Kittywumpus:

Intro Video Here

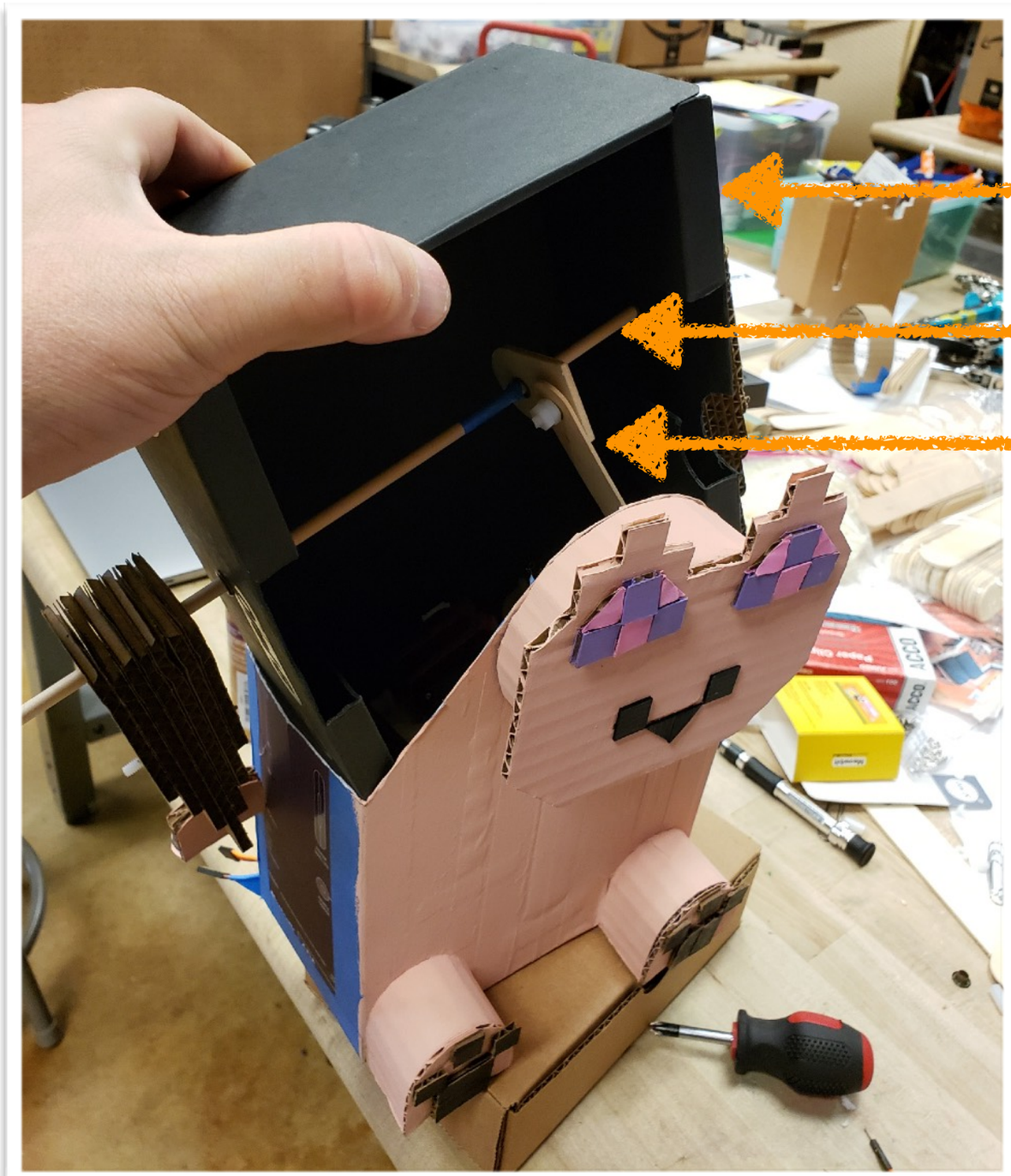
Tool Video Here

Scroll Down for Building Steps

Servos/Linkages

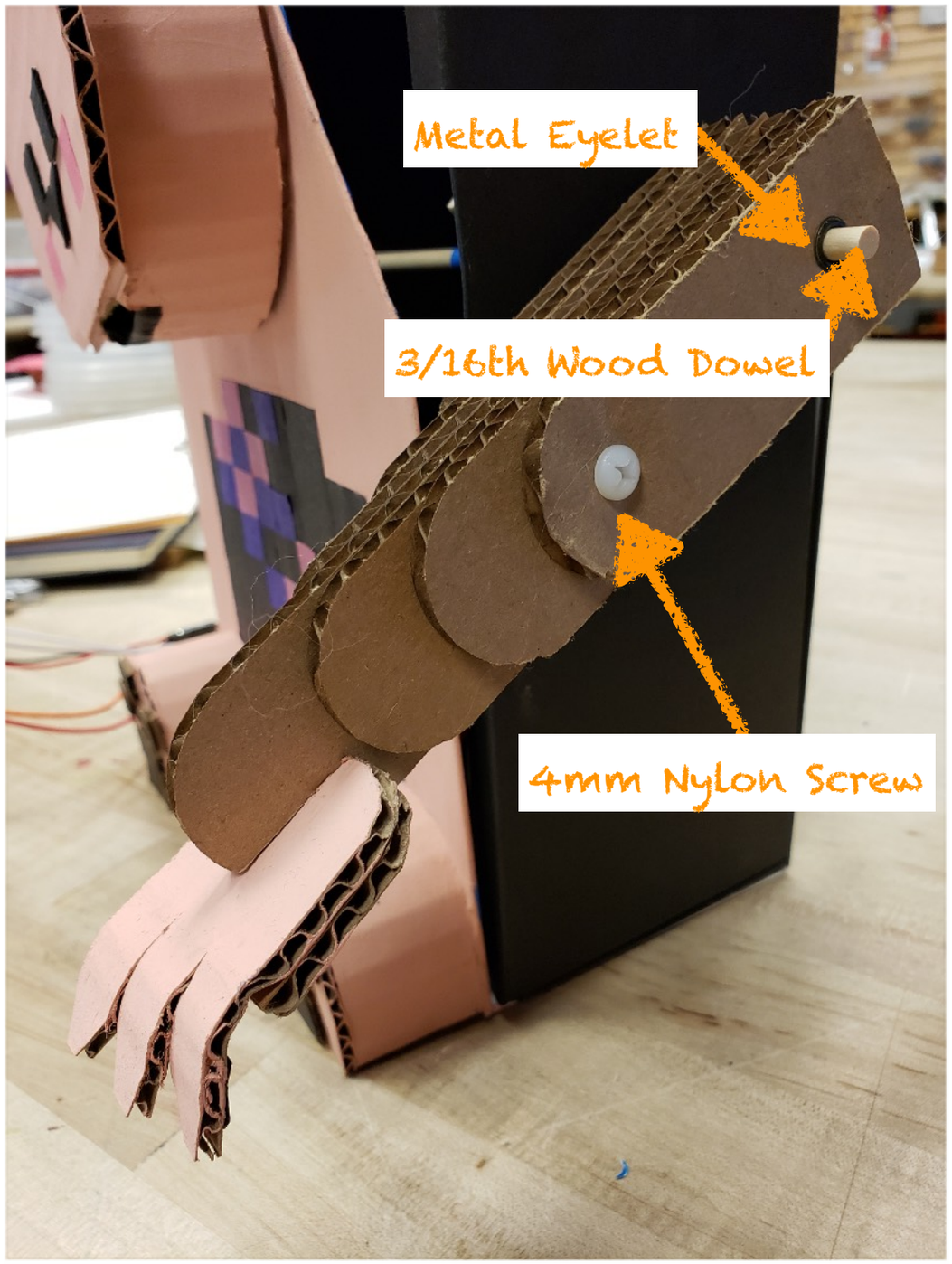
KittyWumpas Innards

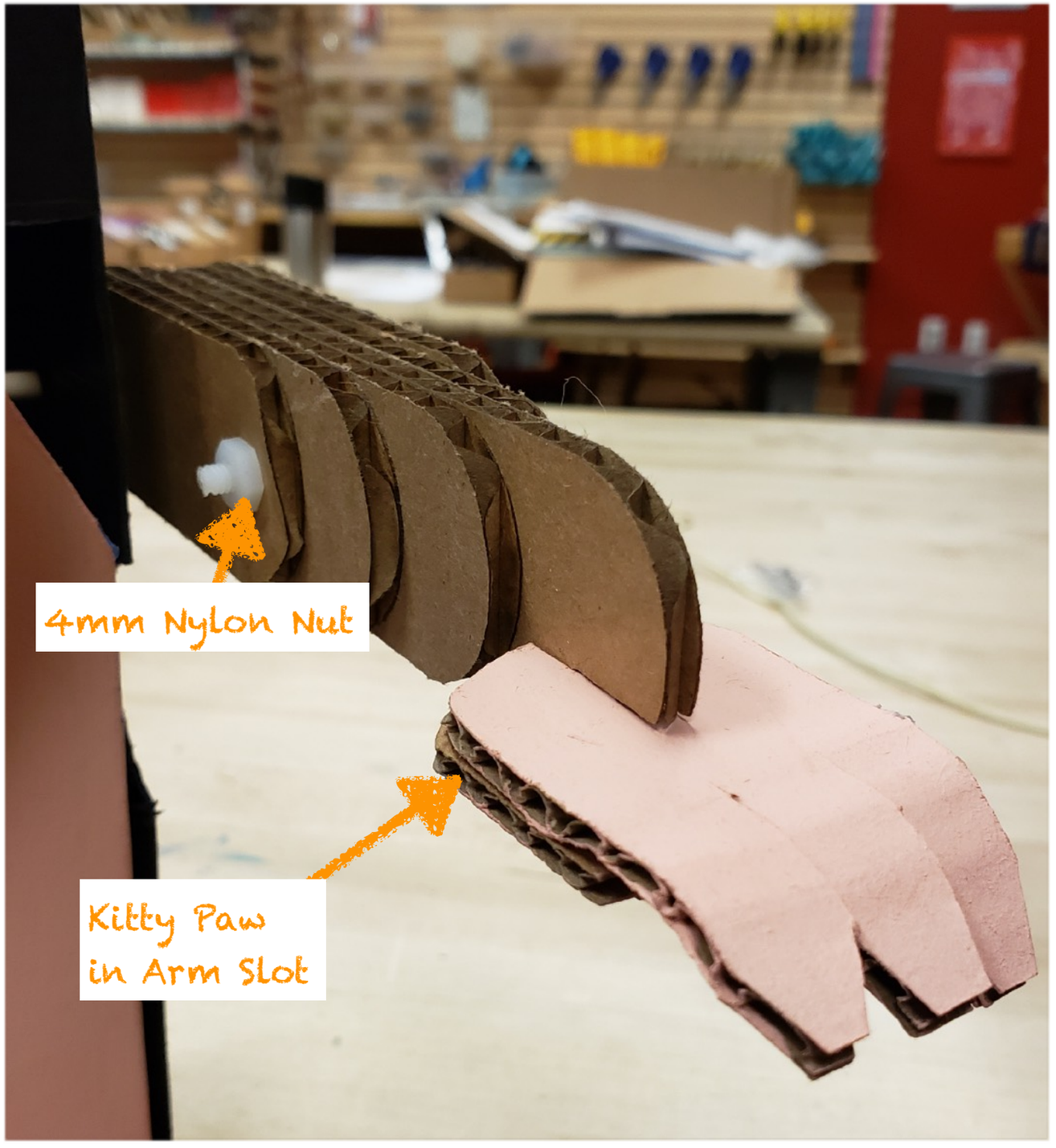
The mechanical linkages and servos are self-contained in the inner tray-style box of the cordless toothbrush packaging. By removing the tail youth box slides right out.



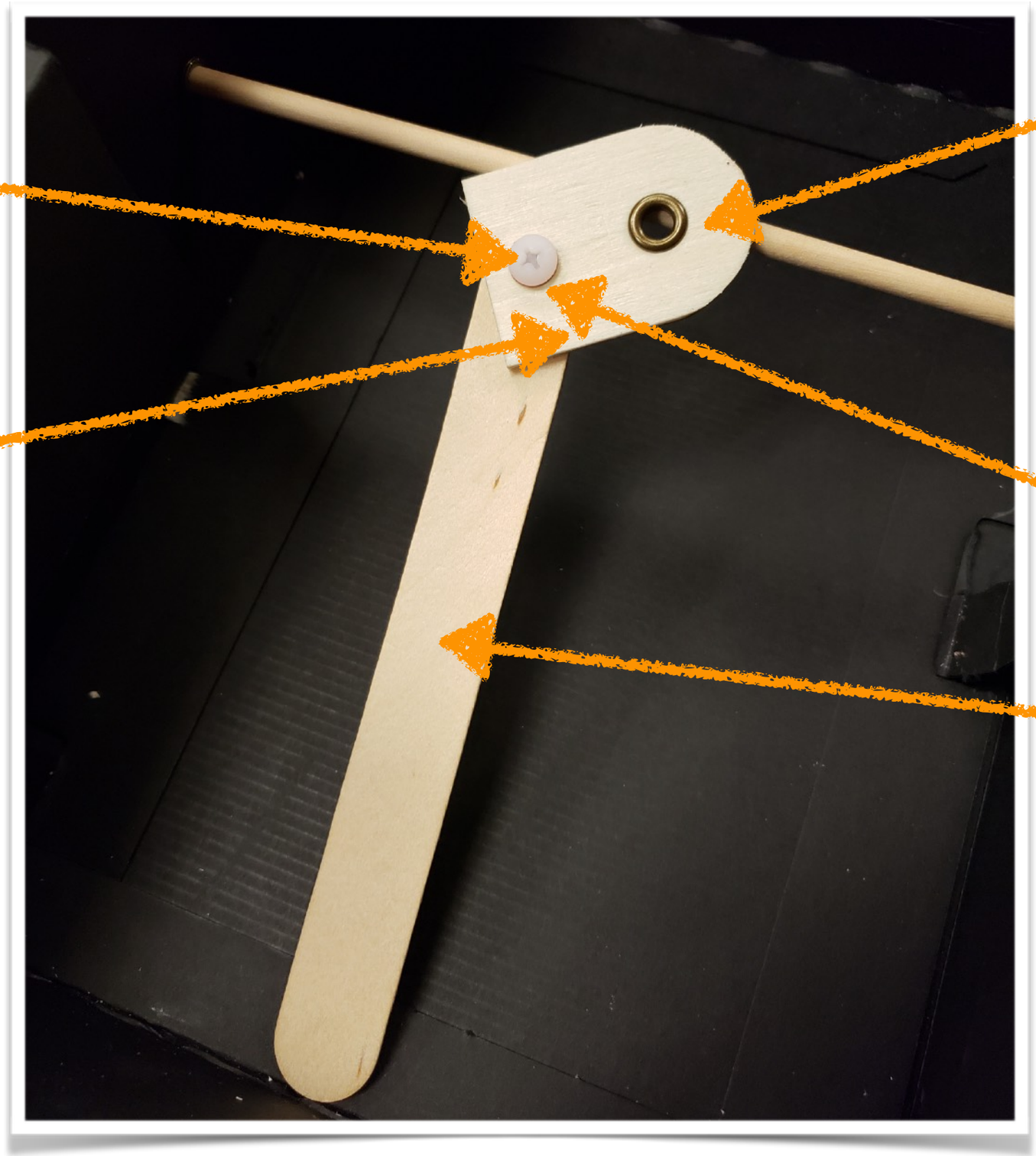
KittyWumpas Arms

Our KittyWumpas arms are made of layers of cardboard. The shoulder dowel and a single 4mm nylon screw and nut hold the stack of cardboard together. The advantage of this system is that we can iterate design quickly because the parts are not glued together.

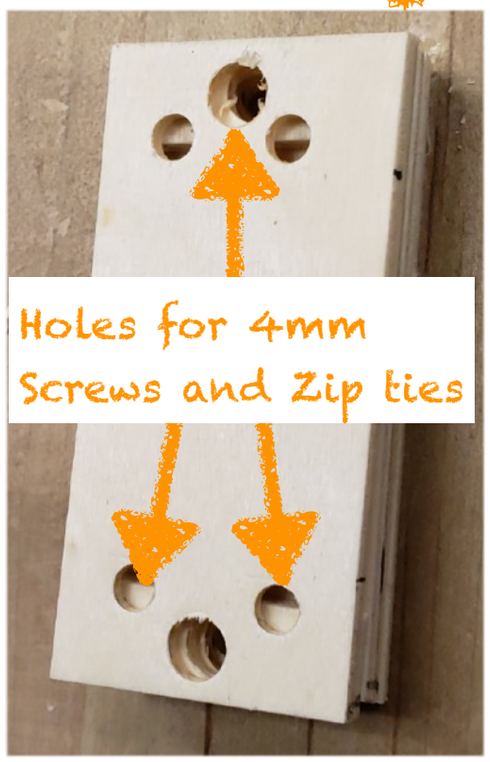


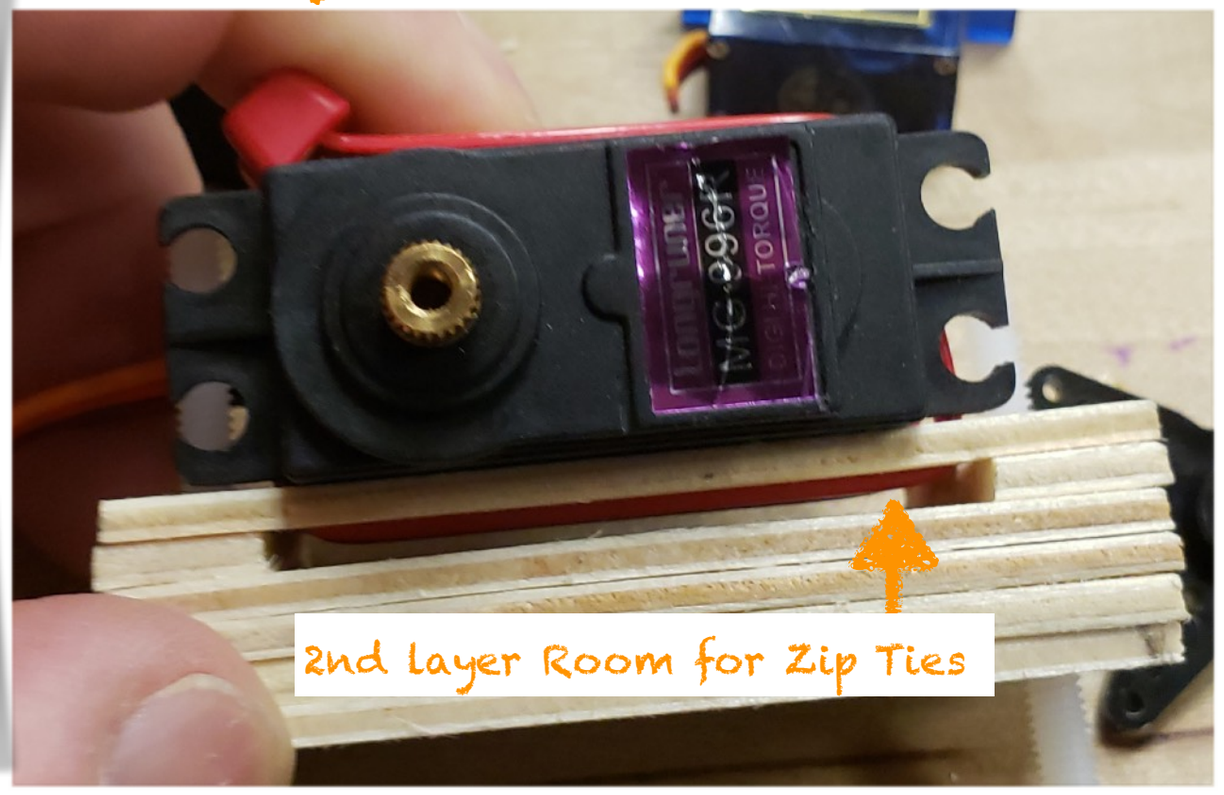


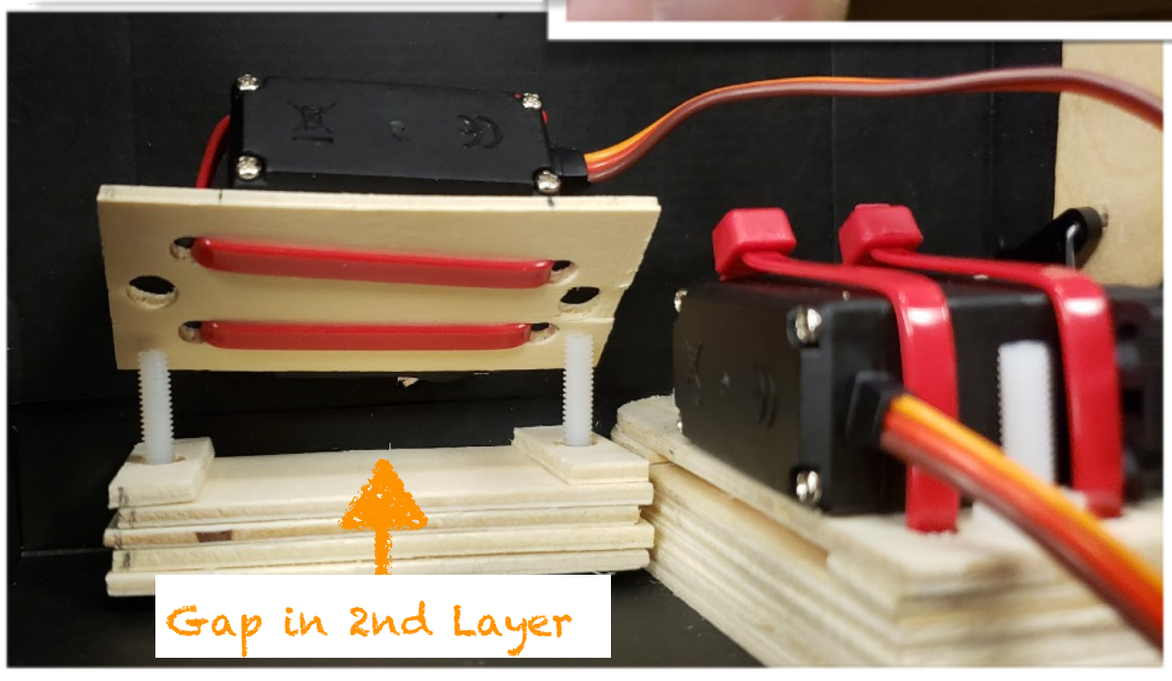
KittyWumpas Arm Linkage

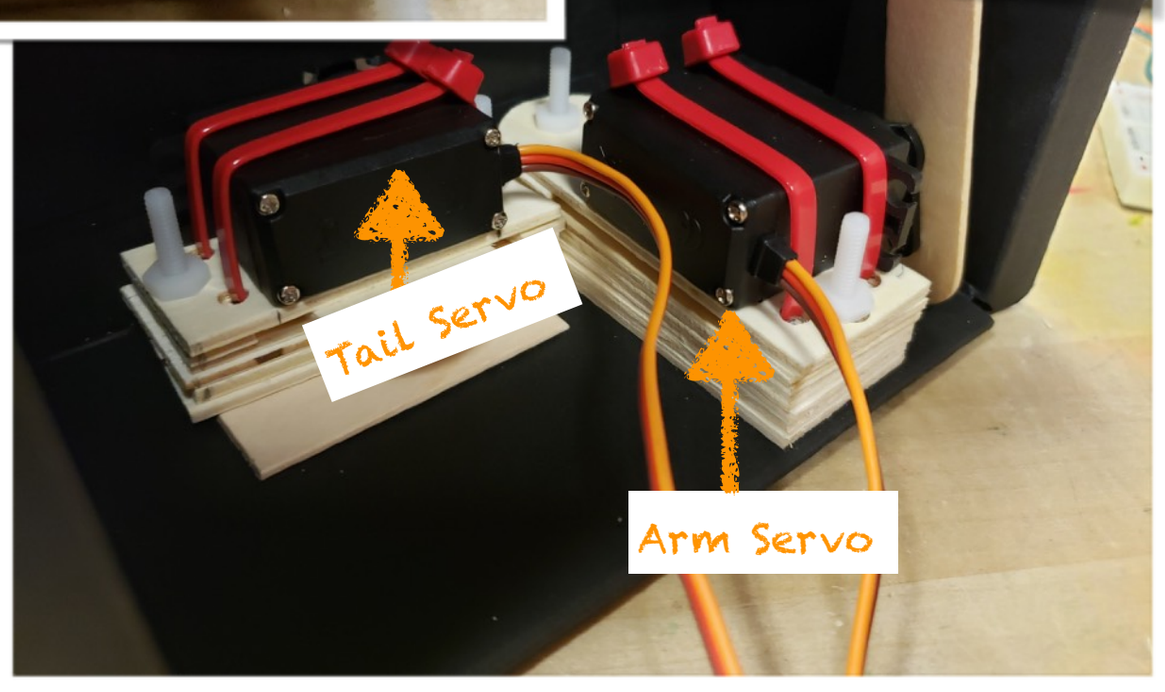


KittyWumpas Servo Mounts

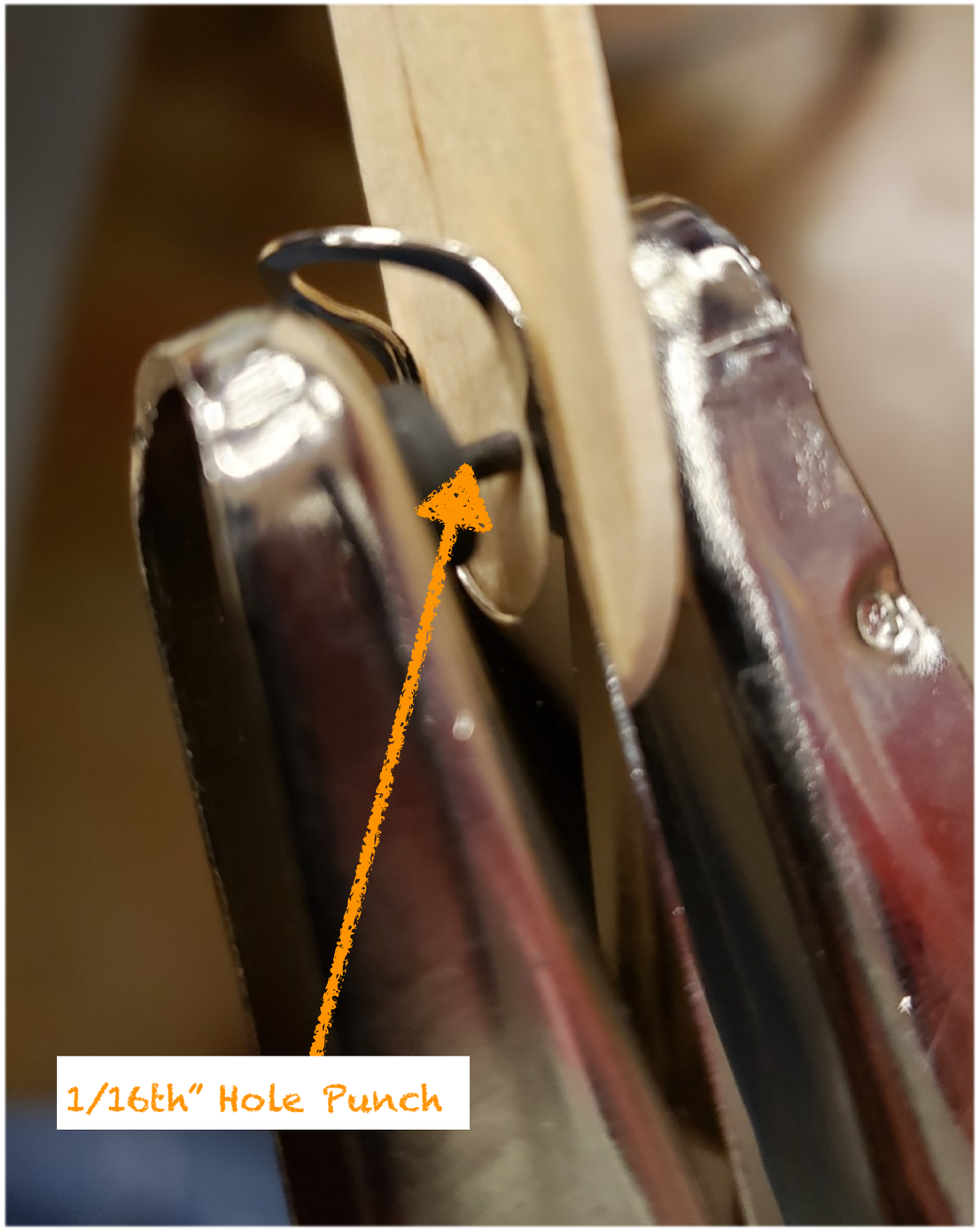


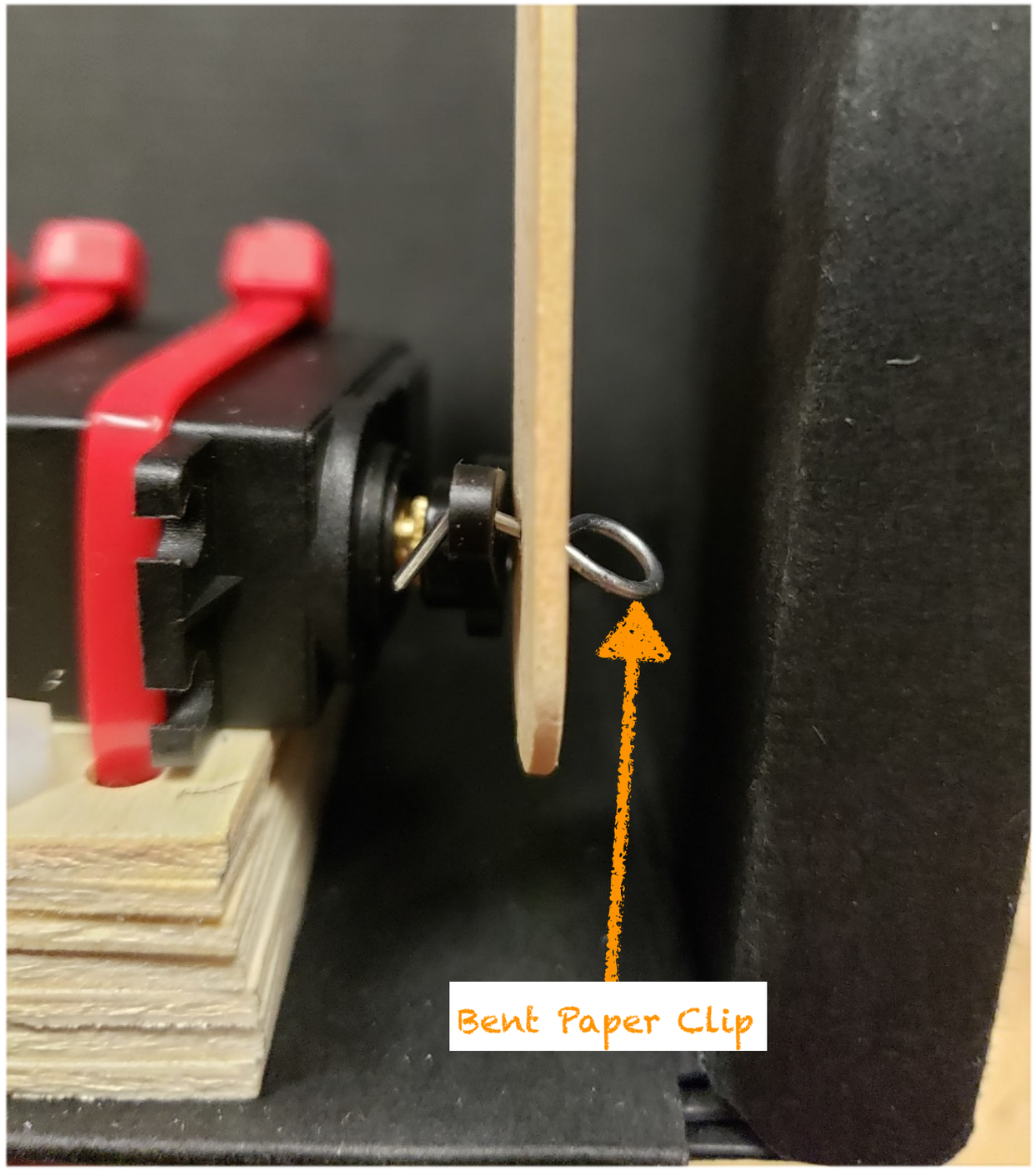




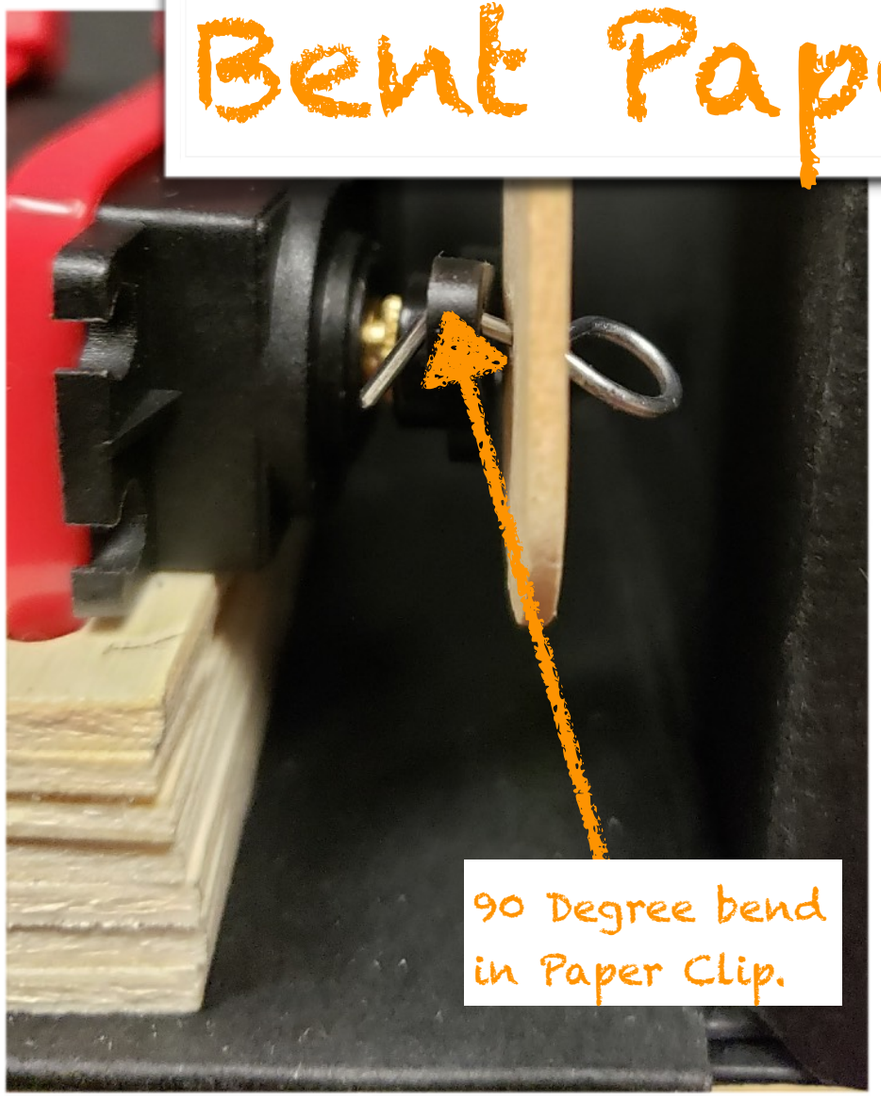


KittyWumpas Arm Linkage

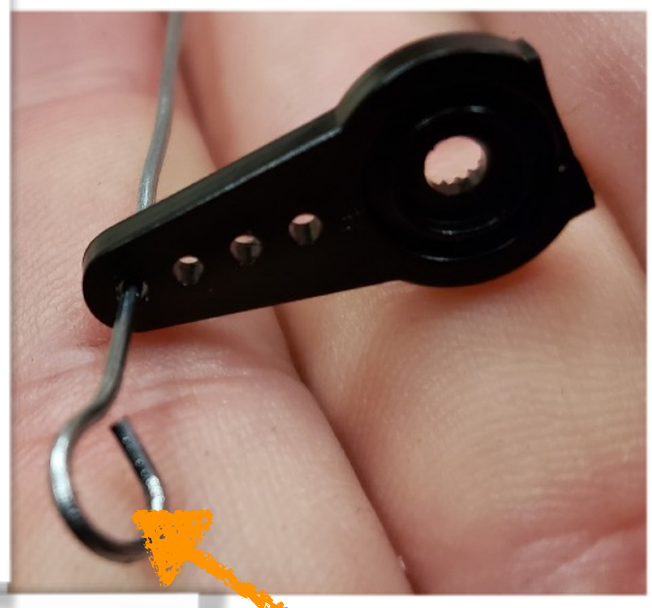




Bent Paper Clip Close Up



90 Degree bend in Paper Clip.



Large Paper Clip bent for loop on one end.

Masking tape

Garter Springs

Garter Springs are sandwiched between two craft sticks. The tail will become more floppy as you make the craft sticks shorter.

Hand Tools

For this project we used two really, really AMAZING tools. The first is a CropADile, a combination of a hole punch and a eyelet setter. Both can cut wood craft sticks without cracking the wood - a real game changer for classroom teachers and at-home makers! If you have never used a CropADile then follow the link to the short video below.

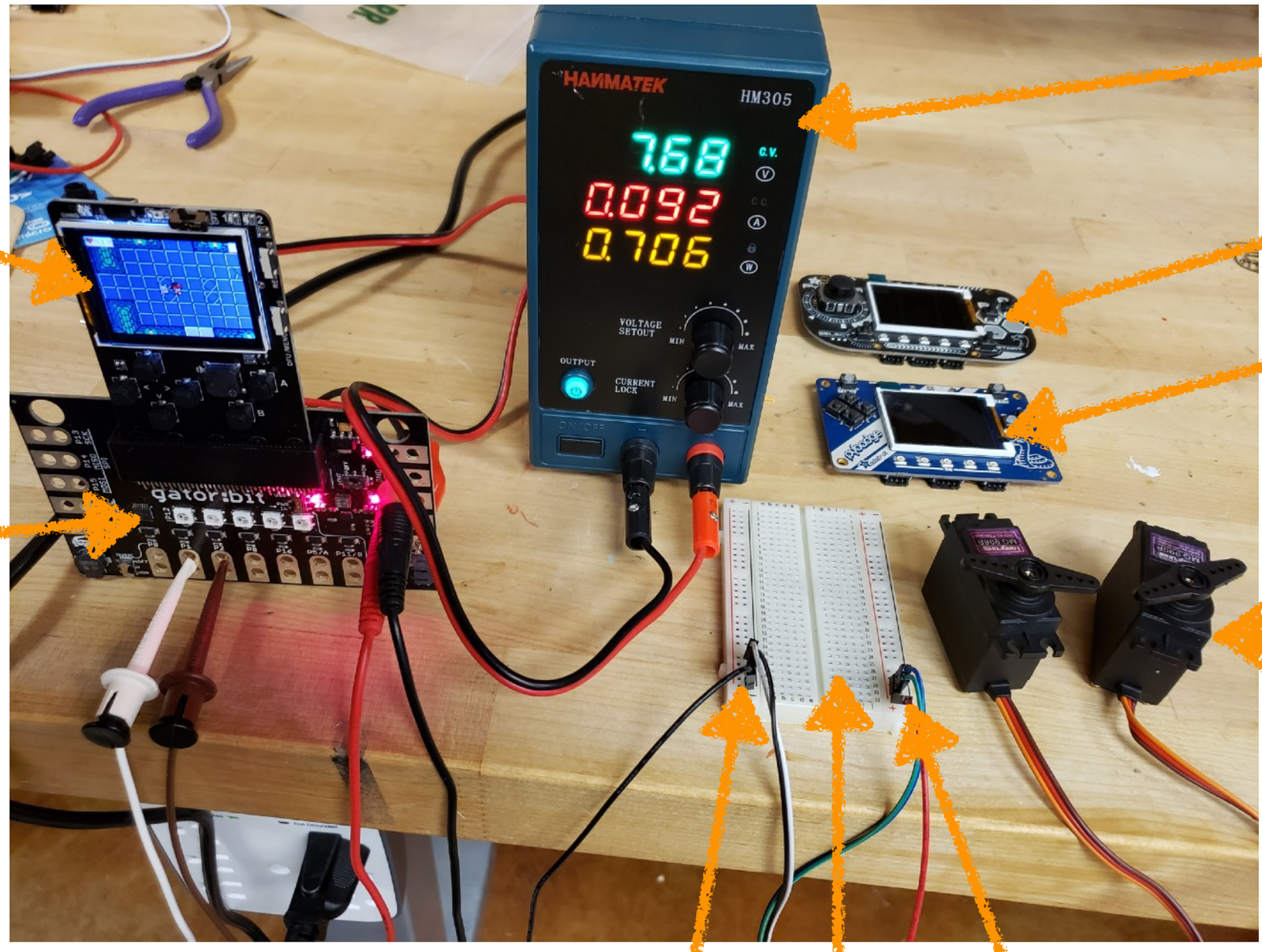
CropADile Video Here

CropADile

Anvil Cutter

Power and Signal Components

Below is an overview of the layout we used to bring the Makecode Arcade game into the physical computing realm. We plugged the Meowbit into the a Gatorbit pass the signal on to the servos and to provide power to the servos. More details follow on the next page.



Power Supply

Meowbit

Pygamer

Pybadge

Gatorbit

Metal Gear "Standard" Servos

Gnd/ Ground

Bread Board

5V

Power and Signal

With this project we used larger "Standard" servos that require 5 volts dc to move. We plugged the Meowbit into the a Gatorbit to provide 5v power to the servos and allow the signal to pass from the Meowbit to the servos. If you have not run servos with a microcontroller before I recommend the book Super Arduino or any of the great Adafruit tutorials. I would also recommend buying a bench top power supply to save on batteries / battery charging if your Adventure Companion is going to be active a lot.