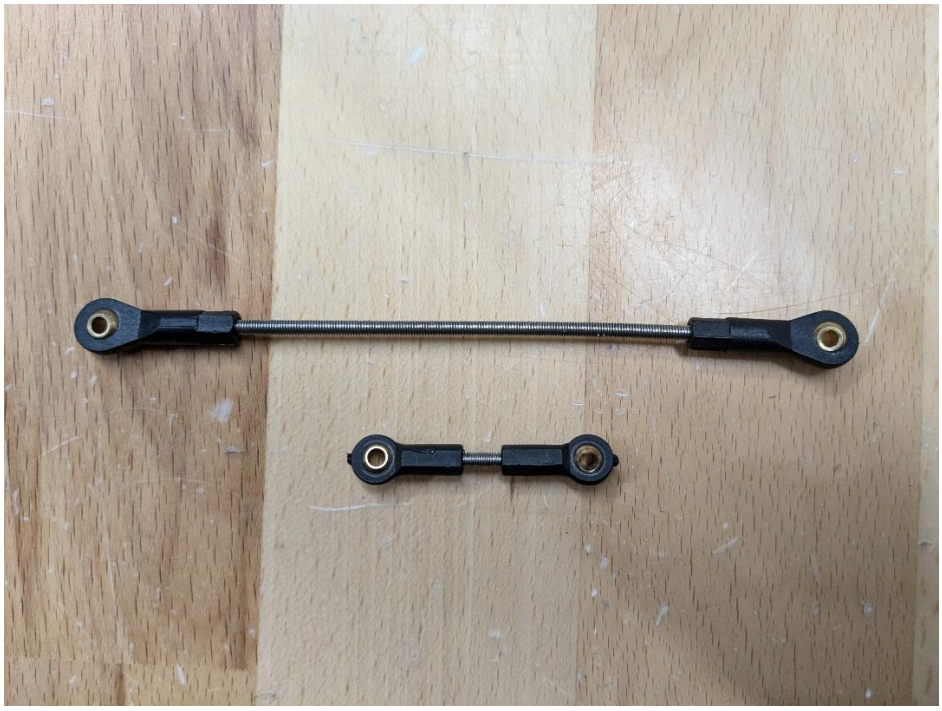
The Kelpie Assembly Manual

Leg Assembly (x4)

1. Assemble the long and short rods with their respective rod ends.



2. Attach a servo horn to the short rod, spacing it out with 2 nuts in between.

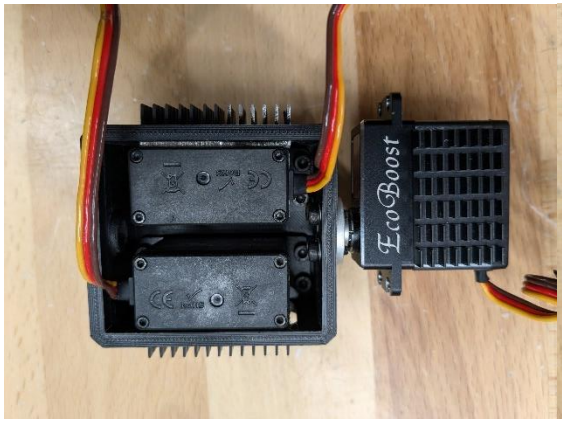
3. Add bearings on both sides of the femur.

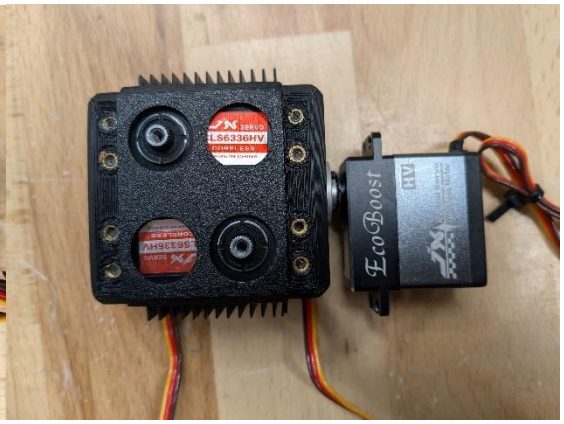
4. Insert an acrylic disc in the CAM, then attach the CAM in between a femur and a servo disc.

5. Screw on the tibia to the femur, then attach the long rod between the femur and cam.

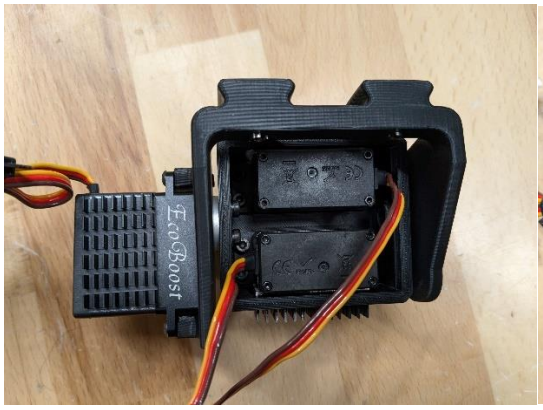
6. Attach the short rod to the cam.

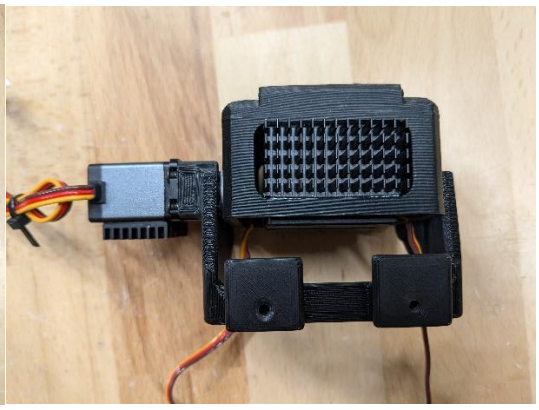
7. Screw on the roll servo to the side of the servo hub, then screw on the upper and lower servos. Next, put on the heat sinks on the servos.



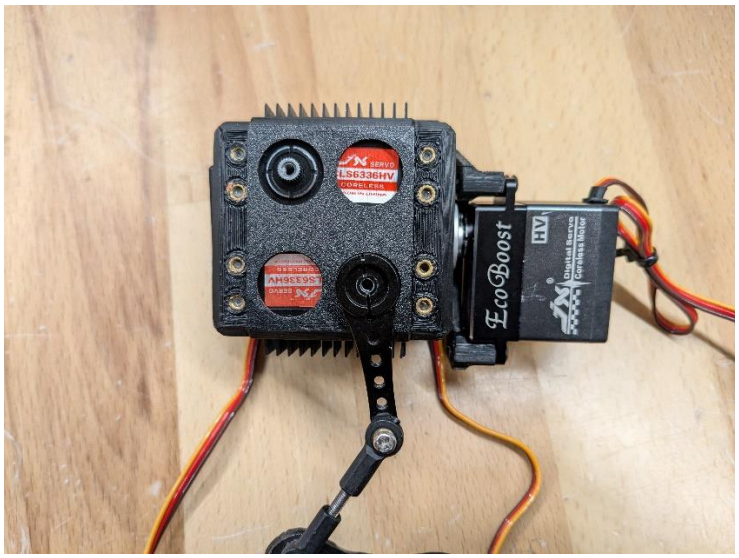


8. Place the leg mount on the servo hub.

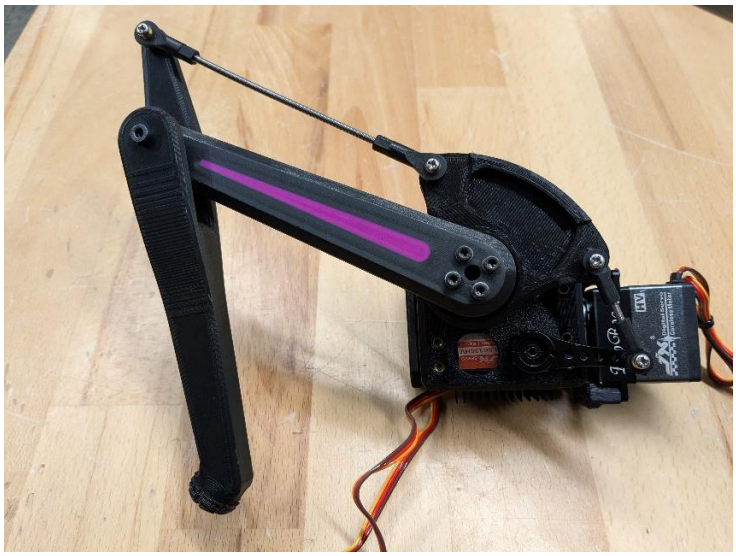




9. To attach the leg linkage, it is recommended to place the servo horn first. To take into consideration the servo angle limitations, make sure the clockwise servo limit is when the servo horn is pointing downwards.

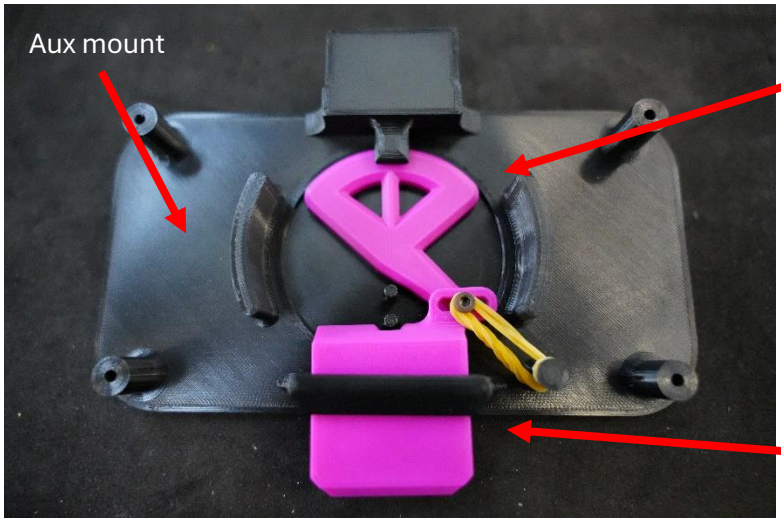


10. Place the femur so that the femur's clockwise servo limit is roughly 20 degrees above the horizontal axis.

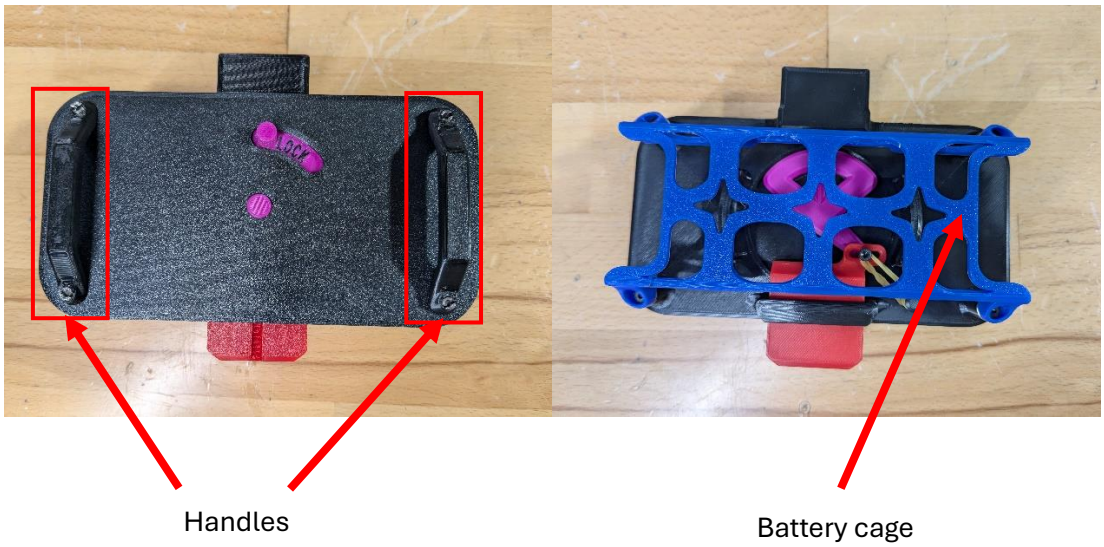


Battery Hatch Assembly

1. Assemble the battery hatch using the aux mount, slider, and crank. Then attach a rubber band to power the latch mechanism.

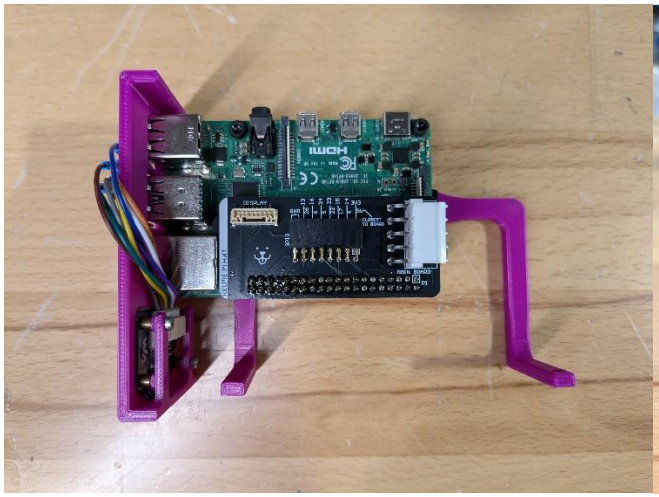


2. Add the battery cage and handles.

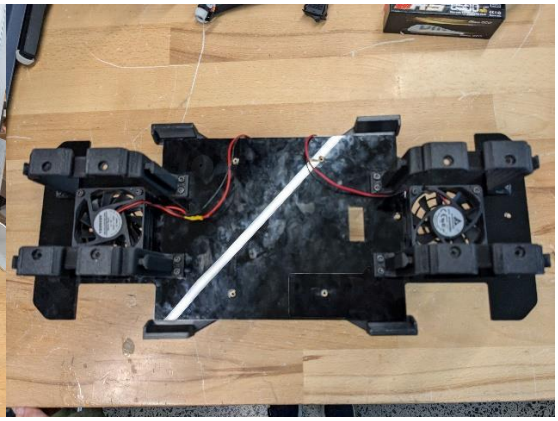


General Assembly

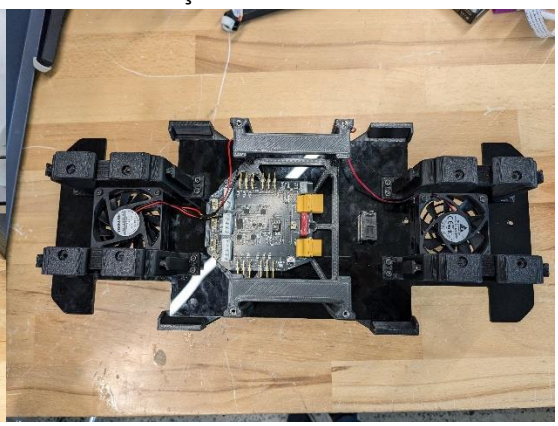
1. Attach the LCD display to the pi holder, then screw in the raspberry pi and the pi breakout board.



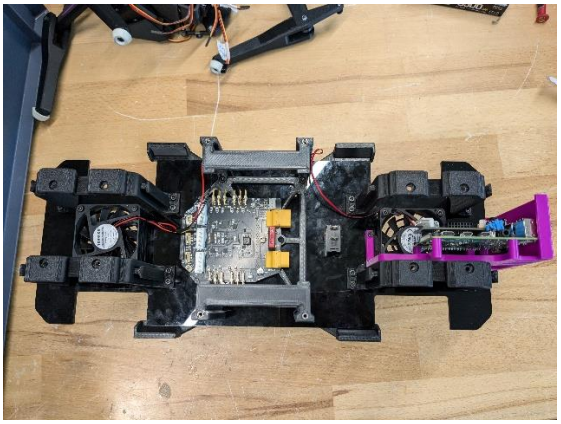

2. Place the bottom plate on the stand, then attach the front and rear fans, and the four leg mounts for each leg.

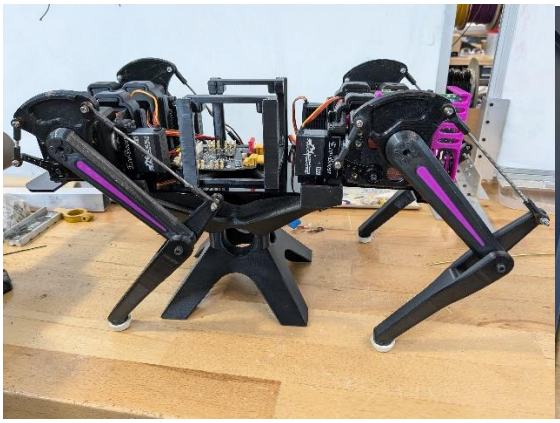
3. Attach the front and rear fans, and the side façade holder. Add the power switch to the bottom plate. Then screw on the main board to the side façade holder.

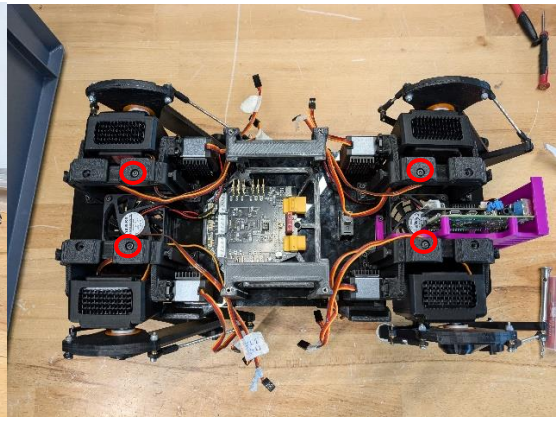



4. Add the pi holder.

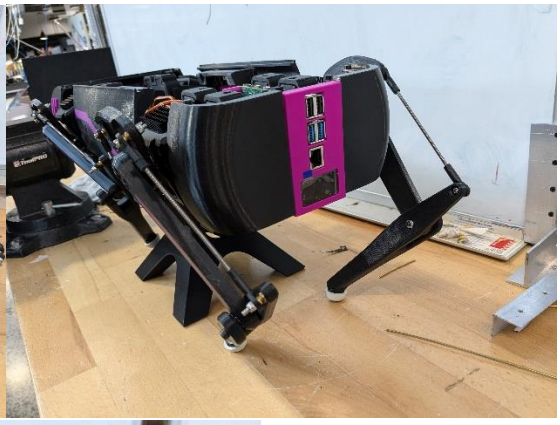


5. Attach all four legs by sliding in the leg mounts to the leg holders and screwing in the side closest to the main board (circled in red on the righthand figure below).





6. Add the front, side, and rear facades.



7. Attach the top plate and insert the battery hatch.