Stationary Ai

ASSEMBLY GUIDE

THANK YOU

For purchasing the Trossen Robotics Stationary AI Machine Learning Kit.

We highly recommend that you also watch the video version of the assembly guide by going to https://youtu.be/LUU2ktpvOAo?si=6W4oH4gUN2Swh_iI

This guide references the Leader Model Assembly and Follower Model Assembly videos here:
Leader Arm Assembly Video: https://youtu.be/hdPAw-pwMm4?si=UqzAbFcIMBw6Twlm
Follower Arm Assembly Video: https://youtu.be/w5s9EzMBmsU?si=aEbFkelFtIS1XYxA

If you require additional support, please submit a support ticket at trossenrobotics.com/support

Additional Resources:

Trossen Robotics GitHub: github.com/interbotix
Product Documentation: docs.trossenrobotics.com

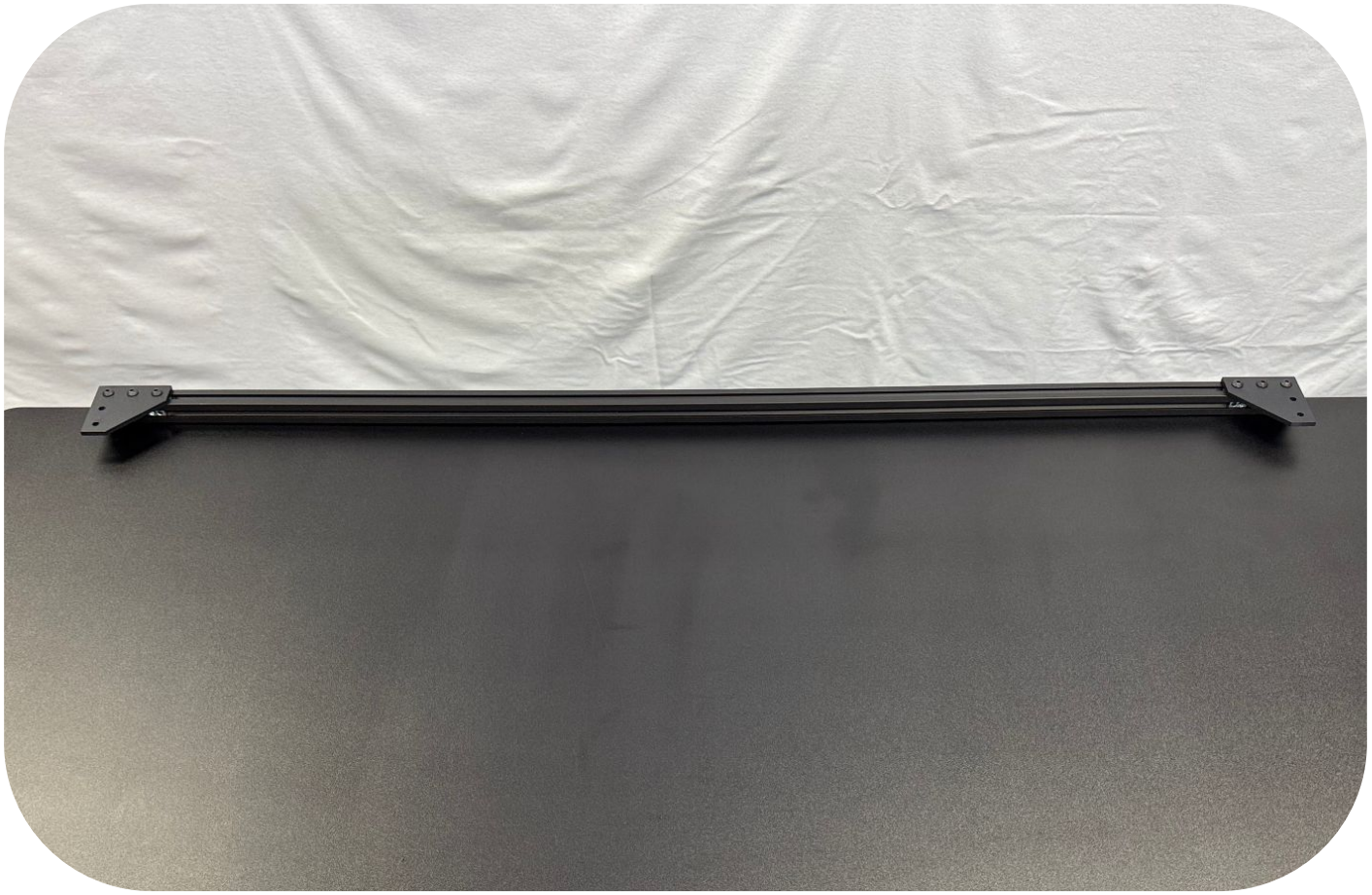
PART LIST

Frame	
2020-990mm Bar Front	1
2020-990mm Bar Rear	1
2020-1000mm L1	1
2020-1000mm L2	1
2020-1000mm R1	1
2020-1000mm R2	1
2040-890mm with Sticker Plate	1
2040-1000mm Upright	2
2020-305 Angled Support	2
Hardware	
Sticker Plate Front with Sticker	1
Touchscreen Mount	1
Under Desk Cable Basket	1
C-Clamps	4
M3x6mm Socket Head Bolts	5
M3x8mm Socket Head Bolts	3
M3x12mm Socket Head Bolts	3
M4x6mm Button Head Bolts	5
M5x8mm Button Head Bolts	20
M5x10mm Button Head Bolts	40
M5x12mm Button Head Bolts	10
M2.5 T-Driver	1
M3 T-Driver	1
M3 Ball-End Driver	1
Loctite	3
Zip Ties - 6 in	10
Zip Ties - 10 in	10
3D Printed Parts	
2020 USB Cable Clip	10
2040 USB Cable Clip	10
Birds-Eye Camera mount	1
Worms-Eye Camera mount	1

Stationary AI Customer Parts List	QTY
Electronics + Cables	
Controller Tower with Stationary Lid	1
24v25a Power Supply	2
5-Port Ethernet Switch	1
4-Port USB Hub	1
Power Strip - 10 AC Outlets	1
M12 X-Code 8-Pin Male to RJ45 Male Cable	4
GX16 4-Pin to XT30(2+2) Cable 1700mm (Follower Left)	1
GX16 4-Pin to XT30(2+2) Cable 1500mm (Leader Left)	1
GX16 4-Pin to XT30(2+2) Cable 650mm (Follower Right)	1
GX16 4-Pin to XT30(2+2) Cable 300mm (Leader Right)	1
Touchscreen	1
USB 3.0 to Micro B Cable 3m Locking Up Angled	4
RJ45 Male to Male Cable	1
Cameras	
Intel RealSense D405 (HIGH CAM) (LOWER CAM) (LEFT WRIST) (RIGHT WRIST)	4
Laptop (If purchased with Stationary AI)	
Laptop	1
Laptop Charger	1
Computer (If purchased with Stationary AI)	
Computer	1
Computer Table Leg Mount	1
Female HDMI to Male Display Adapter Cable	1
Robot Arms	
WidowX AI Leader	2
WidowX AI Follower	2
WidowX AI Leader Bag	2
WidowX AI Follower Bag	2

STEP 1

Layout the 2020-990mm Bar Rear.



STEP 2

Layout the 2020-1000mm Inner Bars. Bolt the L2 + R2 bars to the rear 2020-990mm bar using (2x) M5x10mm Button Head Bolts.

STEP 3

Layout the 2020-1000mm Outer Bars. Bolt the L1 + R1 bars to the rear 2020-990mm bar using (4x) M5x10mm Button Head Bolts.

STEP 4

Layout the 2020-990mm Bar Front. Bolt it to 1000mm bars using (4x) M5x10mm Button Head Bolts. Mind orientation. T-Nuts must be visible (See Bottom Left).

STEP 5

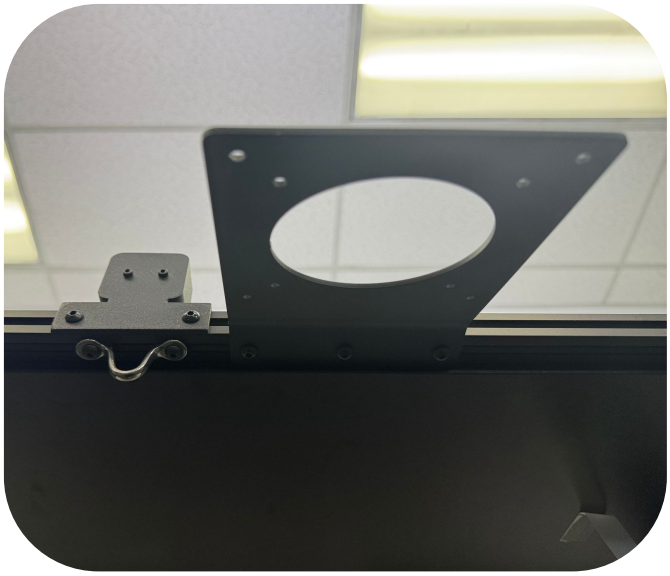
Using (4x) C-Clamps, secure the base frame to the table.

STEP 6

Bolt the worms-eye camera bracket to the front bar using (4x) M5x8mm Button Head Bolts. Install the lower camera in the bracket using (2x) M3x8mm Socket Head Bolts. Ensure the camera port is accessible when mounting the camera.

STEP 7

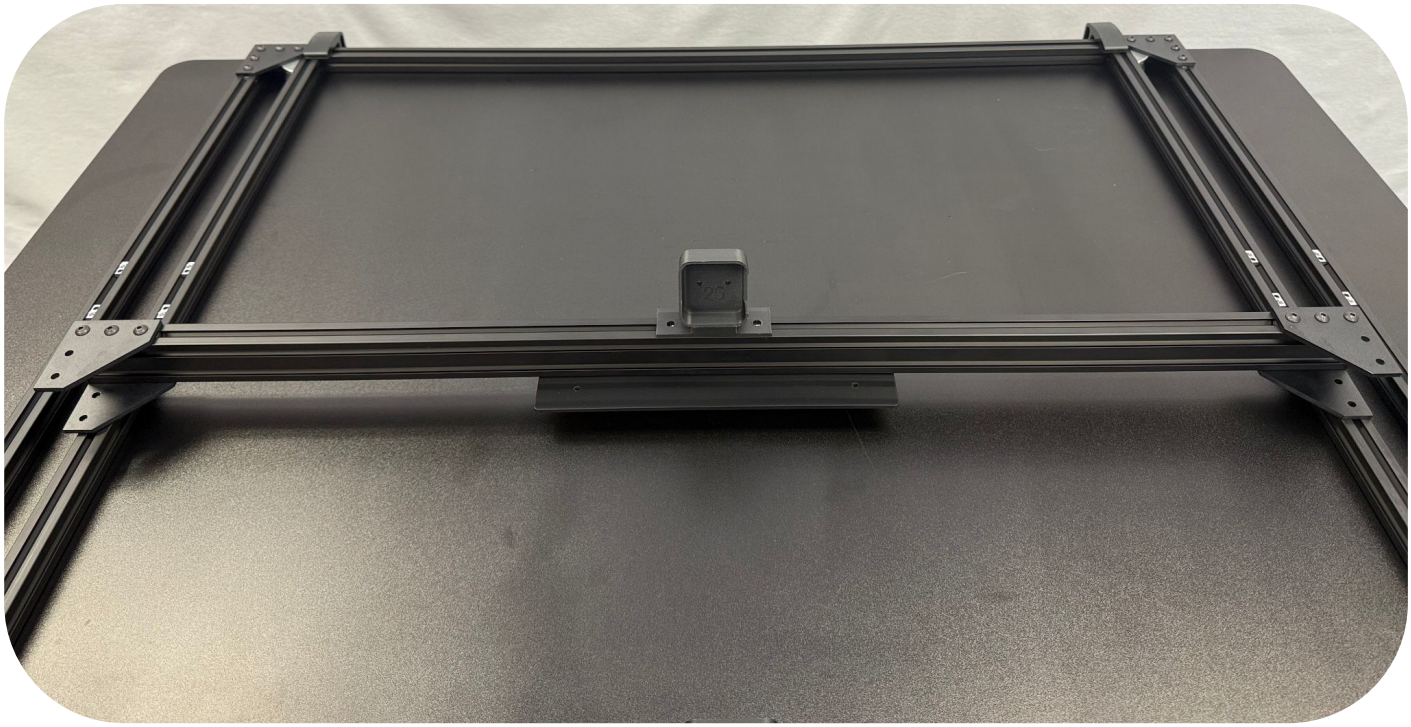
Bolt the touchscreen mount to the front 2020-990mm bar using (3x) M5x8mm Button Head Bolts.

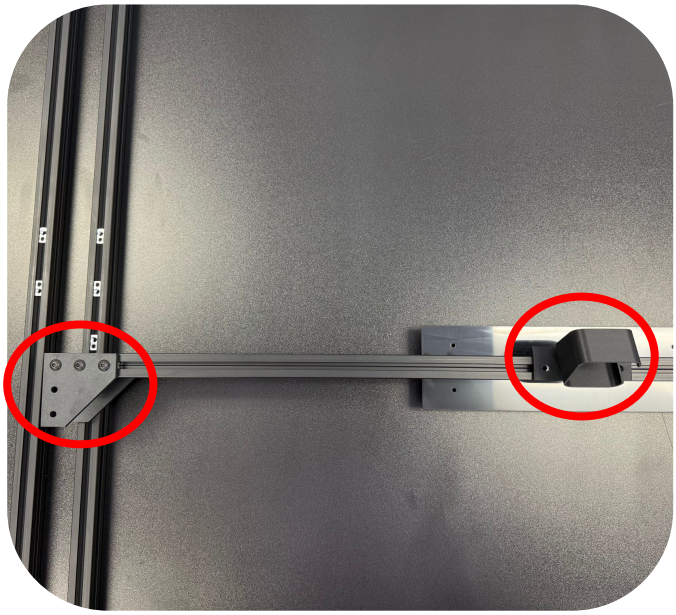


STEP 8

Bolt the birds-eye camera bracket to 890mm using (4x) M5x8mm Button Head Bolts. Mind orientation of camera bracket. (See Bottom Left)

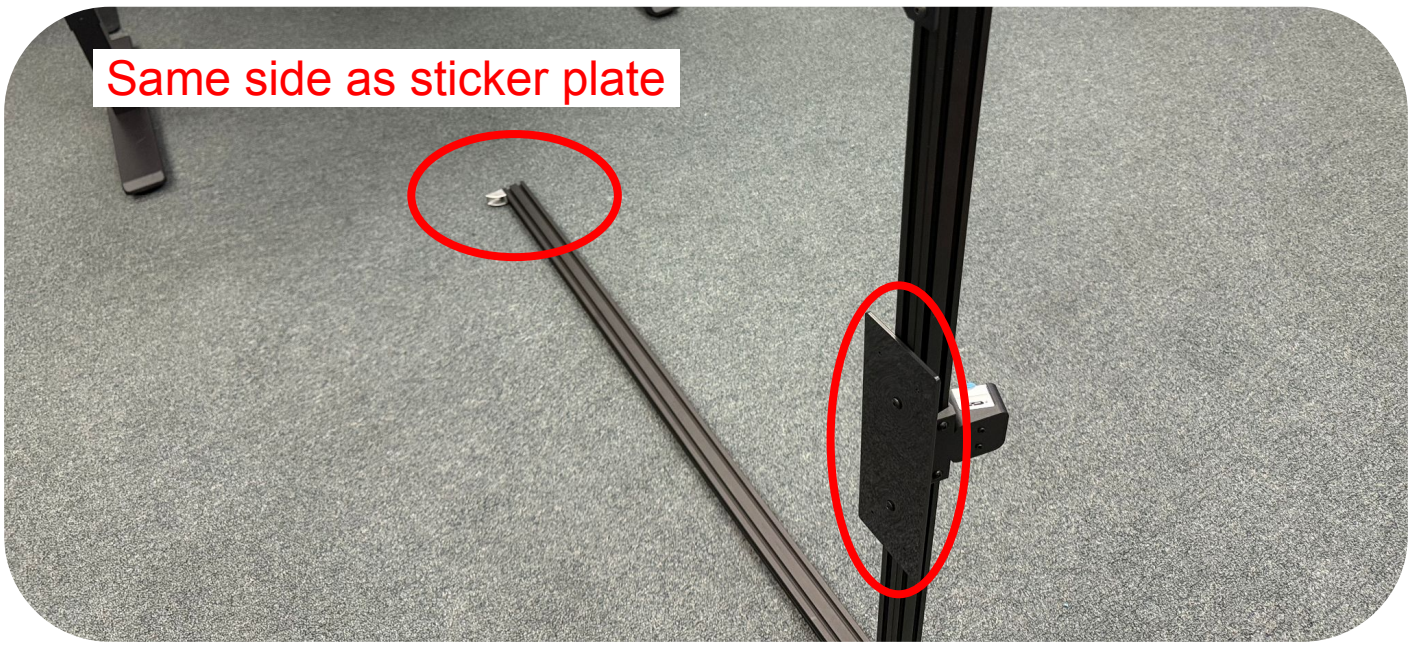
Install the camera using (2x) M3x12mm Socket Head Bolts. Ensure the side port is accessible when mounting the camera.





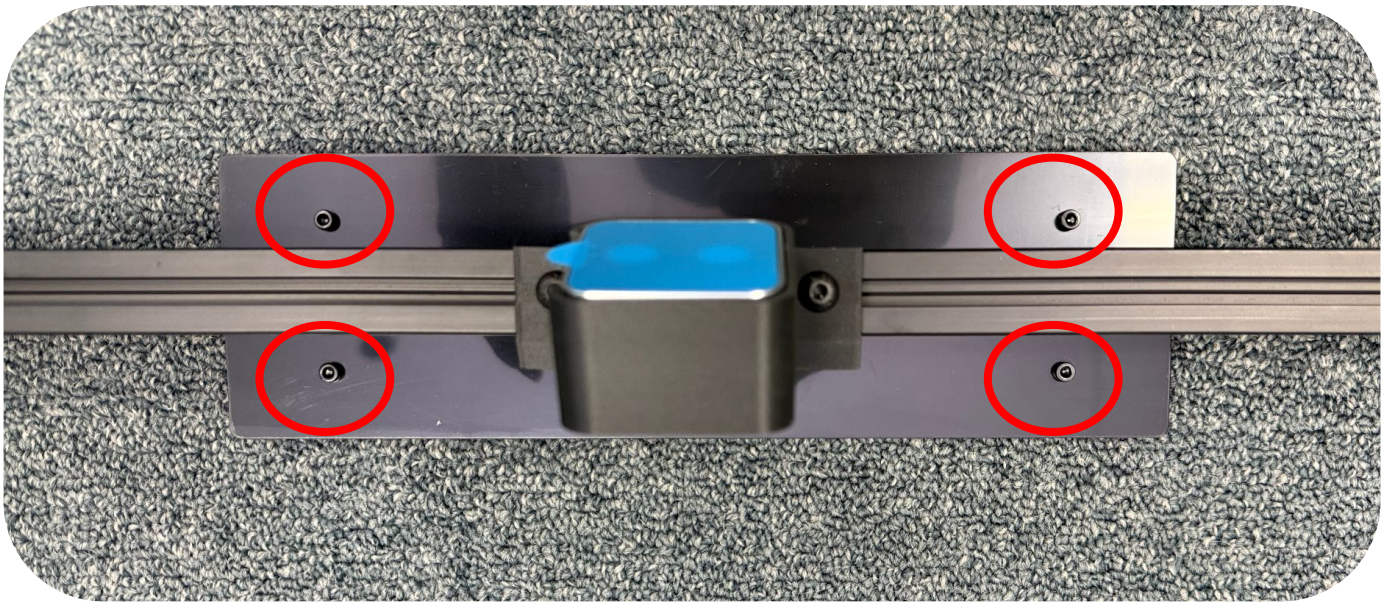
STEP 9

Layout 2040-890mm and 2040-1000mm, assemble to each other using (8x) M5x10mm Button Head Bolts. Mind orientation of silver brackets and sticker plate.



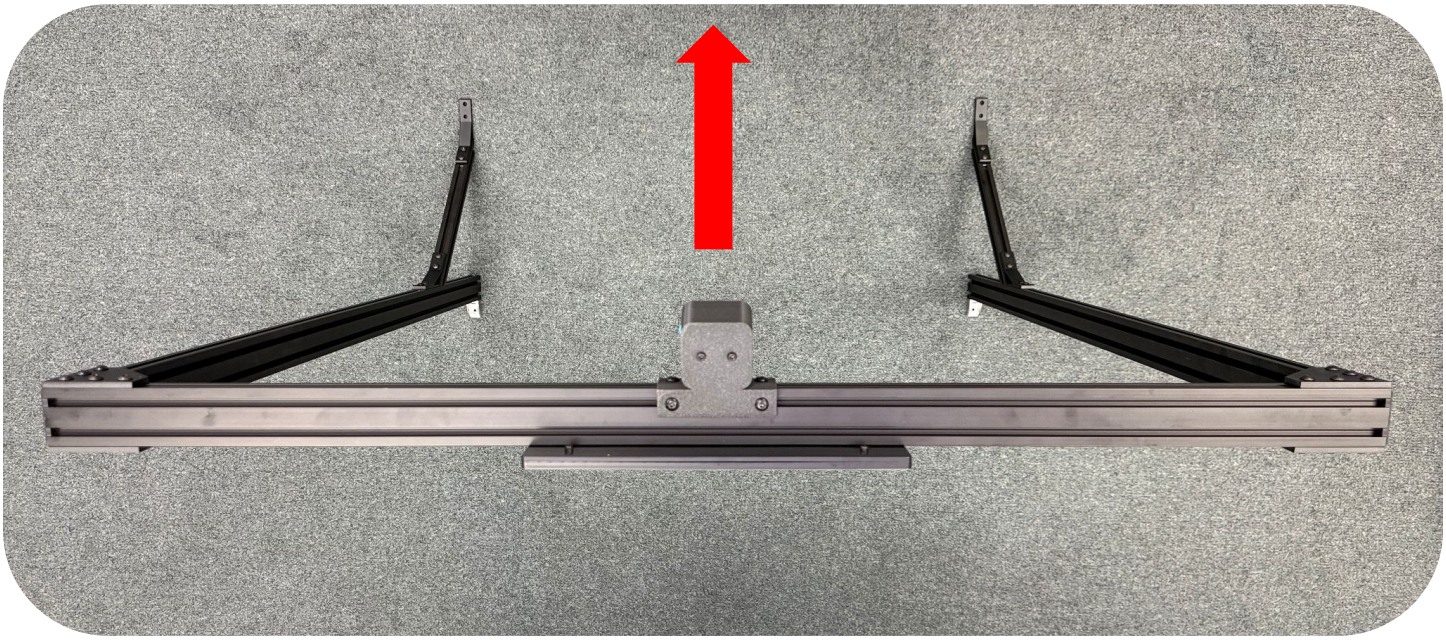
STEP 10

Attach sticker plate to 890mm bar using (4x) M3x6mm Button Head Bolts. Ensure the sticker is mounted right-side-up.



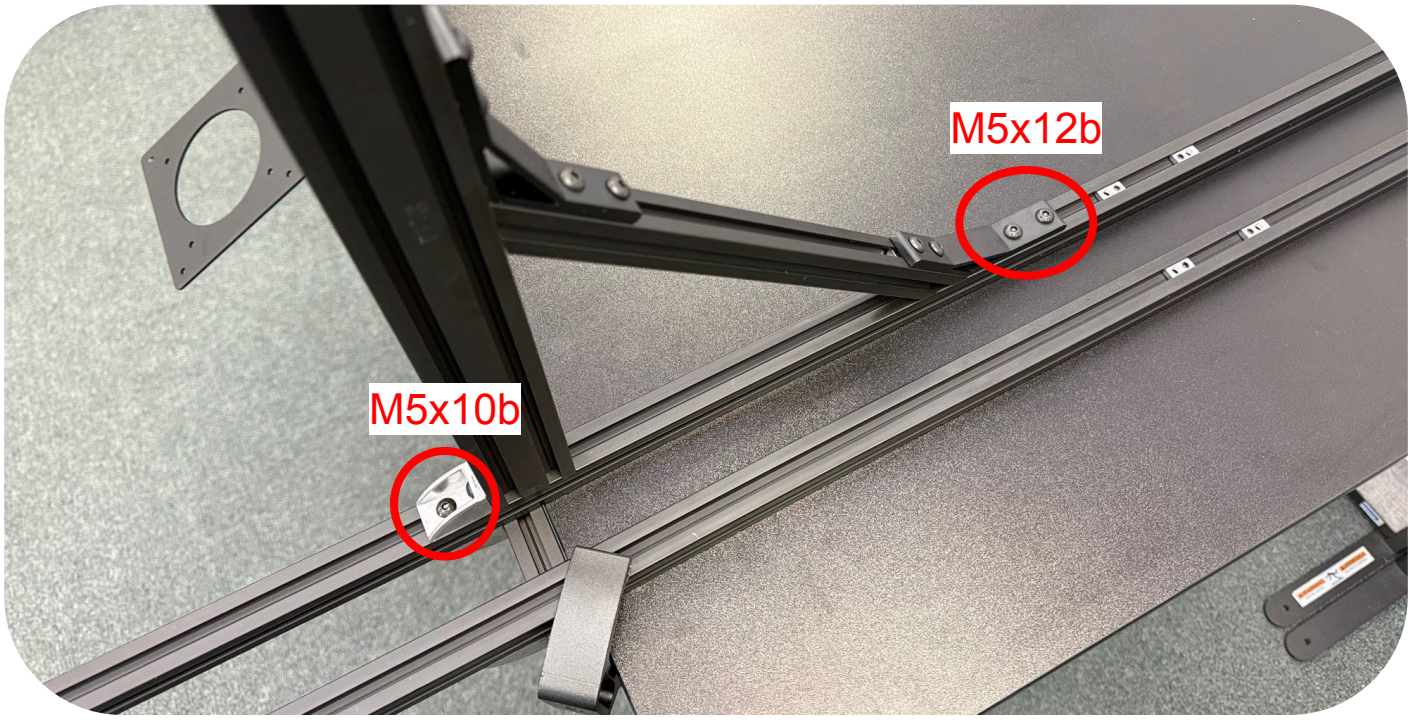
STEP 11

Assemble the 305mm 45 degree bars to the Upright using (4x) M5x10mm Button Head Bolts. Ensure the camera overhangs on the same side as the 305mm bars (See Red Arrow).



STEP 12

Mount the Upright to the frame using (4x) M5x12mm Button Head Bolts and (2x) M5x10mm Button Head Bolts.

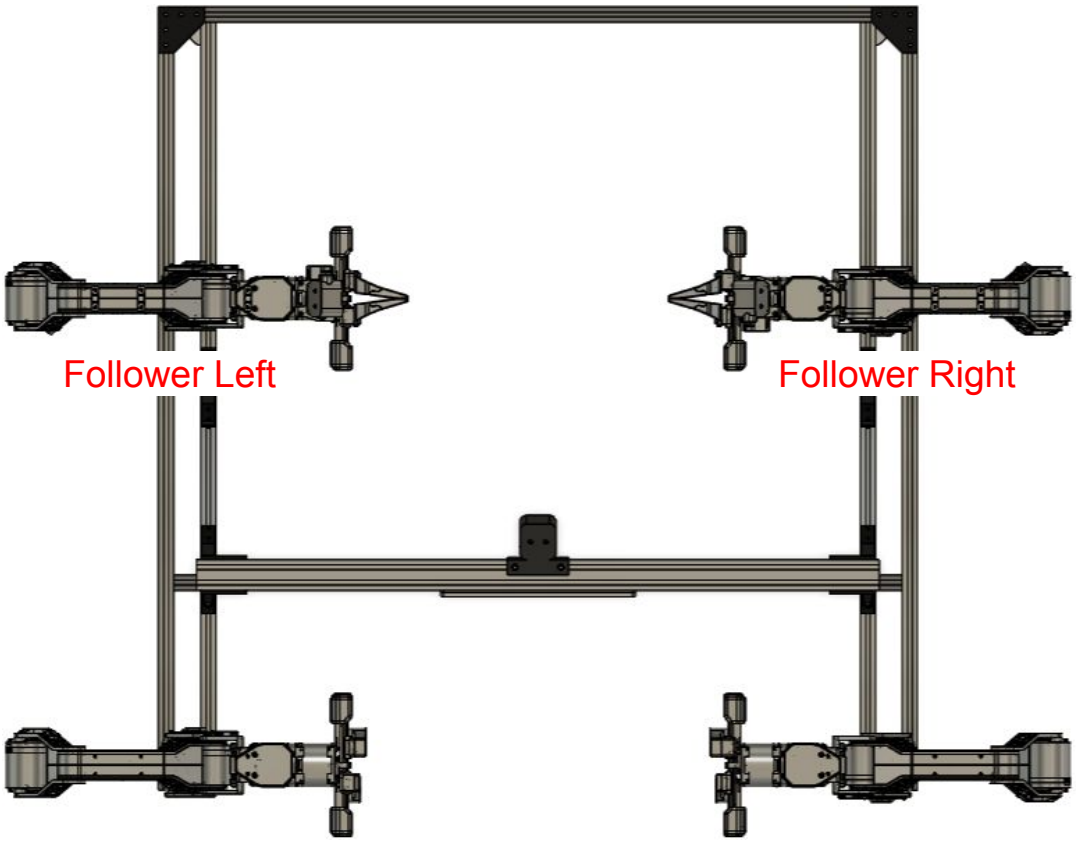


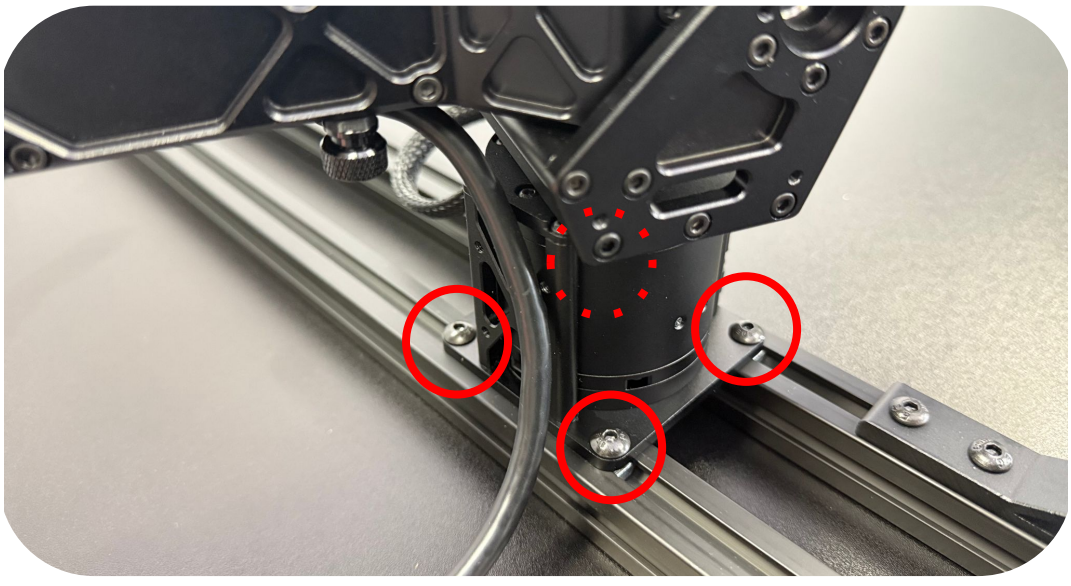
STEP 13

Assemble the Leader and Follower Arm parts (See Arm Assembly Guides).

STEP 14

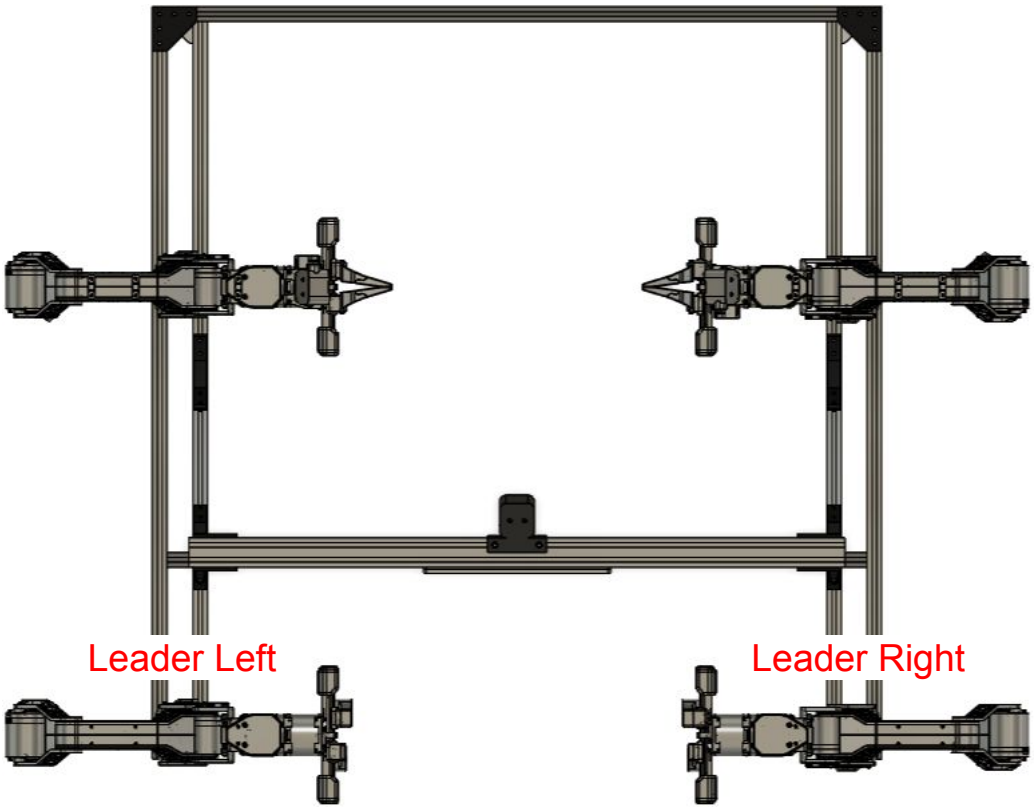
Bolt the followers to the middle of the 1000mm bars using (8x) M5x10mm Button Head Bolts.

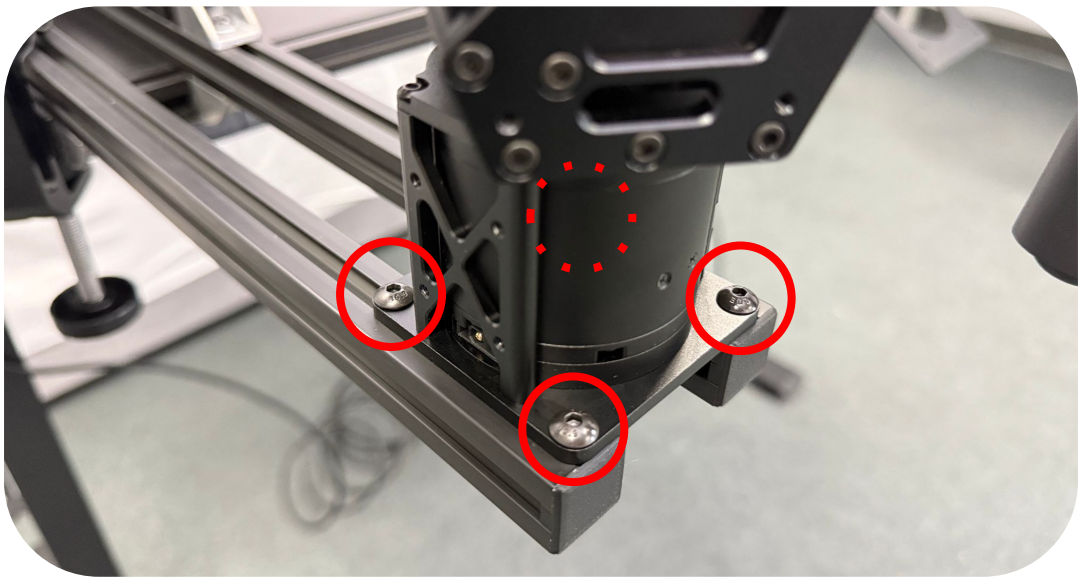




STEP 15

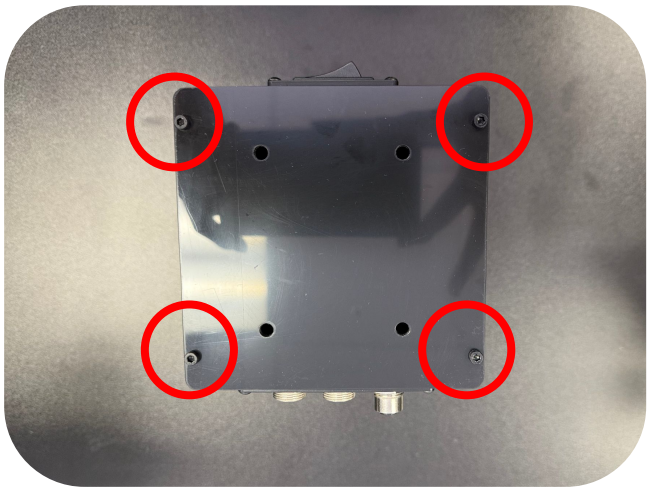
Bolt the leaders to the ends of the 1000mm bars using (8x) M5x10mm Button Head Bolts.

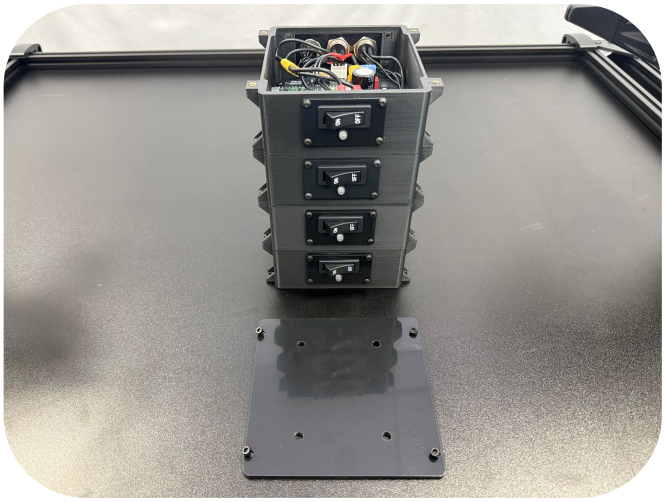




STEP 16

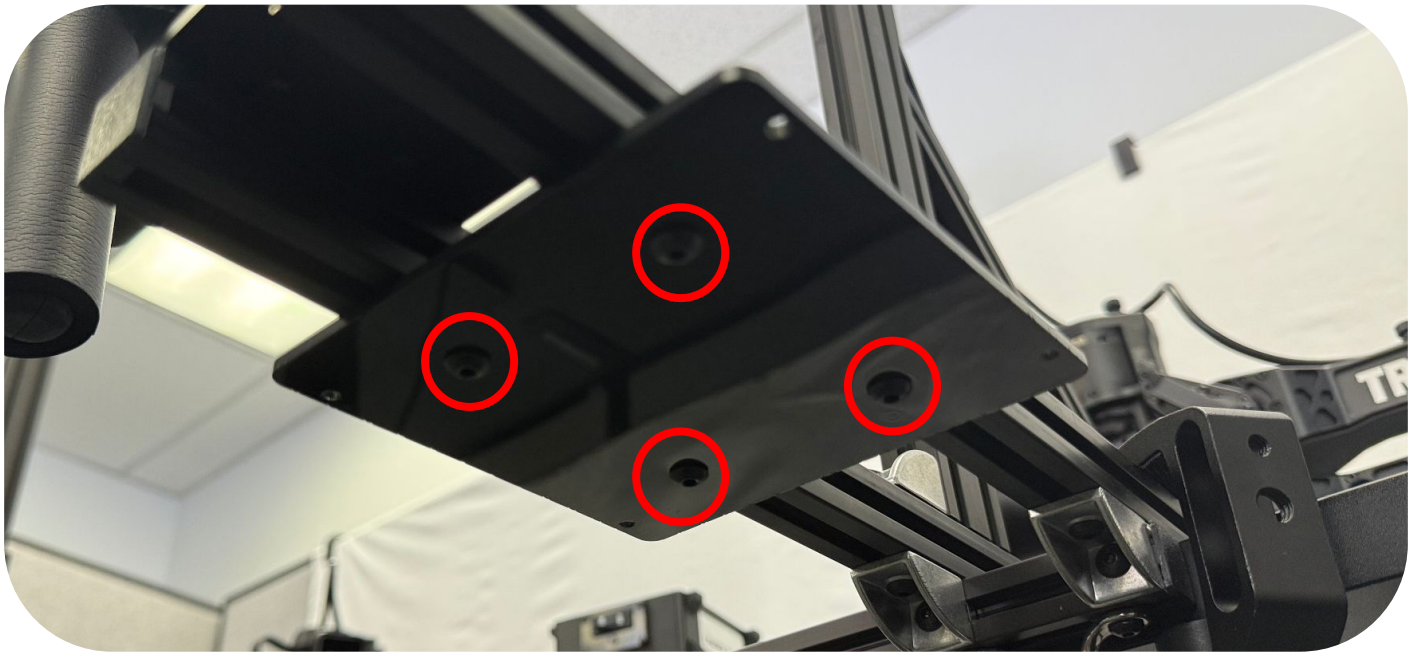
Remove the lid from the controller tower by removing the (4x) M3x6mm Socket Head Bolts. Set bolts aside to use later.

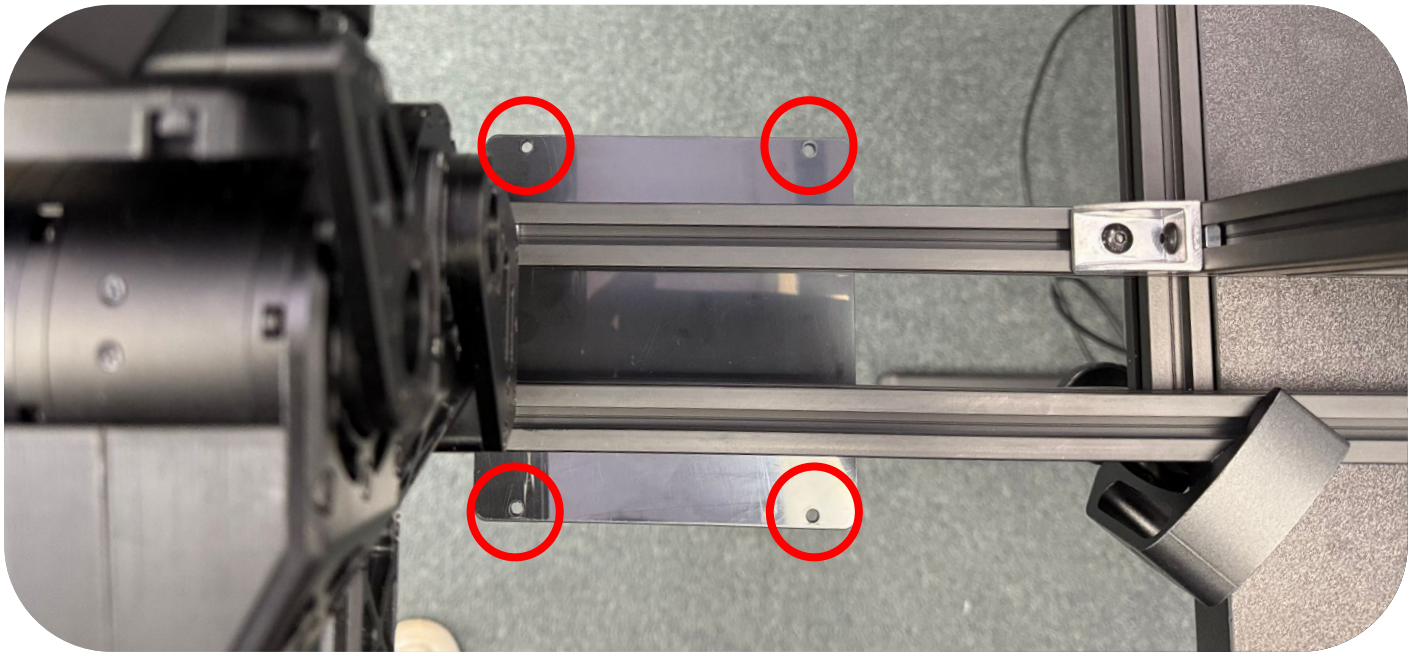




STEP 17

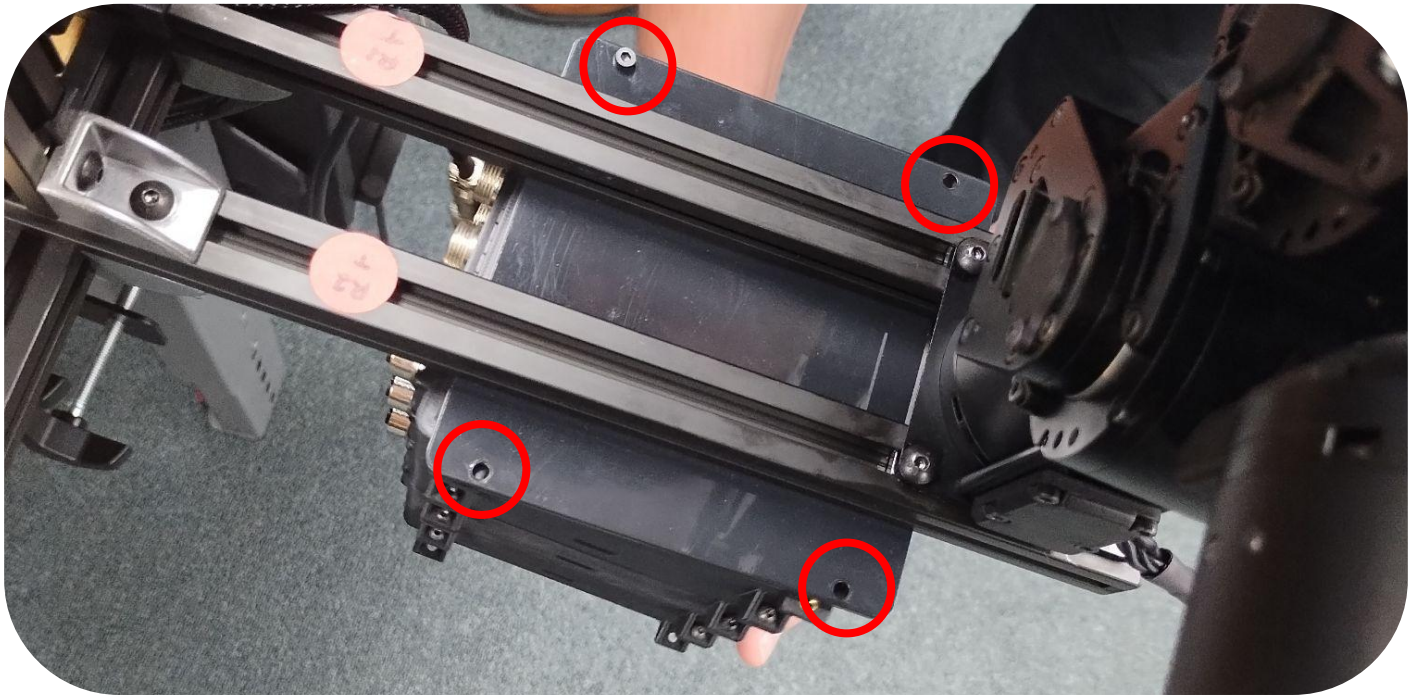
Bolt the lid under the right Leader Arm using (4x) M5x8mm Button Head Bolts. Mind the orientation of the lid when bolting it to the frame. (See Bottom Picture)





STEP 18

Bolt the controller tower to the lid using the (4x) M3x6mm Socket Head Bolts from step 16.



STEP 19

Assemble the cable management basket. Mount the cable management basket on the right side or underside of the table.

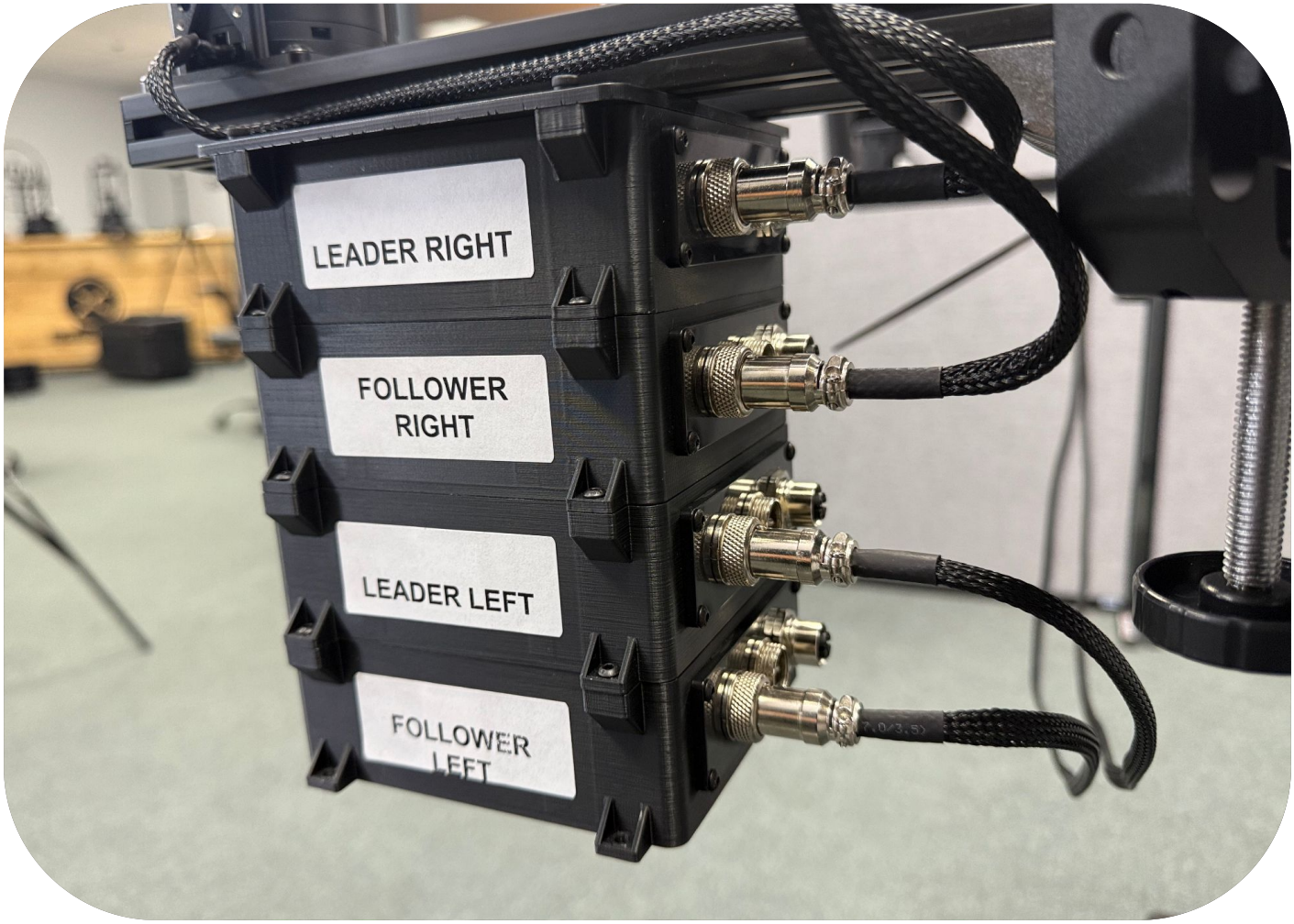
STEP 20

Set up the 5-Port ethernet switch, the 4-Port USB hub, and the 10 outlet power strip.

STEP 21

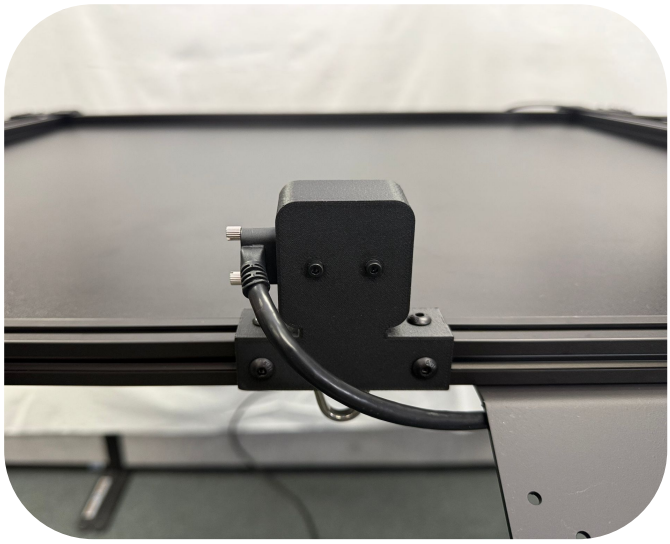
Connect Aviator 4-Pin Male XT30(2+2) Male Cables to arms and switch.

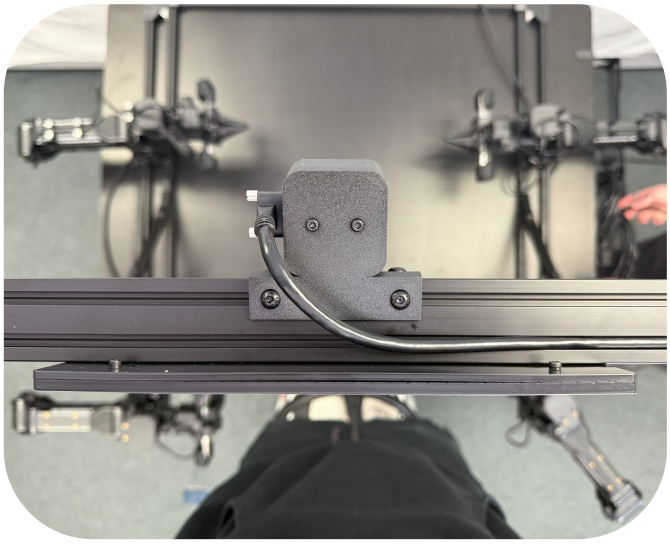
1. 1700mm to Follower Left
2. 1500mm to Leader Left
3. 650mm to Follower Right
4. 350mm to Leader Right



STEP 22

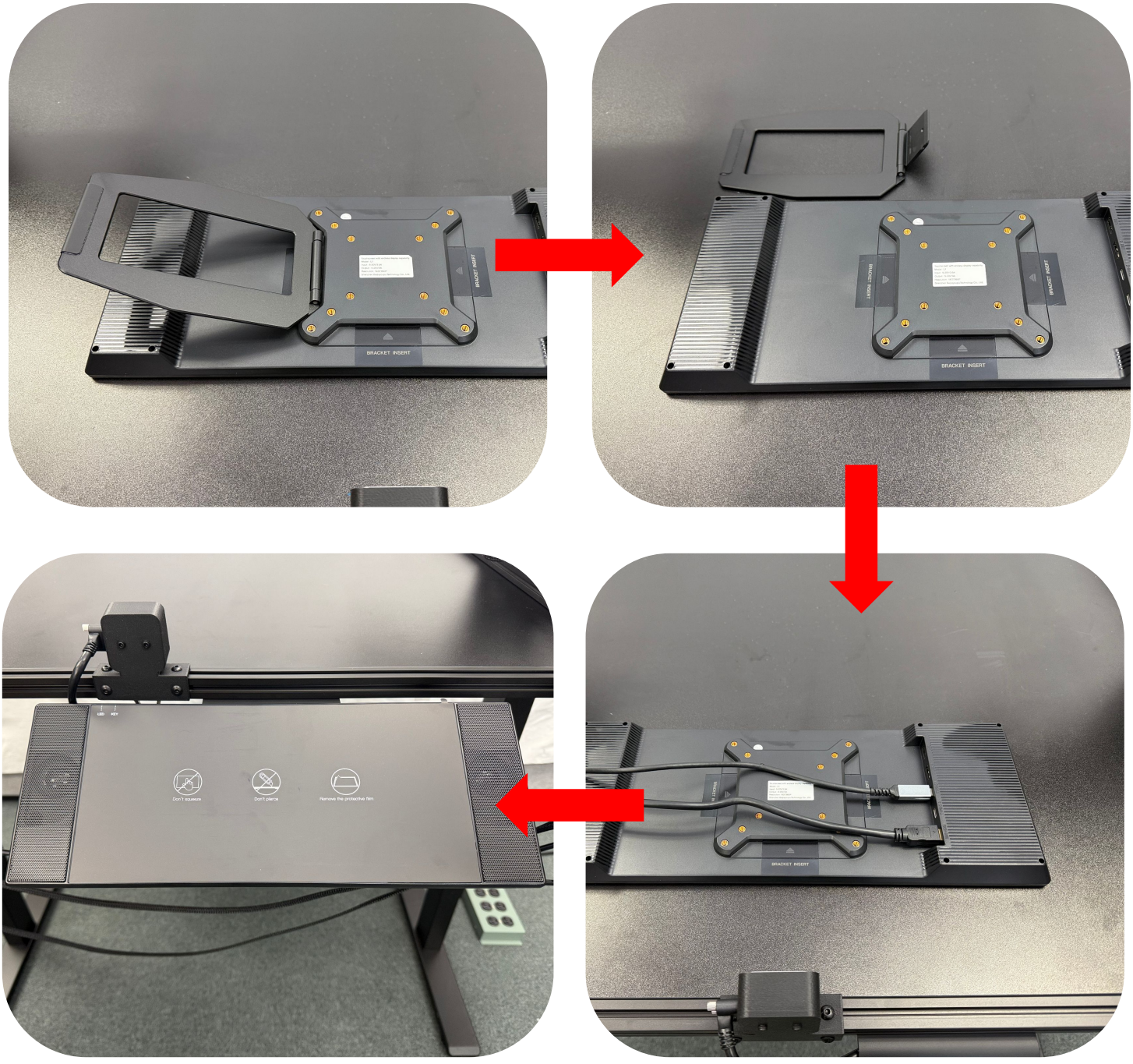
Connect worms-eye, birds-eye, and follower camera cables to USB hub and organize all your cables.





STEP 23

Mount touchscreen with (4x) M4x6mm Button Head Bolts. Plug the Mini-HDMI to HDMI cable into the touchscreen. Plug the USB-C Male to Male cable into the touchscreen.

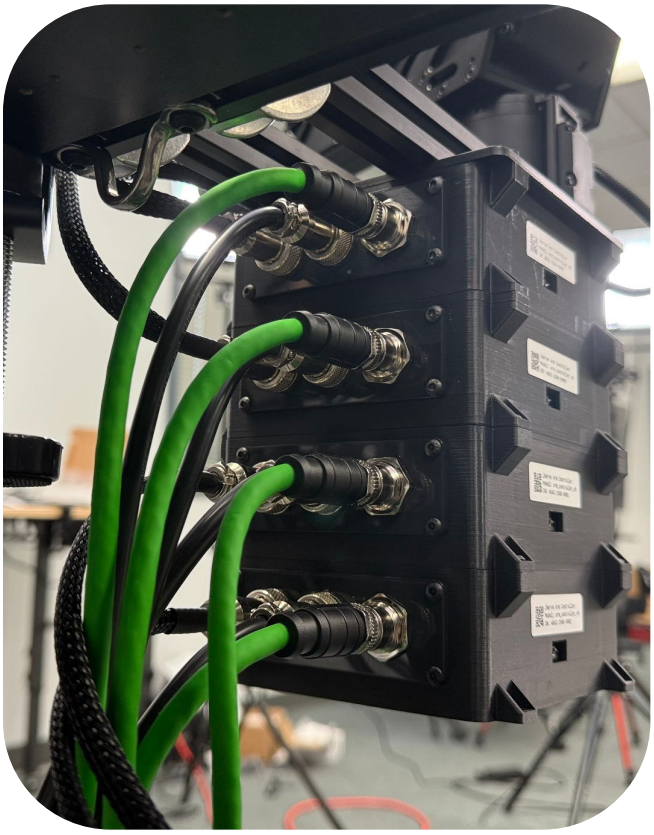


STEP 24

Connect the power supply cables to the controller boxes. Connect the power supplies to the power strip.

STEP 25

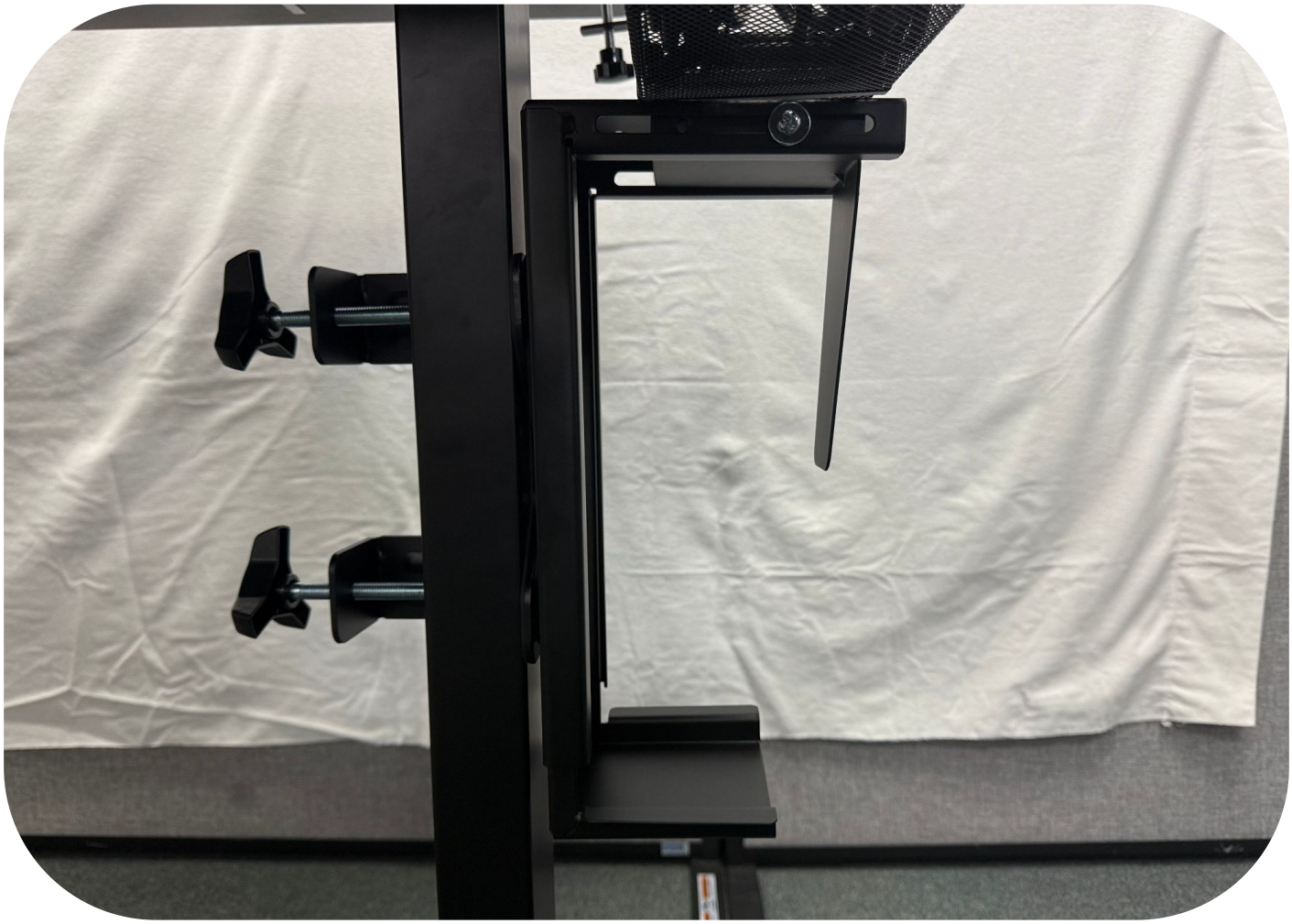
Connect the M12-RJ45 Ethernet cables to the controller boxes and Ethernet Switch.
Connect the RJ45 Male to Male Cable into the Ethernet Switch.



STEP 26

Assemble and mount the CPU table leg mount.

(This step is only necessary if you ordered your Stationary AI kit with the CPU included).



STEP 27

Mount the CPU in the table leg mount. Plug the CPU power cable into the CPU and power strip.

(This step is only necessary if you ordered your Stationary AI kit with the CPU included).

STEP 28

Plug in the ethernet switch and usb hub power supplies into the power strip.

STEP 29

Plug the HDMI to Display adapter cable into the Mini-HDMI to HDMI Cable. Plug in the USB-C and Display cables from the touchscreen to the CPU.

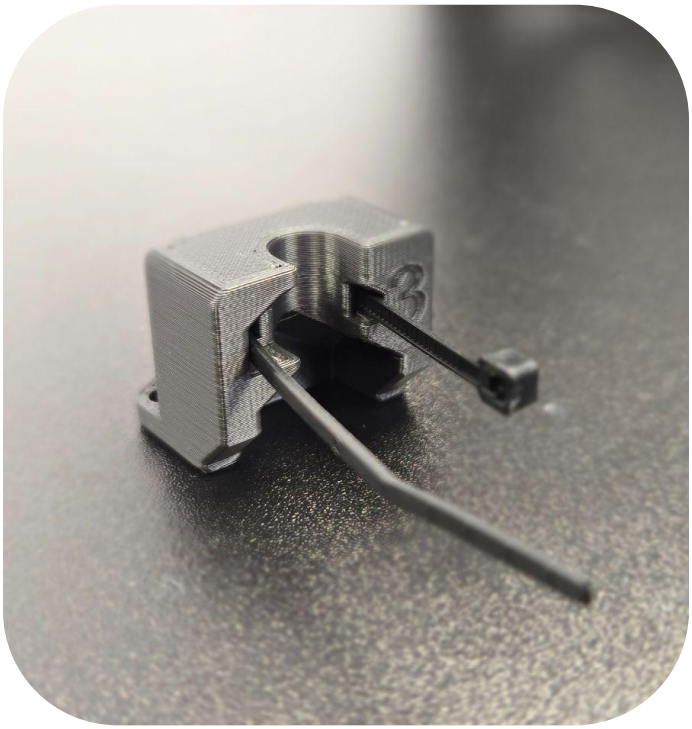
Plug the USB-B 3.0 to USB-A cable from the USB hub into the CPU.

Plug the RJ45 Male to Male cable from the ethernet switch into the CPU.

(This step is only necessary if you ordered your Stationary AI kit with the CPU included).

STEP 30

Mount the (4x) base cable locks using (8x) M3x6mm Button Head Bolts.

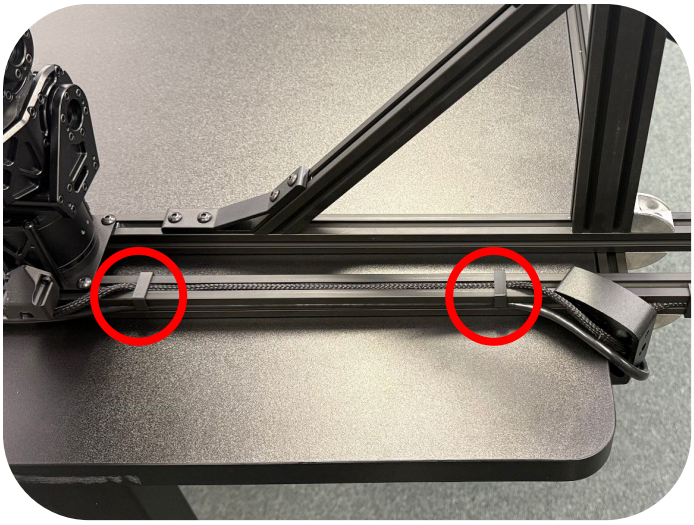


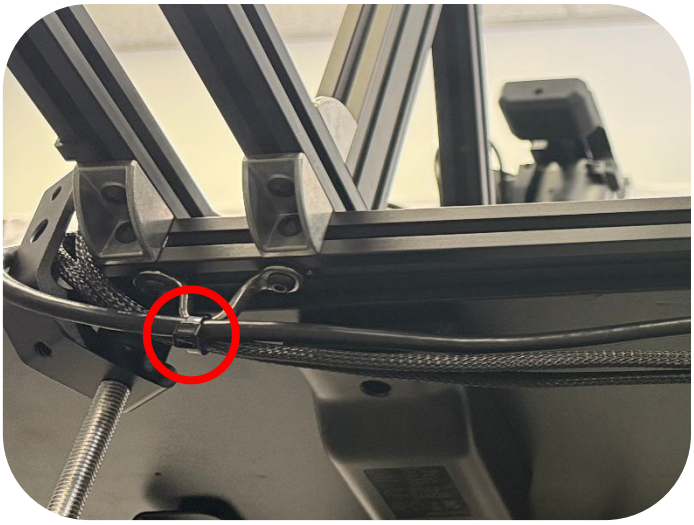
STEP 31

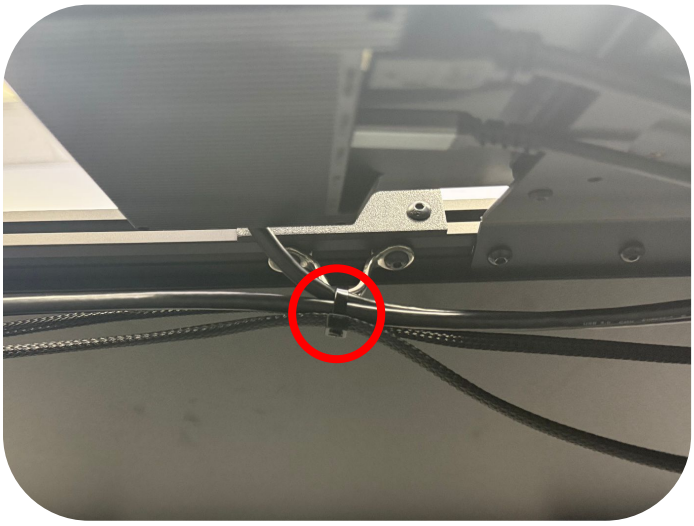
Turn on and test the electronics.

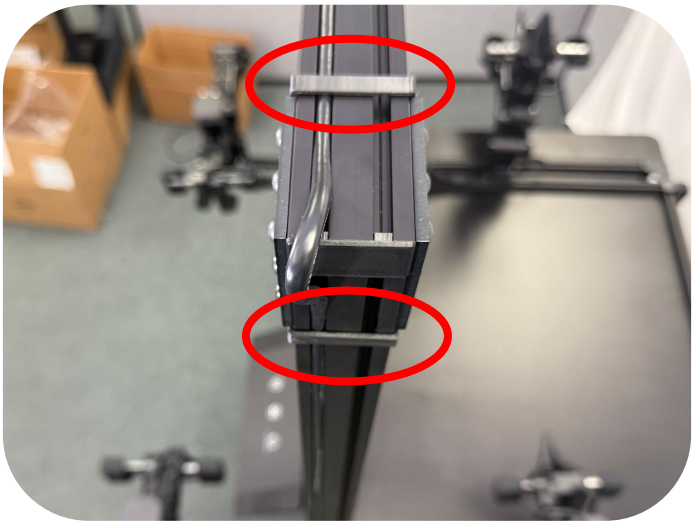
STEP 32

Tie up and manage any loose cables using the zip ties, 2020 cable clips, and 2040 cable clips. Ensure the arm camera cables have enough slack for full range of motion before securing the zip ties.









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