

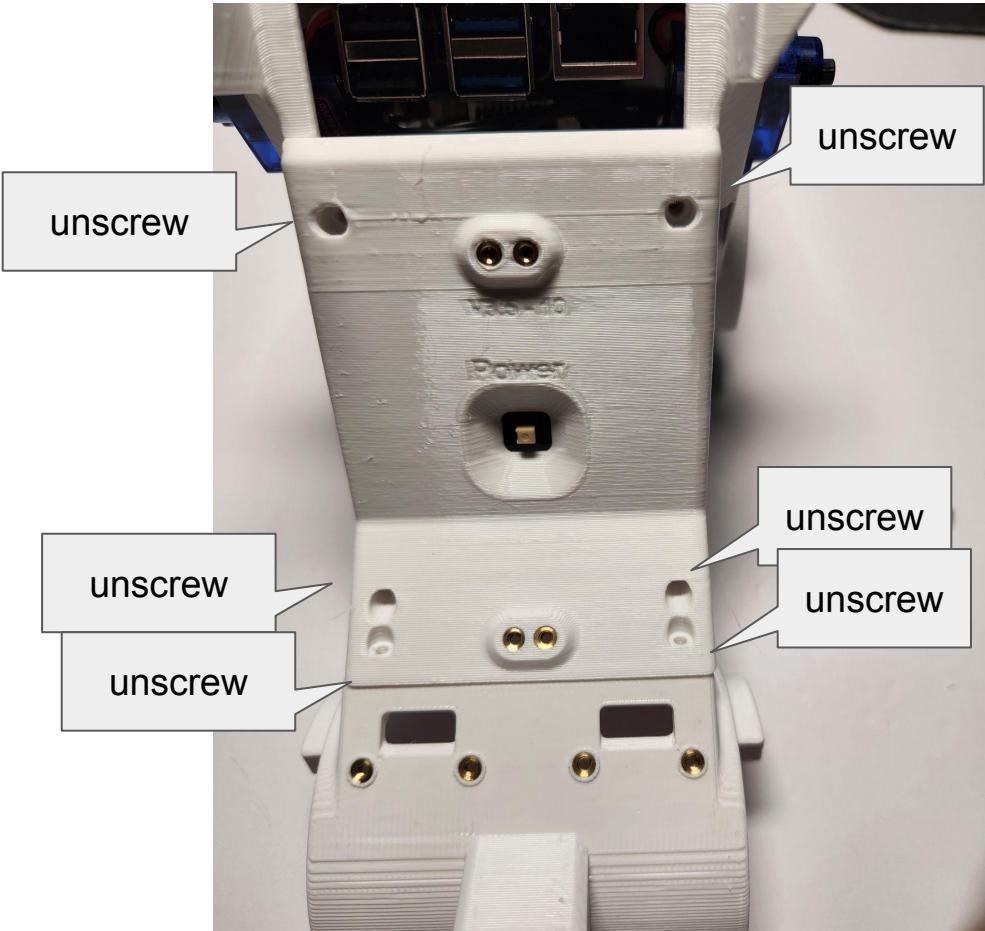


# Pupper Lab 2 Assembly

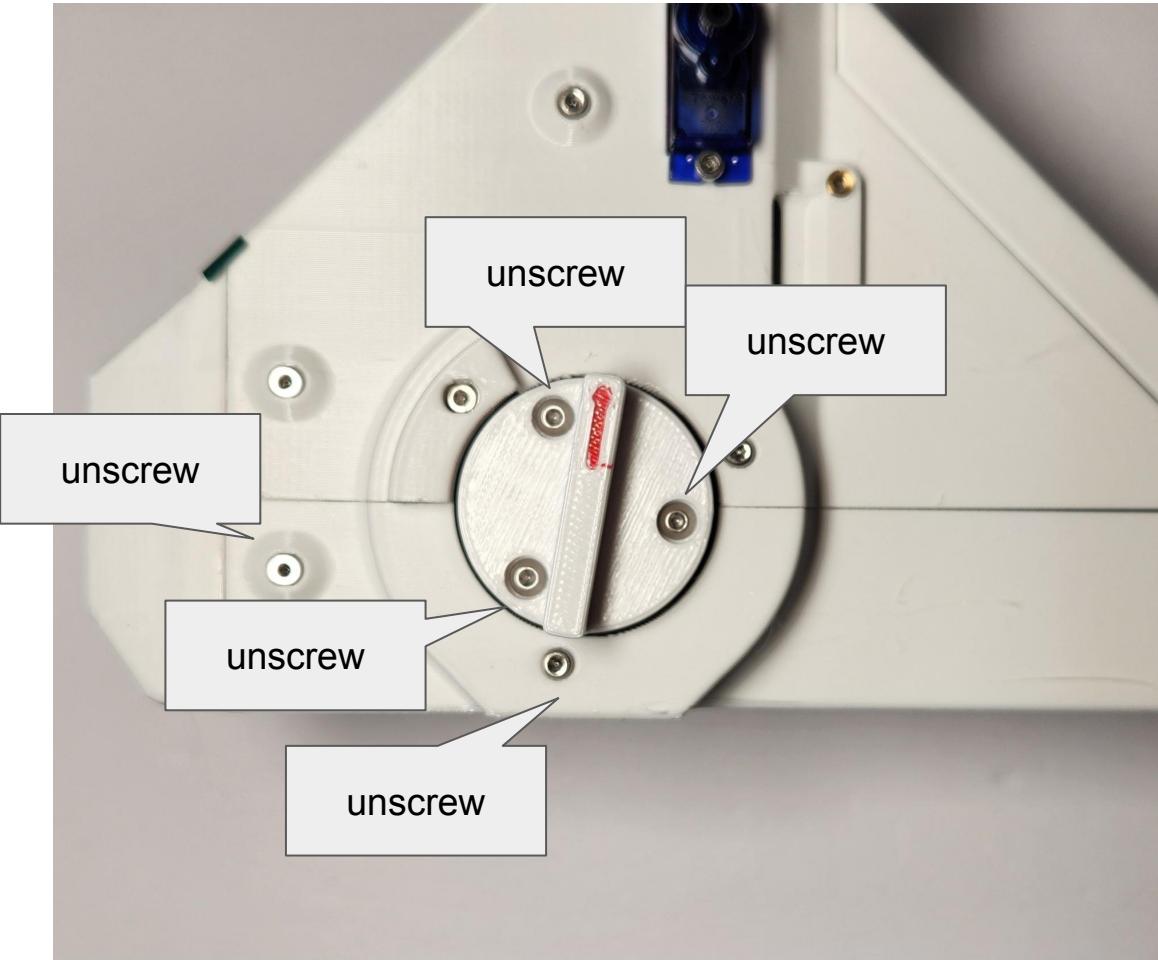


# Preparing for leg assembly

## Detach the power board cover



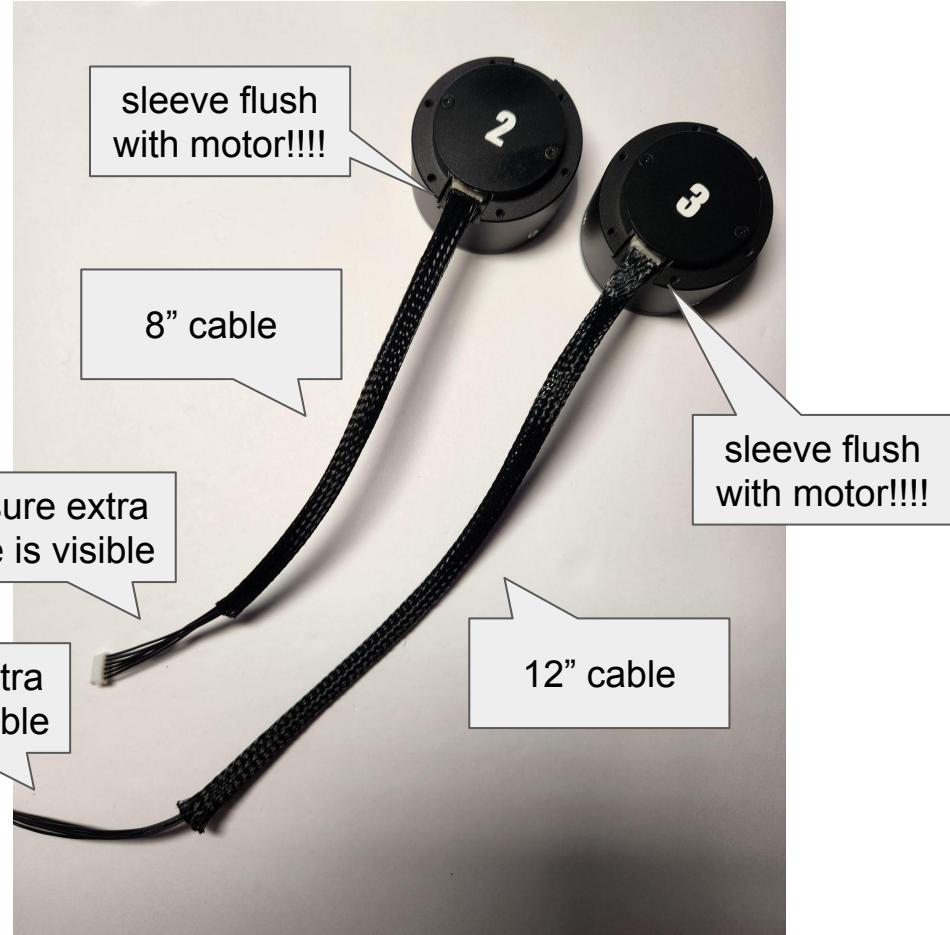
**Detach the knob and lower body by unscrewing the screws.**



# Assemble left leg

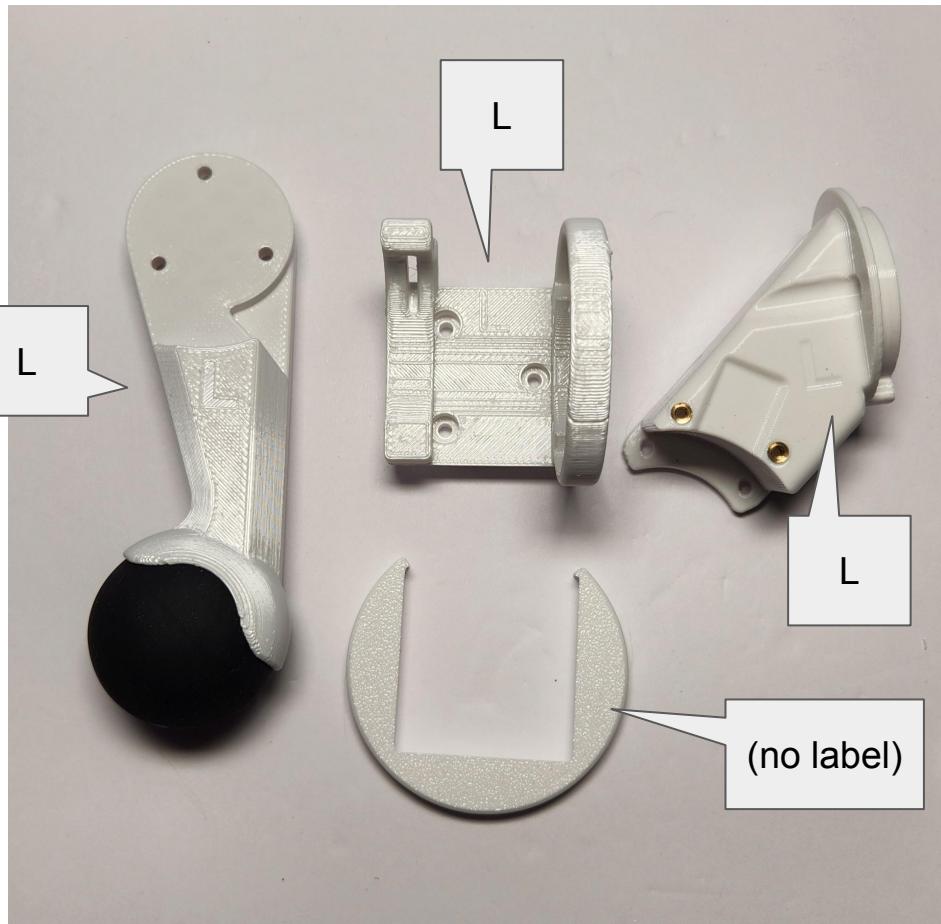
## Connect wires.

Connect the 12 inch cable to motor ID 3 and the 8 inch cable to motor ID 2, ensuring **the sleeve is oriented as shown in the picture**. Make sure that the covered end is attached to the motor, and the open end is attached to the control board.



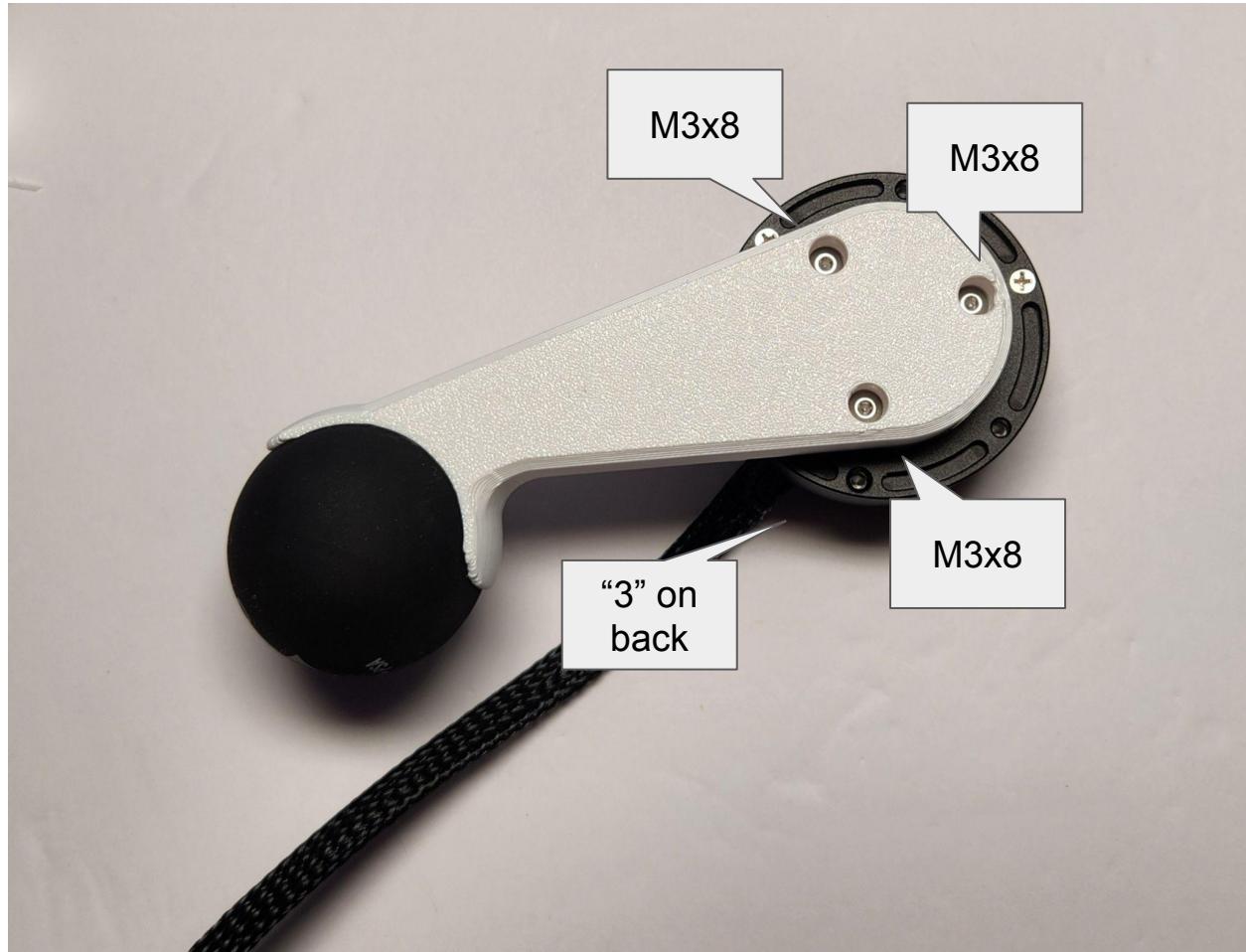
## Collect left side parts.

Ensure the leg parts are on the correct sides  
(L indicates the left leg, and R indicates the right leg).



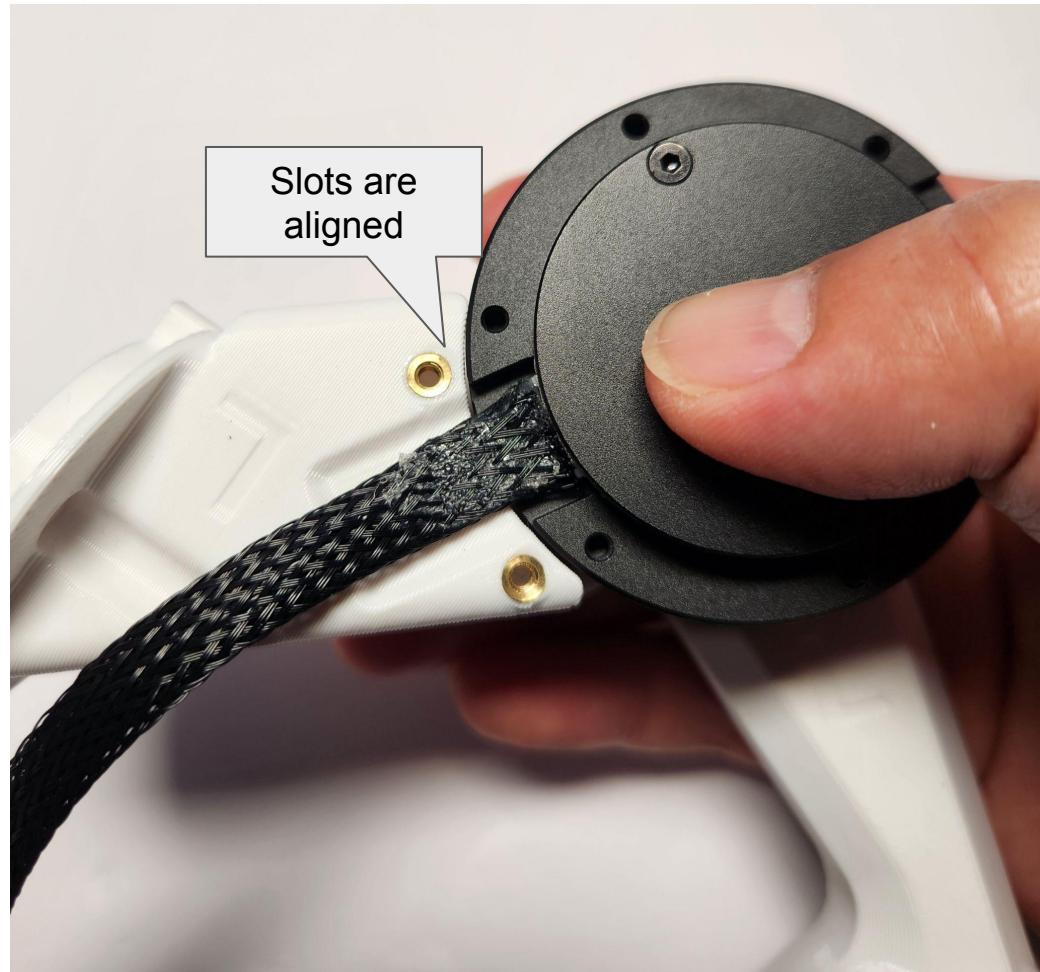
## Attach lower leg to motor 3.

Use three M3x8mm screws to attach the lower leg to motor ID 3. Tip: Do not fully tighten the screws until all three are aligned with the holes. Tighten them afterward.



## Attach upper leg to motor 3

The slot on the upper leg should be positioned directly below the cable.



## Remove extra screw.

Flip to the other side, and you'll notice that one screw on motor ID 3 is obstructing the screw from the upper leg. Remove that screw using a Phillips screwdriver.



## Fasten motor

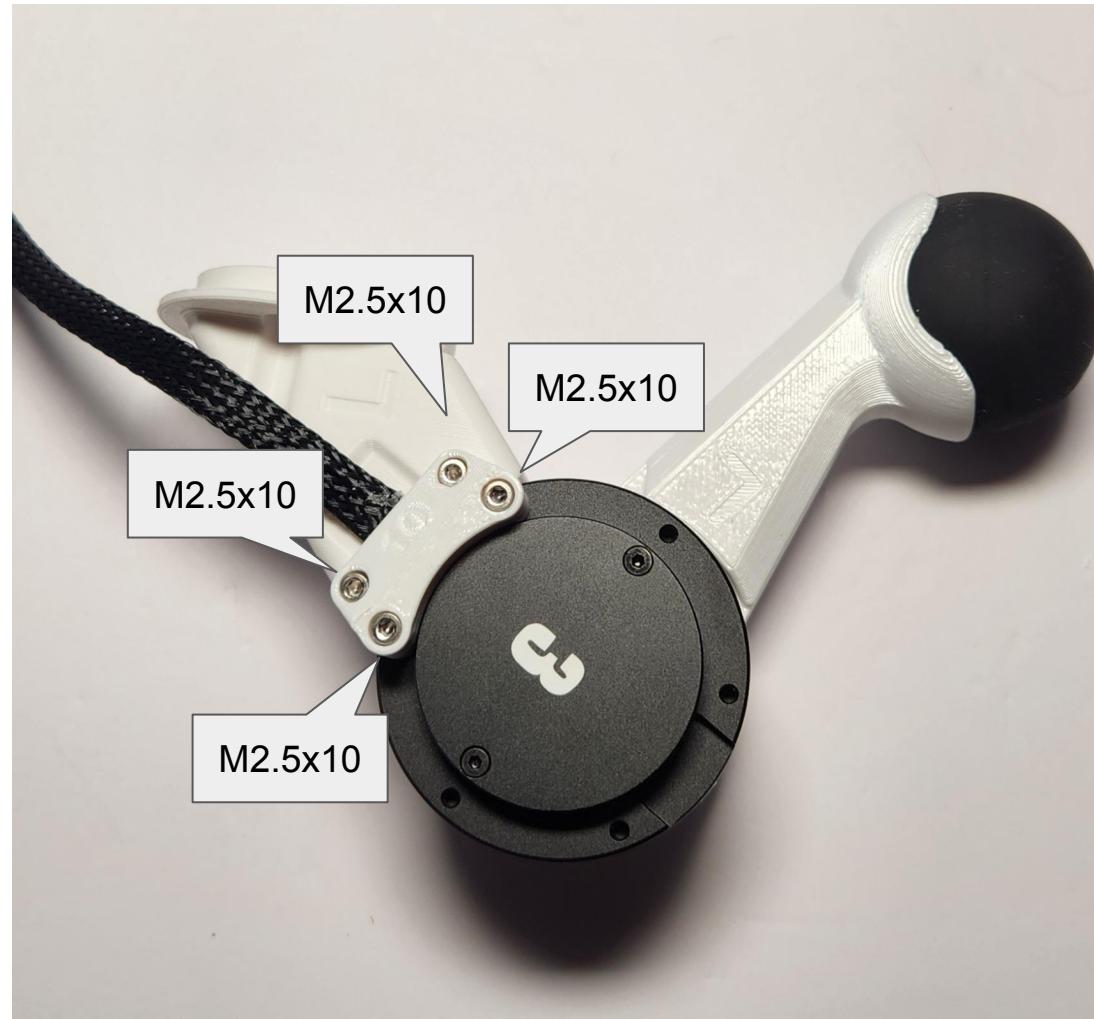
After removing the screw from the motor body, you can now insert two M2.5x10mm screws to secure one side of the upper leg.



## Secure cable

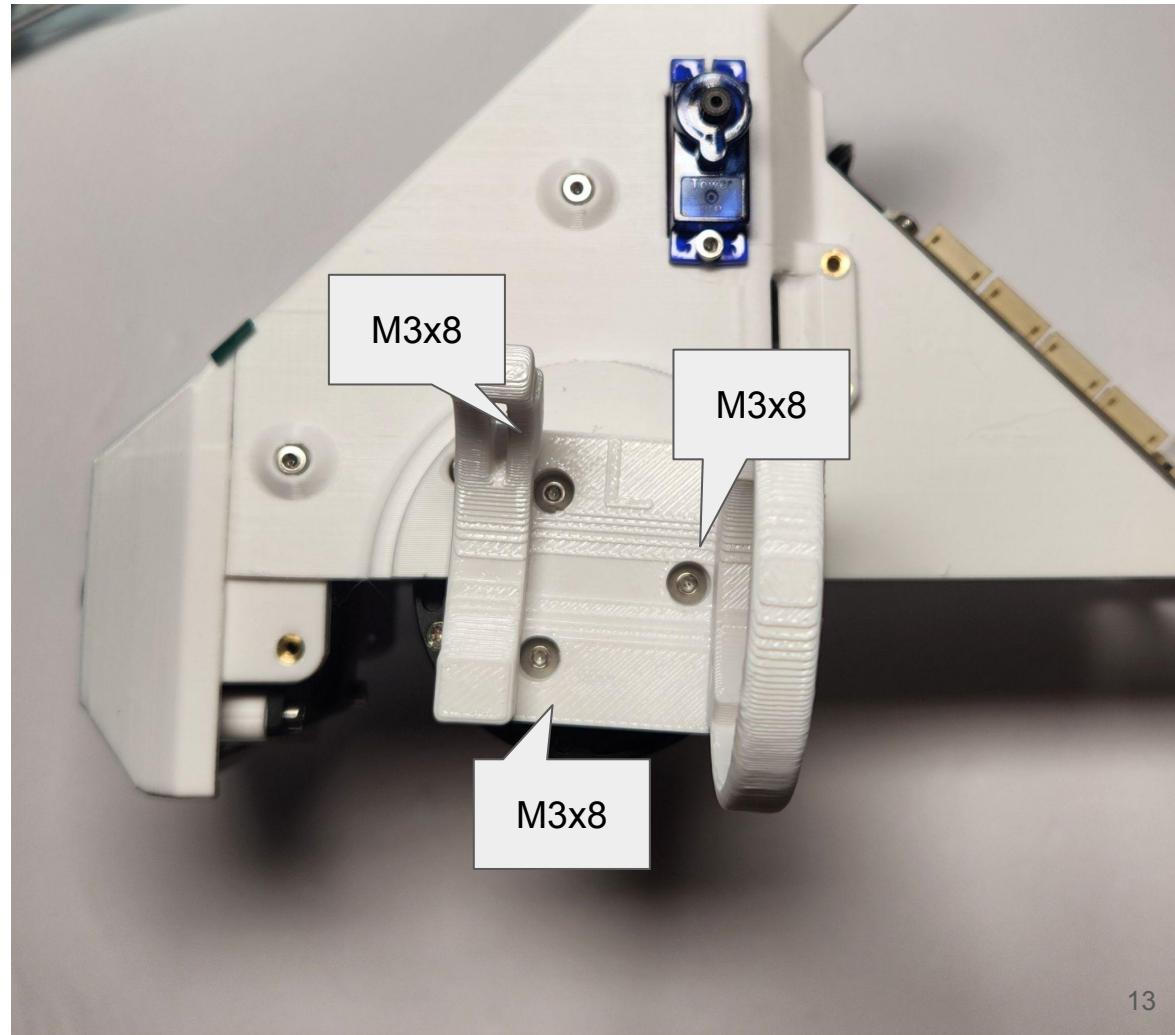
Flip to the other side, and use the leg cable cover with four M2.5x10mm screws to connect the upper leg to motor ID 3.

You can keep repeating those steps to build 3 more completed legs.



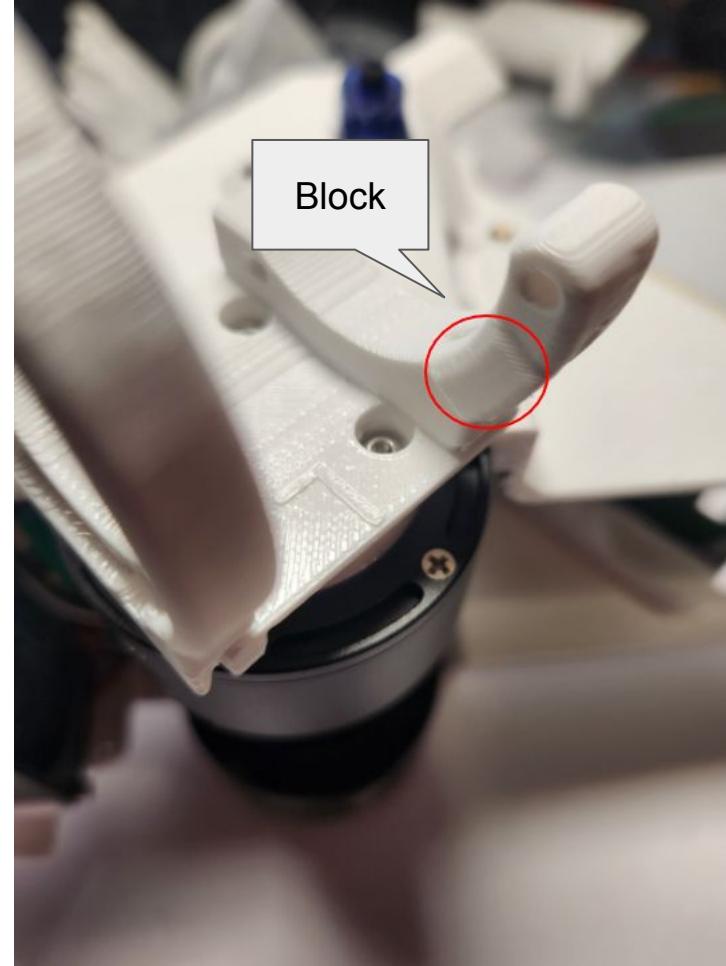
## Secure abduction bracket.

Secure the abduction bracket using three M3x8mm screws.



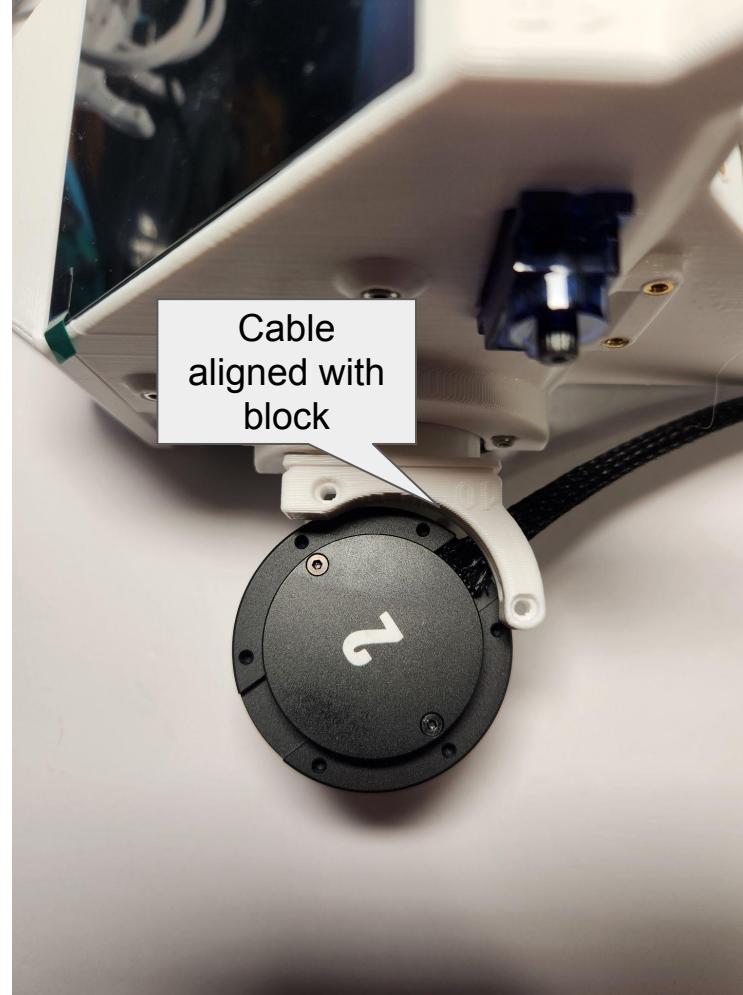
## Notice cable securing block.

On the abduction bracket, the red circle indicates the block used to secure the cable.



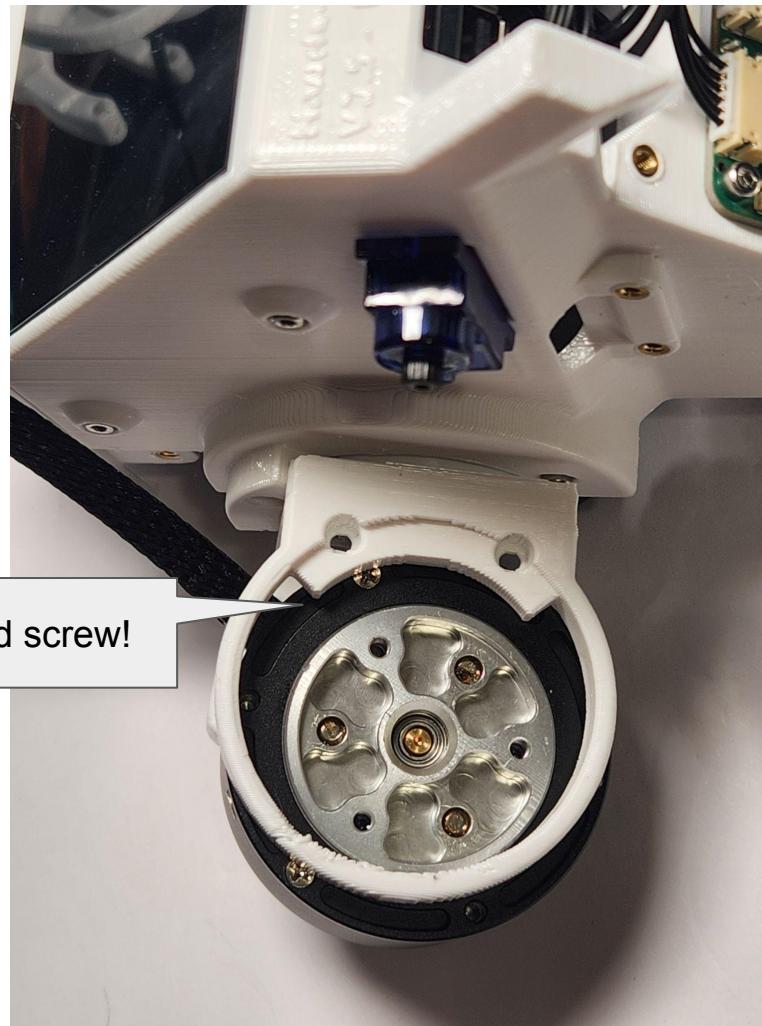
## Align motor 2

The cable from motor ID 2 should be routed underneath that block.



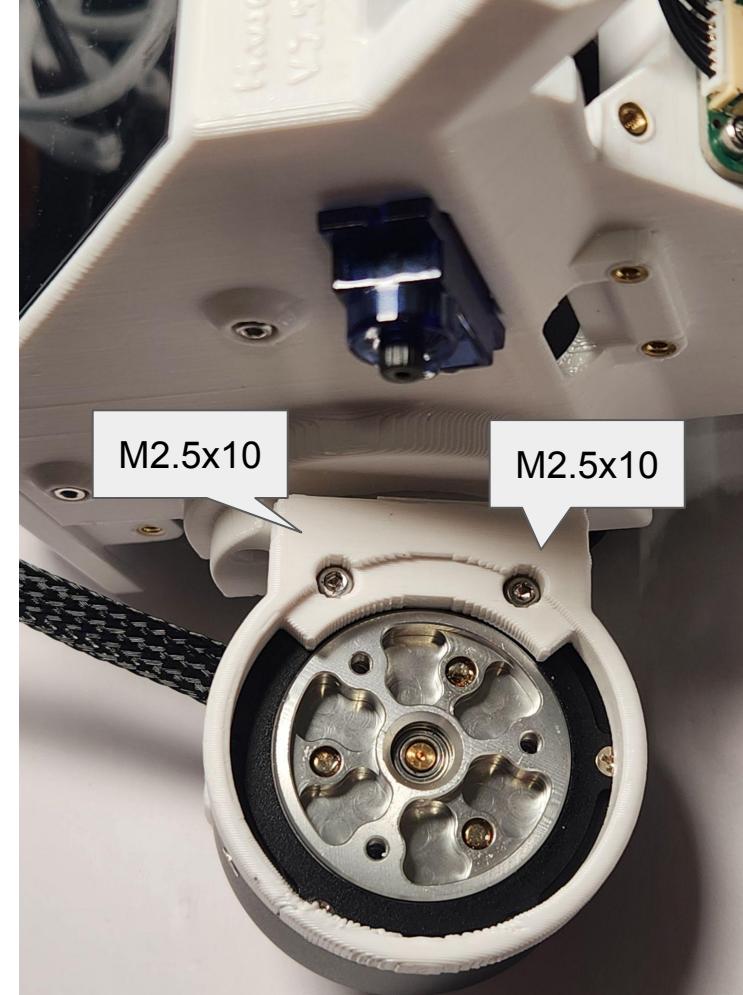
## Find obstructing screw.

Rotate and inspect the other side of motor ID 2 with the abduction bracket. You'll notice one screw on the motor body obstructing the holes for the abduction bracket. Remove it using a Phillips screwdriver.



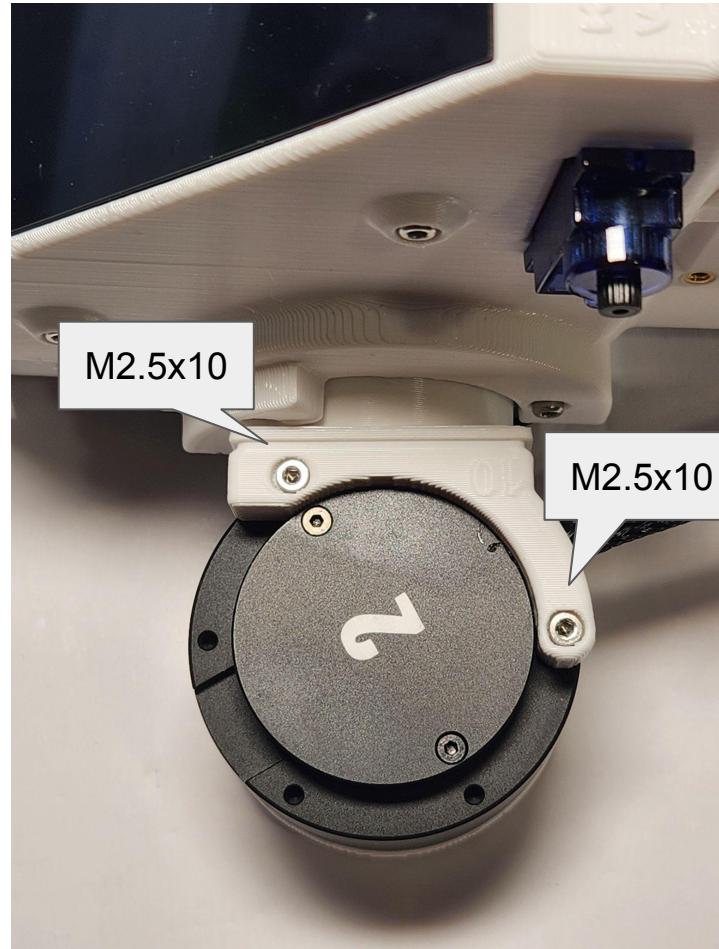
## Lightly fasten motor.

After removing the screw from the motor body, attach the abduction bracket to the motor using two M2.5x8mm screws. DO NOT TIGHTEN the screws until you have secured the two screws from the other side.



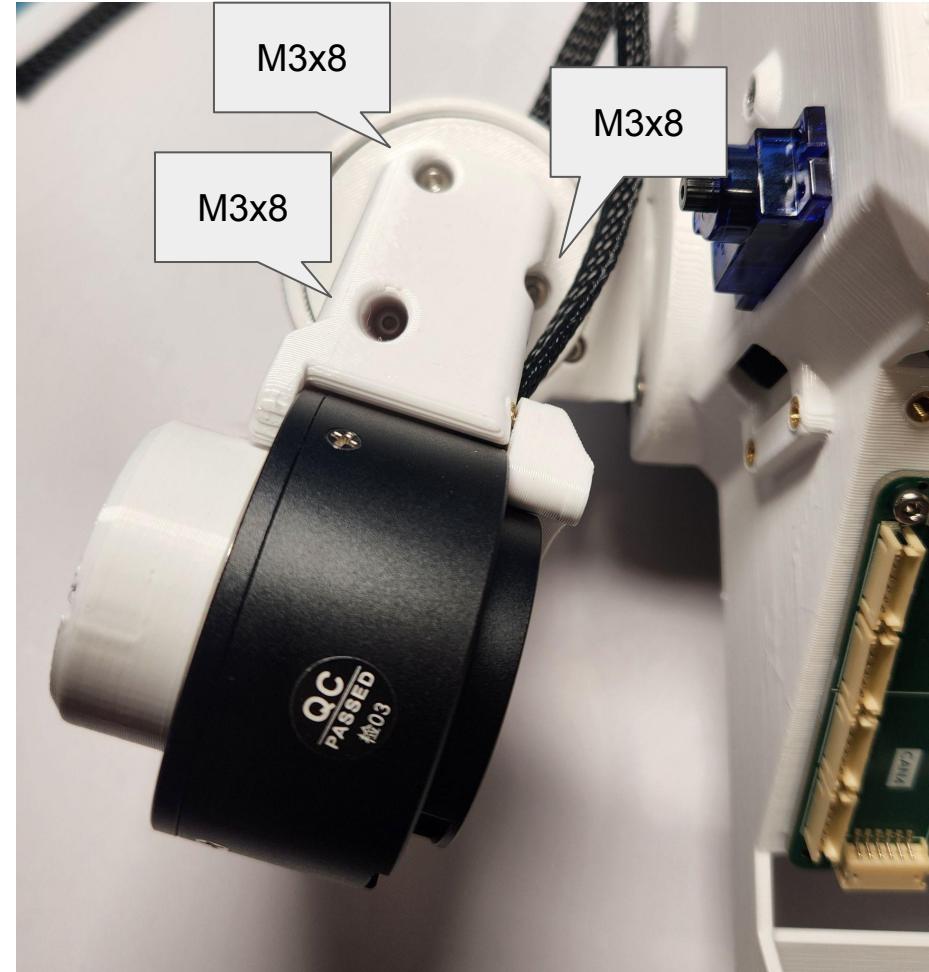
## Fasten back side.

Use two M2.5x10mm screws. You may need to slightly rotate the motor to align the holes. Once aligned, insert all screws and secure all four screws on both sides of the abduction bracket.



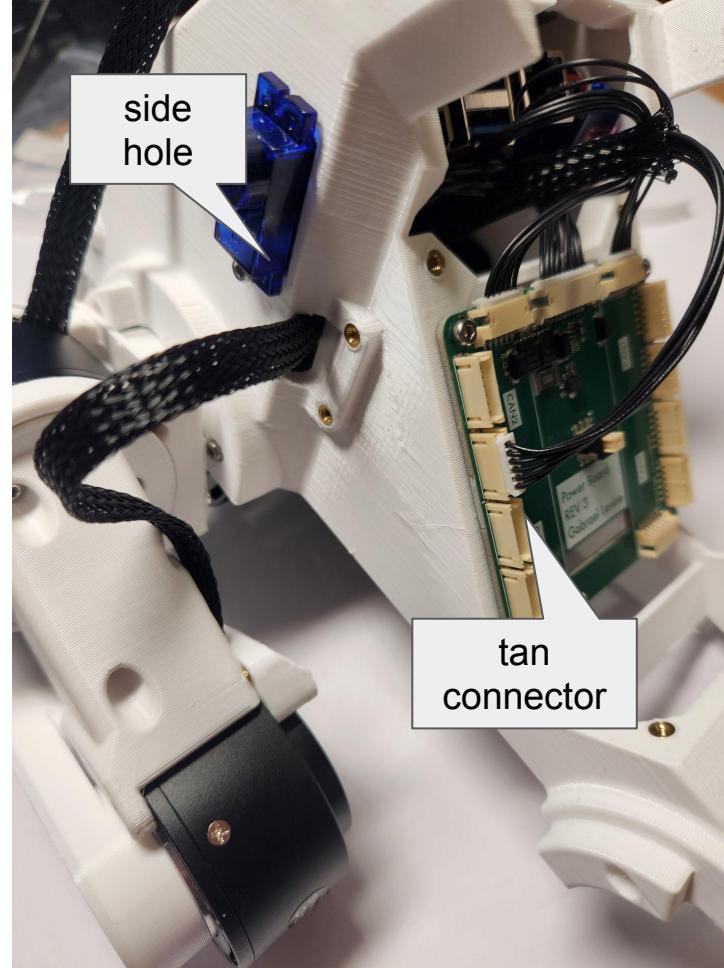
## Attach upper leg to motor 2.

Use three M3x8mm screws to attach the upper leg to motor ID 2. Fasten one screw at a time so you can use the empty holes to visually align the pieces.



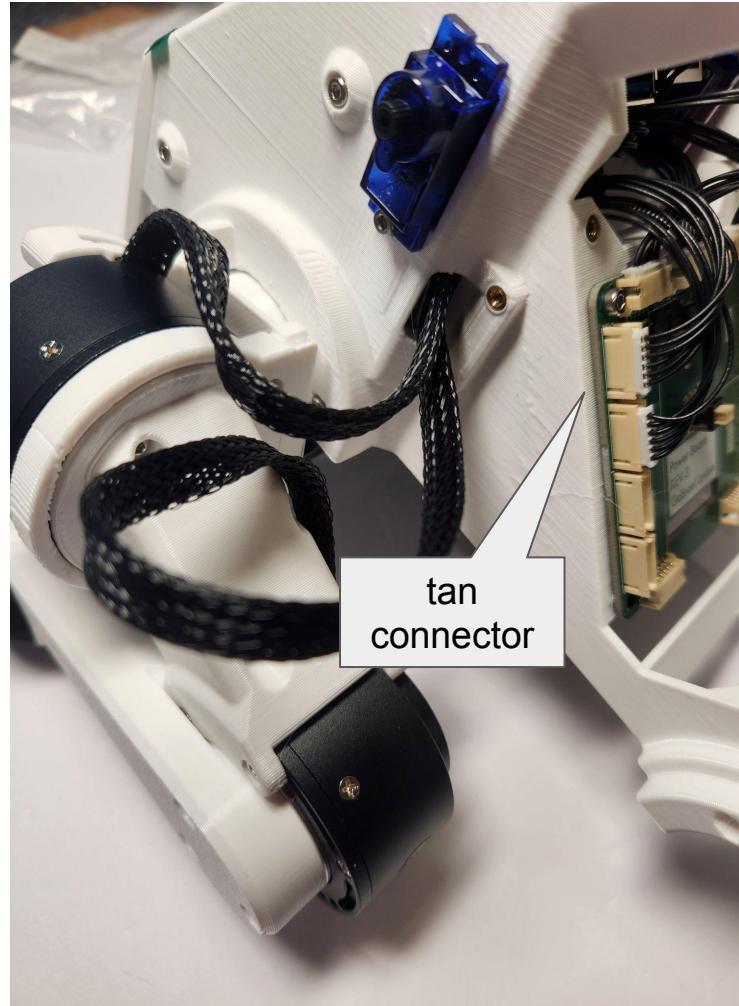
## Guide cables.

Guide the cable from motor ID 3 through the side hole on the upper body and plug into the tan connector as shown.



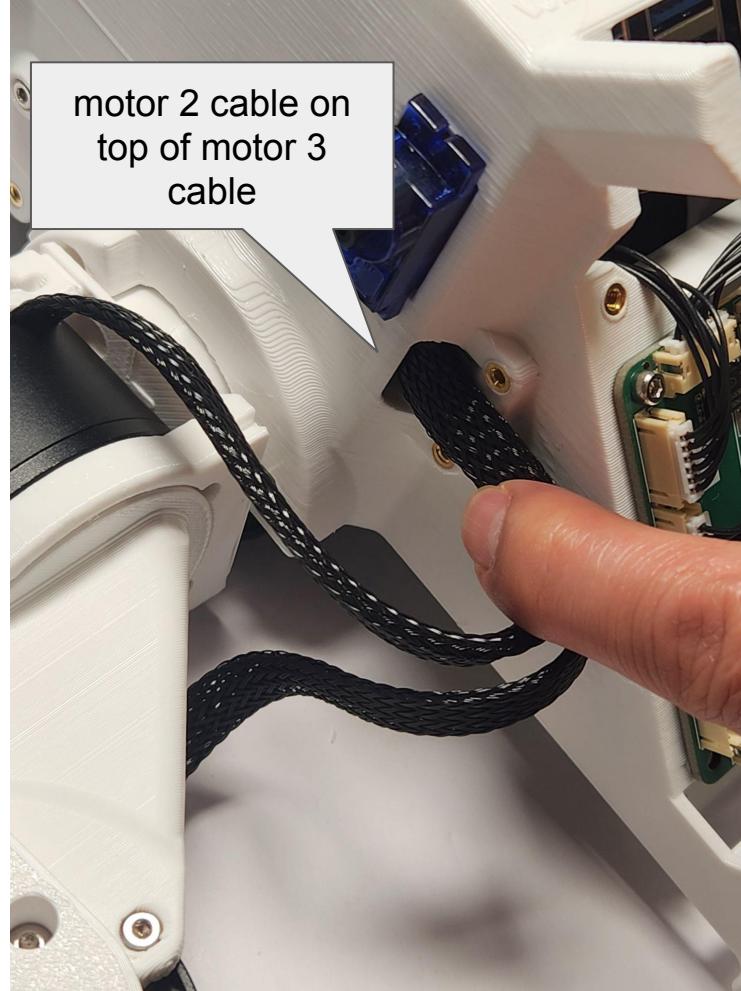
## Guide motor 2 cable.

Guide the cable from motor ID 2 through the side hole on the upper body and plug the cable into the tan connector as shown.



## Organize cables

Check the two cables to ensure they are not twisted, and you can lay the cable from motor ID 2 on top of the cable from motor ID 3.



## Fasten clamp.

Fasten the front cable clamp using two M2.5x10mm screws to secure the two cables in place. Do not tighten these screws yet, as we need to adjust the cable lengths before securing them.

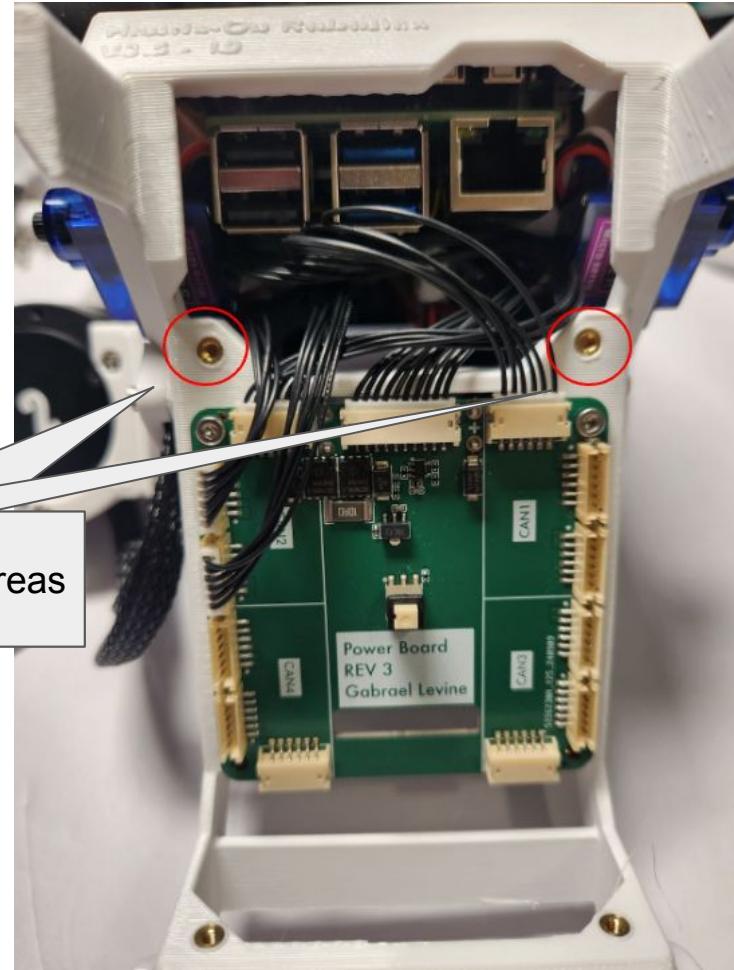
Rotate the abduction bracket clockwise until it reaches the stop, ensuring the cable can move freely. Then, rotate it counterclockwise. You should now see the excess length needed for both joints. Finally, tighten the two screws on the cable clamp securely.



## Tidy up the cable slightly.

Bend the cables inside while avoiding the screw hole to ensure it won't be pinched when you add the cover.

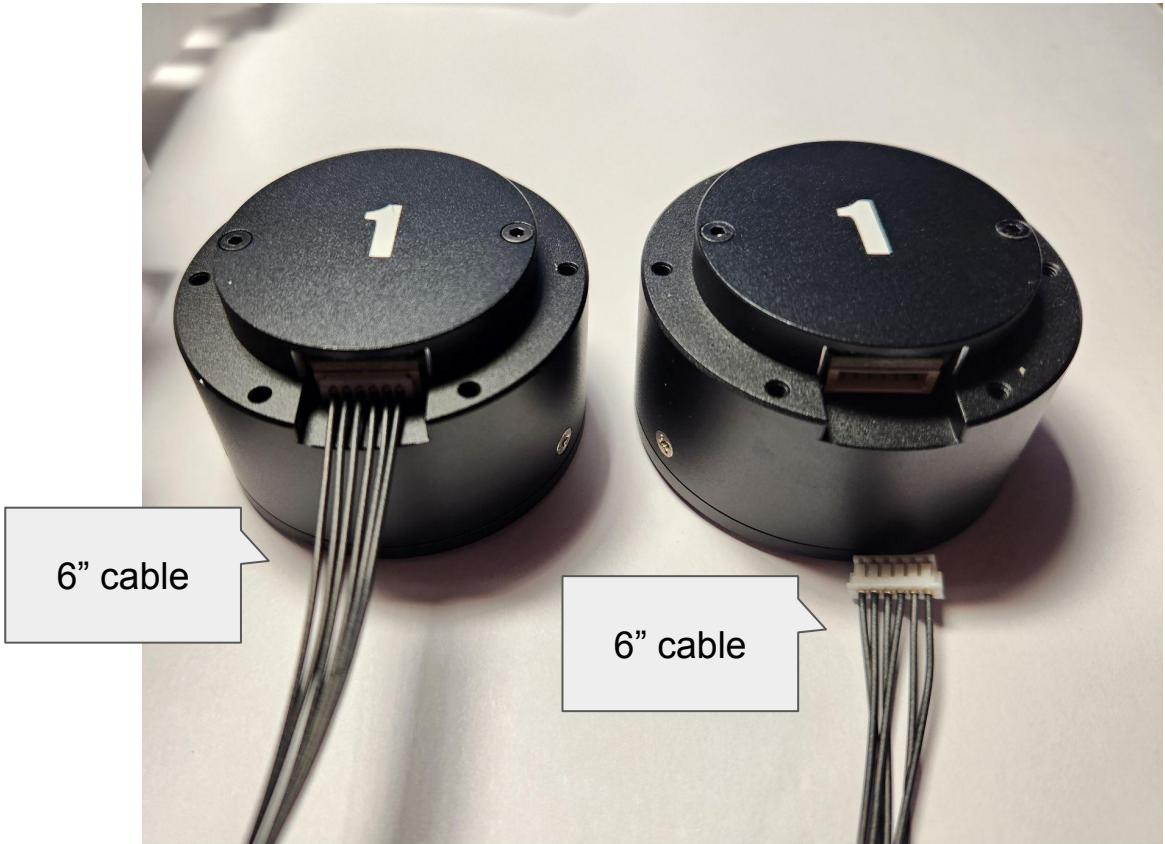
cables should avoid these areas



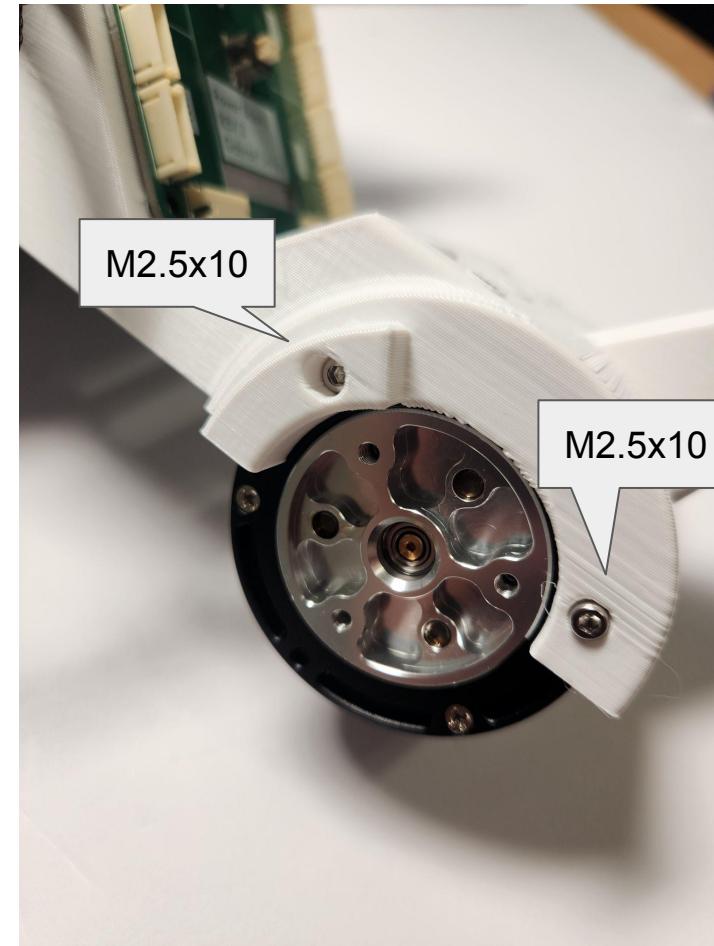
**Repeat instructions for right leg!**

# Assemble back legs

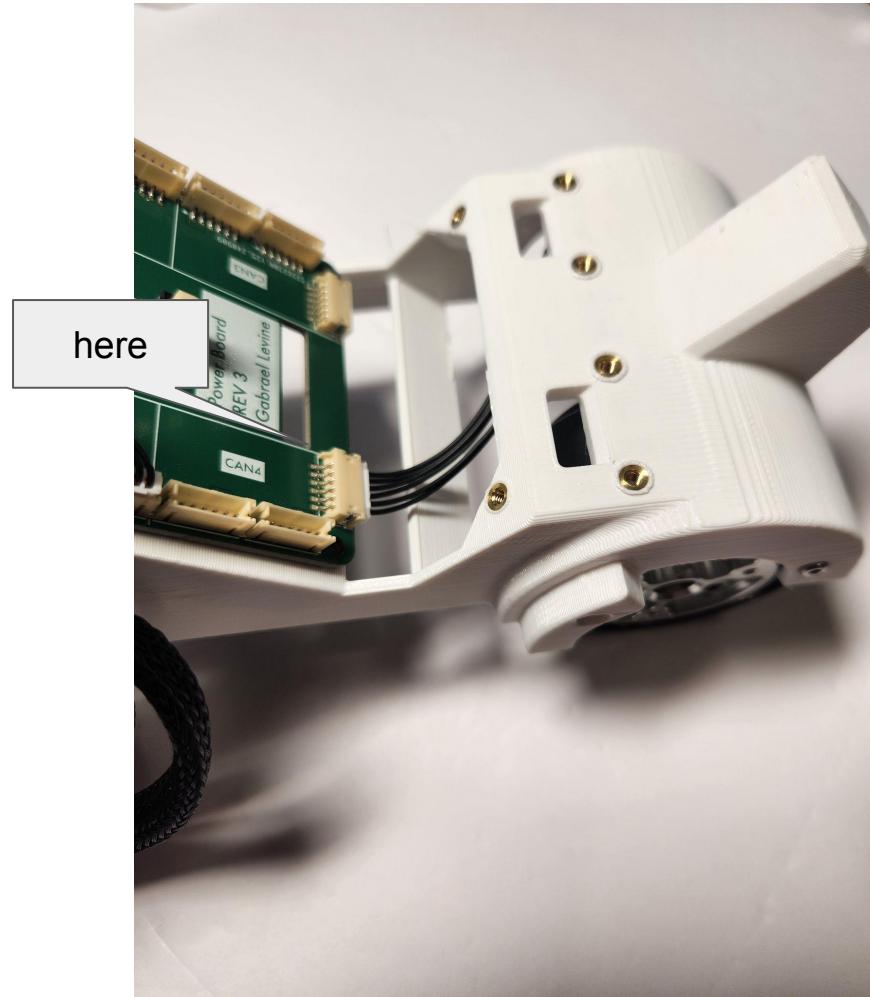
**Connect the short (6-inch) cable to motor 1.**



**Attach motor 1 to the body using two  
M2.5x10mm screws.**

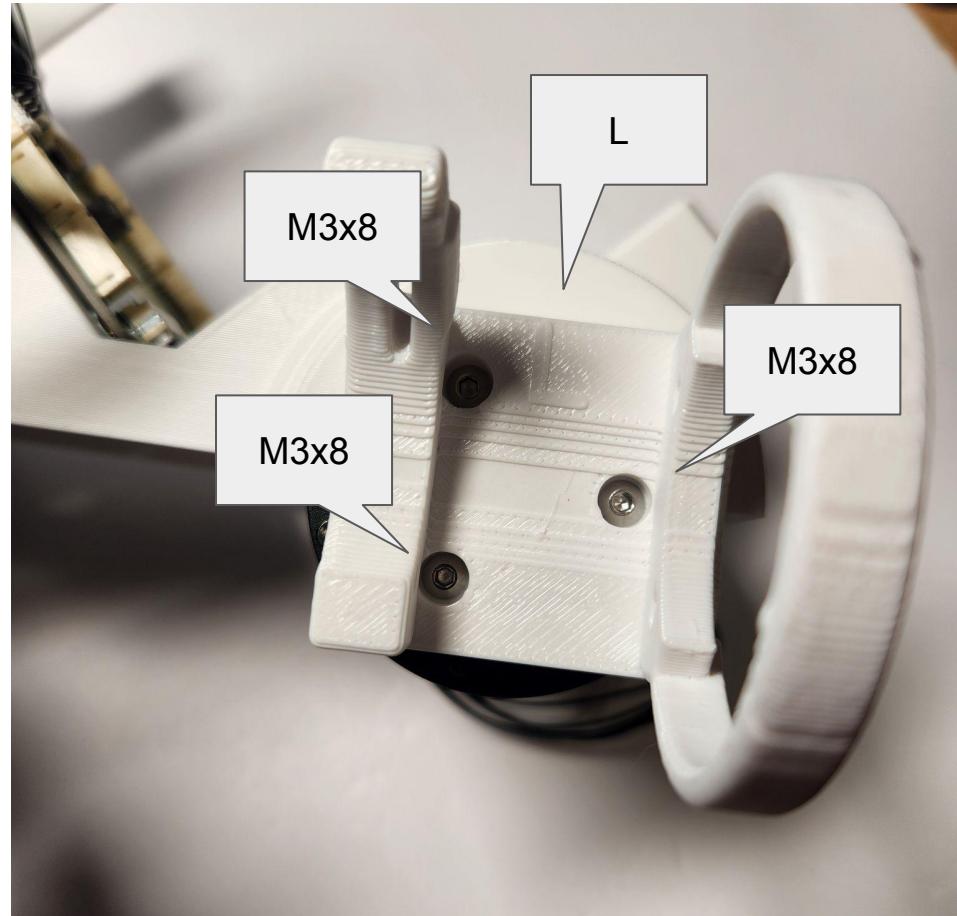


Connect the motor 1 cable to the power board.



## Secure the abduction bracket

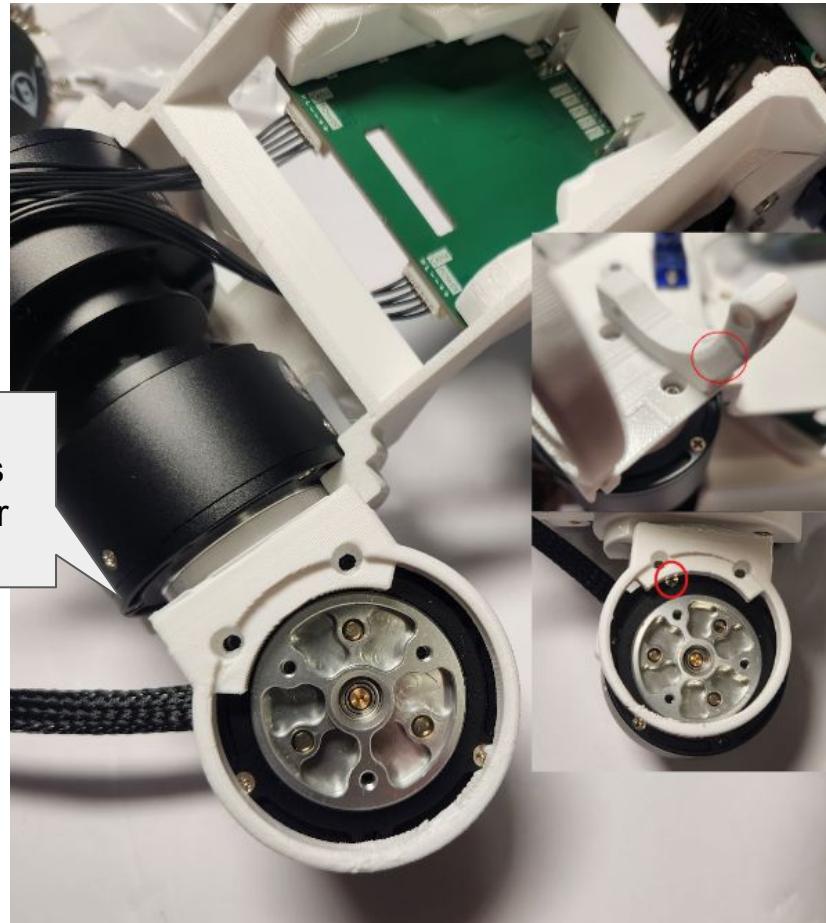
Secure the abduction bracket using three M3x8mm screws. Ensuring correct abduction bracket: left leg to left side, right leg to right side.



## Install motor 2

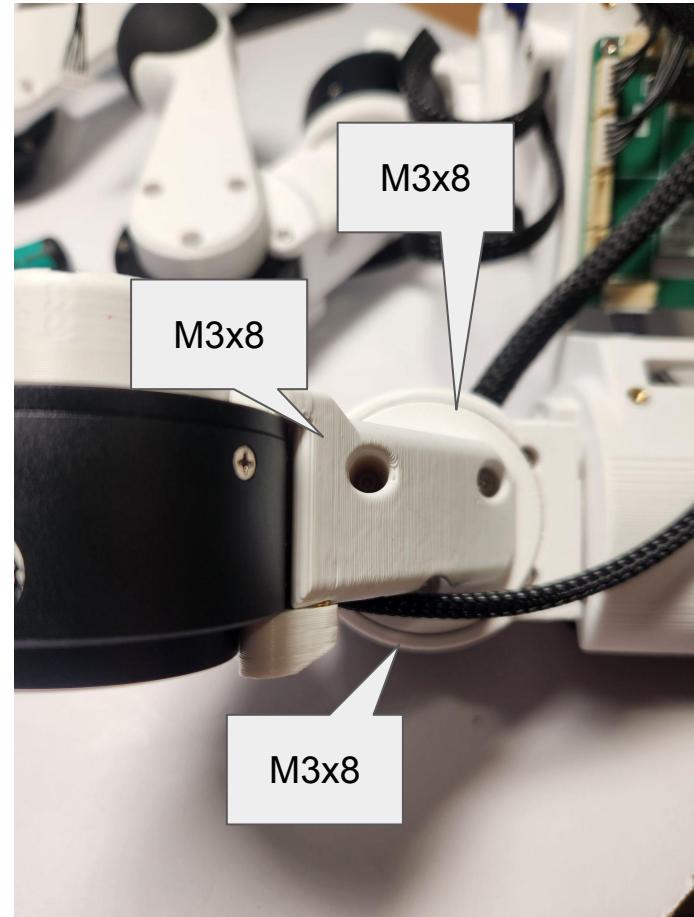
Install motor 2 following the same cable routing and screw removal steps as with the front leg.

Refer to previous slides for details

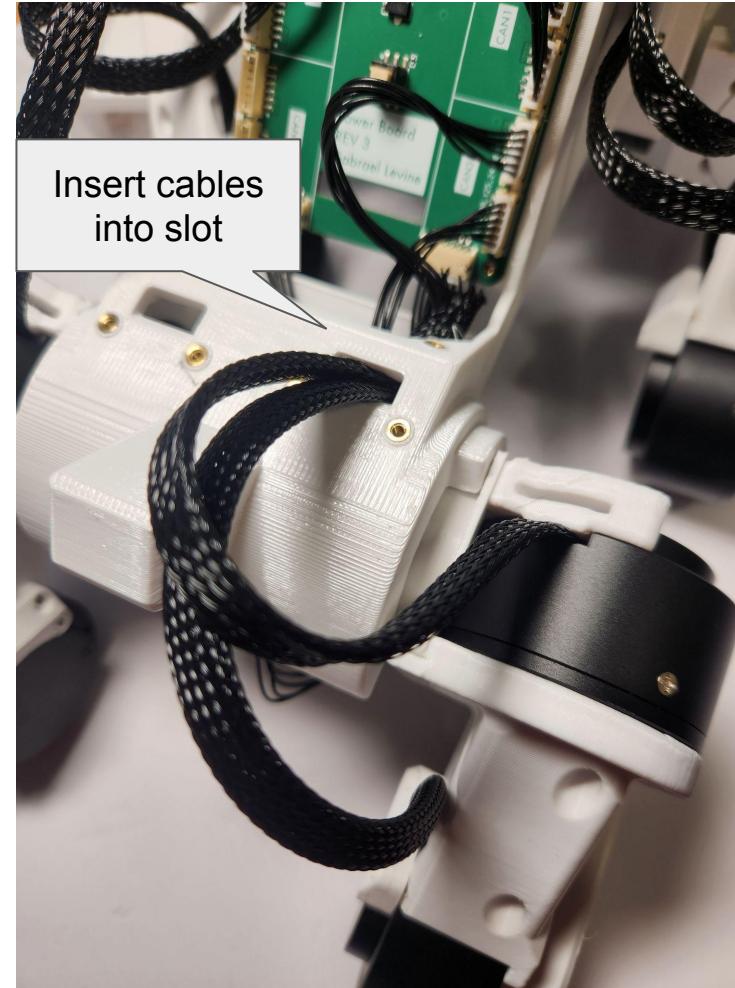


## Attach leg

Attach the fully assembled leg from the previous step to motor 2, ensuring correct leg orientation: left leg to left side, right leg to right side.



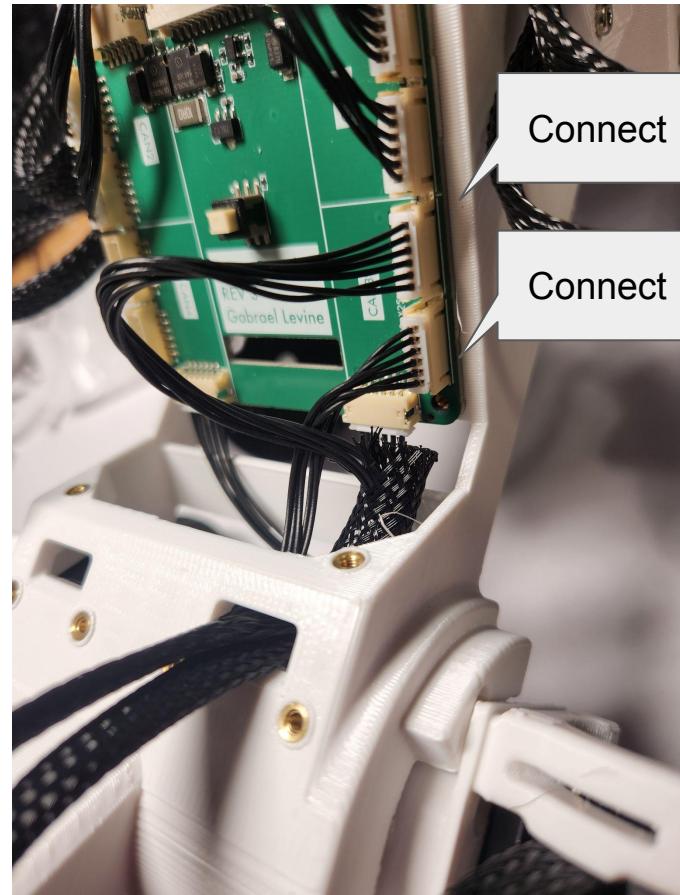
Route the cable as shown in the picture.



## Connect the cables

Connect the cables from motor 2 and motor 3 to the power board.

Order doesn't matter as long as the cables go into these two connectors.



## Secure cables

Use the back cable clamp along with two M2.5x10mm screws to secure the two cables in place. Do not tighten these screws yet, as we need to adjust the cable lengths before securing them.

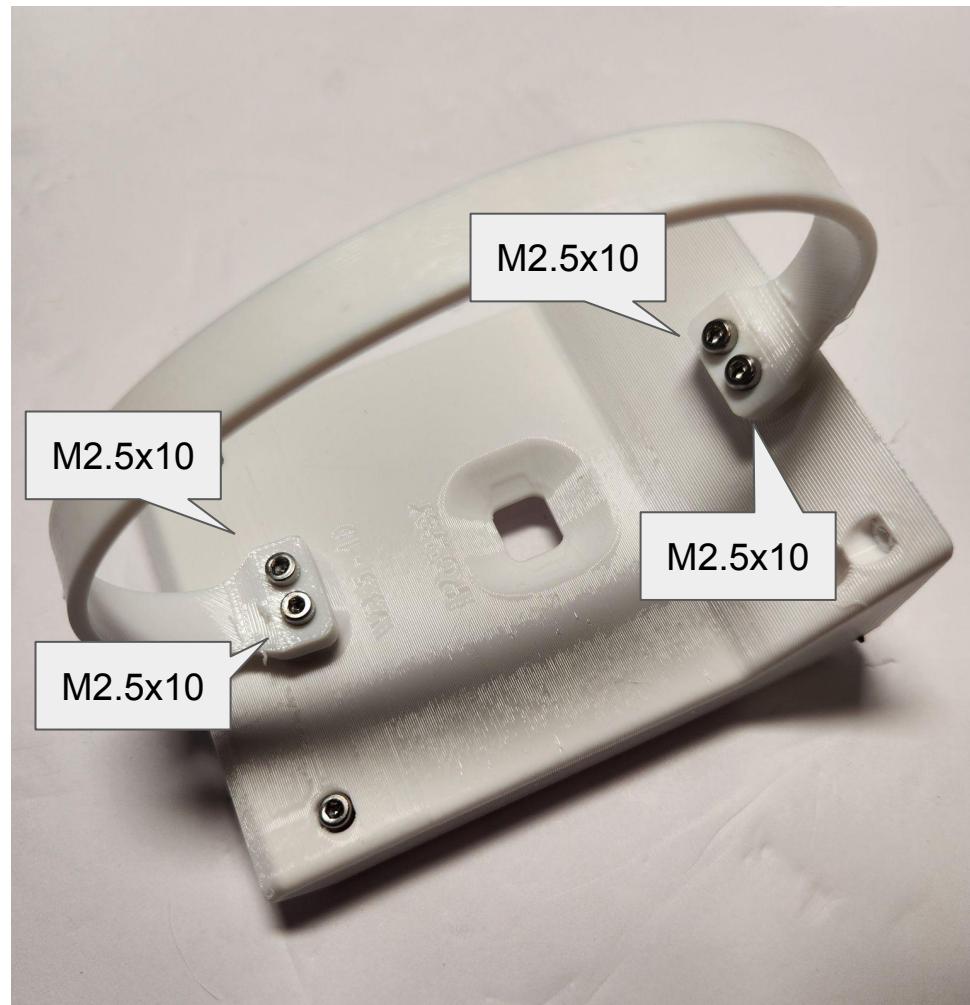
Rotate the abduction bracket clockwise until it reaches the stop, ensuring the cable can move freely. Then, rotate it counterclockwise. You should now see the excess length needed for both joints. Finally, tighten the two screws on the cable clamp securely.

Check hip can rotate fully and then tighten

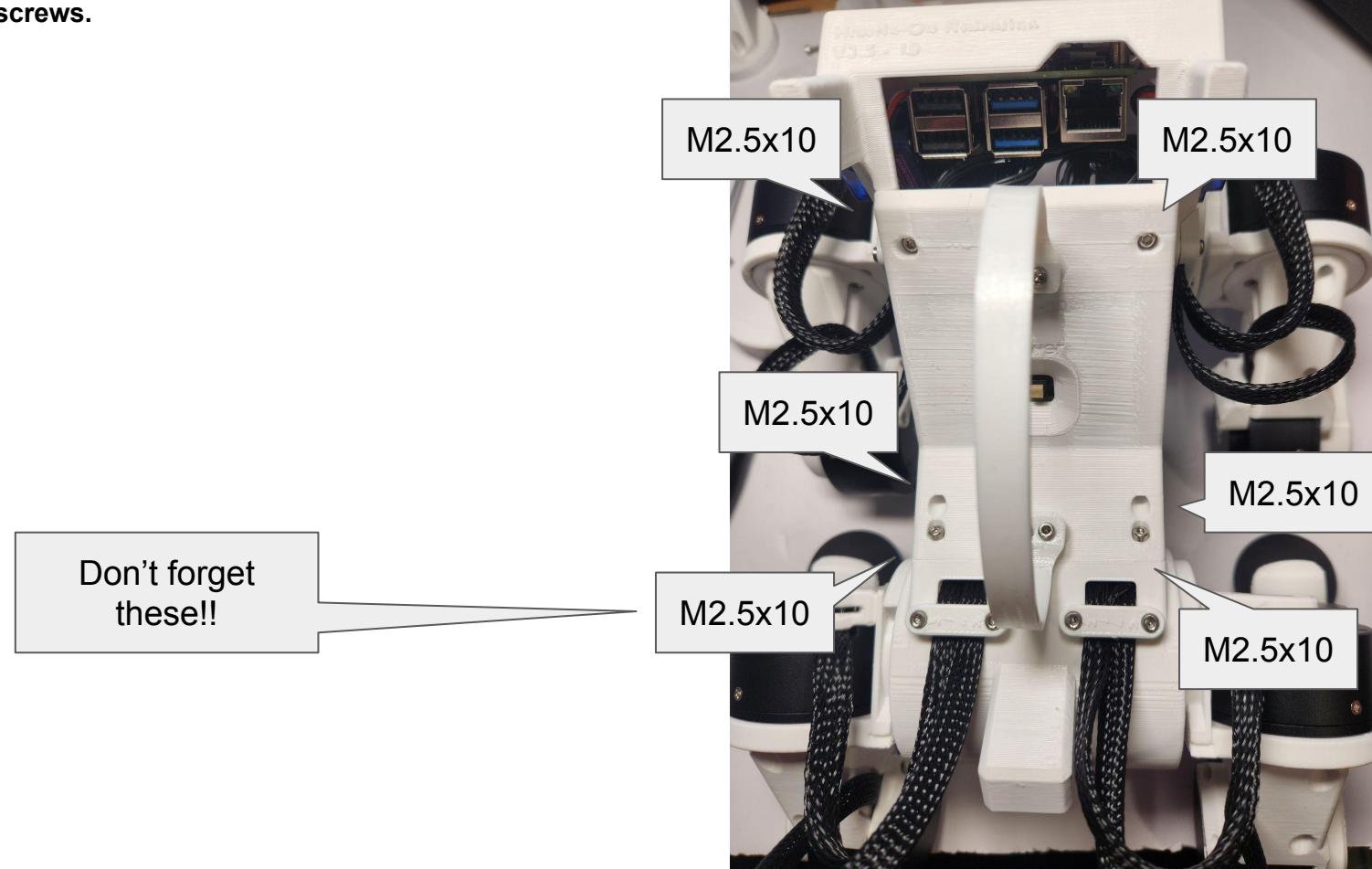


## Attach the strap

Attach the strap to the power board cover using four M2.5x10mm screws, as shown in the image.

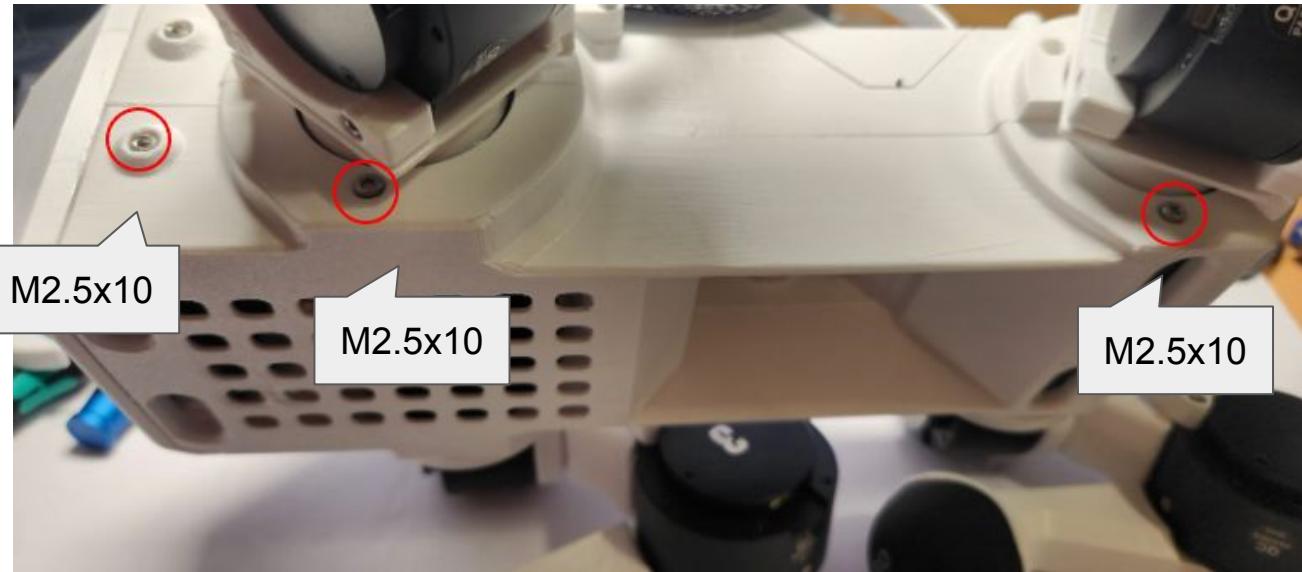


Secure the power board cover with six  
M2.5x10mm screws.

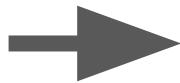
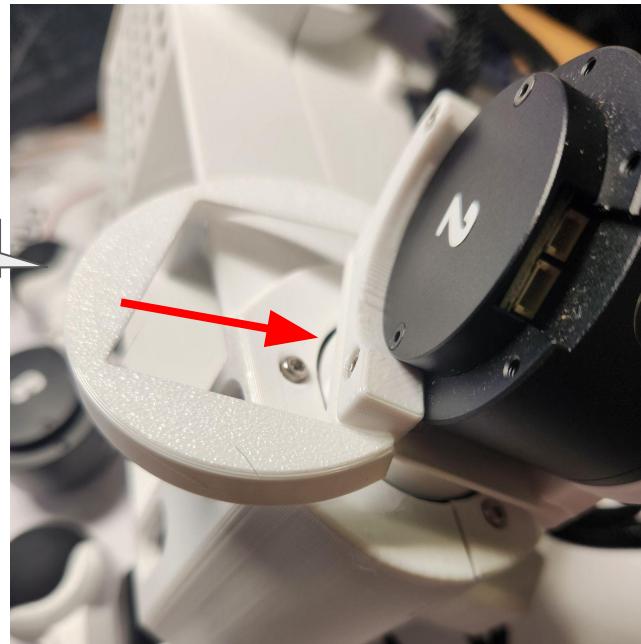


## Attach the bottom

Attach the bottom body using four M2.5x10mm screws on each side.

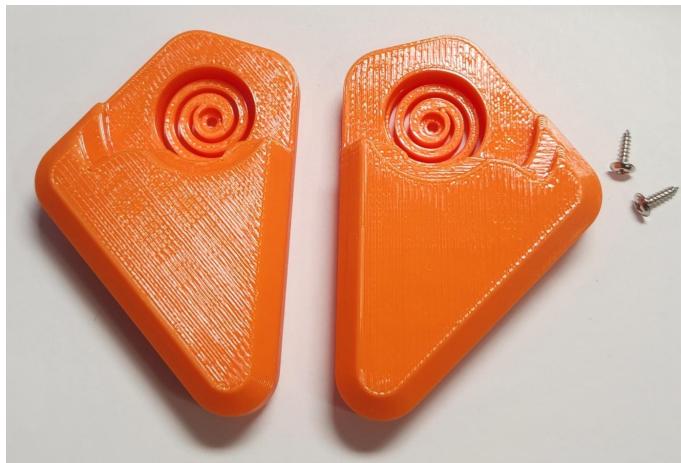


**Slide the joint cover bracket into position**



## Attach ears

Attach ears to the ear servos with the small screws





**Done! Congratulations!**

