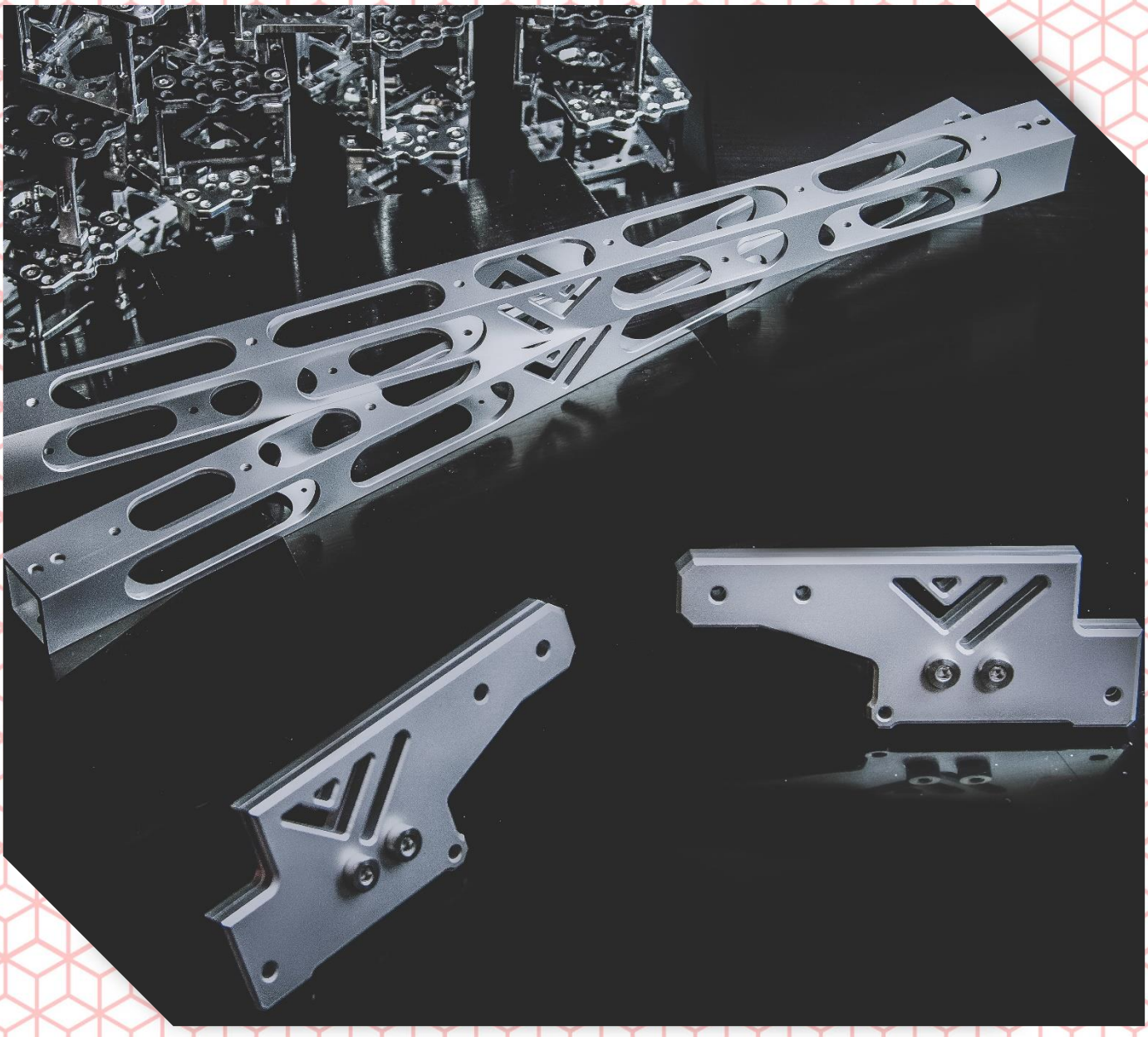


MANUAL VZ-235 AWD/2WD

About

This manual is intended for the aluminum parts for VZ235 as sold by F3D-Racing and Mellow. The aluminum parts are interchangeable with the printed parts, some additional hardware is required when purchasing the motor mounts and idler mounts. Furthermore some printed parts are required in order to mount your new sexy parts!

*Disclaimer: VzBoT is an opensource passion project, this manual is not definitive, and we try to make it as polished as possible. Fortunately, we all make errors so use common sense when following this guide.

Print settings:

We recommend printing all parts in ABS, ASA or similar material to be able to withstand the high heat environment in the printer enclosure.

Print settings should always be tuned for your own material and tested for decent strength and layer adhesion.

We recommend the following settings:

For non-moving parts:

Layer height: **0.2mm**

Layer with: **0.4 to 0.6 mm**

Number of walls: **4**

Infill percentage: **40 to 50 %**

Top/bottom layers: **5**

For moving parts:

Layer height: **0.2mm**

Layer with: **0.4 to 0.6 mm**

Number of walls: **4**

Infill percentage: **30 to 40 % depending on your material**

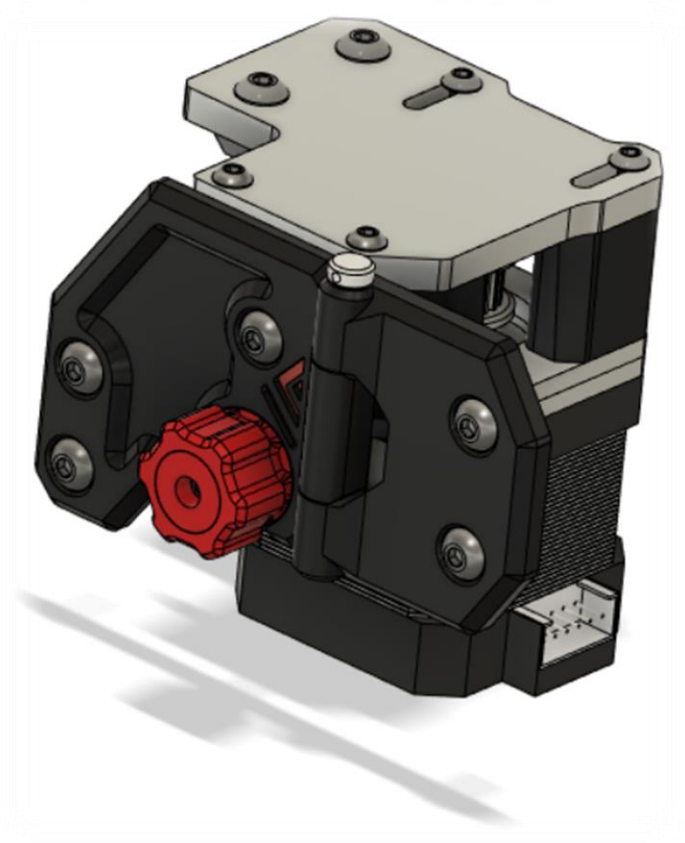
Top/bottom layers: **5**

1. Gantry

Overview:

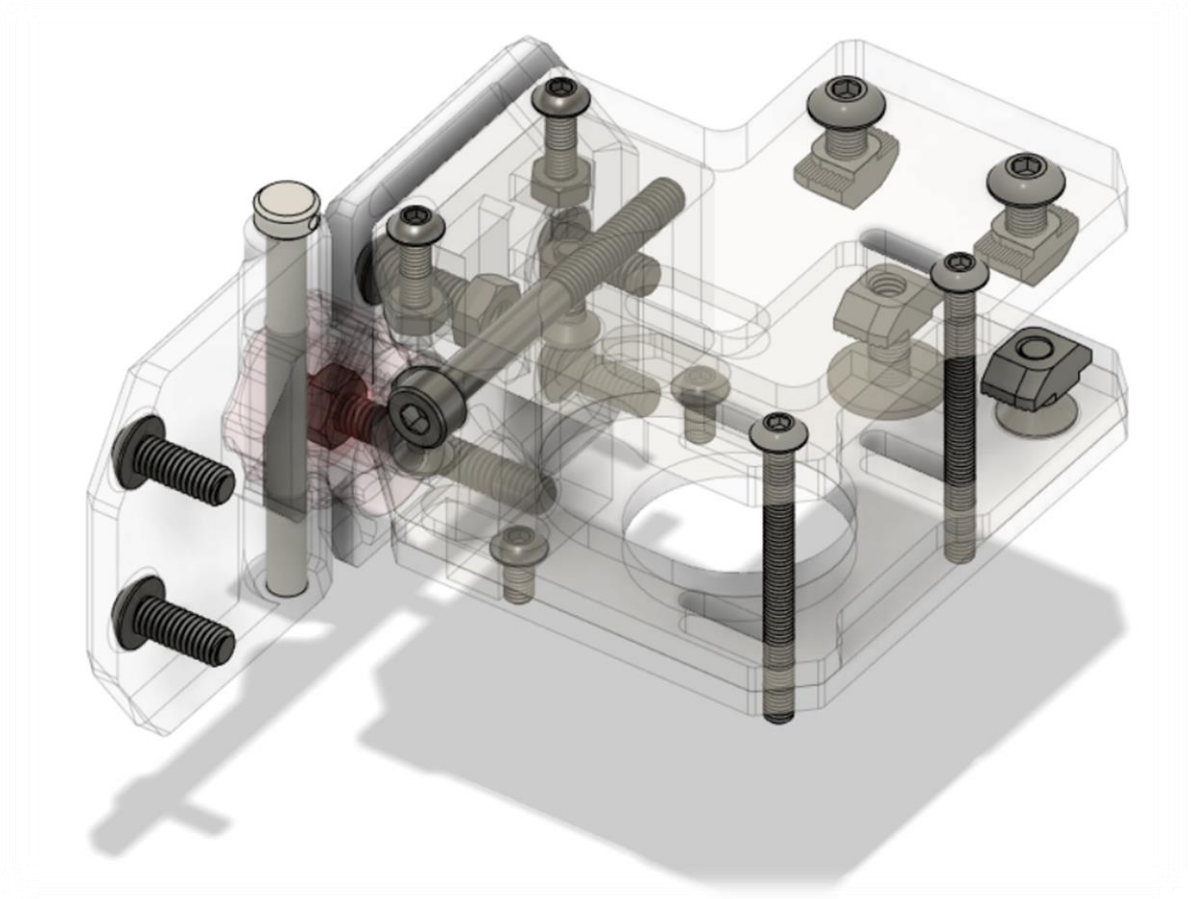
The Gantry is configurable for an AWD version and a 2WD version. The only difference between the two configurations is the rear idler mounts. On AWD they have an additional Nema 17 integrated in the design.

1.1 Motor mounts + integrated hinges



Bom:

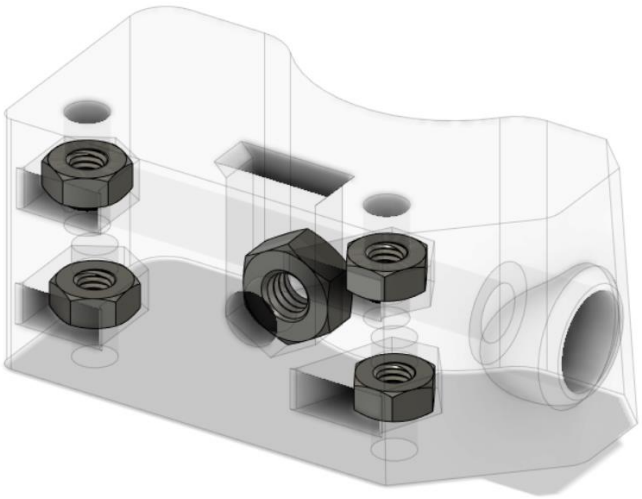
Material	Quantity	Notes
Nema 17	2	
20T GT2 Pulley	2	
8mm M4 countersunk	2	
30mm M4 set screw	2	
40mm M4 Socket head	4	
M4 nut	10	(also, for hinges)
M3 nut	8	
M3 6mm	4	
M3 12mm	4	
M3 10mm countersunk	4	
M4 12mm	8	
M4 10mm	8	
M4 T-nut	8	
M3 35mm	4	
4mm ID washer	2	



STL files:

File name	Amount to print
Printed standoff	Left + Right
Printed standoff 2	Left + Right
Printed standoff_motor anchor	Left + Right
Tensioner knob	2
Cap	2
Integrated hinge	2
Front plate alu motormount	Left + Right

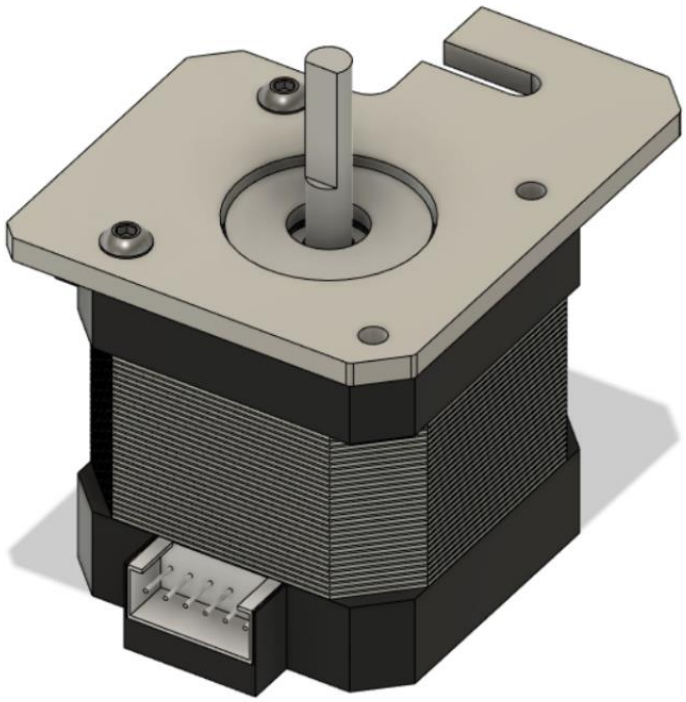
Step 1:



Insert the 4 M3 nuts and single M4 nut in the printed standoff_motor anchor as shown above.

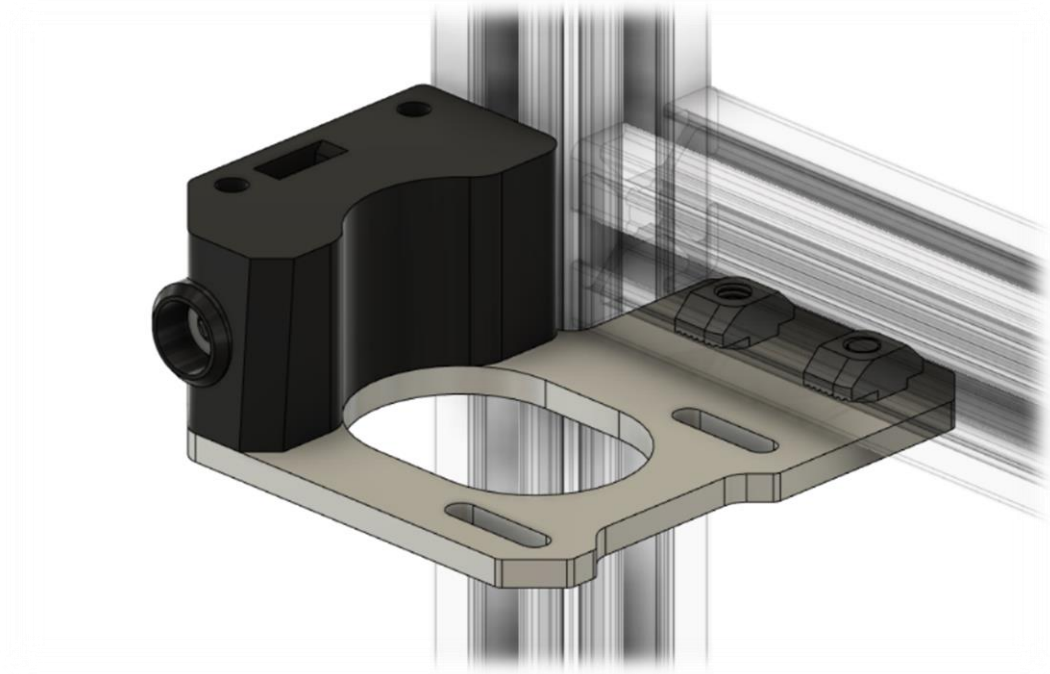
Step 2:

Attach the stepper motor to the bottom motor plate with 2 6mm M3 screws.



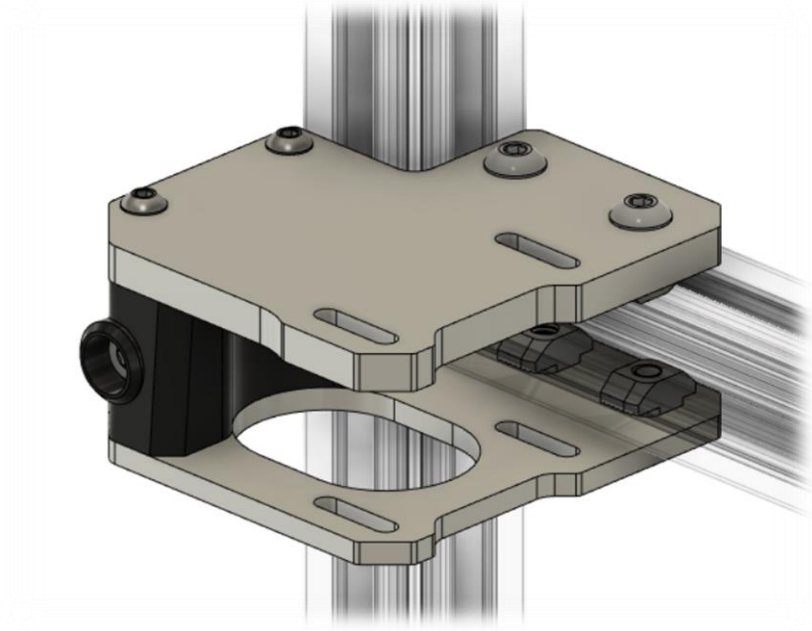
Step 3:

Screw the stand off in the middle plate using the 10mm countersunk M3 and attach it to the frame using one 12mm M4 and the 8mm countersunk M4. Lock the standoff in place using the 40mm M4 and the printed hammer nut that is installed during frame assembly.



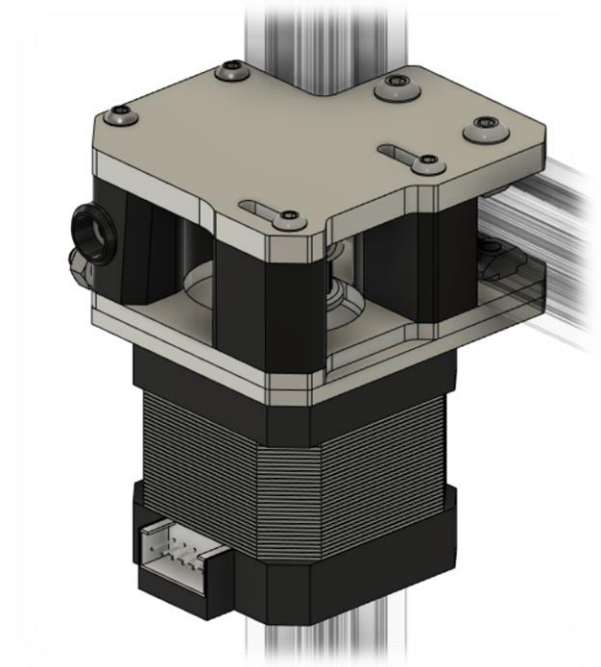
Step 4:

Attach the top plate using the 12mm M4 and T-nuts to the frame and screw in the 12mm M3 into the printed standoff.



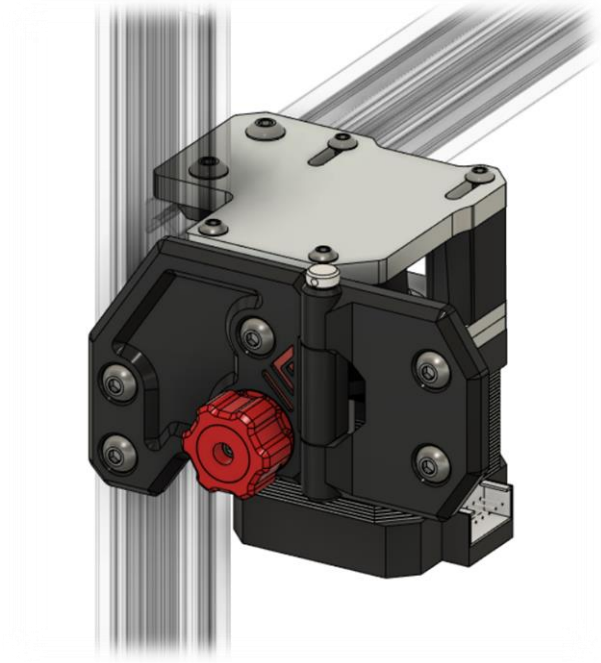
Step 5:

Insert the final standoffs and insert the 35mm M3, slide in the motor with its plate and tighten the M3 screws finger tight.



Step 6:

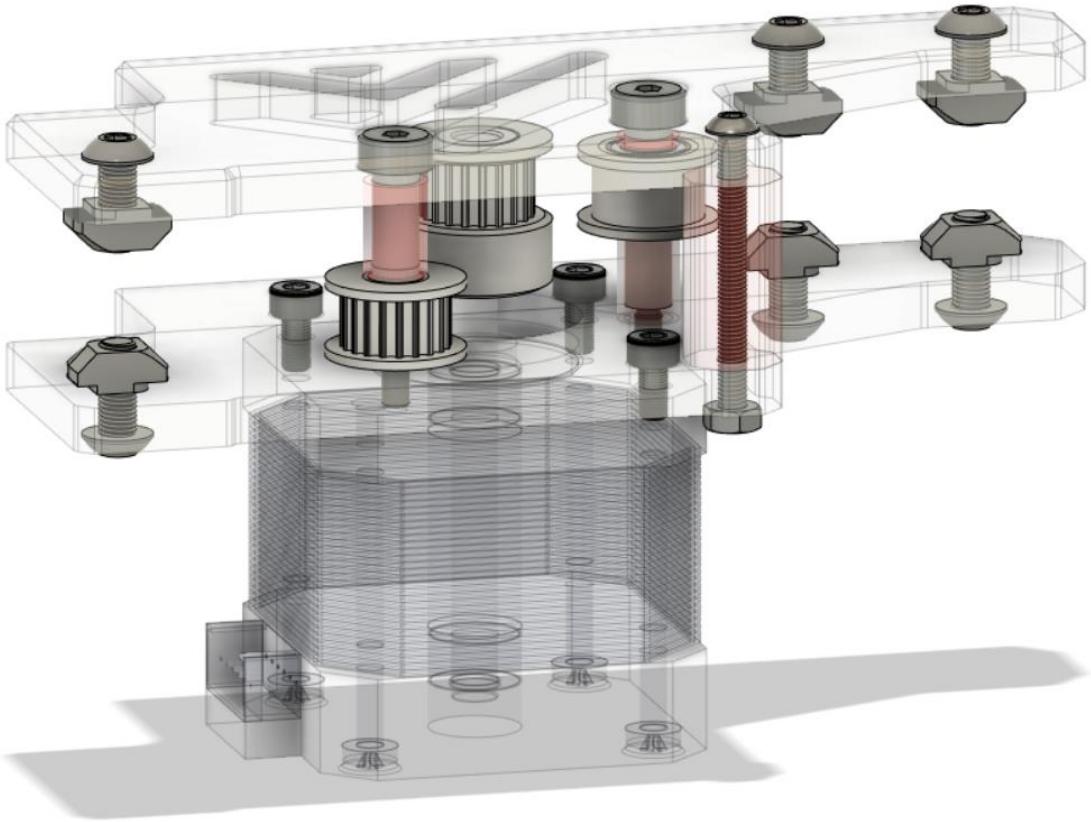
Screw in the M4 set screw into the bottom tensioner, the M4 nut should be pressed into the tensioning knob. The tensioner plate can be installed when the enclosure panels are on the printer.



1.2 Secondary motor mounts/Idlers (AWD)

Bom:

Material	Quantity	Notes
M3 35mm	2	
M3 nut	2	
M3 6mm	6	
M4 10mm	12	
M4 T-nut	12	+3 when mounting the extrusion to the rear panel
Shoulder bolt 5mmx20mm [M3]	4	M3 threading with 6mm of threaded length, if longer grind down the ends https://nl.aliexpress.com/item/1005003611471729.html
M4 nut	2	
GT2 Toothed idler	2	
Gt2 Smooth idler	2	
GT2 motor pulley	2	
260mm 2020 Extrusion	1	
M4 8mm	3	Optional but recommended, used to secure the rear extrusion to the rear aluminum panel



STL files:

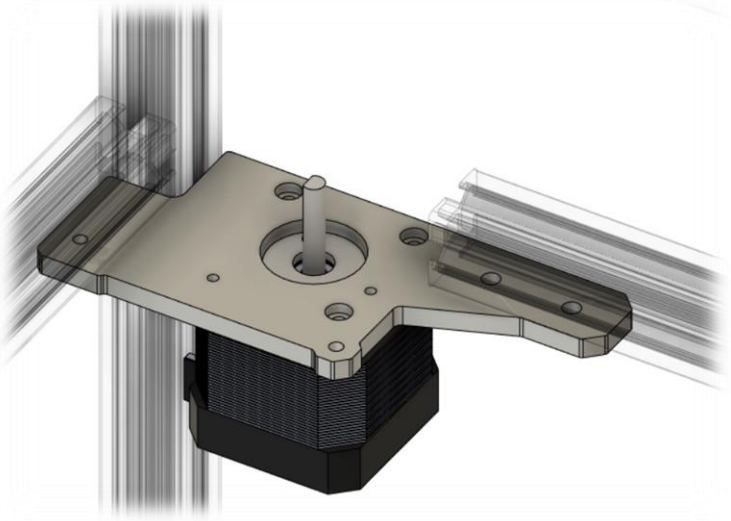
File name	Amount to print
Spacer M3 long	4
Spacer M3 short bottom	2
Spacer M3 short top	2
Spacer M3 corner	2

Step 1:

Mount the motor to the bottom plate with the M3 screws

Step 2:

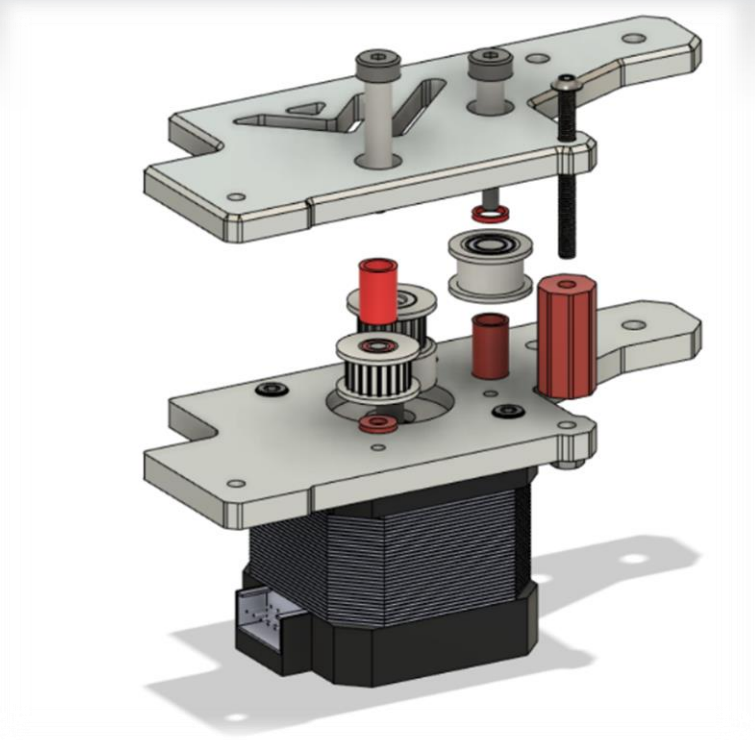
Mount the bottom assembly (left & right) to the frame with the rear extrusion



Step 3:

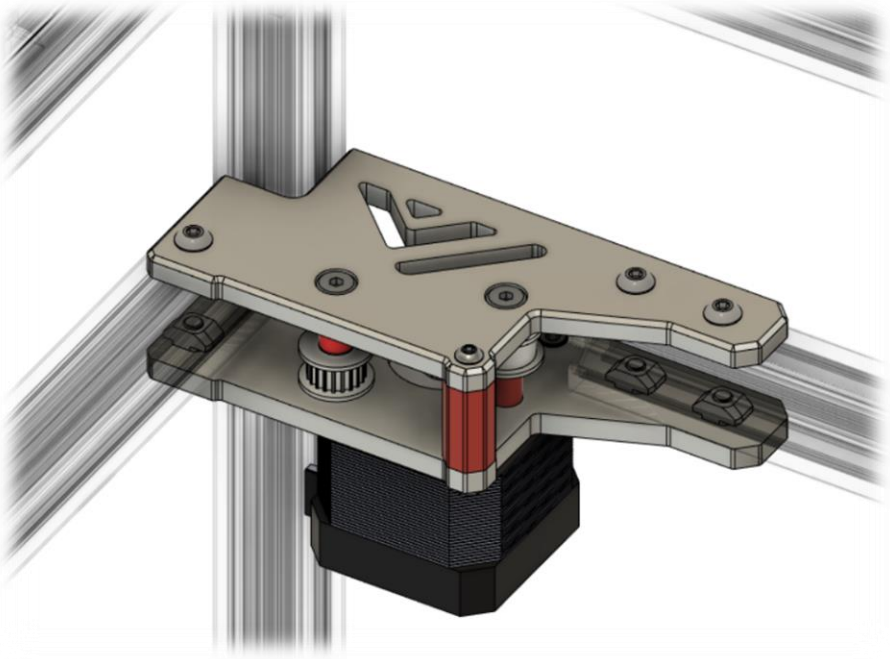
Mount the pulleys with their respective spacers and hardware like shown below. Mind that the bottom spacer for the toothed idler pulley has a smaller inside diameter then the top one for the smooth idler.

*when getting the top plate in position with all hardware it is recommended to either have the printed parts printed with some excess first layer squish or put some thicker grease between the last spacer and the shoulder bolt to keep the assembly together before mounting



Step 4:

Secure the top plate



Designed and developed by:

The VzBot Team


https://discord.gg/qmMeD6Vt3W


https://www.facebook.com/groups/4098868770205560/


https://github.com/VzBoT3D