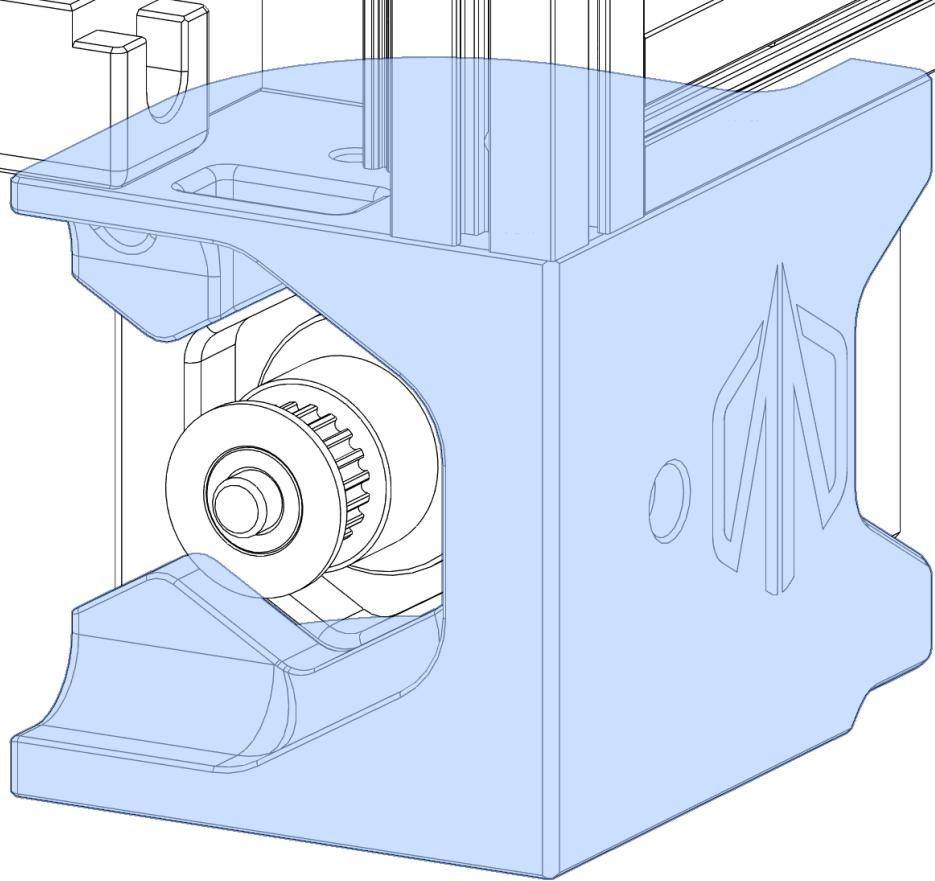
Affix stepper to the drive frame.



Mastur Mods

Z Axis Motion

P75



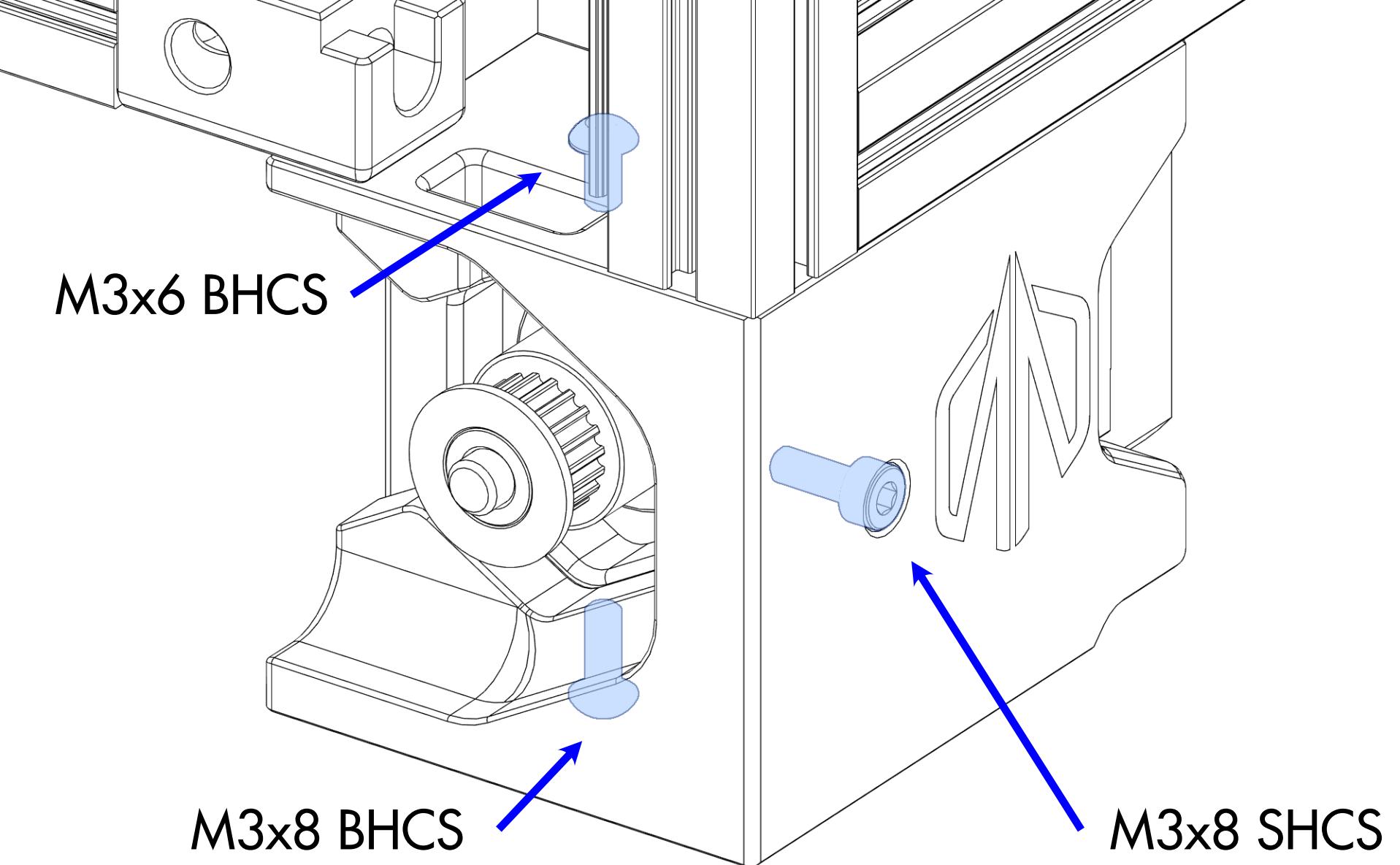
Insert drive frame into front leg.



Mastur Mods

Z Axis Motion

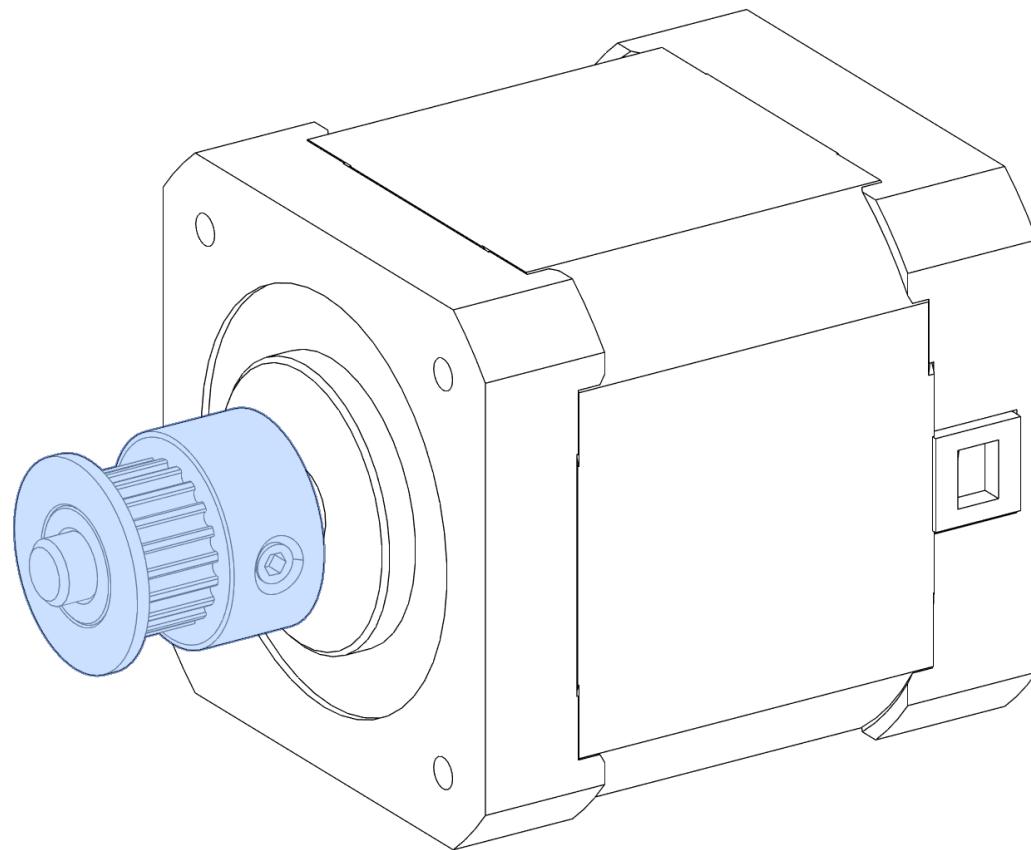
P76



Mastur Mods

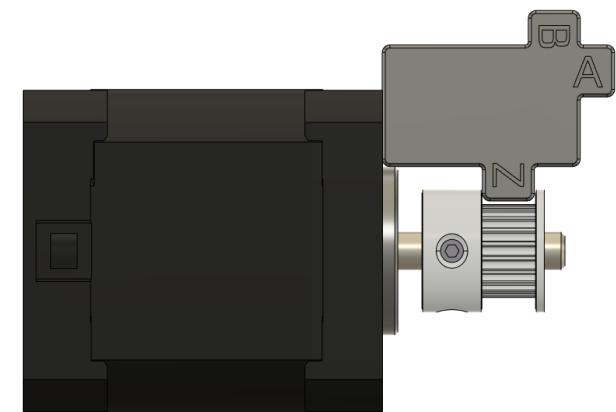
Z Axis Motion

P77



NEMA 17 Stepper Motor

20t Pulley



Utilize the multitool for pulley alignment

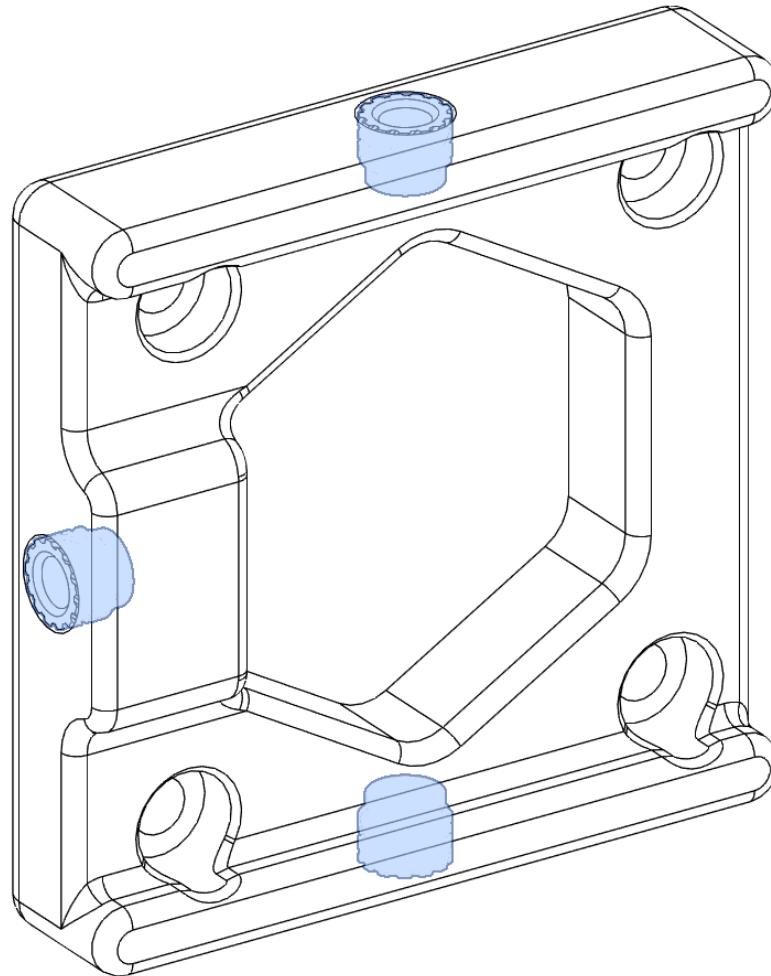


Mastur Mods

Z Axis Motion

P78

M3 Heatset Inserts x3



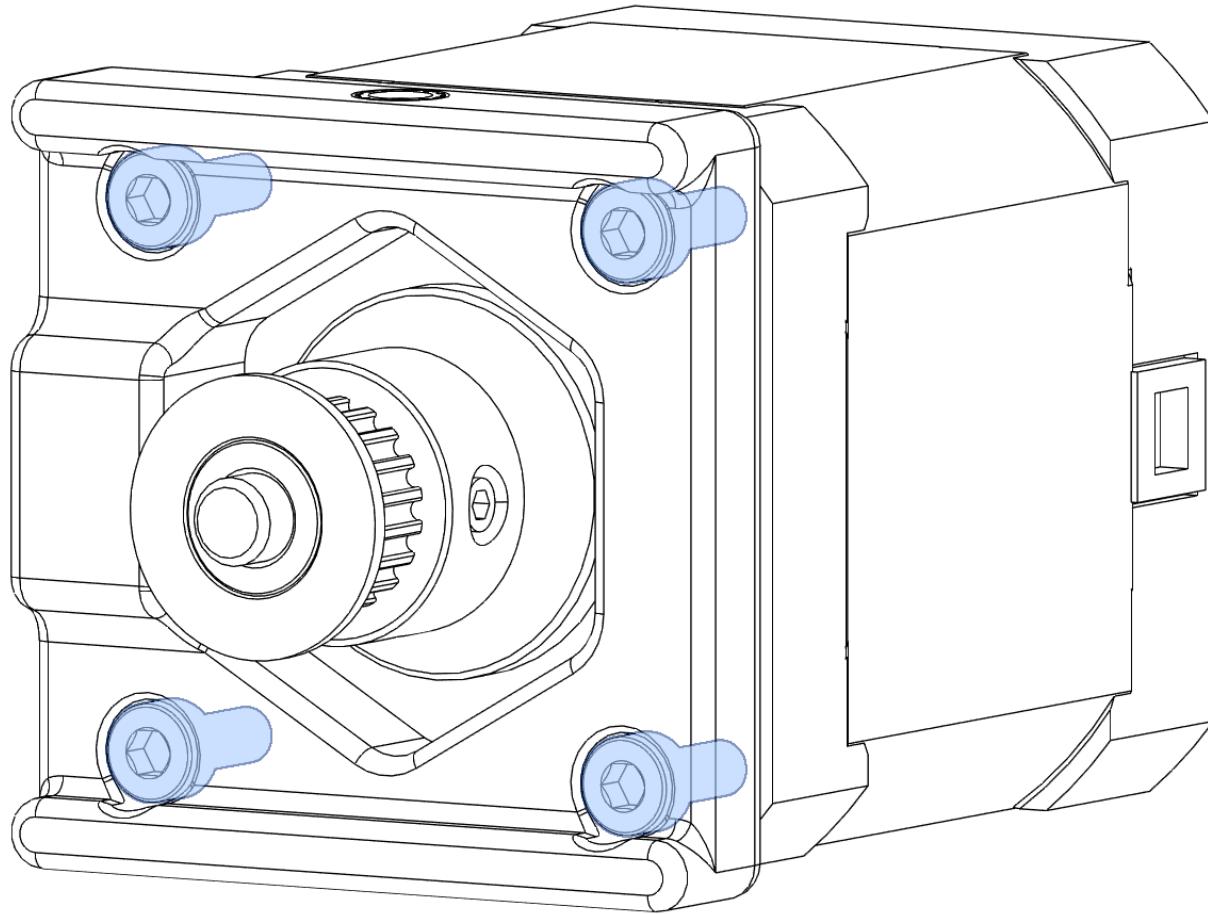
a_drive_frame_front_nema17_x2



Mastur Mods

Z Axis Motion

P79



M3x8 SHCS x4

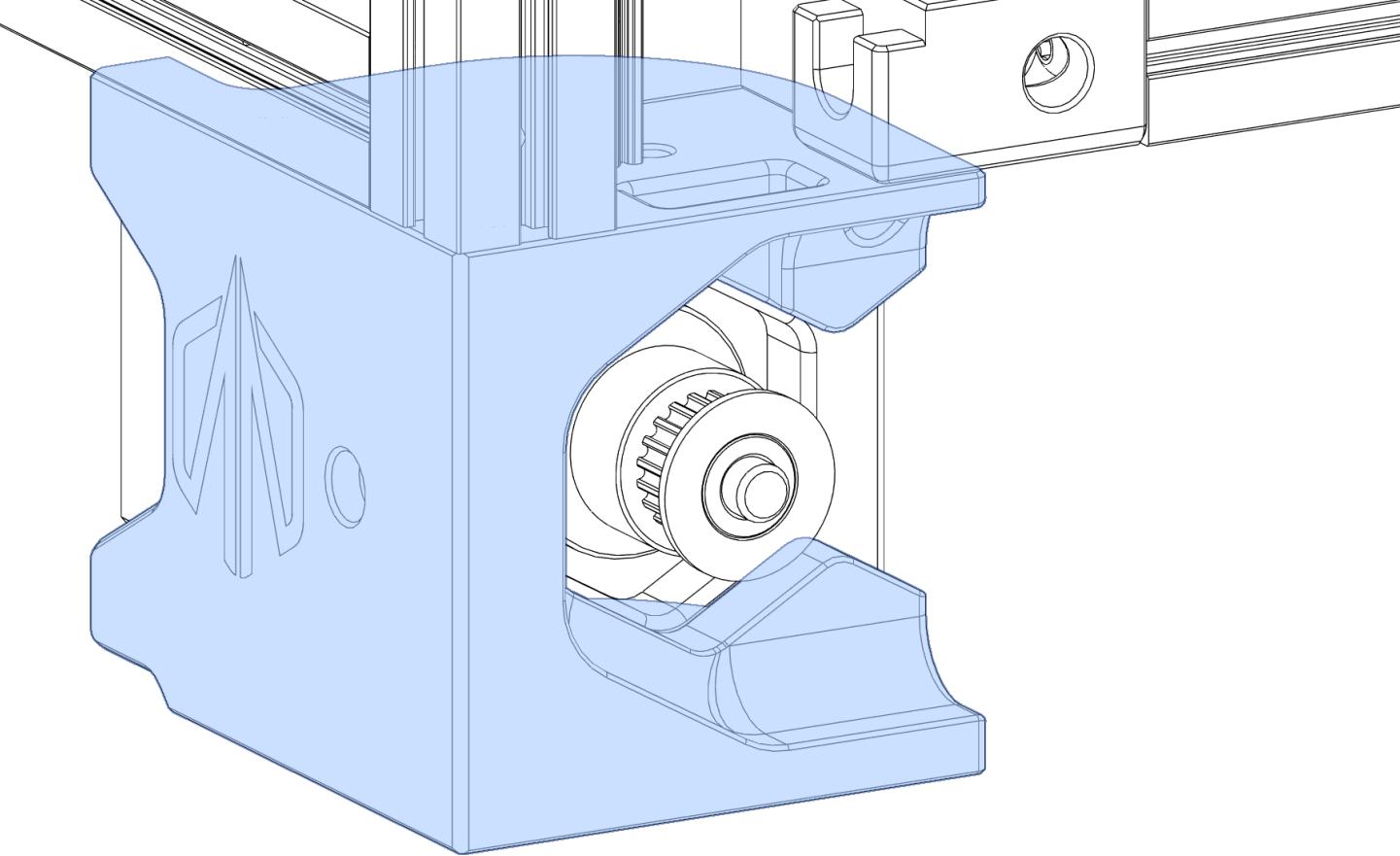
Affix stepper to the drive frame.



Mastur Mods

Z Axis Motion

P80



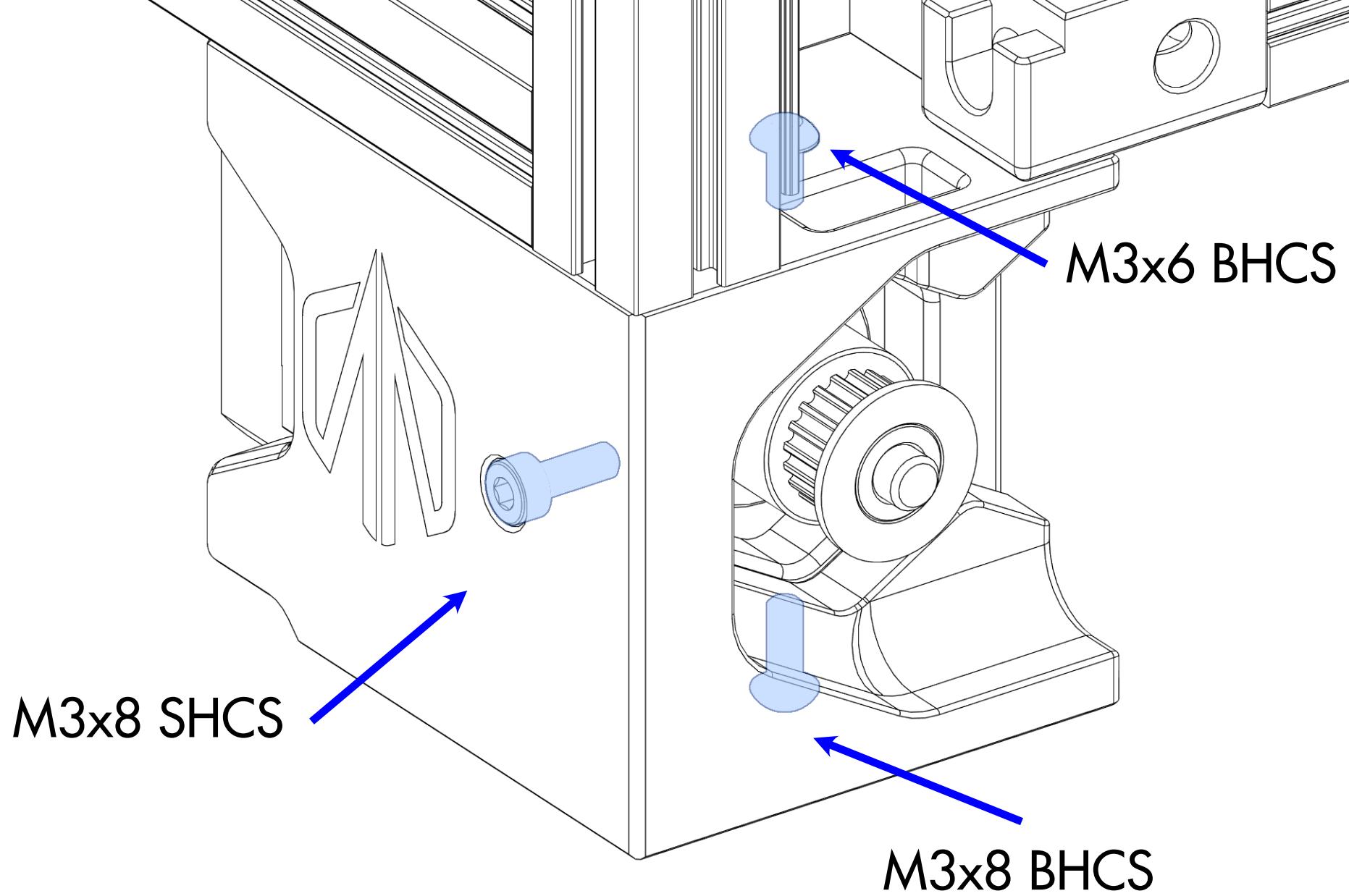
Insert drive frame into front leg.



Mastur Mods

Z Axis Motion

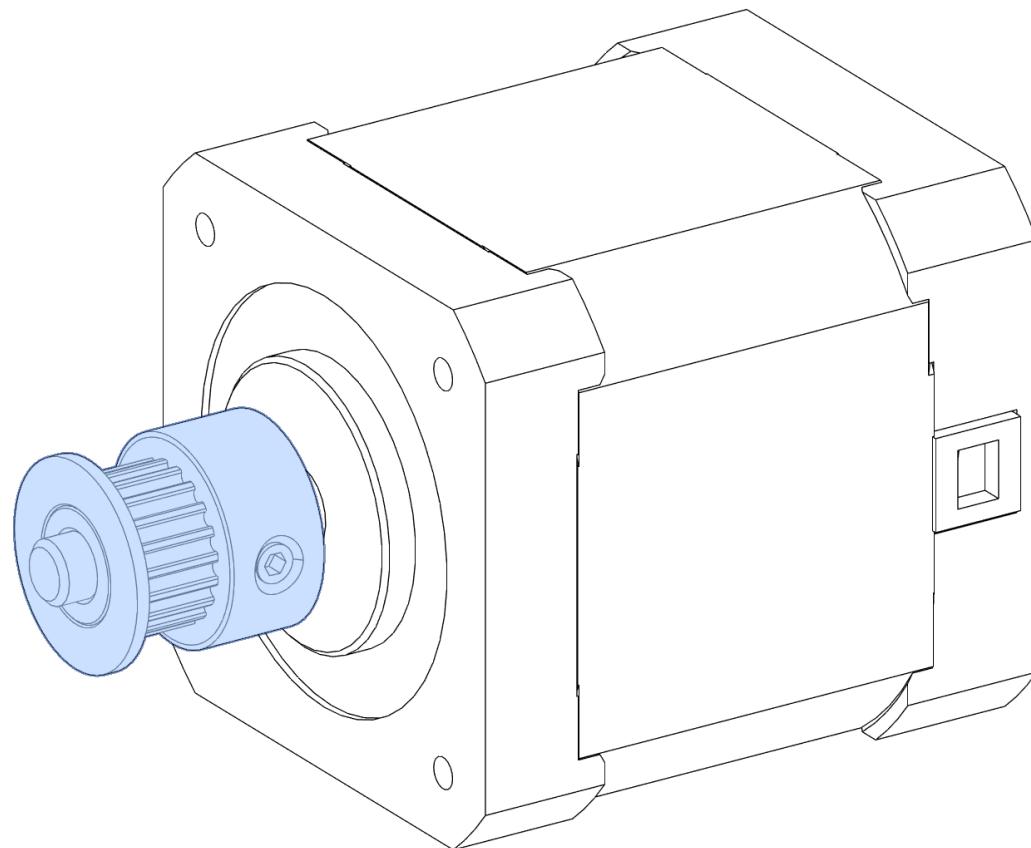
P81



Mastur Mods

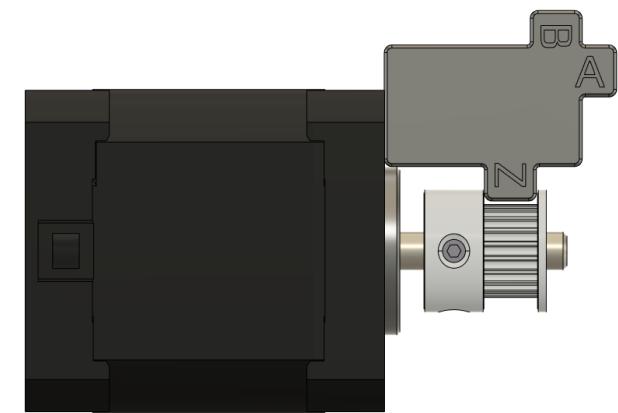
Z Axis Motion

P82



NEMA 17 Stepper Motor

20t Pulley



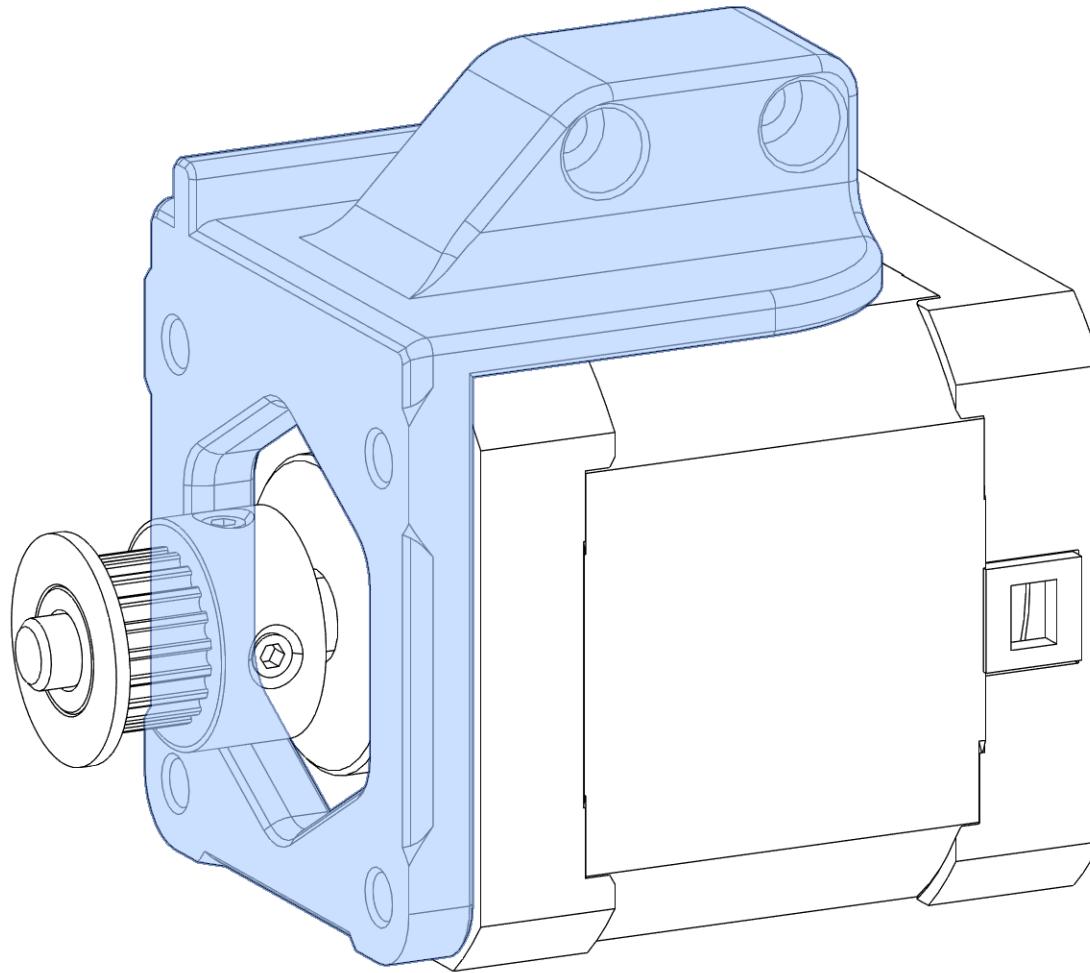
Utilize the multitool for pulley alignment



Mastur Mods

Z Axis Motion

P83



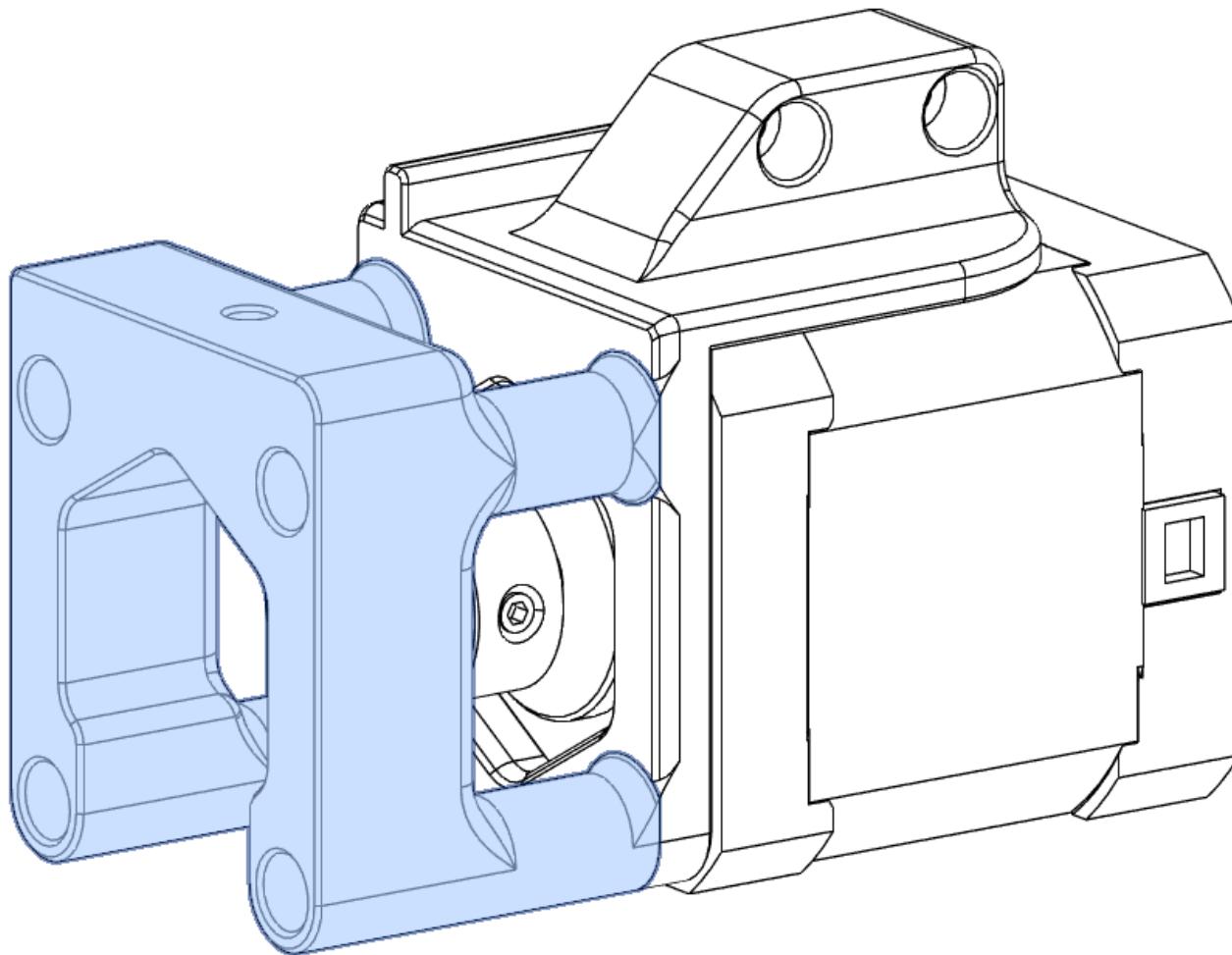
`z_drive_frame_rear_nema17_a`



Mastur Mods

Z Axis Motion

P84



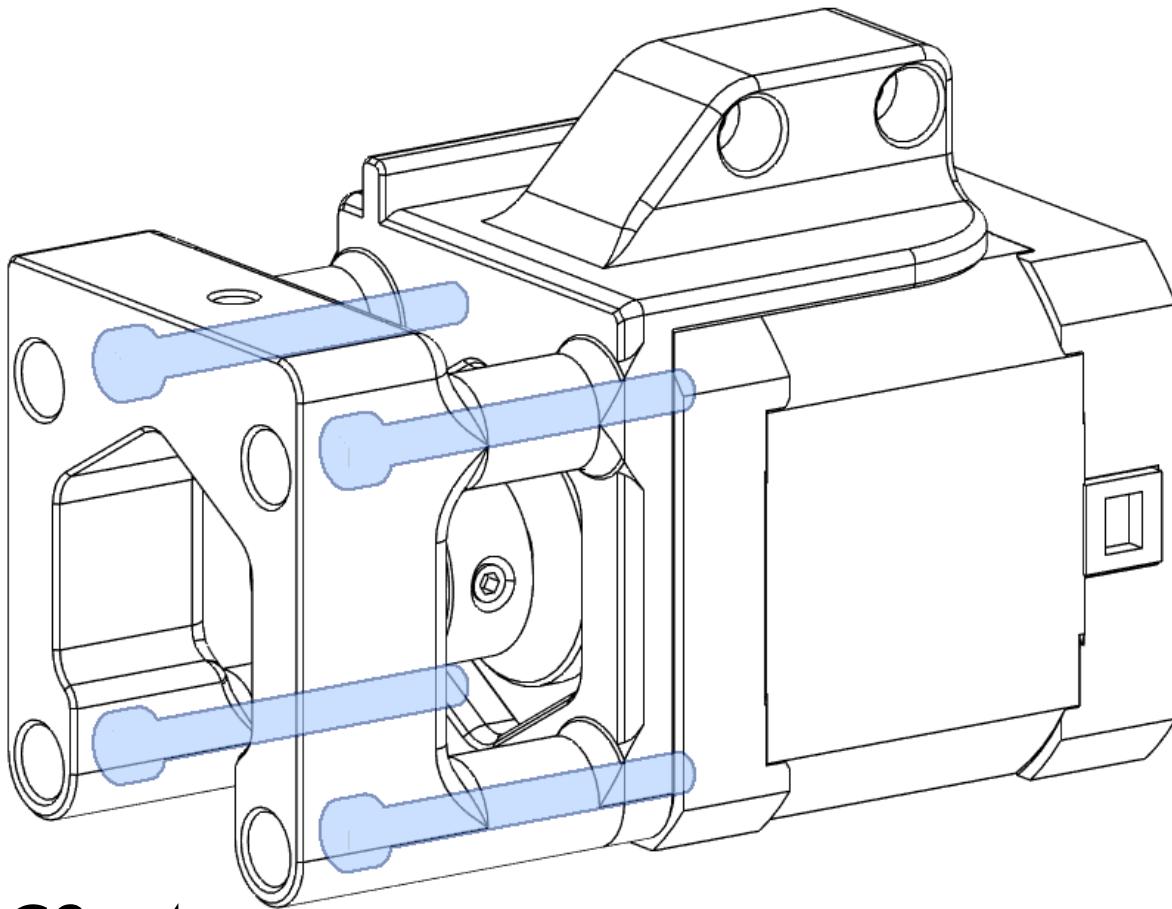
`z_drive_frame_rear_nema17_b`



Mastur Mods

Z Axis Motion

P85



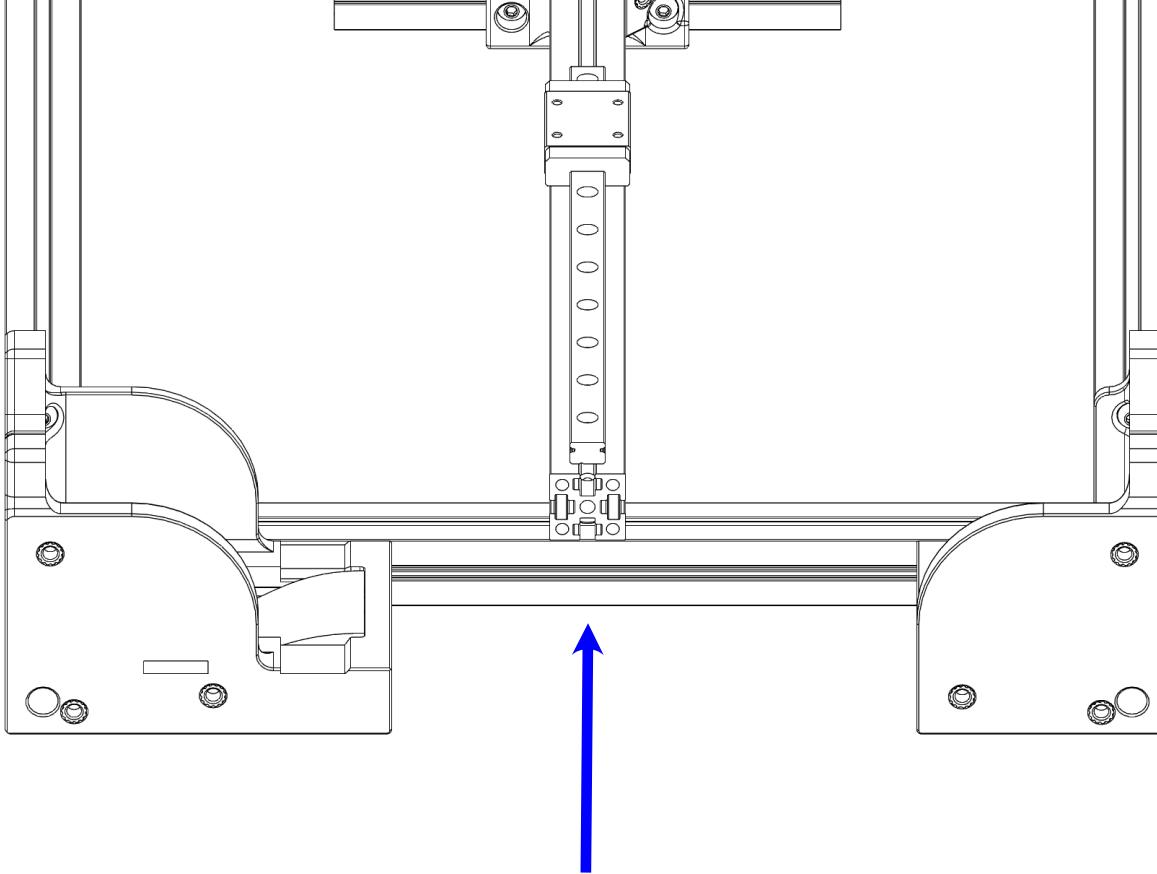
M3x30 SHCS x4



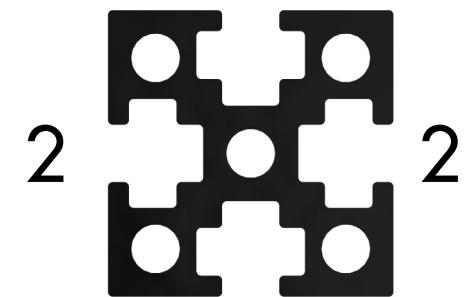
Mastur Mods

Z Axis Motion

P86



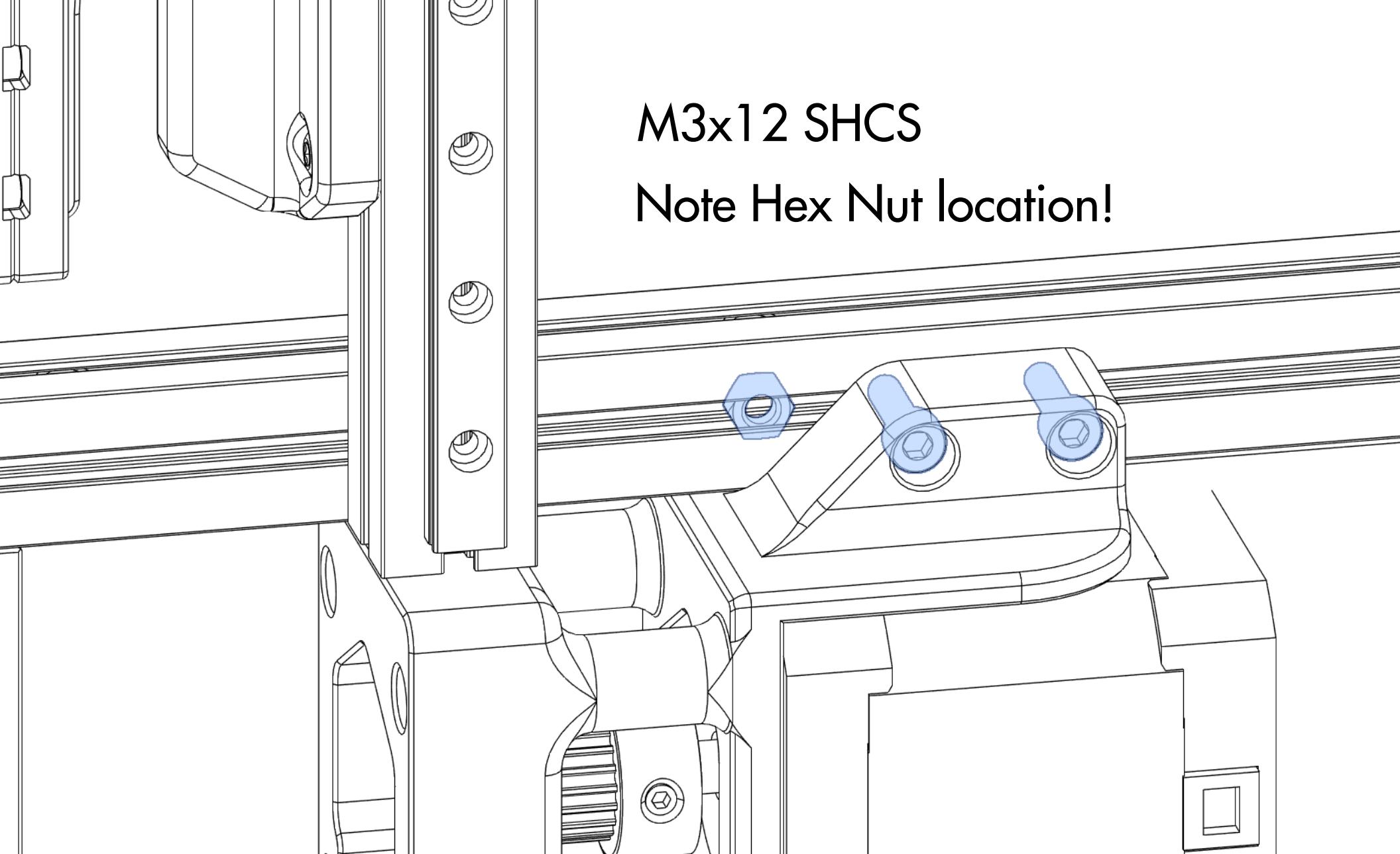
Insert 2 M3 Hex Nuts per side.



Mastur Mods

Z Axis Motion

P87



M3x12 SHCS

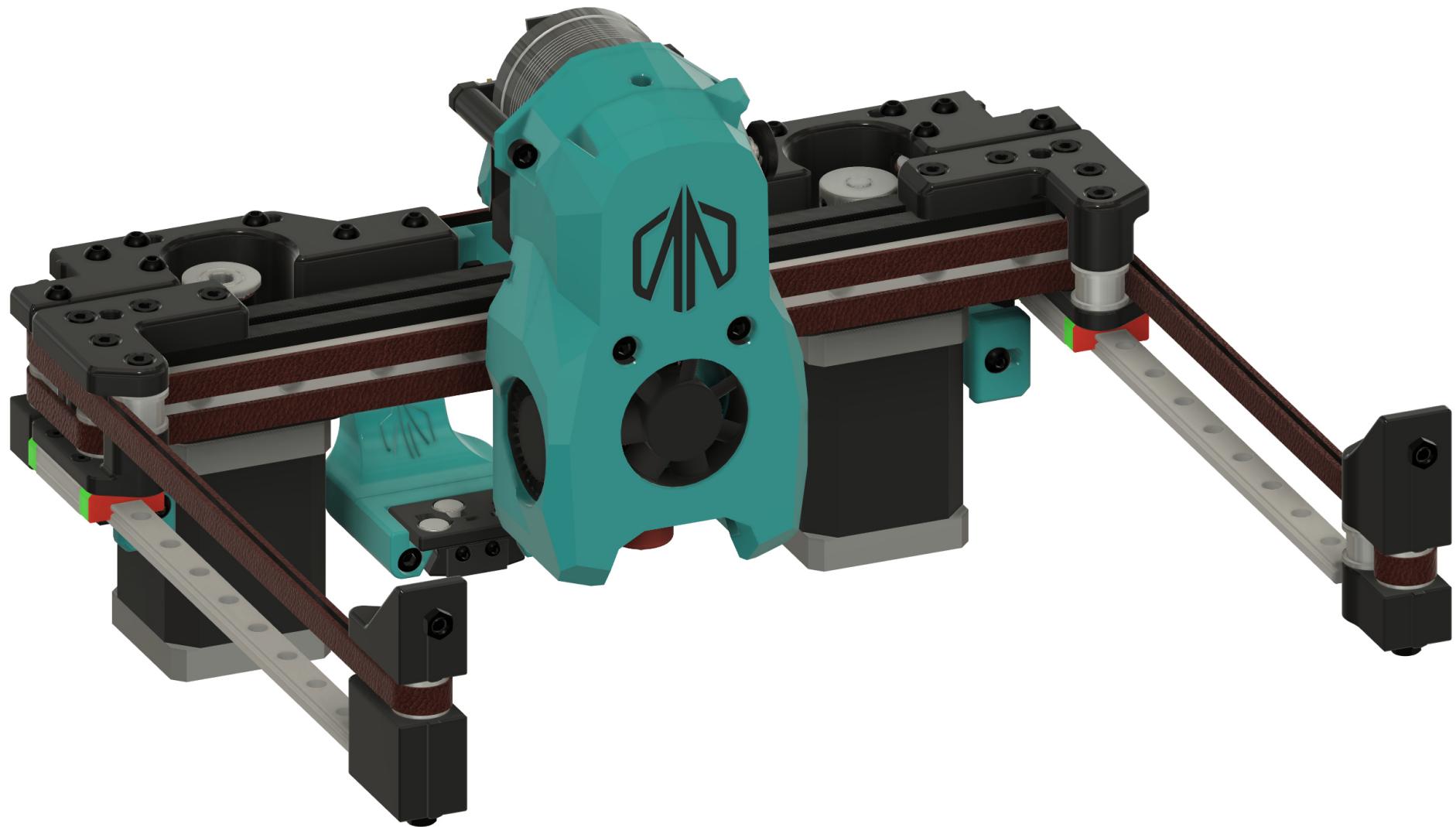
Note Hex Nut location!



Mastur Mods

Z Axis Motion

P88

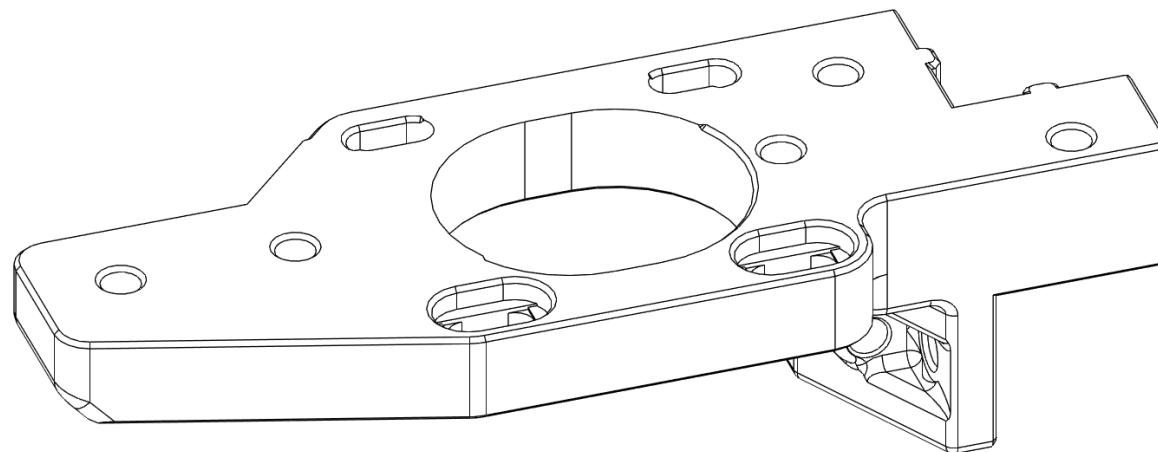


Mastur Mods

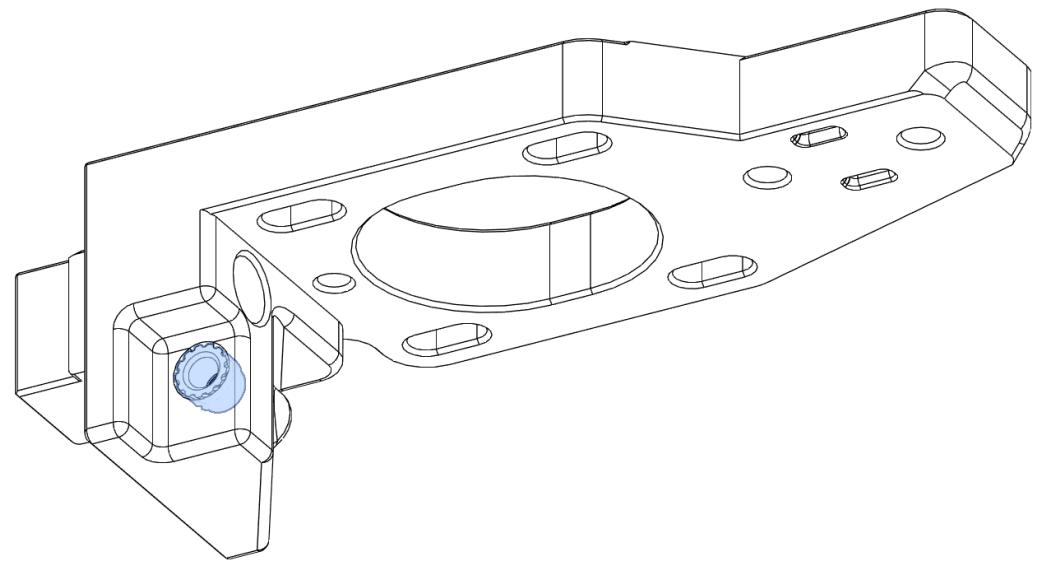
Gantry

P89

a_drive_frame_lower



M3 Heatset Insert

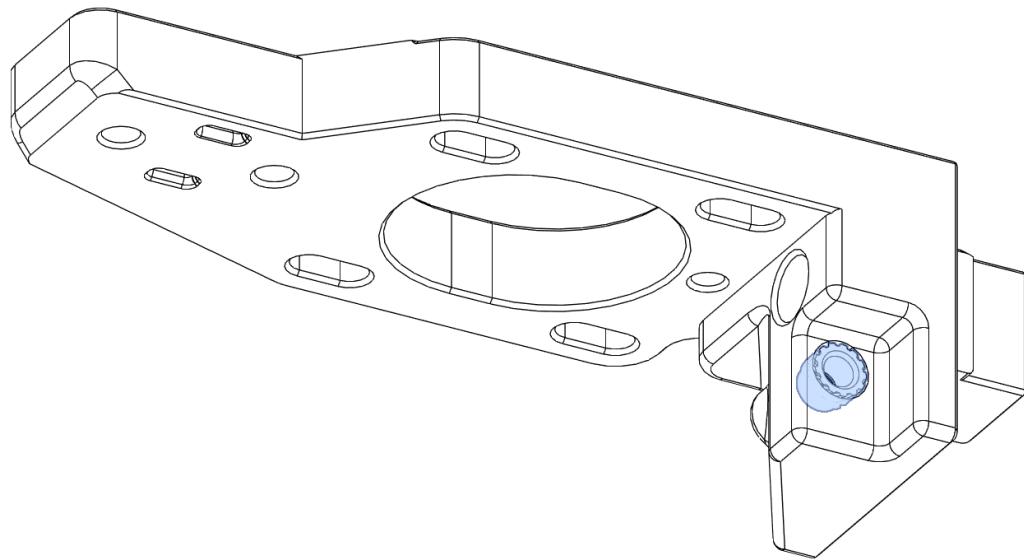
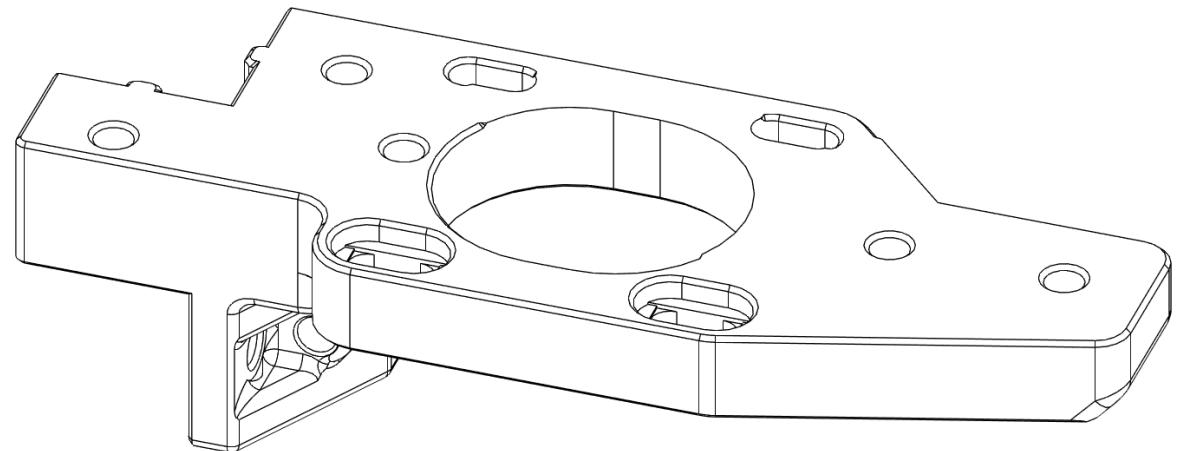


Mastur Mods

Gantry

P90

b_drive_frame_lower



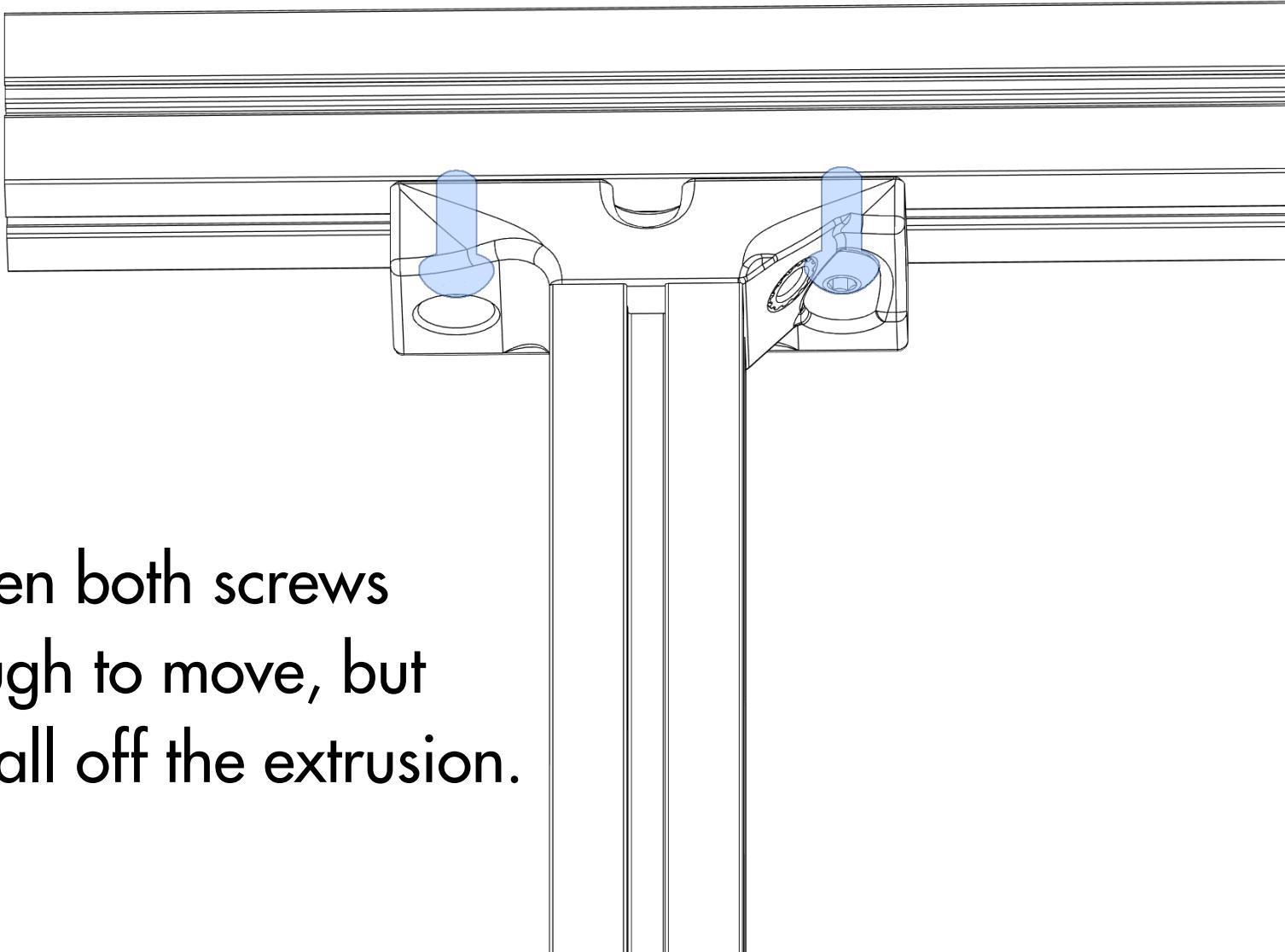
M3 Heatset Insert

lea

סגולית

מִסְתָּר מַזְבֵּחַ





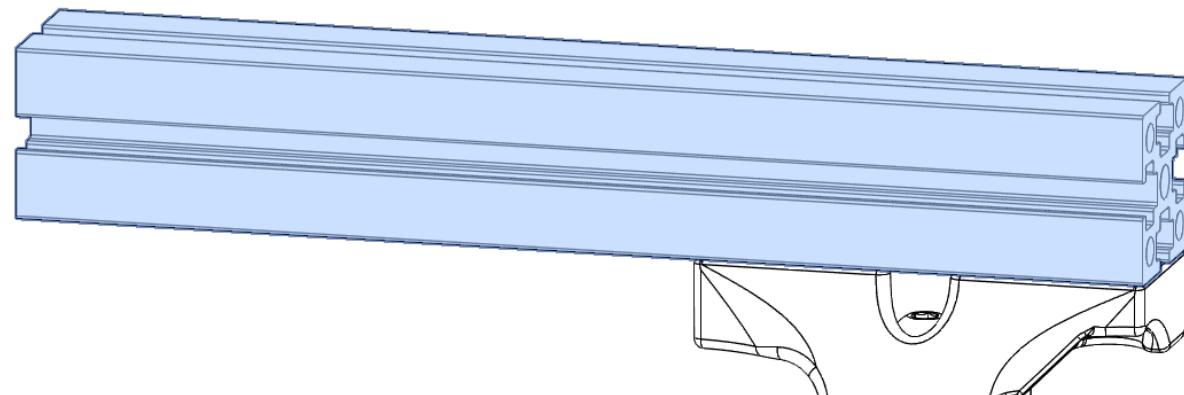
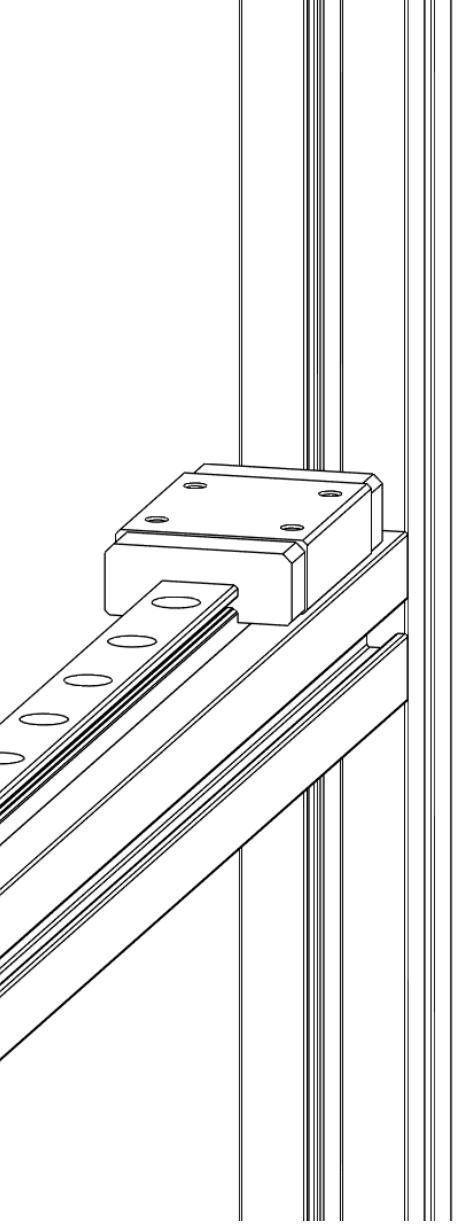
Loosen both screws
enough to move, but
not fall off the extrusion.



Mastur Mods

Gantry

P92



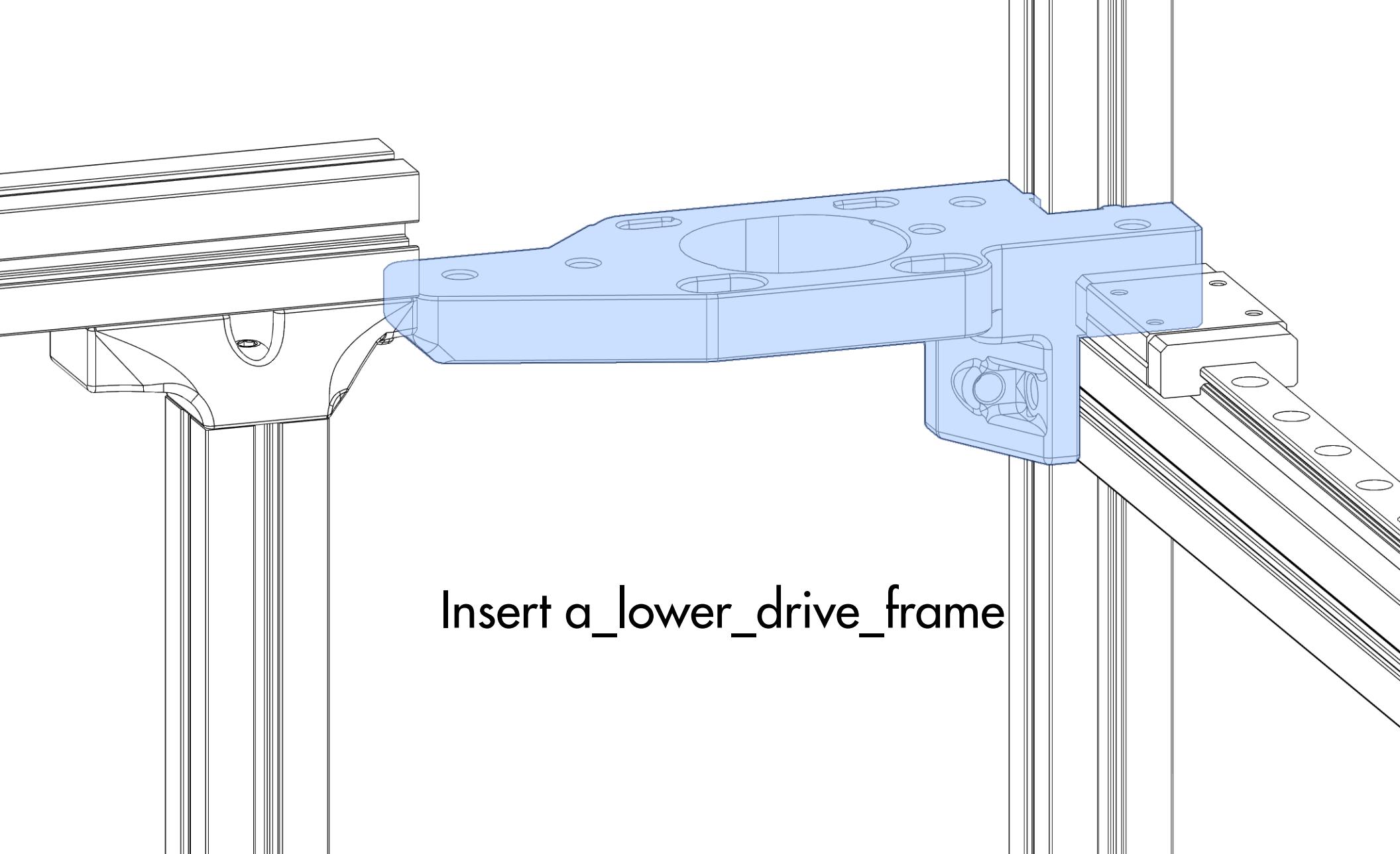
Slide extrusion



Mastur Mods

Gantry

P93



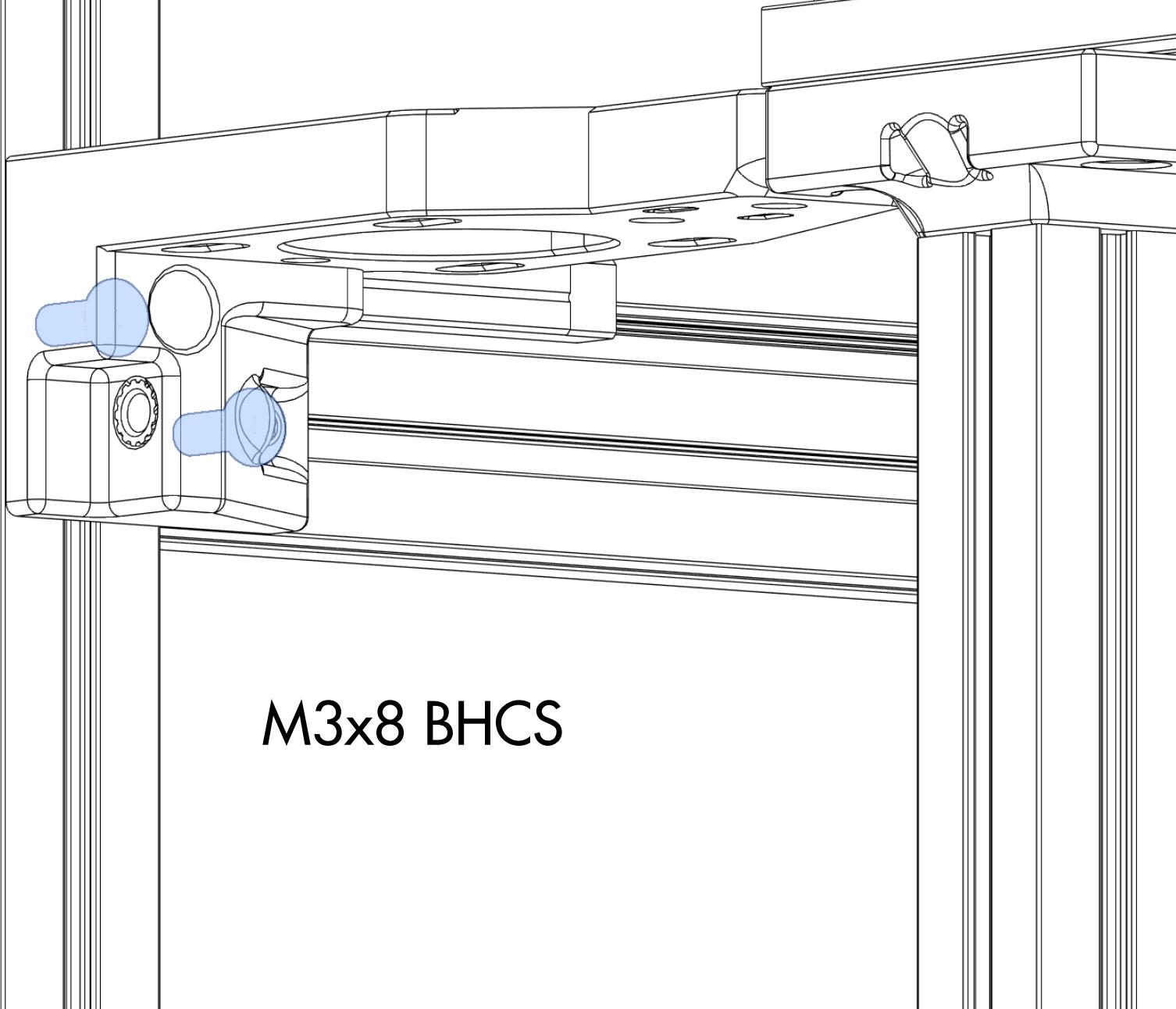
Insert a_lower_drive_frame



Mastur Mods

Gantry

P94



M3x8 BHCS

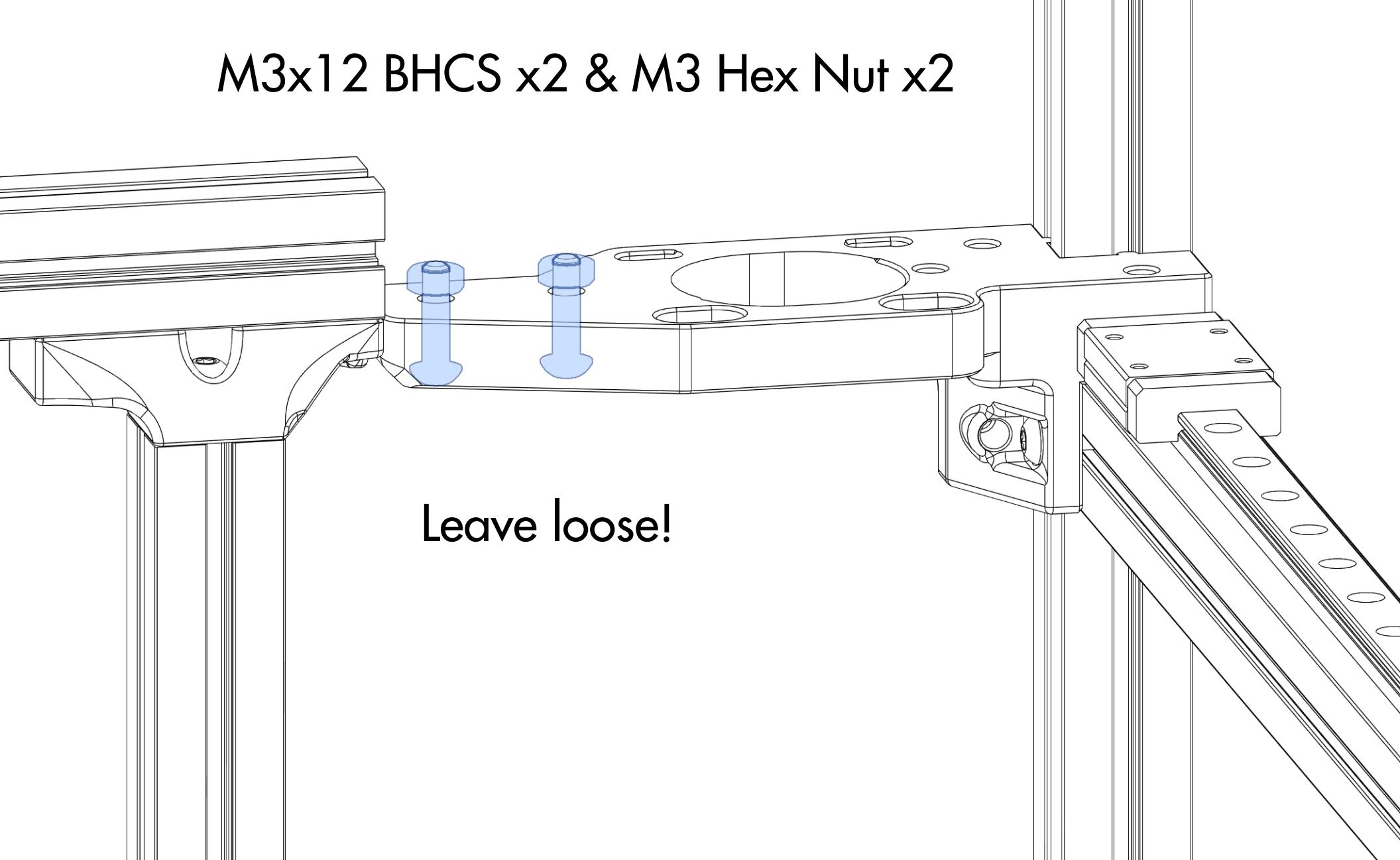


Mastur Mods

Gantry

P95

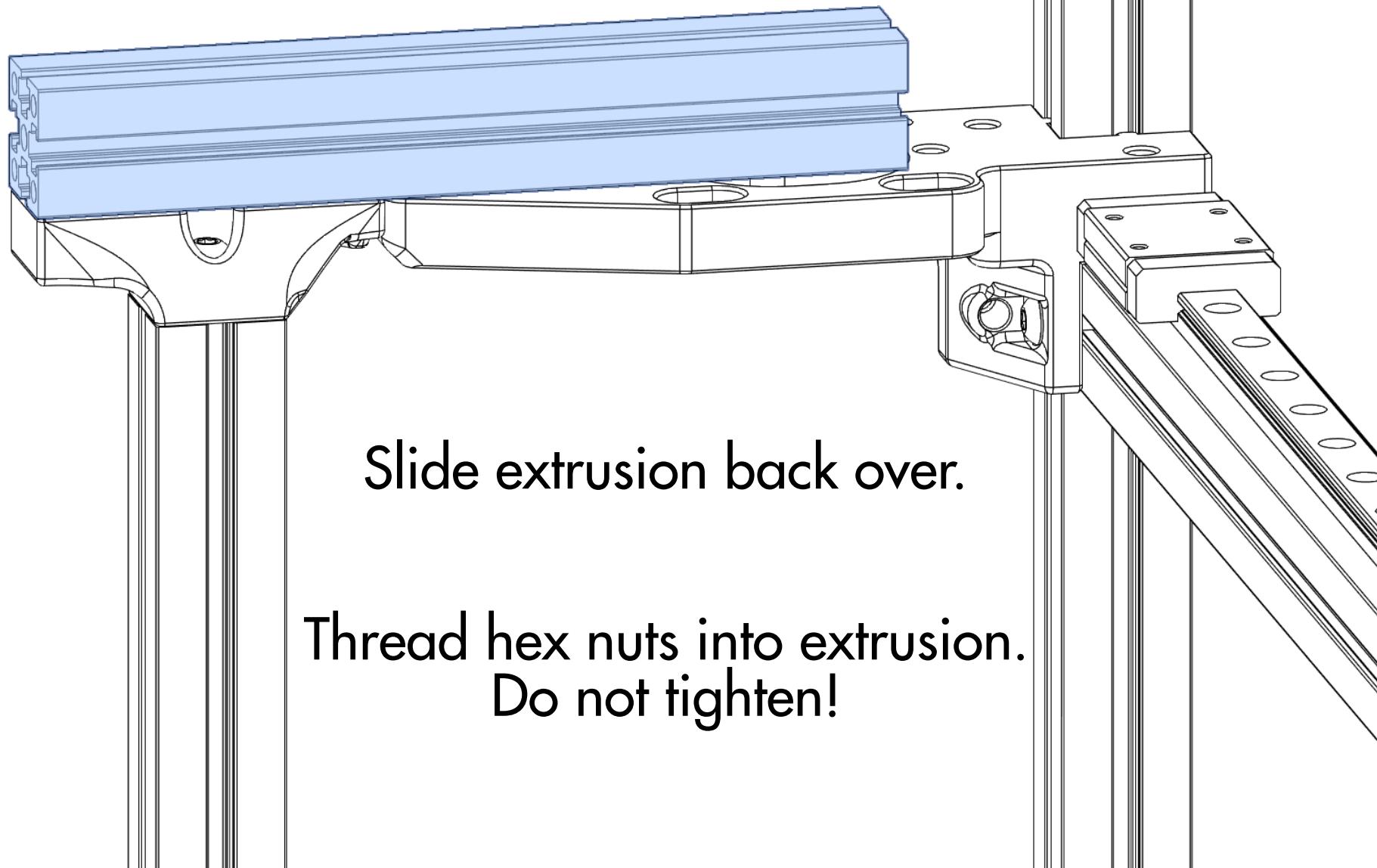
M3x12 BHCS x2 & M3 Hex Nut x2



Mastur Mods

Gantry

P96



Slide extrusion back over.

Thread hex nuts into extrusion.
Do not tighten!

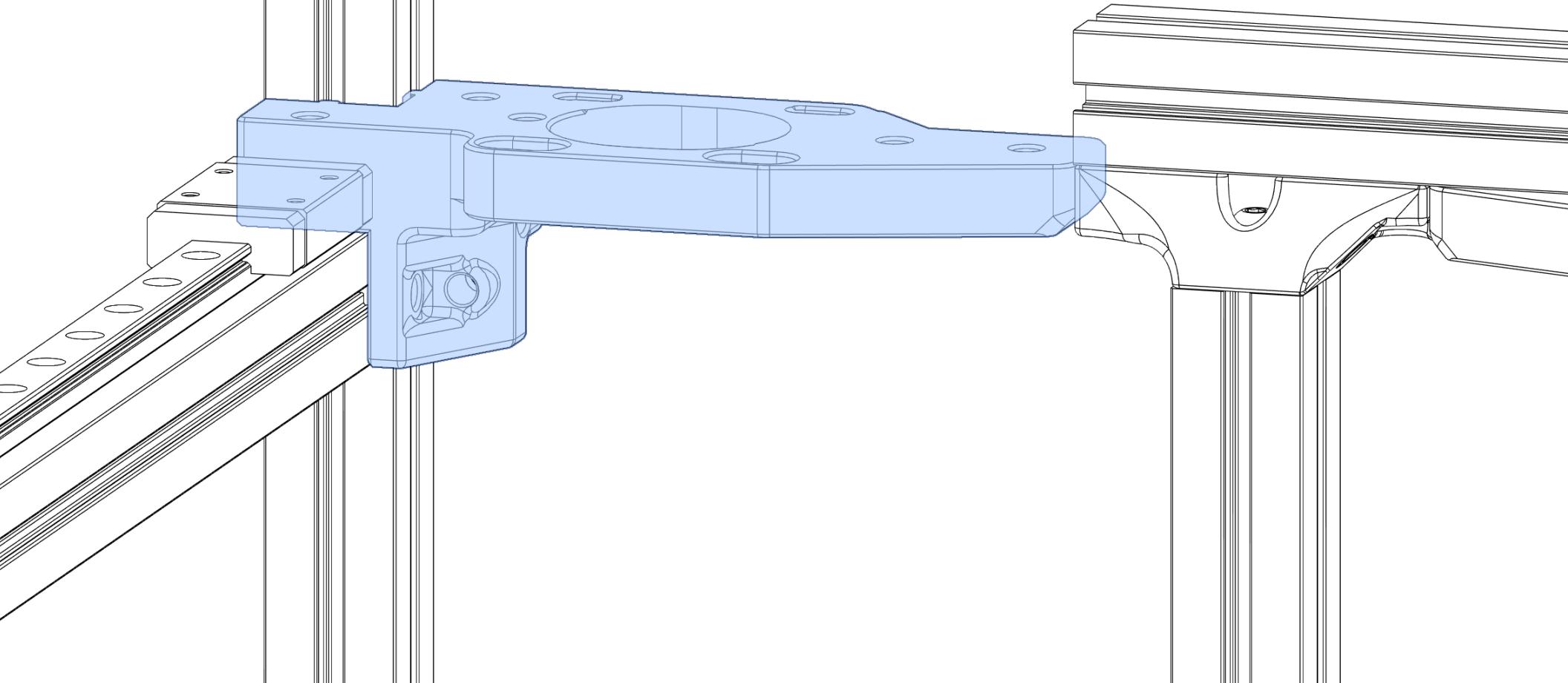


Mastur Mods

Gantry

P97

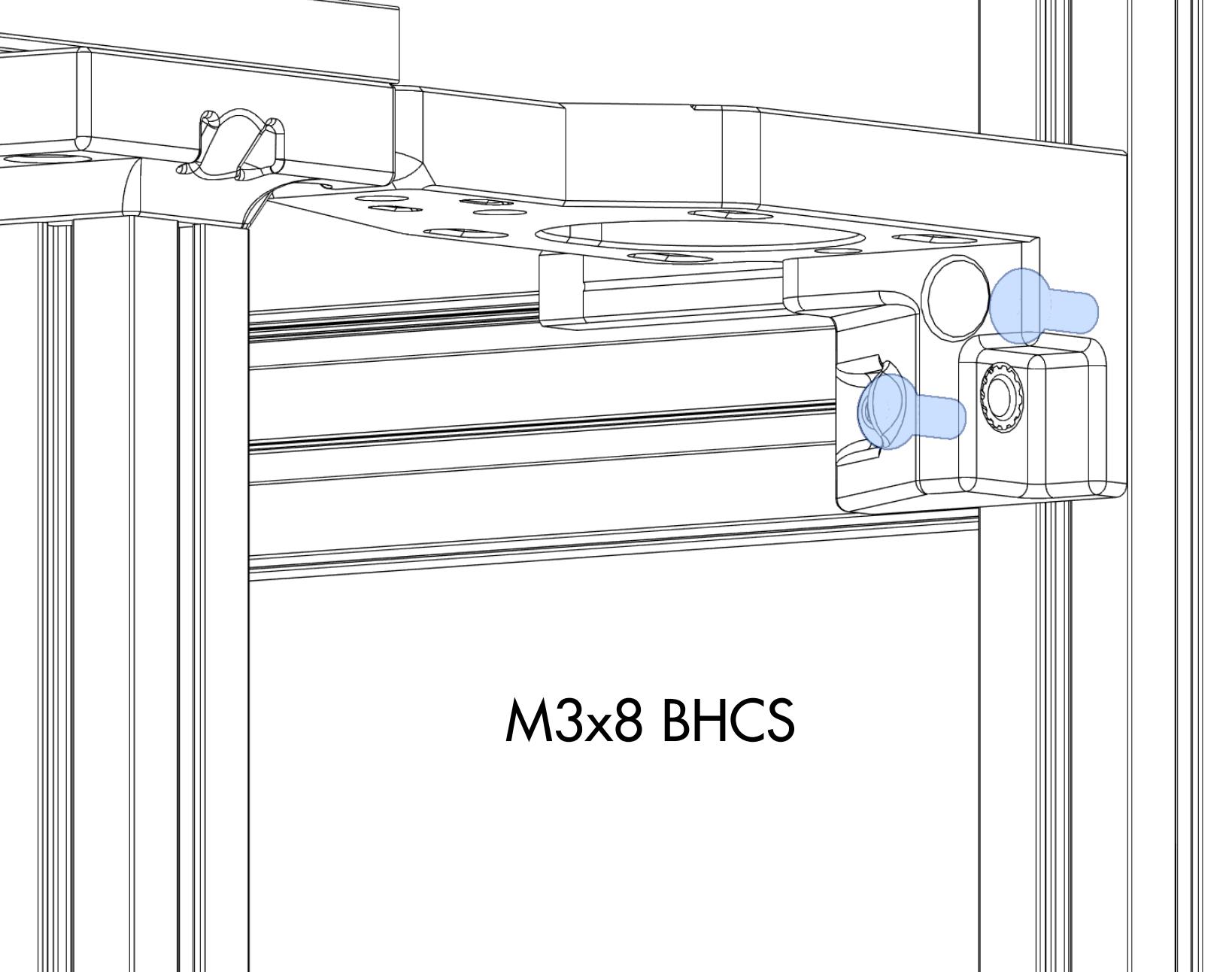
Insert b_lower_drive_frame



Mastur Mods

Gantry

P98



M3x8 BHCS

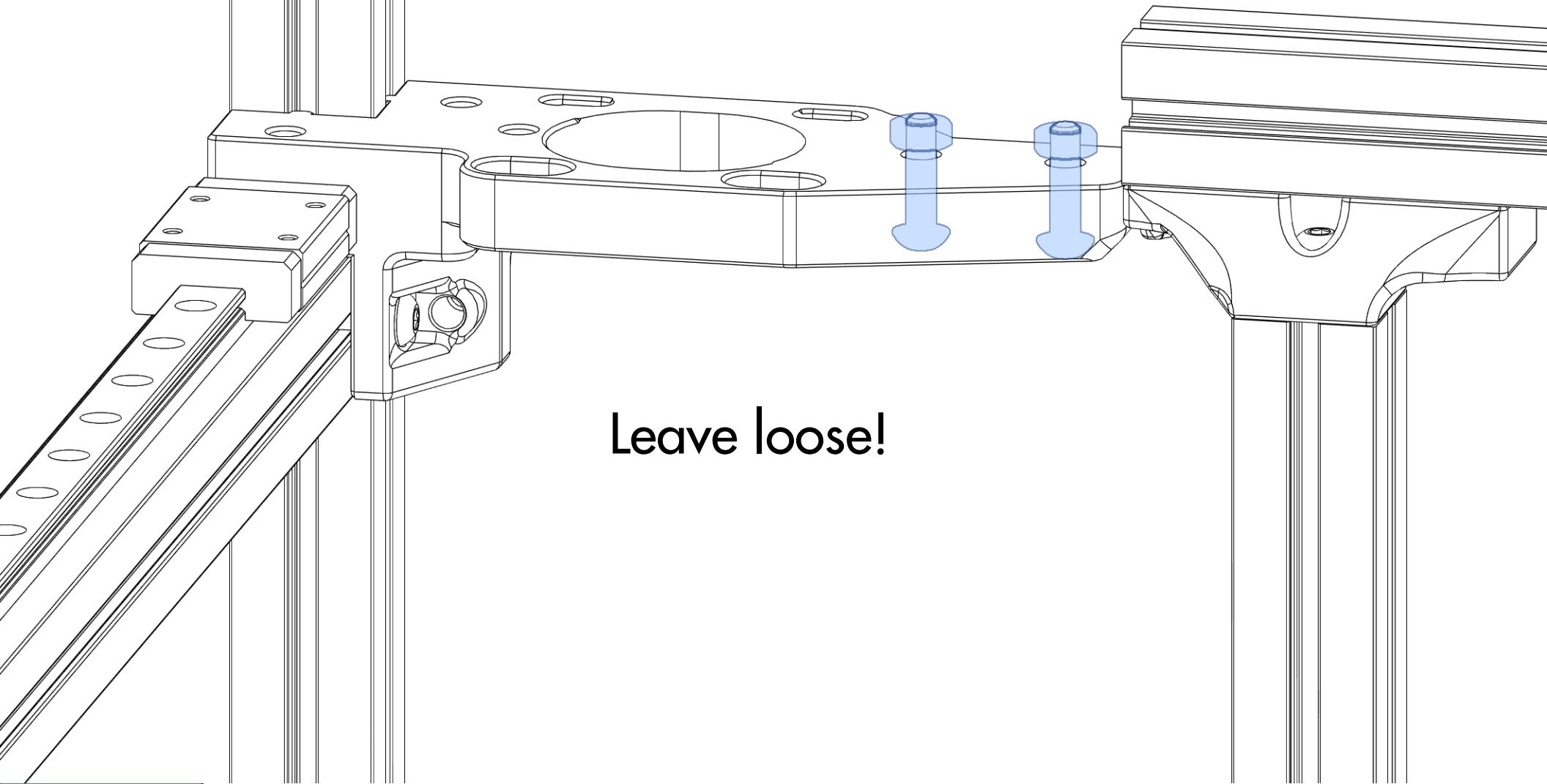


Mastur Mods

Gantry

P99

M3x12 BHCS x2 & M3 Hex Nut x2

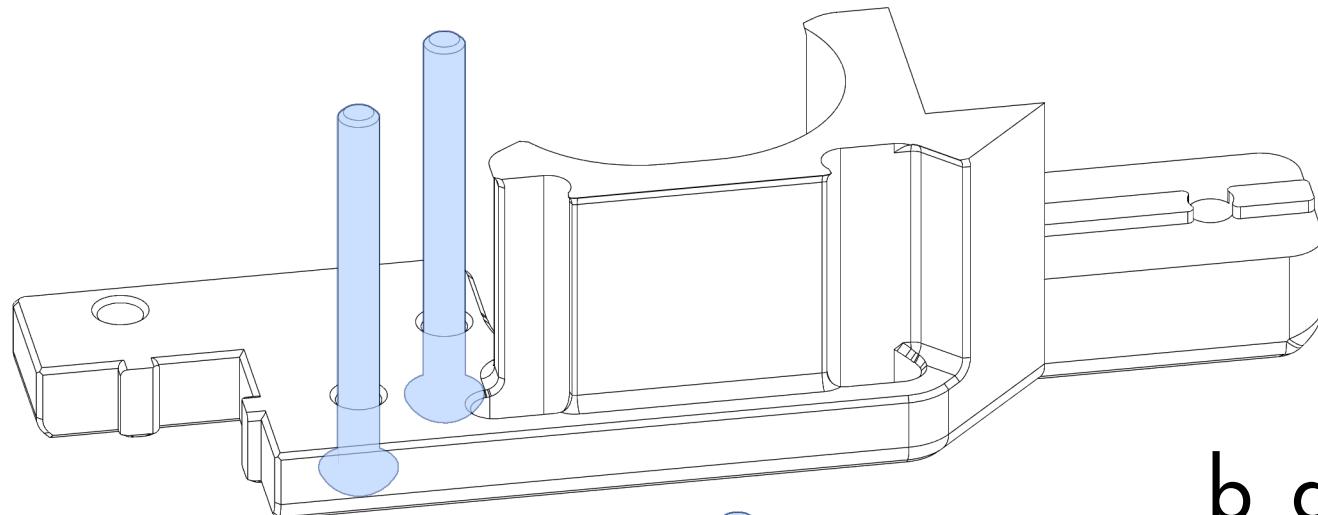


Mastur Mods

Gantry

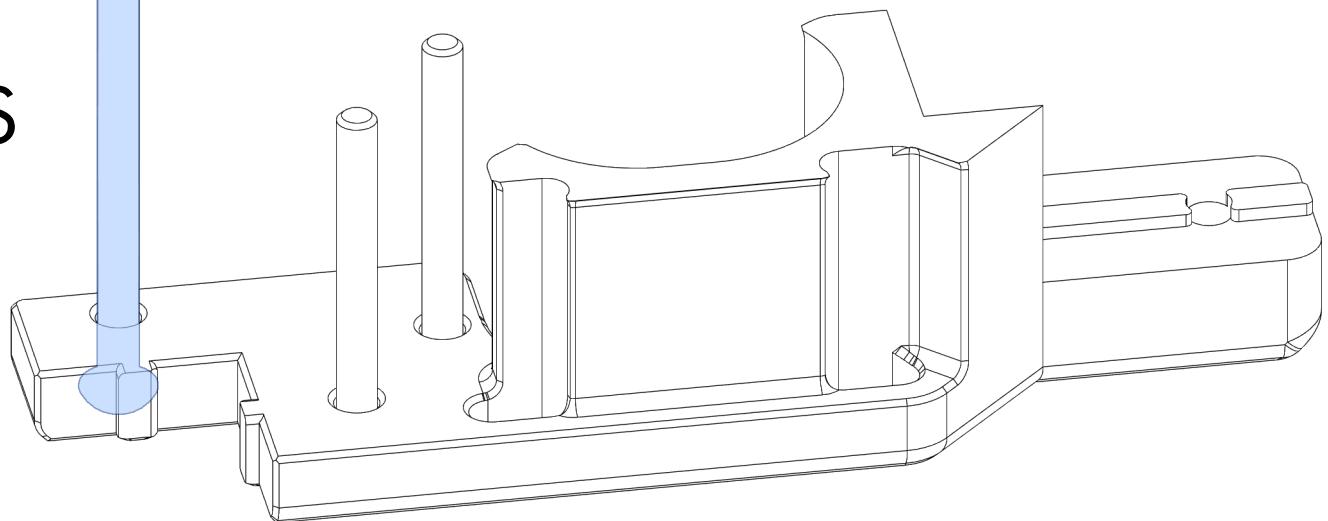
P100

M3x30 BHCS x2



b_drive_frame_upper

M3x40 BHCS

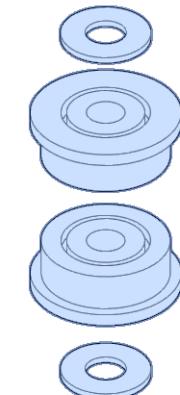


Mastur Mods

Gantry

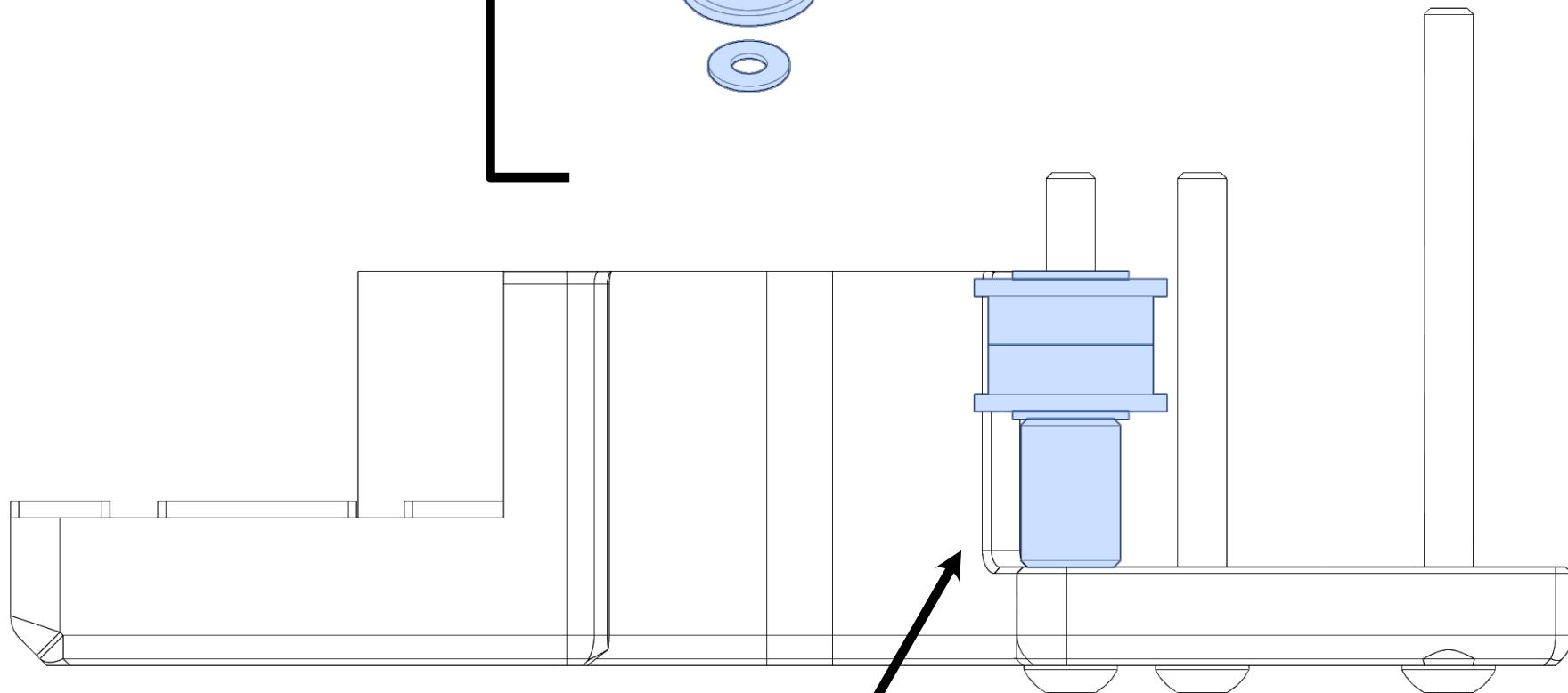
P101

Bearing Stack



M3 Washer x2

F623-RS Bearing x2



[a]_6x9mm_spacer_x2

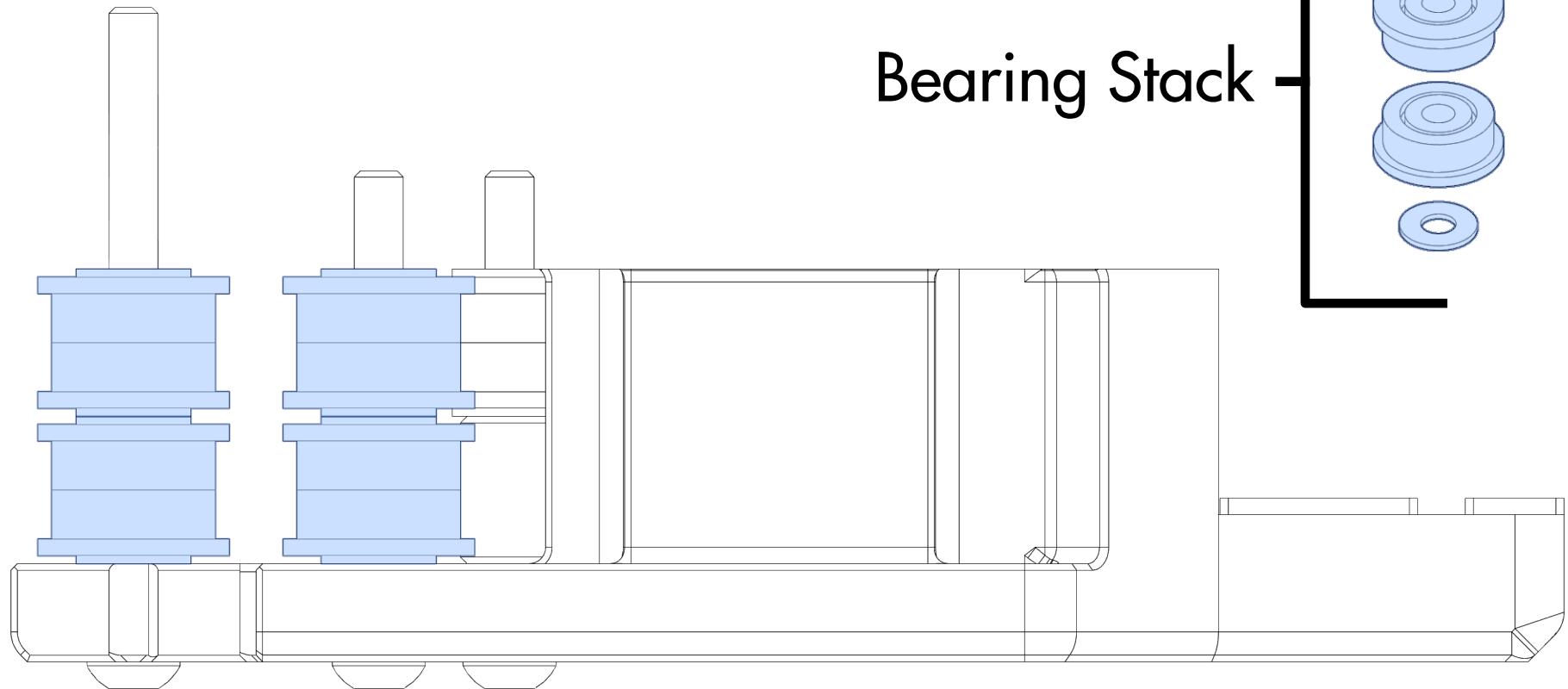


Mastur Mods

Gantry

P102

Stack Bearing Stacks as shown



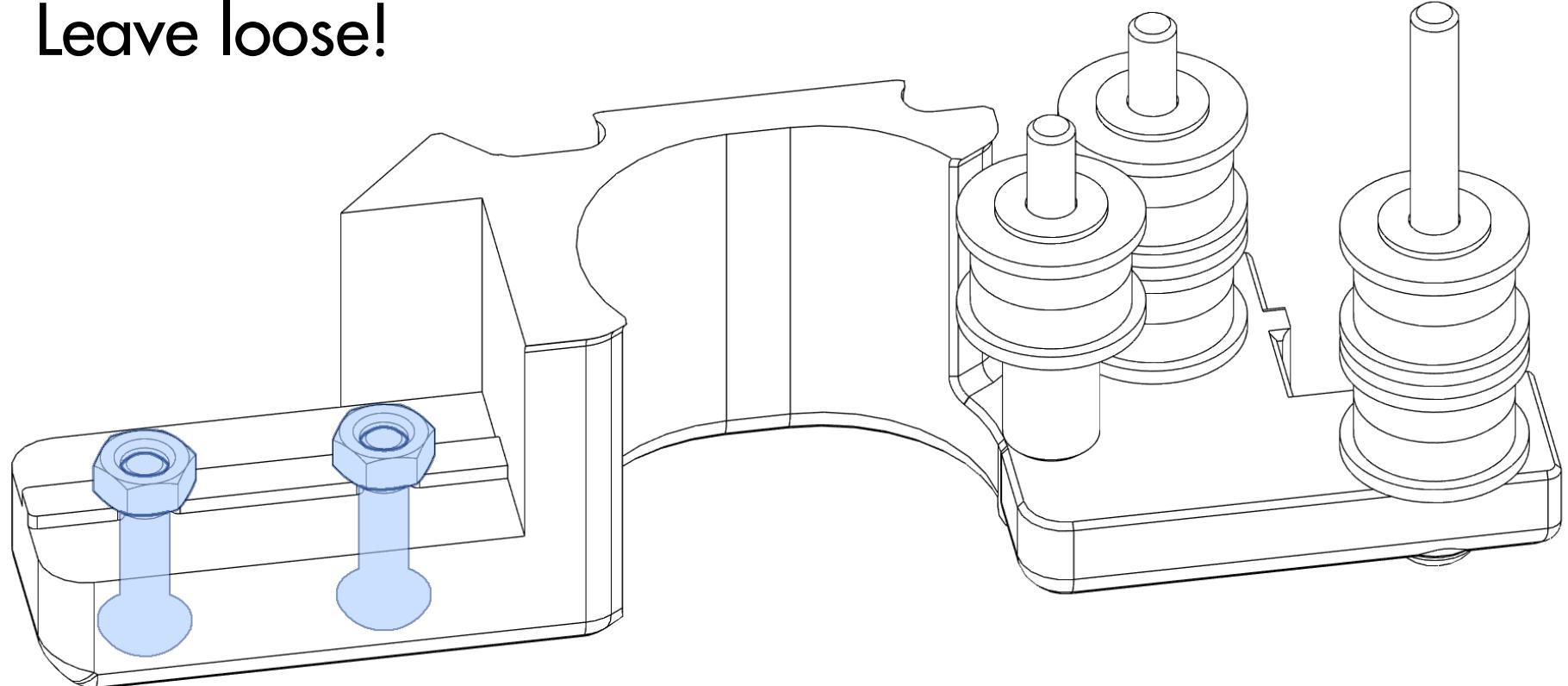
Mastur Mods

Gantry

P103

M3x12 BHCS x2 & M3 Hex Nut x2

Leave loose!

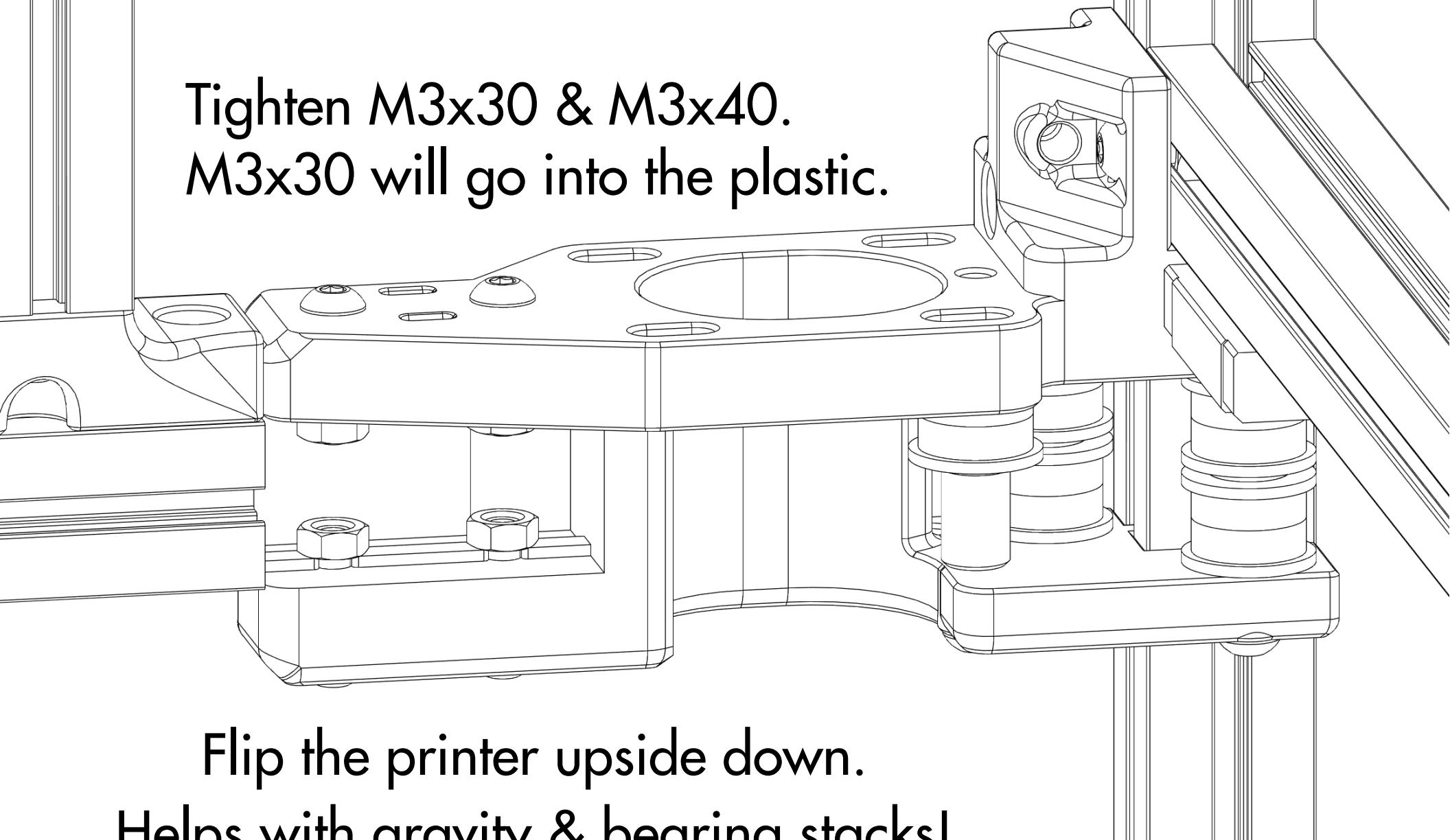


Mastur Mods

Gantry

P104

Tighten M3x30 & M3x40.
M3x30 will go into the plastic.



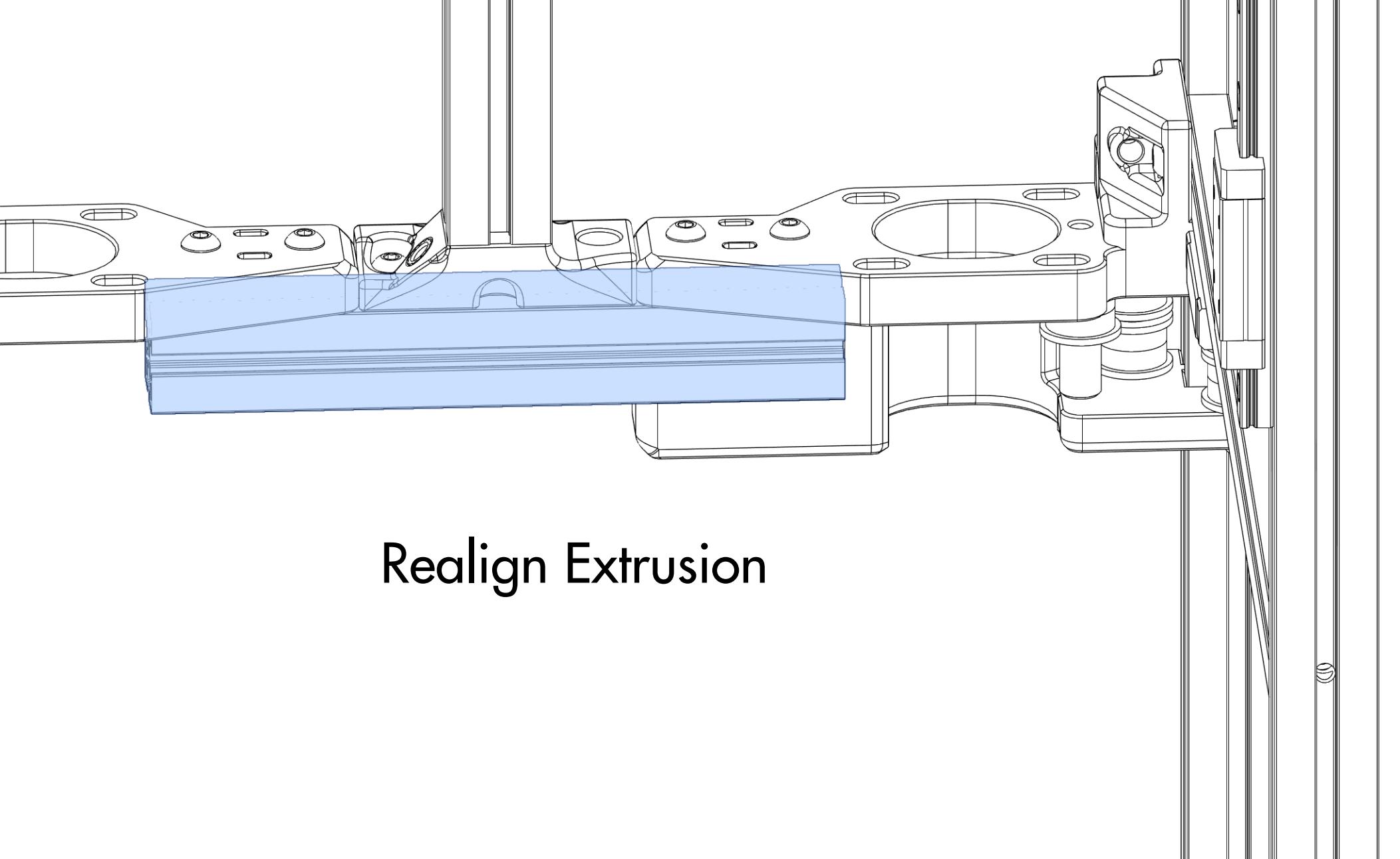
Flip the printer upside down.
Helps with gravity & bearing stacks!



Mastur Mods

Gantry

P105



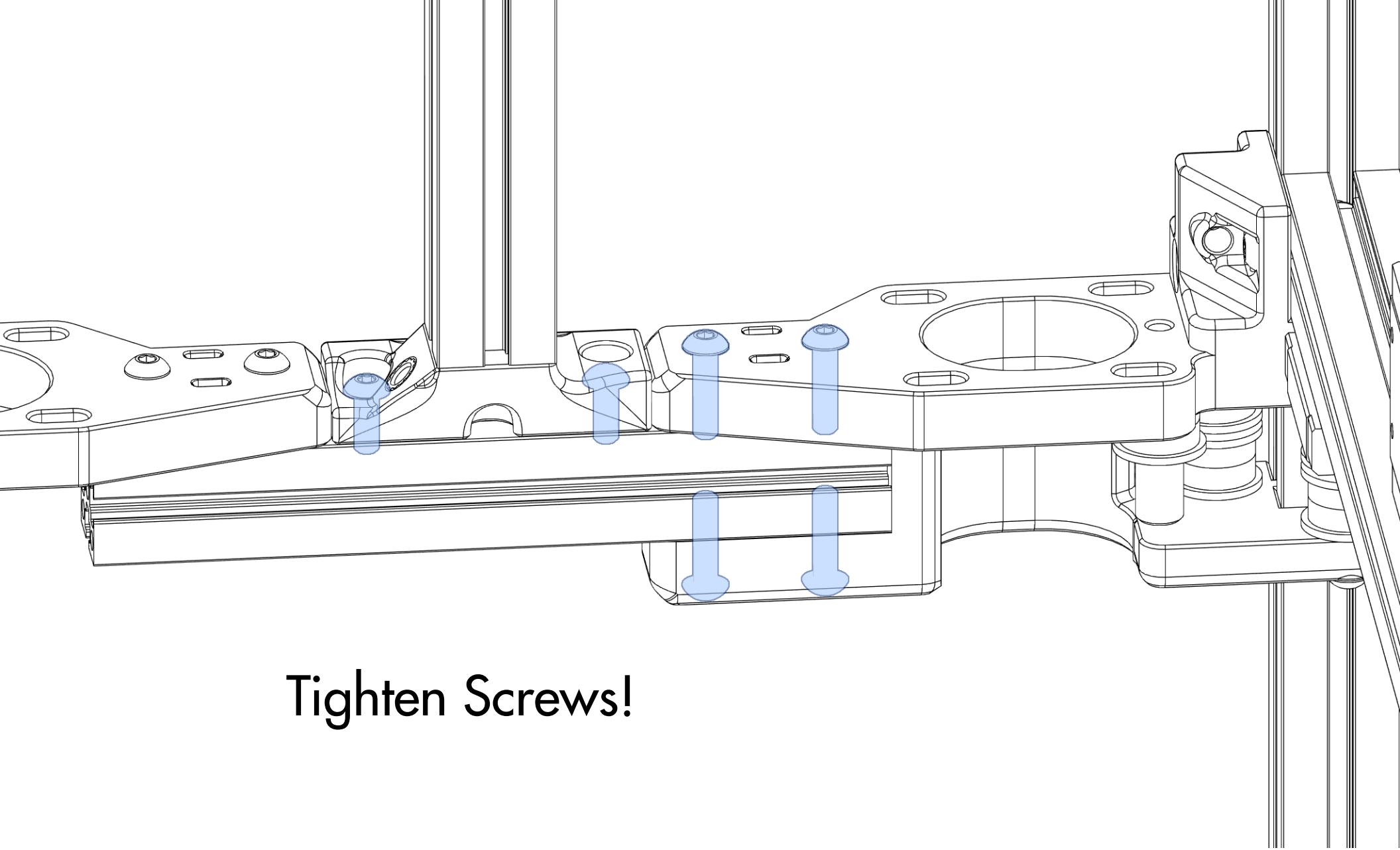
Realign Extrusion



Mastur Mods

Gantry

P106



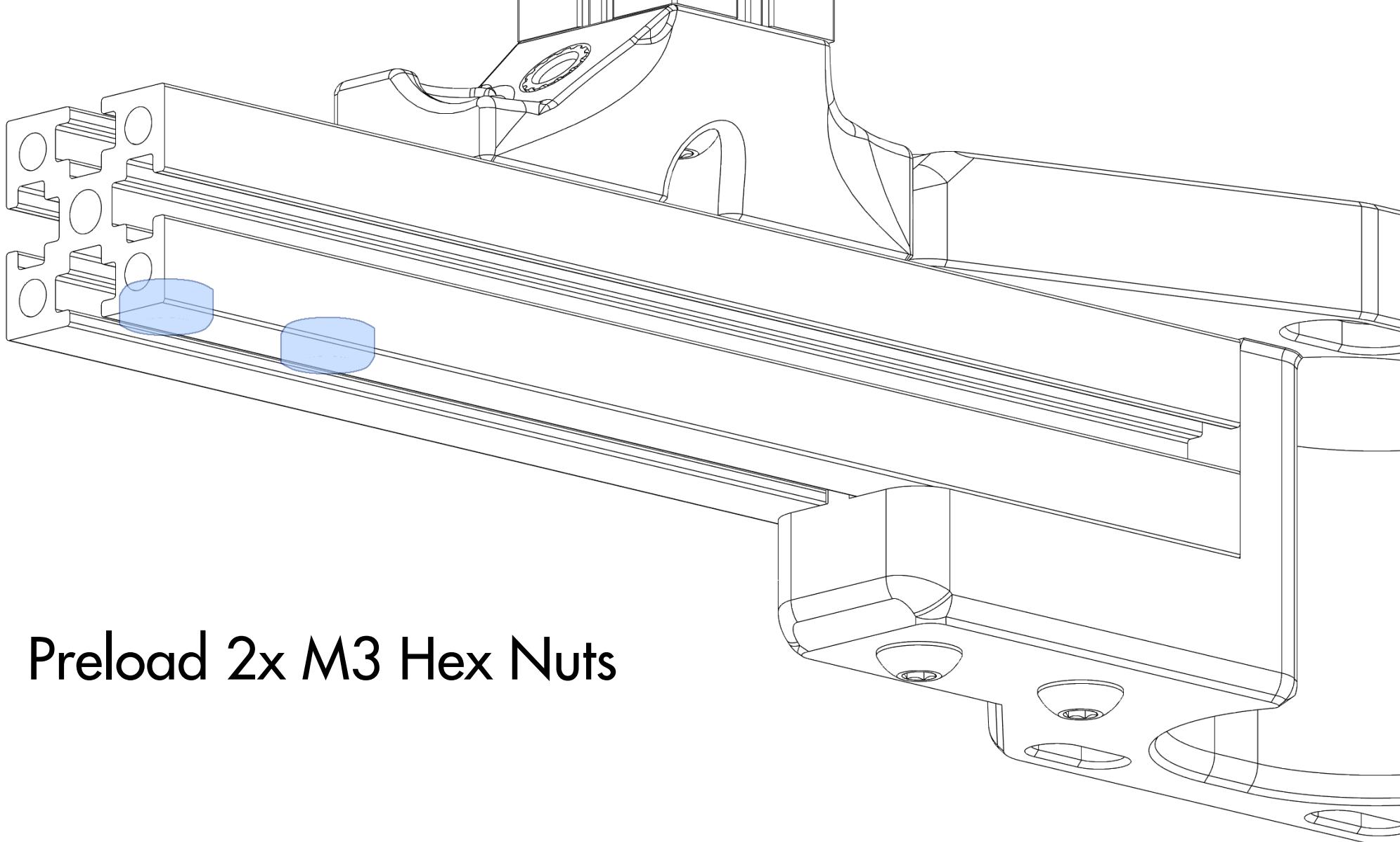
Tighten Screws!



Mastur Mods

Gantry

P107



Preload 2x M3 Hex Nuts

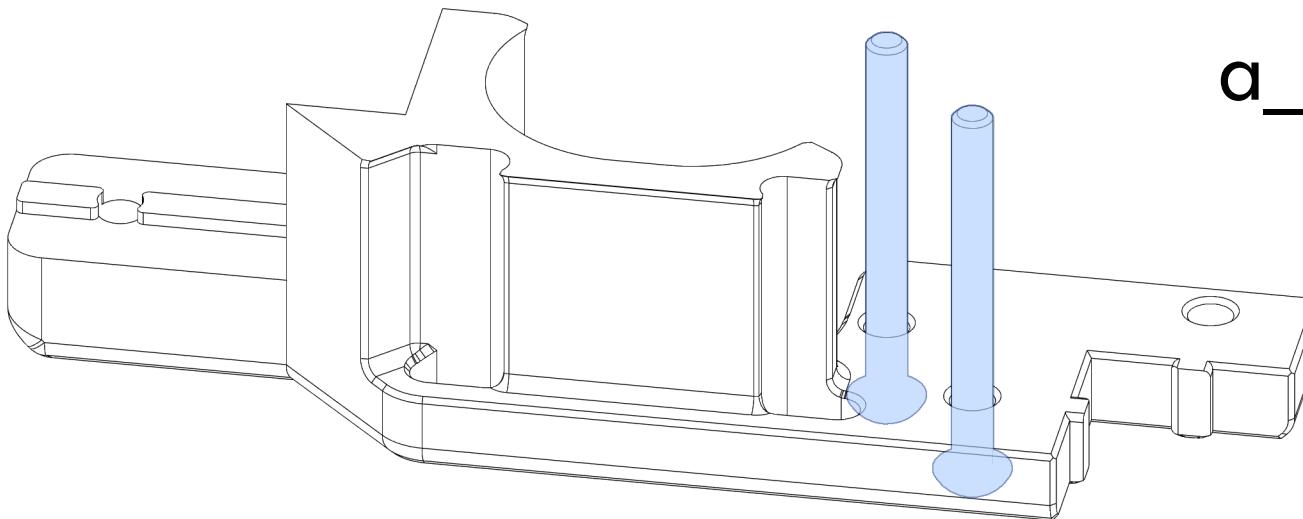


Mastur Mods

Gantry

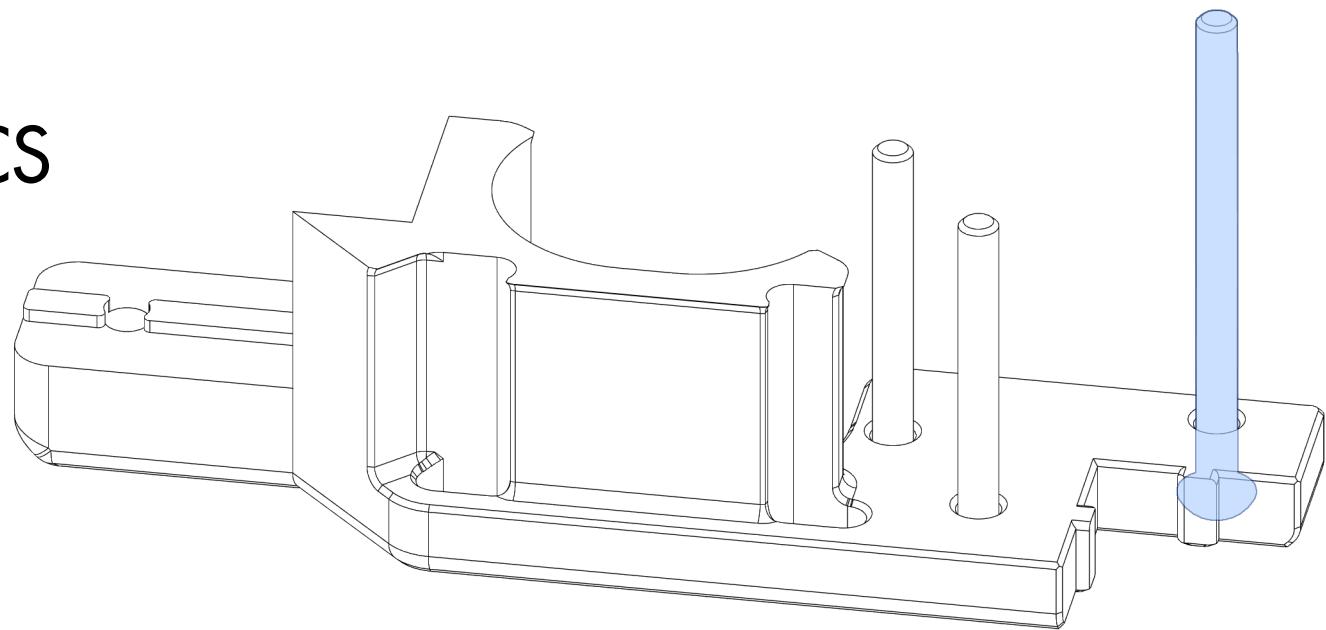
P108

M3x30 BHCS x2



a_drive_frame_upper

M3x40 BHCS

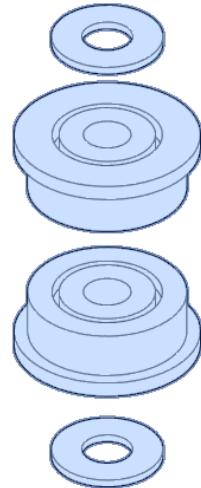


Mastur Mods

Gantry

P109

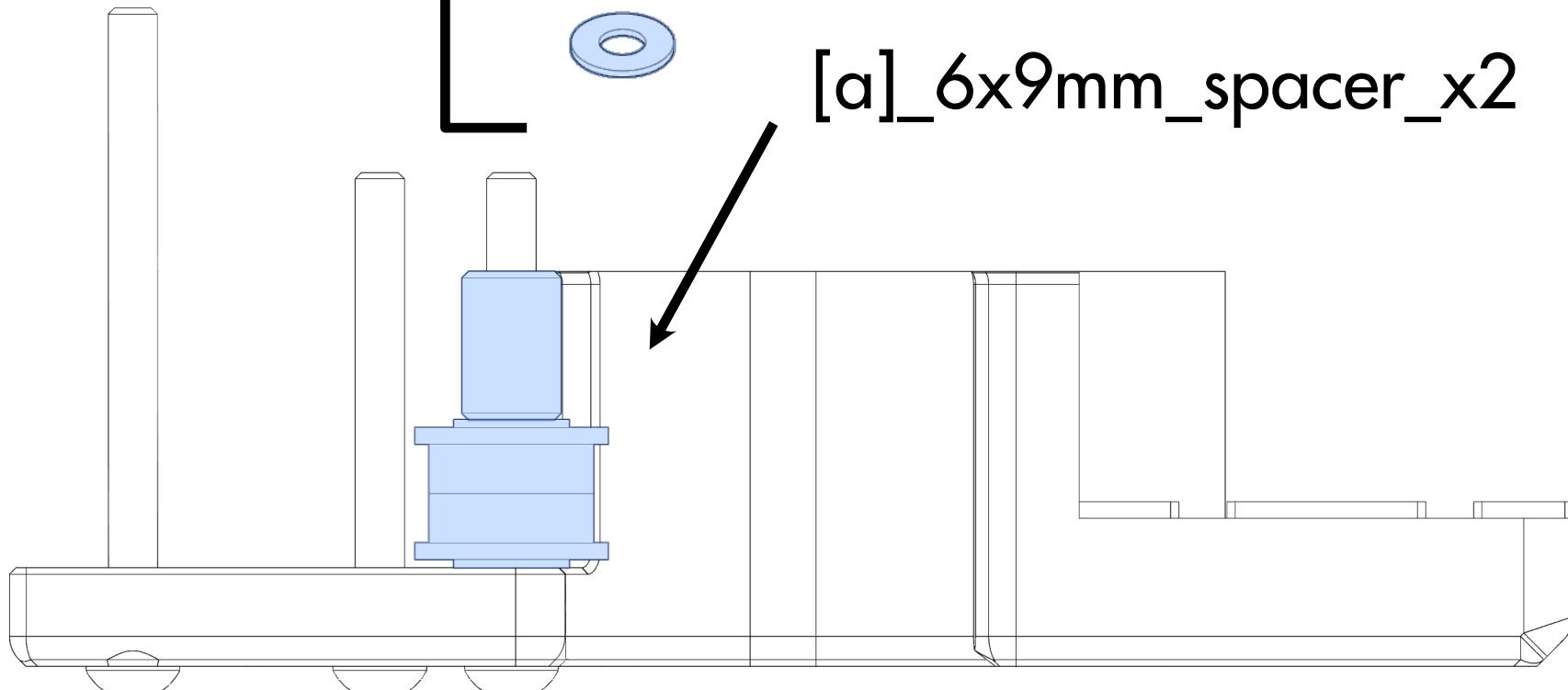
Bearing Stack



M3 Washer x2

F623-RS Bearing x2

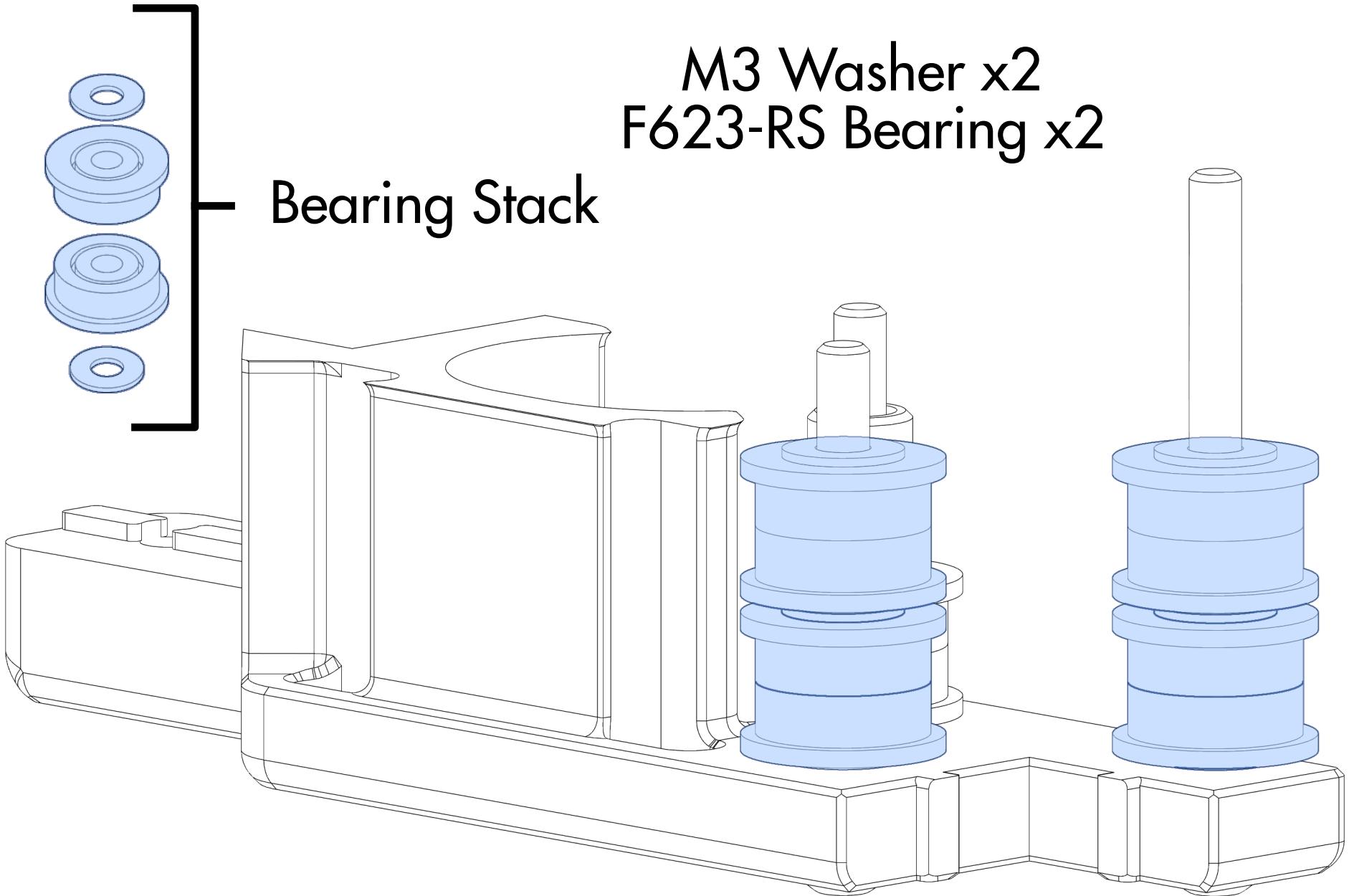
[a]_6x9mm_spacer_x2



Mastur Mods

Gantry

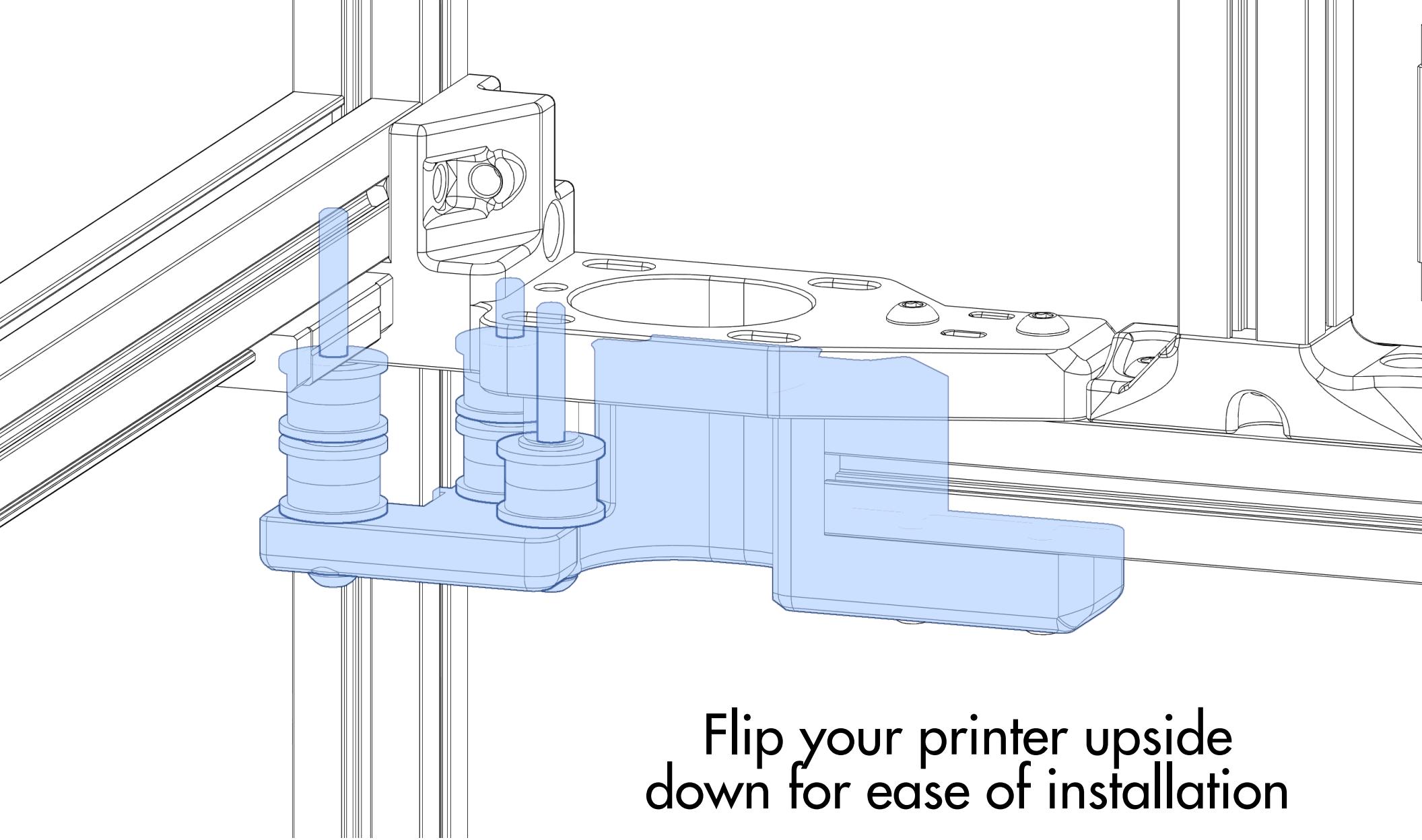
P110



Mastur Mods

Gantry

P111



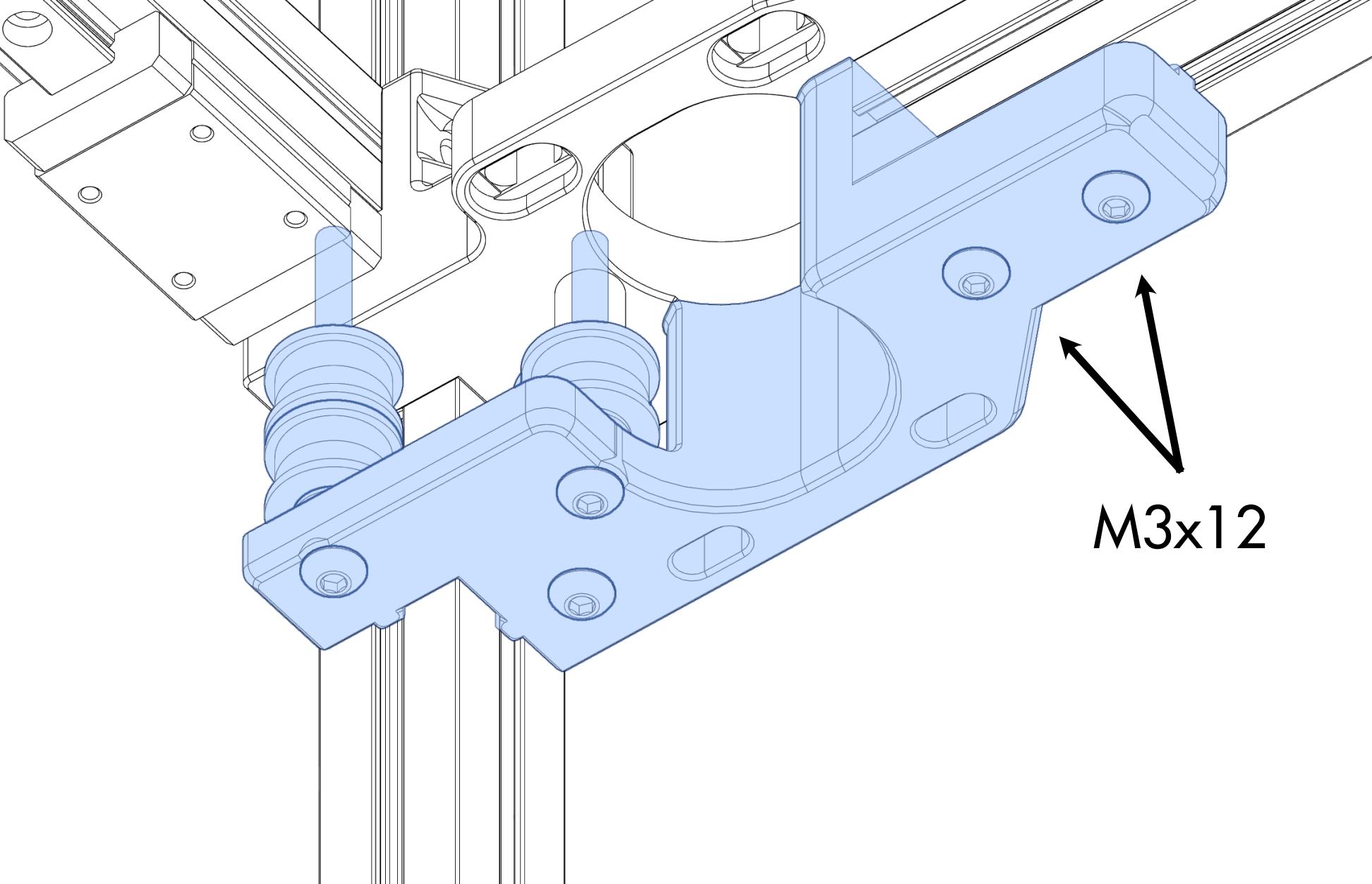
Flip your printer upside
down for ease of installation



Mastur Mods

Gantry

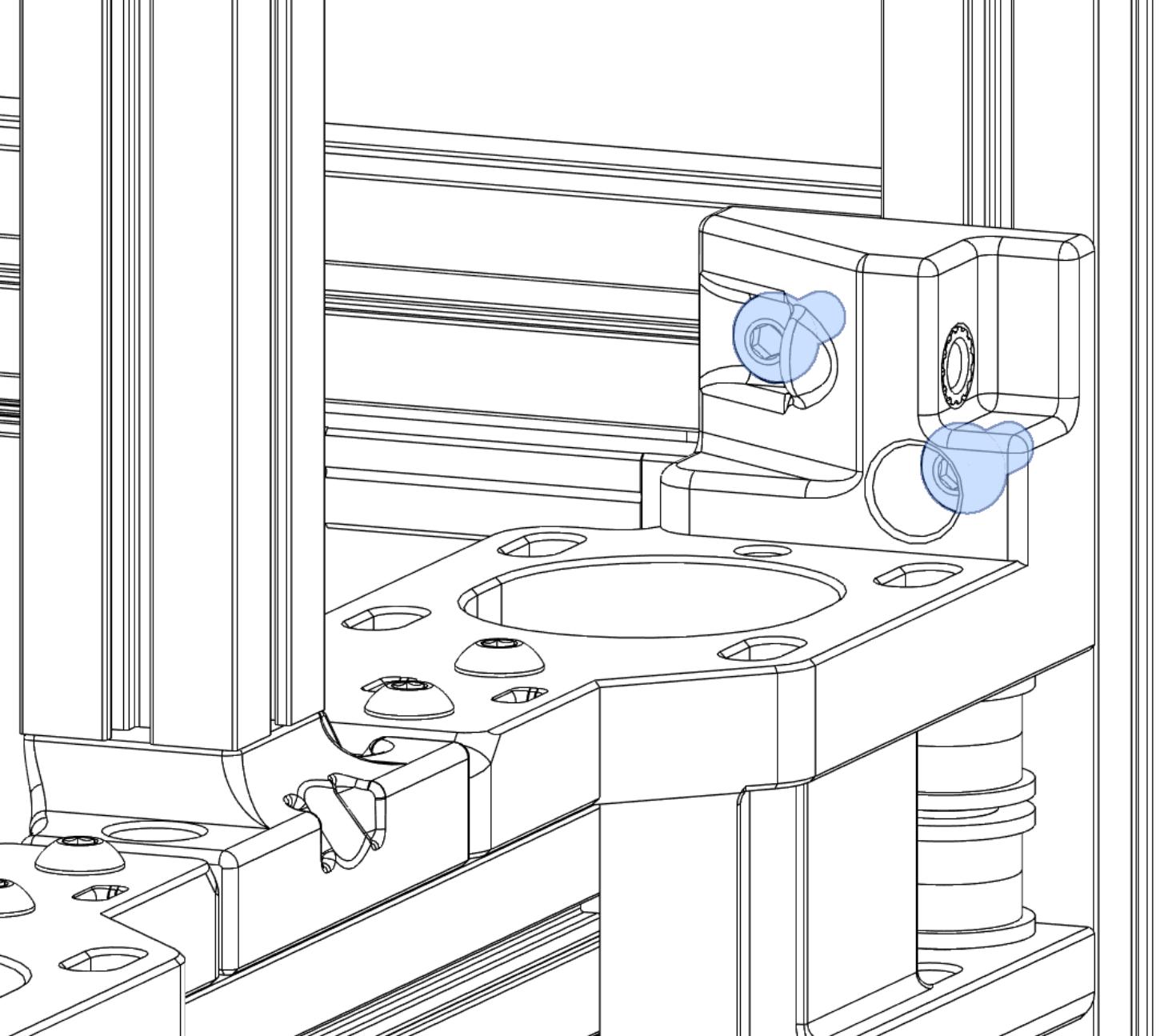
P112



Mastur Mods

Gantry

P113



M3x8 BHCS

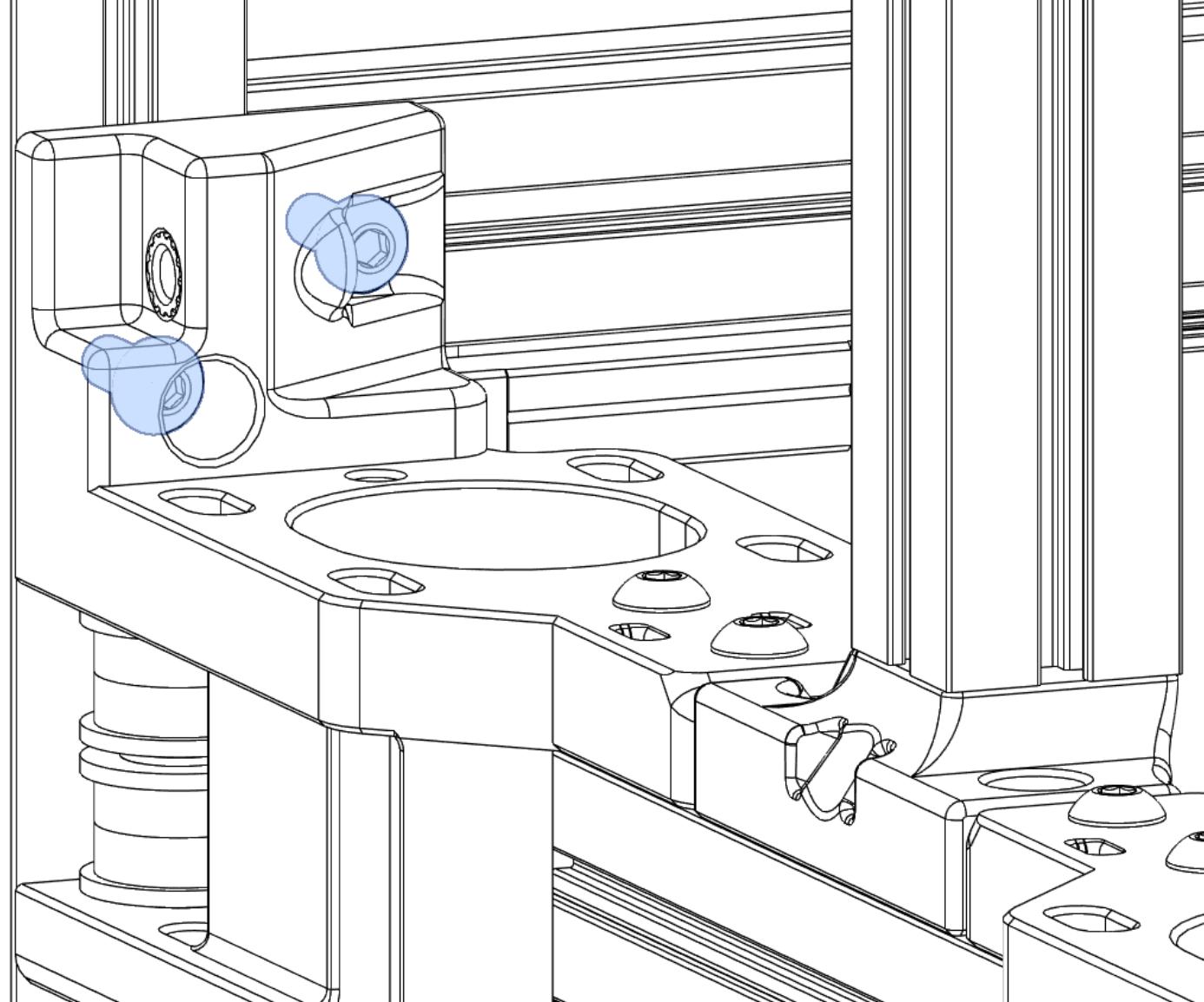


Mastur Mods

Gantry

P114

M3x8 BHCS

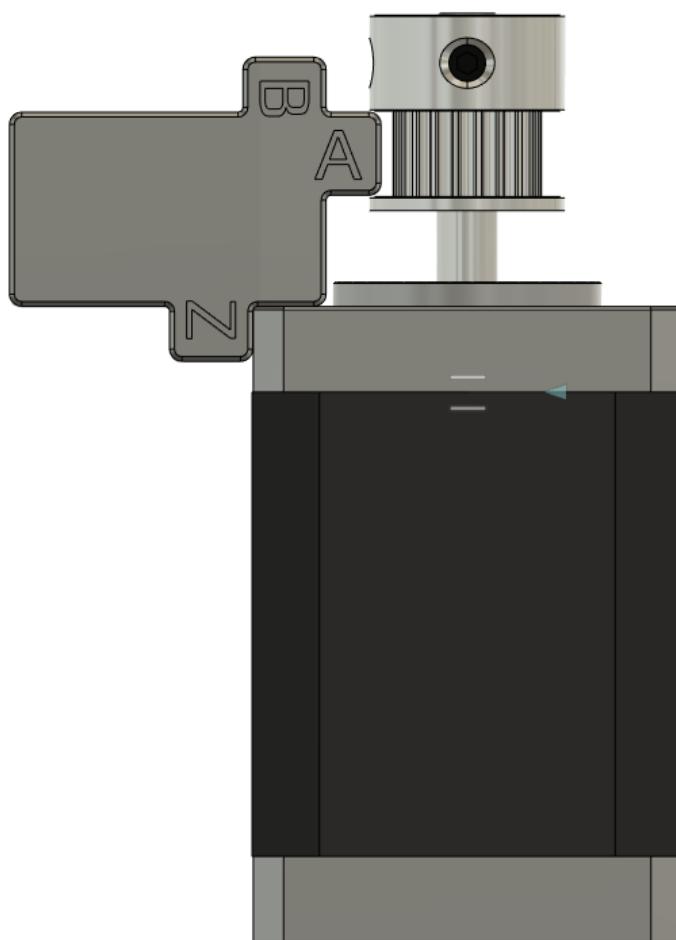


Mastur Mods

Gantry

P115

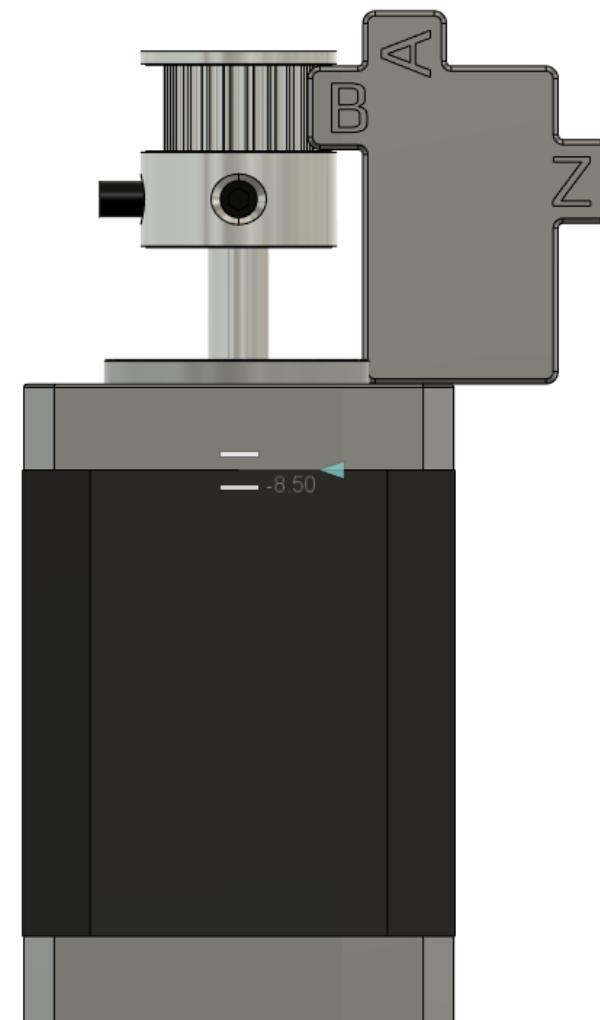
Prep your steppers.



A Drive - Nema 14



Mastur Mods

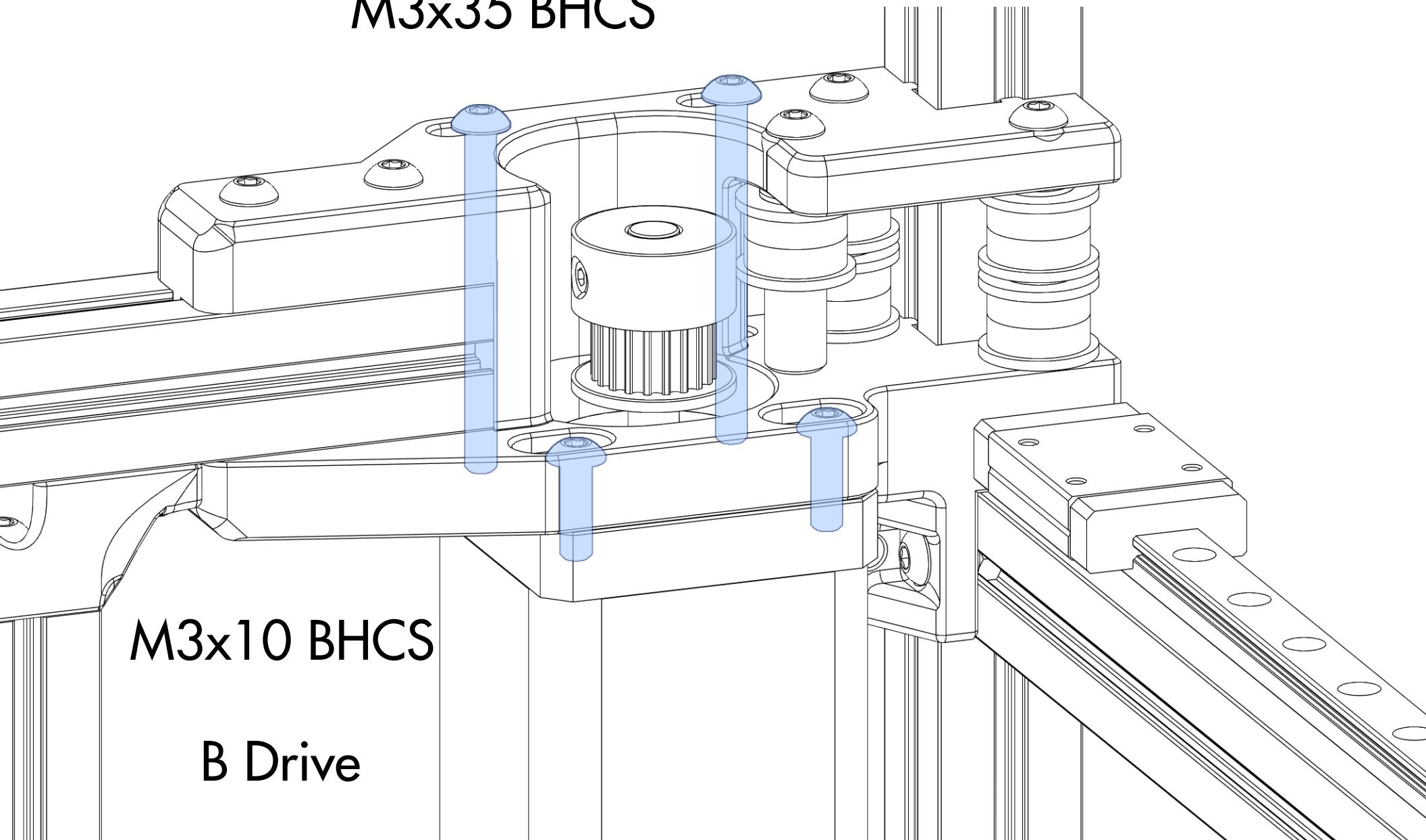


B Drive - Nema 14

Gantry

P116

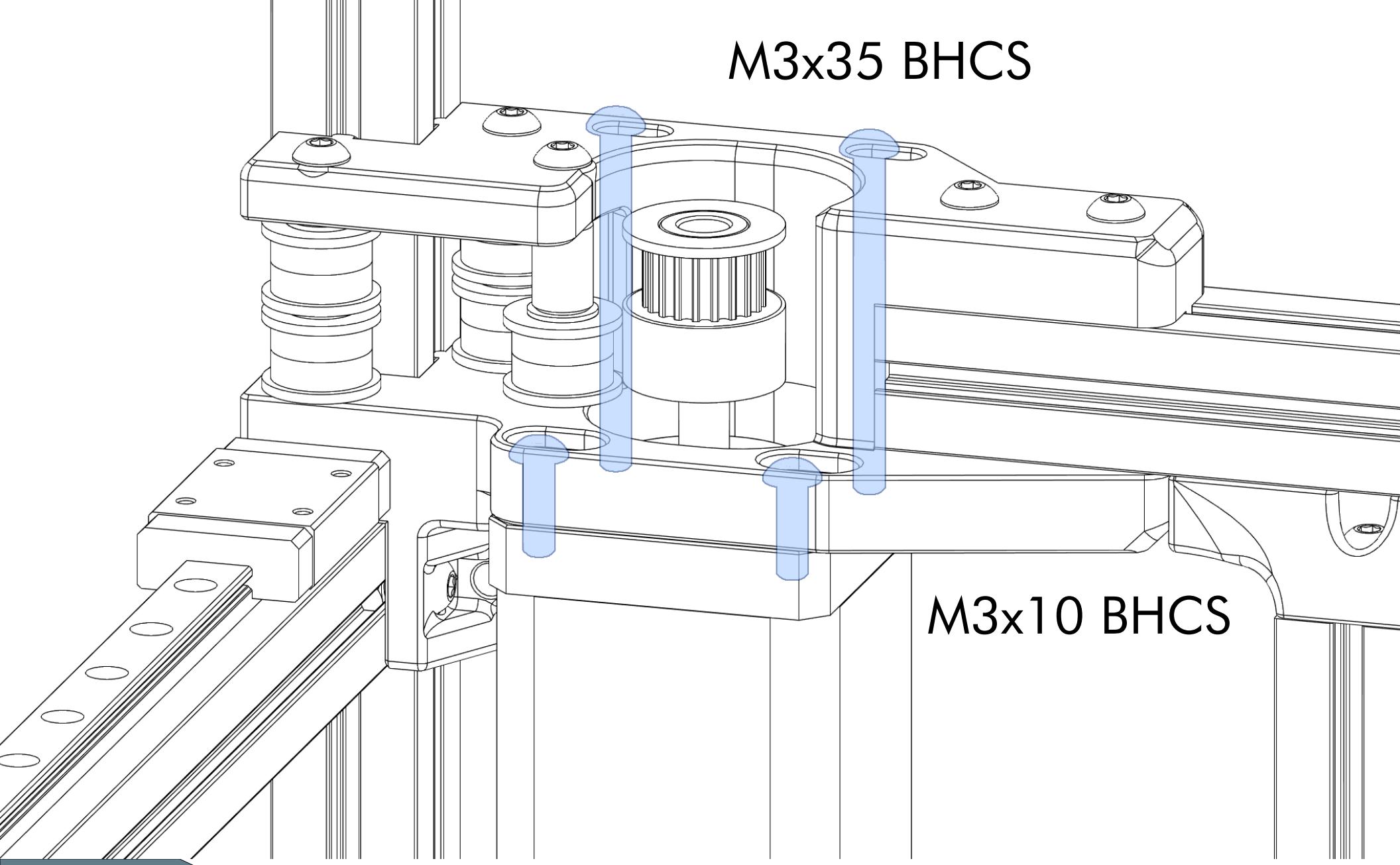
M3x35 BHCS



Mastur Mods

Gantry

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M3x35 BHCS

M3x10 BHCS

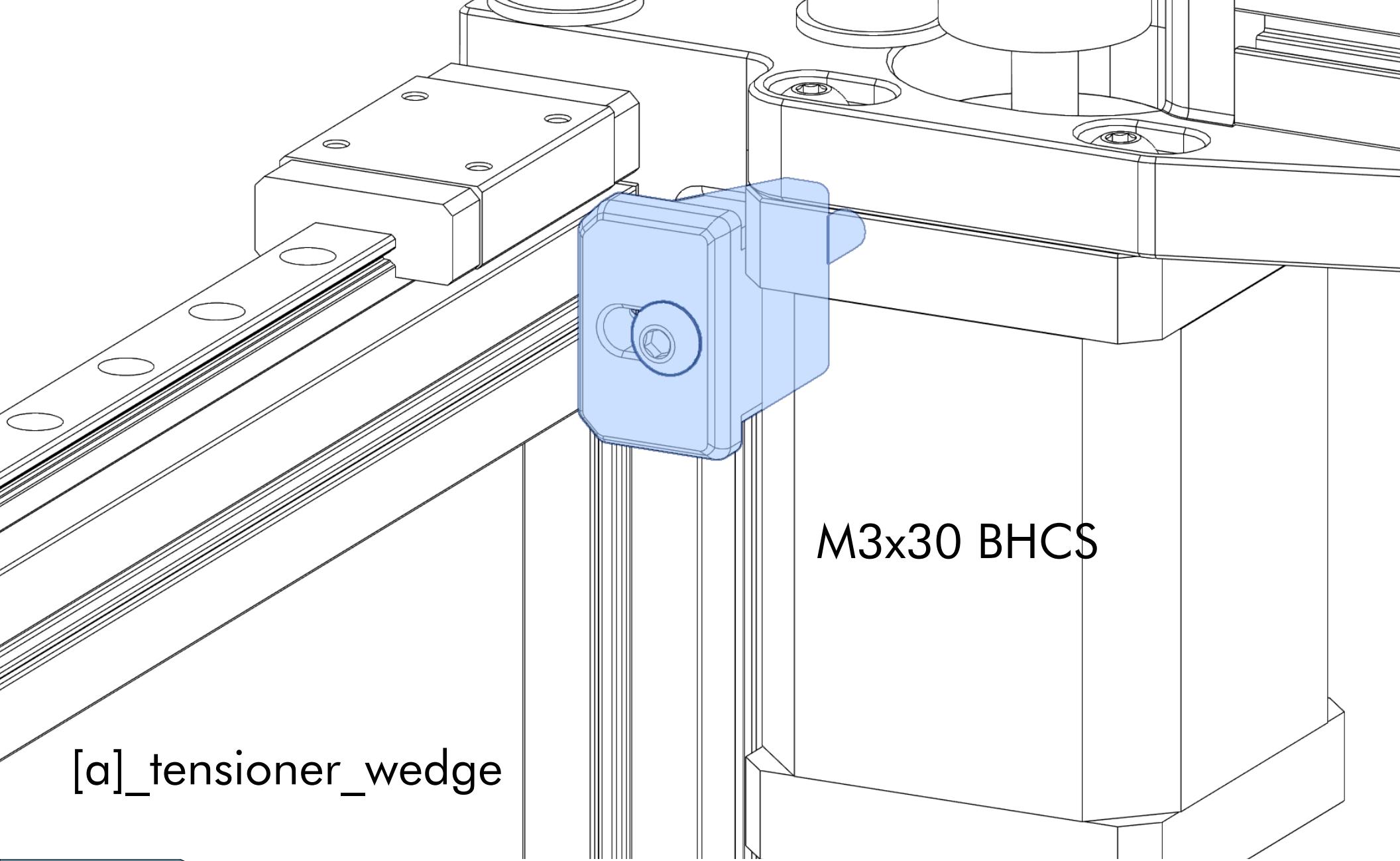
A Drive



Mastur Mods

Gantry

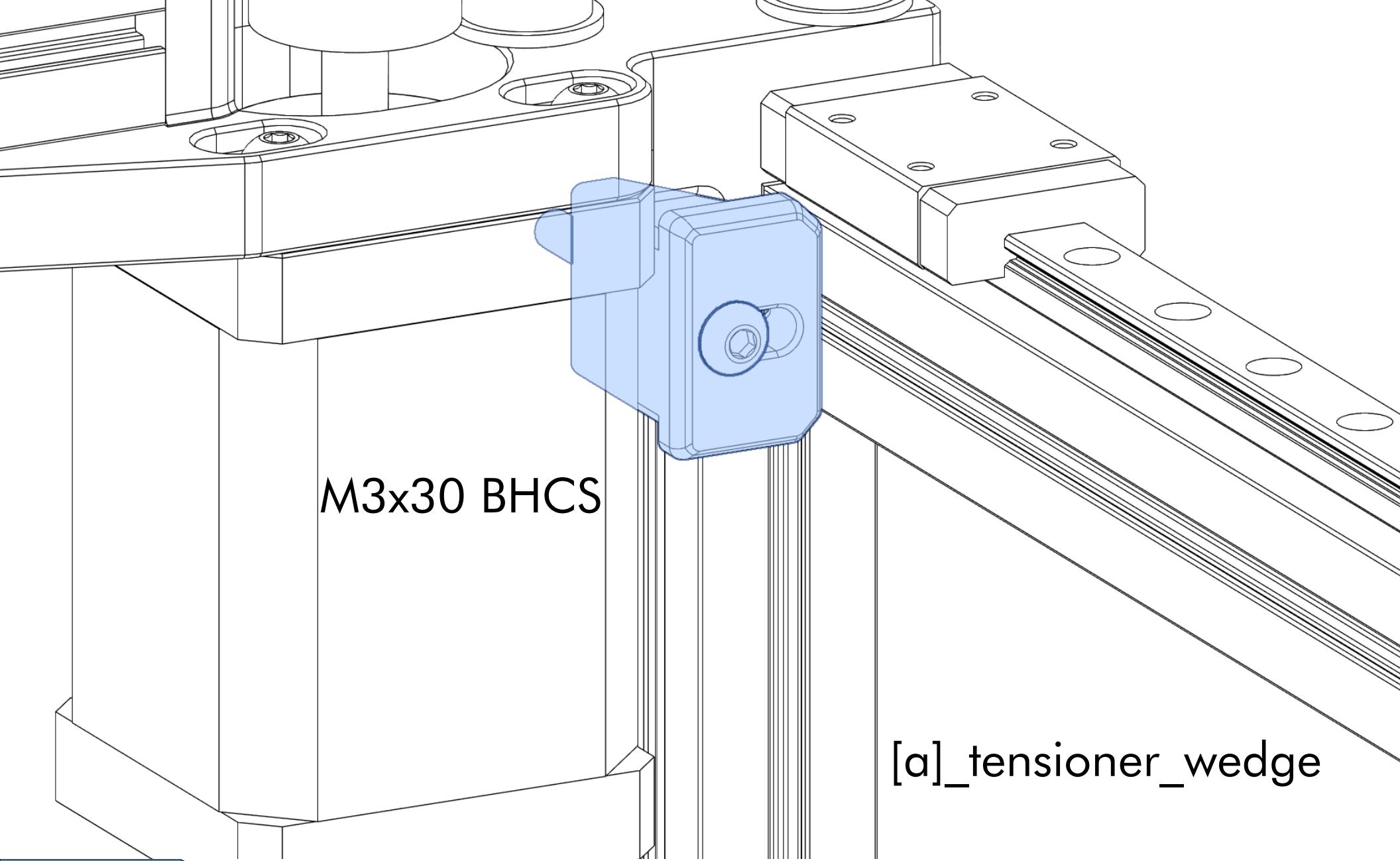
P118



Mastur Mods

Gantry

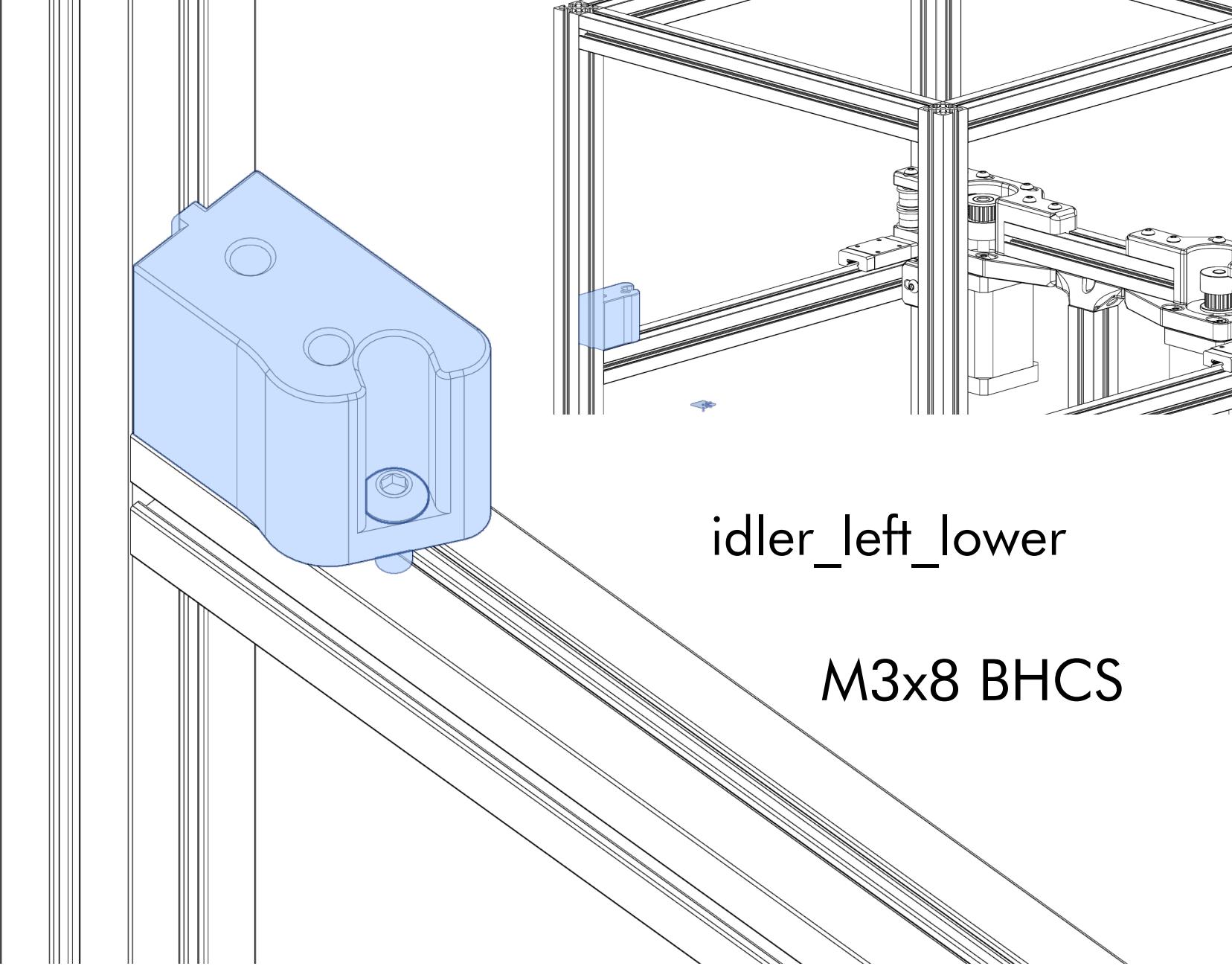
P119



Mastur Mods

Gantry

P120

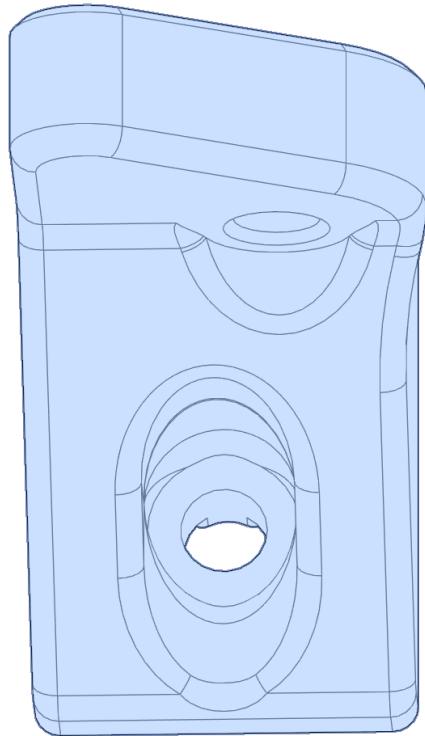


Mastur Mods

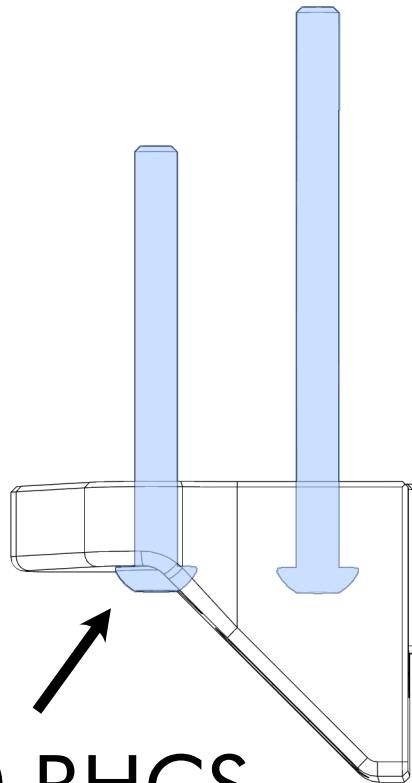
Gantry

P121

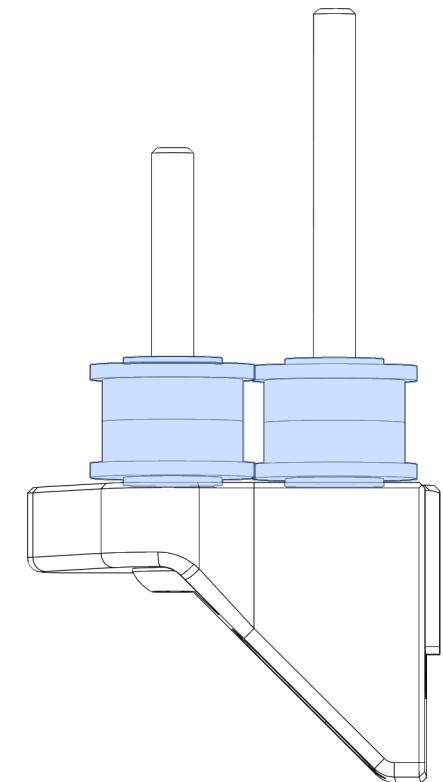
idler_left_upper



M3x40 BHCS



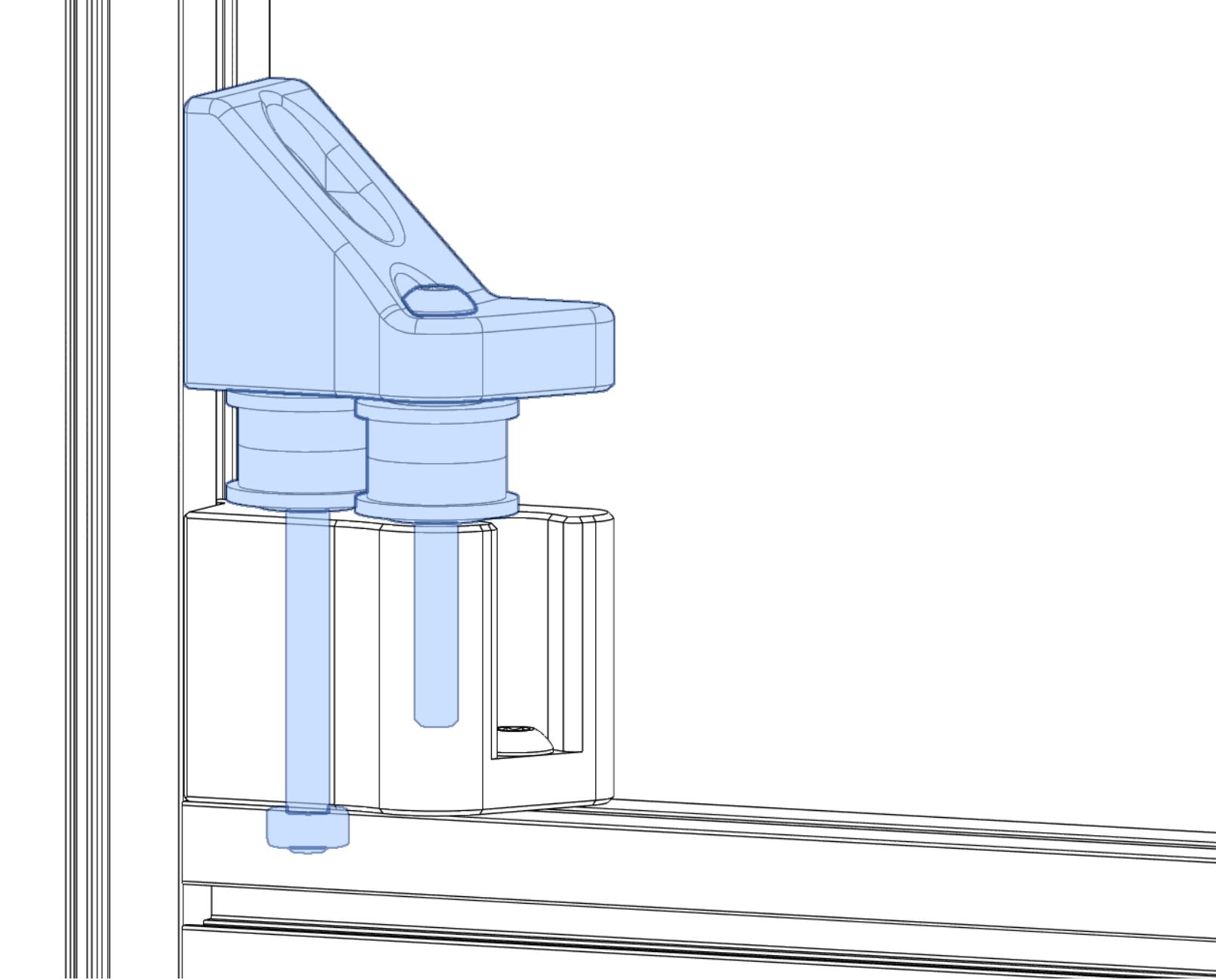
Bearing Stack



Mastur Mods

Gantry

P122



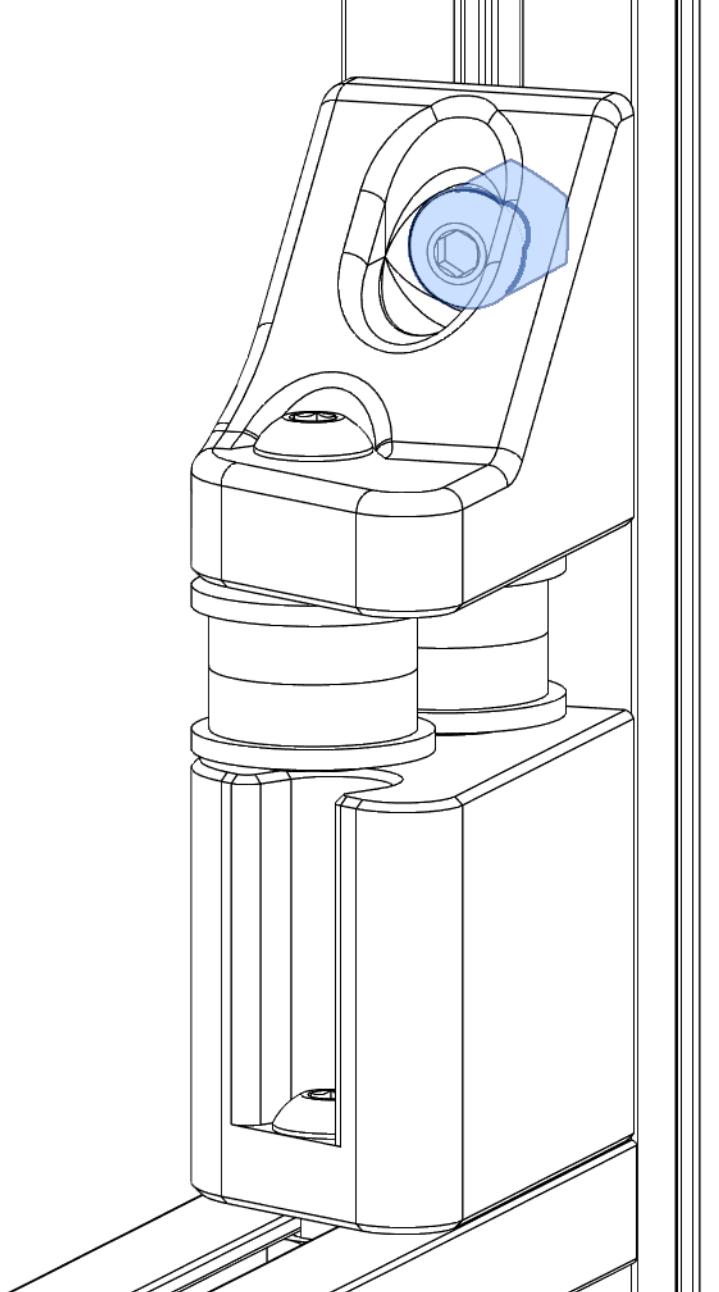
Mastur Mods

Gantry

P123

M3x6 BHCS

M3 Hex Nut



Mastur Mods

Gantry

P124



Mastur Mods

Gantry

P125



Mastur Mods

Gantry

P126



Mastur Mods

Gantry

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Mastur Mods

Gantry

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Mastur Mods

Gantry

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Mastur Mods

Gantry

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Mastur Mods

Gantry

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Mastur Mods

Gantry

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Mastur Mods

Gantry

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