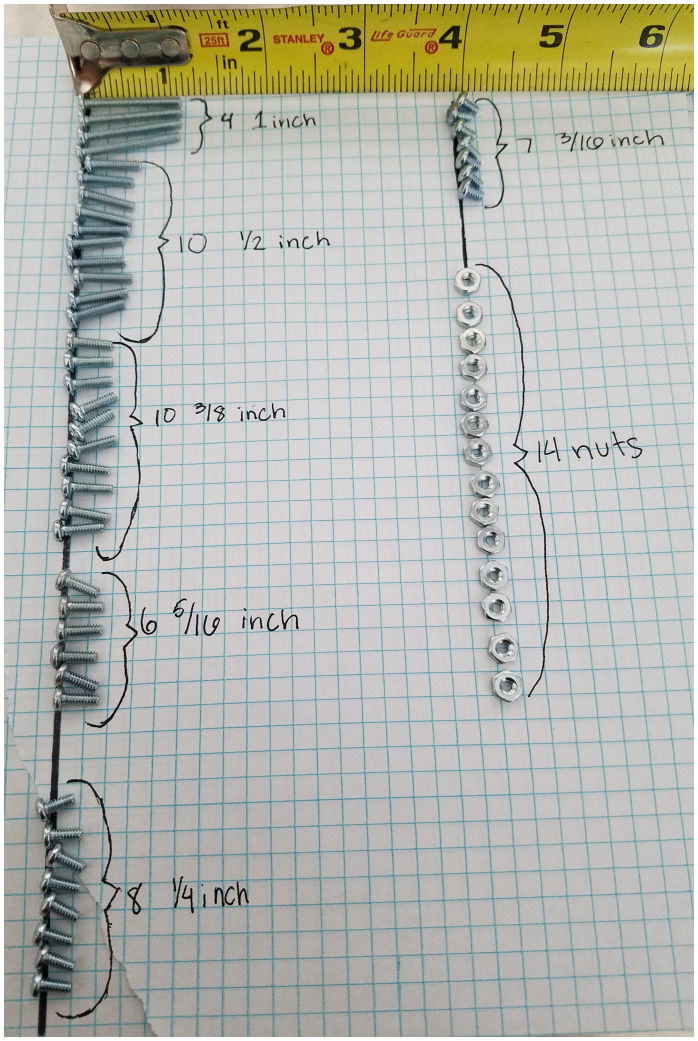
Robot Arm

What's needed*
4 ea. 1 inch 4-40 screws (used for the base)
10 ea. ½ inch 4-40 screws (used with nuts)
8 ea. ¼ inch 4-40 screws (used to hold two things together)
7 ea. 3/16 inch 4-40 screws (used for the standoffs)
6 ea. 5/16 inch 4-40 screws (used for the servo mount plates)
10 ea. 3/8 inch 4-40 screws (used hold three things together)
14 ea. nuts
4 ea. standoffs
4 ea. servos
1 servo cable extender
Arduino uno board
Controller board

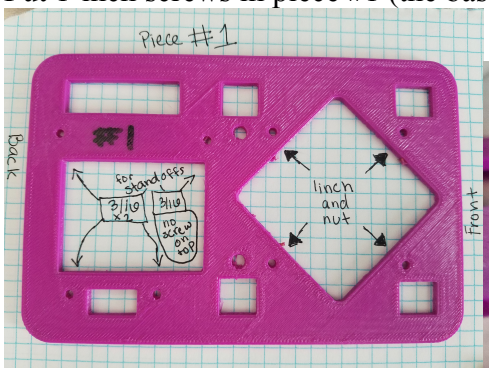
*Note: Some 3d printed material does not shrink as much as other so it may be required to switch out the 4-40 screw with the 6-32 screw of the length.

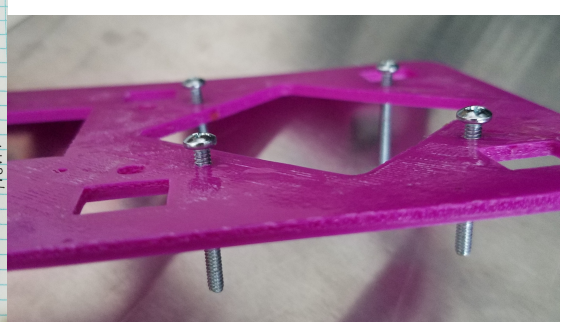


Note: The textured side of the pieces are on the outside and mostly visible
Make sure servo are good

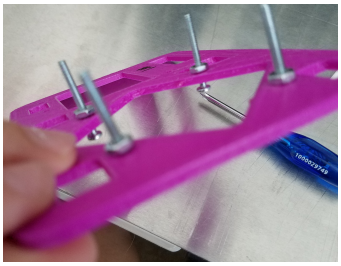
BASE ASSENBLY

1. Put 1-inch screws in piece #1 (the base) through the bottom until it moves freely.

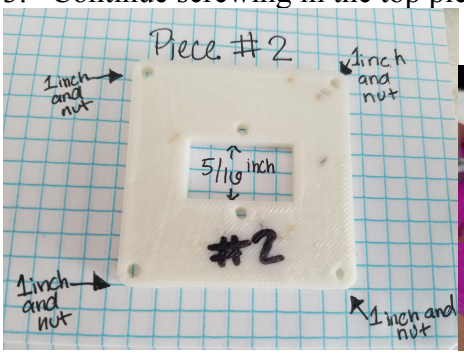


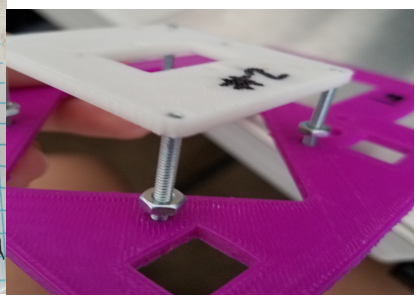


2. Put nuts on the other end of the screw down to the base but do not tighten.

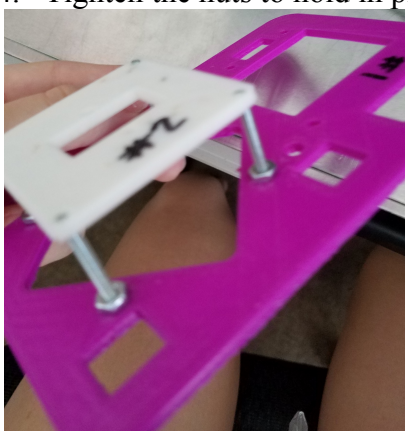


3. Continue screwing in the top piece (piece #2) flush but not through the top base.

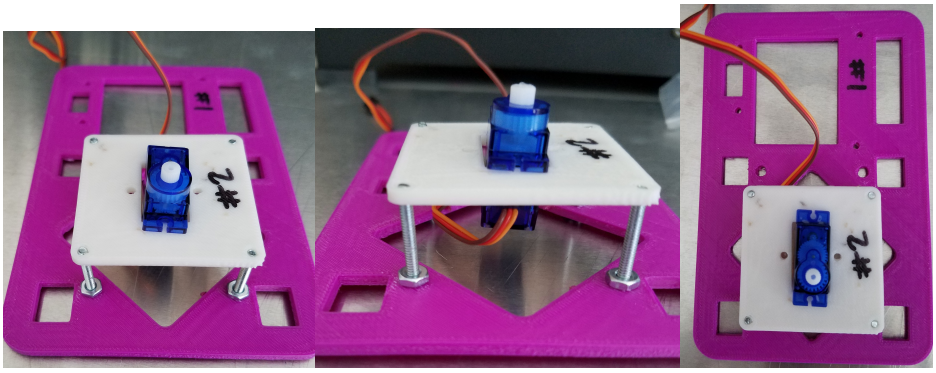




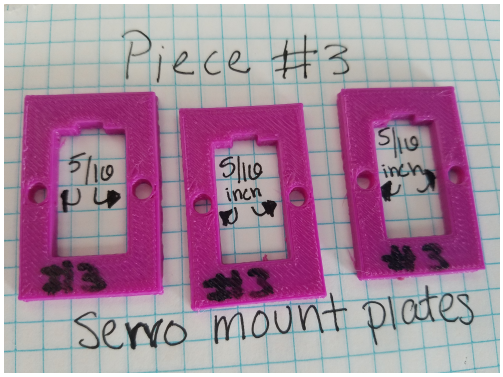
4. Tighten the nuts to hold in place.

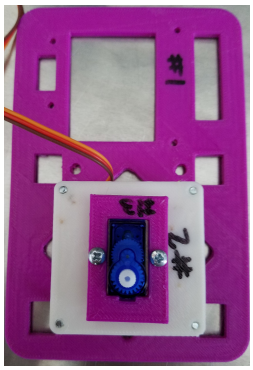


5. Put in servo A in the hole in piece #2 the top base through the top making sure the servo shaft is toward the front.

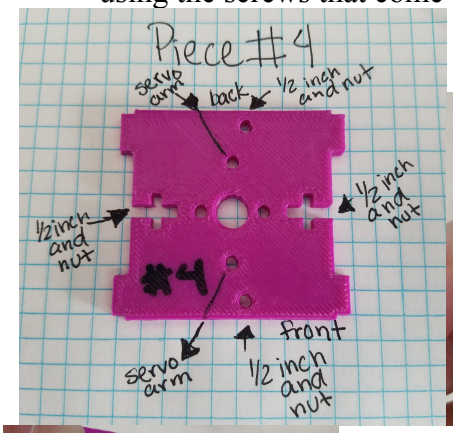


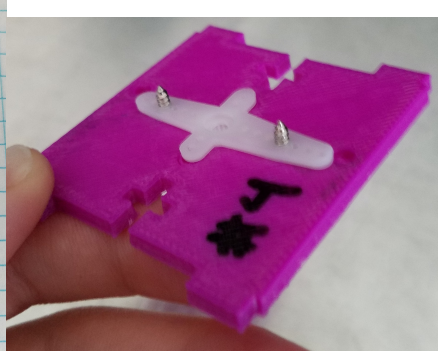
6. Put servo mount plate (piece #3) on top of servo #1 and screw into place with 5/16 inch screws.

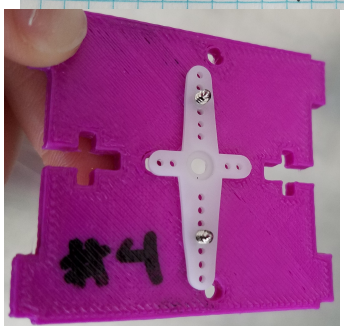




7. Screw supplied servo arm (the arm with four leaf) from servo A kit into piece #4 using the screws that come with the servo.

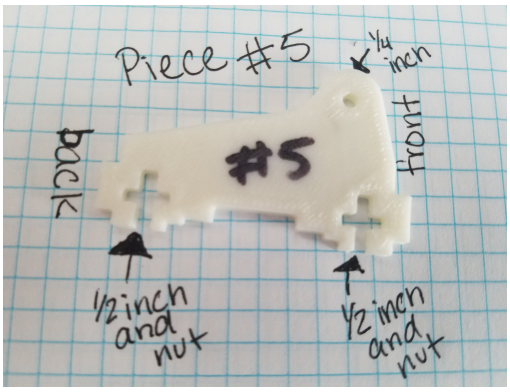




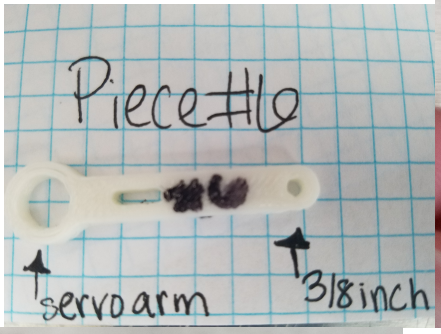


BOX ASSEMBLY

8. Place 2 nuts inside of piece #5 and screw into the middle of piece #4 with 2 ½ inch screws

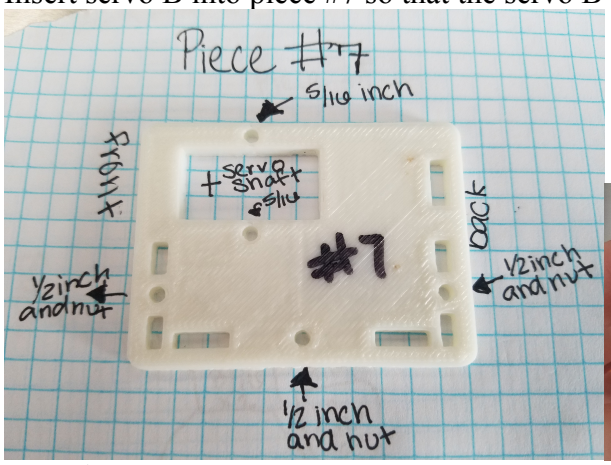


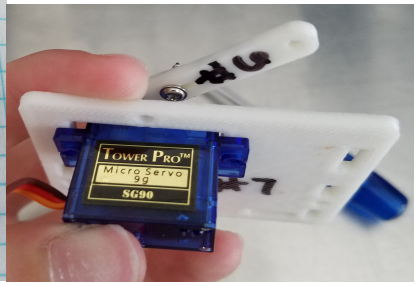
9. Attach servo arm (with single leaf) from servo B kit to piece #6 with the screws from the servo B kit.



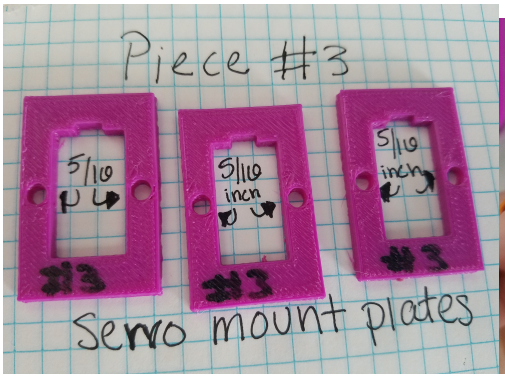

10. Attach piece #6 to servo B and screw it in place with screws from the servo B kit. Make sure servo B is rotated all the way counterclockwise as you are looking down at the servo shaft. Attach the arm while it is all the way counterclockwise. Make sure that piece #6 will touch Piece #4 when it is connected.

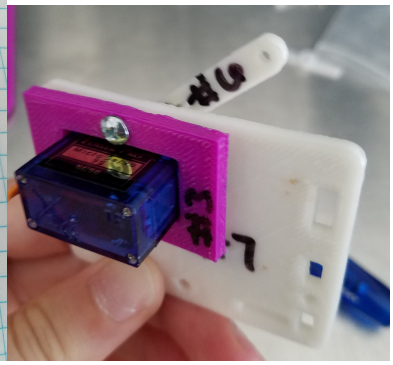
11. Insert servo B into piece #7 so that the servo B will be on the outside.



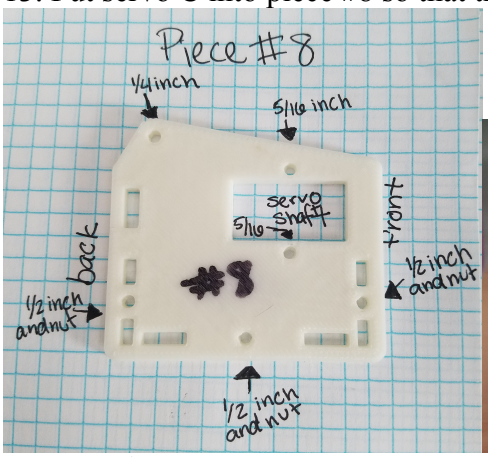


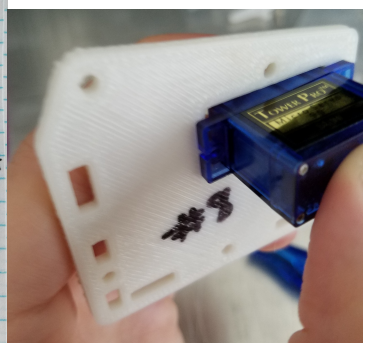
12. Put 2nd servo mount plate (piece #3) on servo B and screw into place with 2 5/16 inch screws.



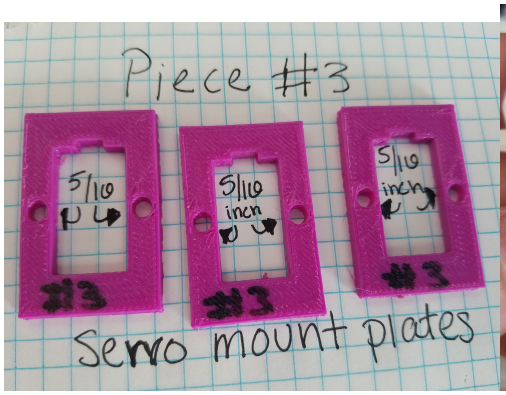


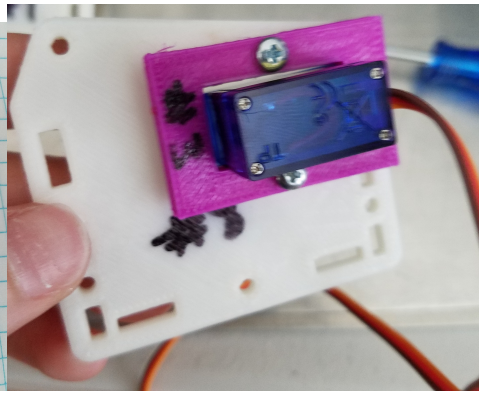
13. Put servo C into piece #8 so that the servo C will be on the outside.



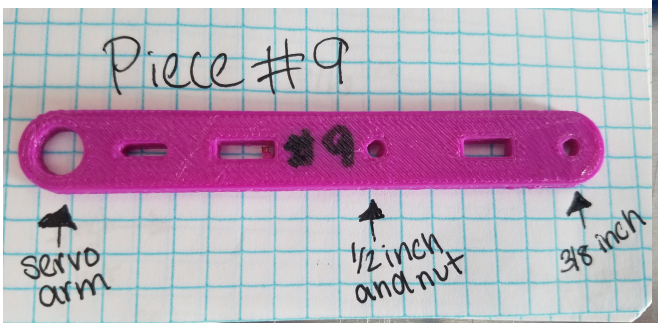


14. Put 3rd servo mount plate (piece #3) on servo C and screw into place with 2 5/16 inch screws.



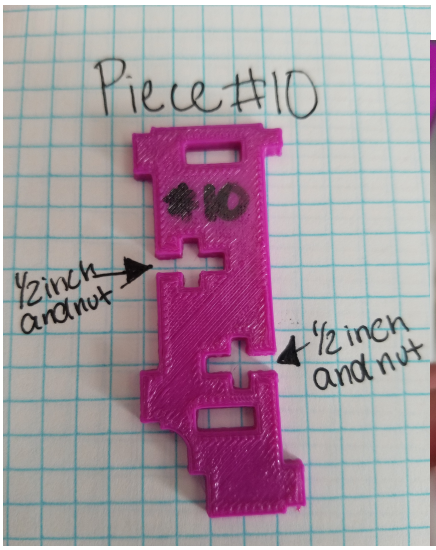


15. Attach servo arm (with single leaf) from servo C kit onto piece #9 with screws that come with the servo kit C.

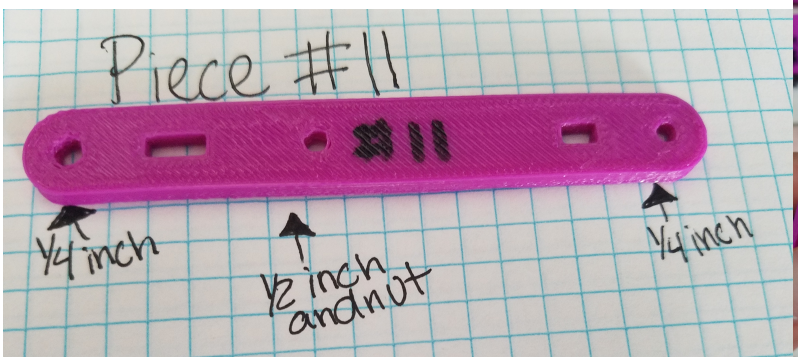


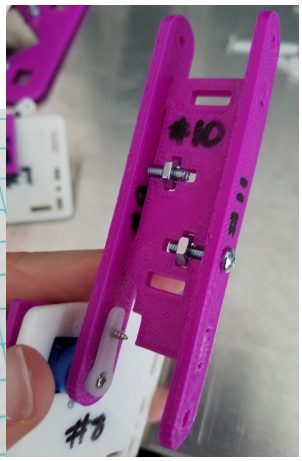
16. Attach piece #9 and servo arm to servo C with the screws that come with the servo C kit. Make sure Servo C is all the way clockwise as you are looking down at the servo shaft. Attach the arm while it is all the way clockwise.

17. Place 1 nut inside piece #10 then attach piece #10 to piece #9 screw into place with 1 ½ inch screw.

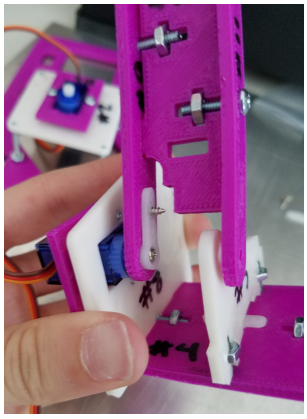


18. Place 1 nut inside piece #10 then attach piece #11 to piece #10 screw into place with 1 ½ inch screw.



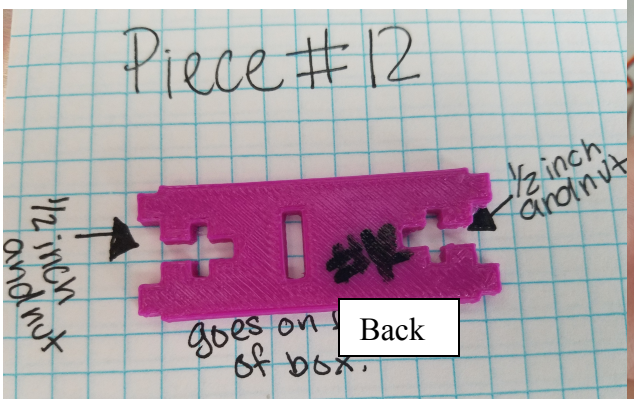


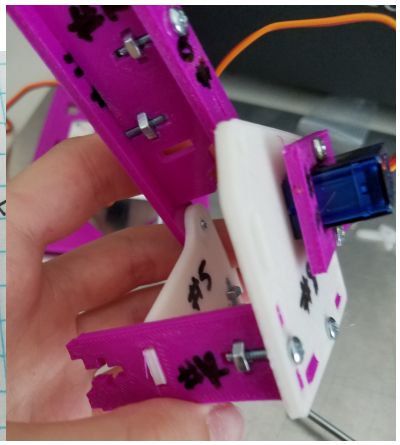
19. Place 1 nut inside piece # 4 then attach piece #4 to piece #8 screw into place with 1 ½ inch screw.



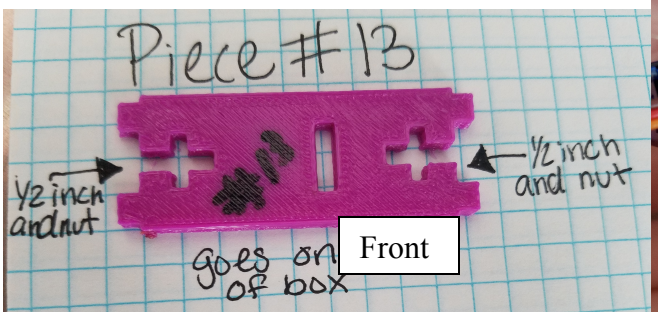
20. Attach piece #11 to piece #5 screw into place with 1 ¼ inch screw.

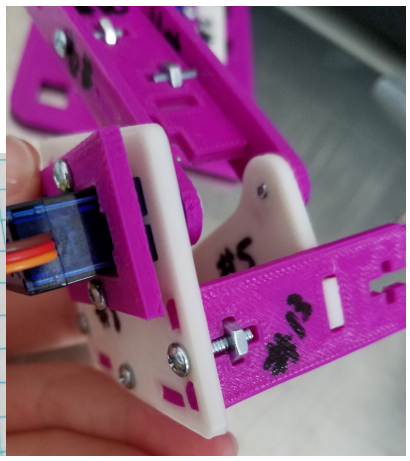
21. Place 1 nut inside piece #12 then attach piece #12 to piece #8 screw into place with 1 ½ inch screw.



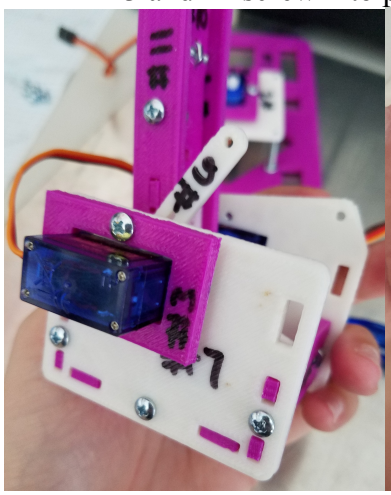


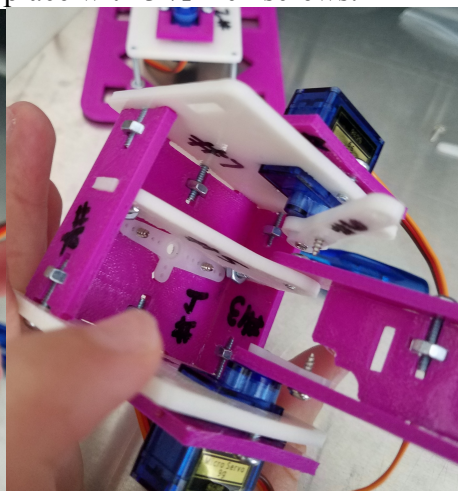
22. Place 1 nut inside piece #13 then attach piece #13 to piece #8 screw into place with 1 ½ inch screw.



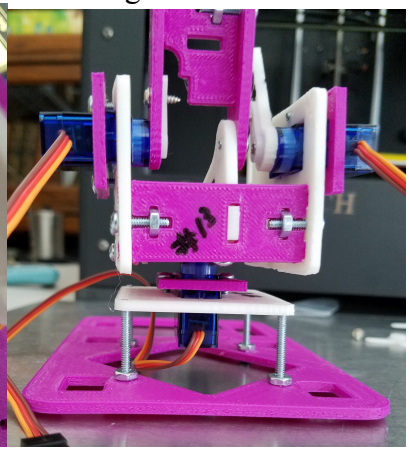


23. Place 1 nut inside each piece #12, #13 and #4 then attach piece #7 to piece #12, #13 and #4 screw into place with 3 ½ inch screws.

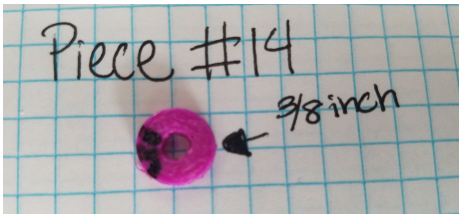


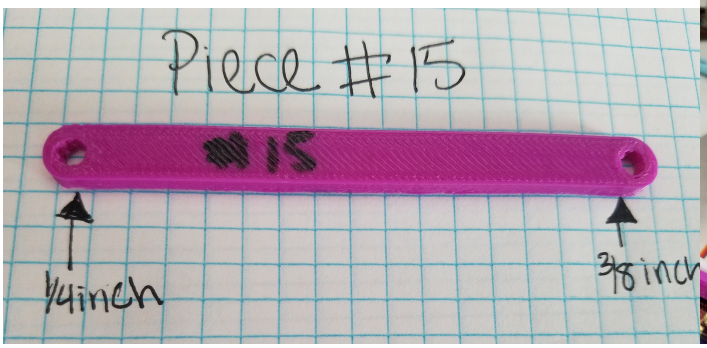


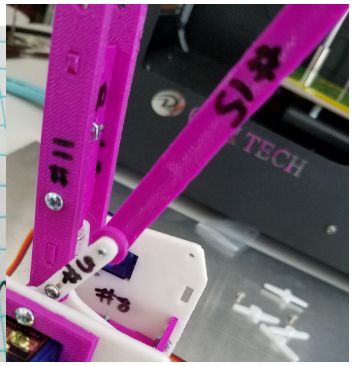
24. Attach box base plate to servo A using screws that can with servo A kit.



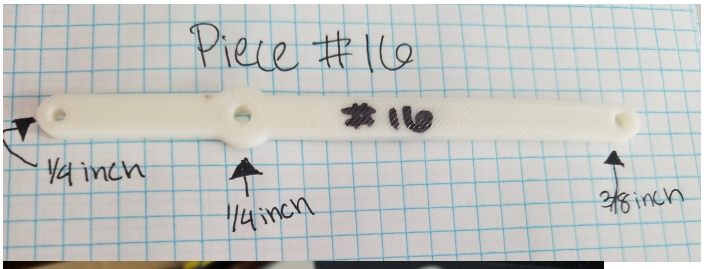
25. Attach pieces #14 and #15 to piece #6 screw in place from the inside with 1 3/8 inch screw.





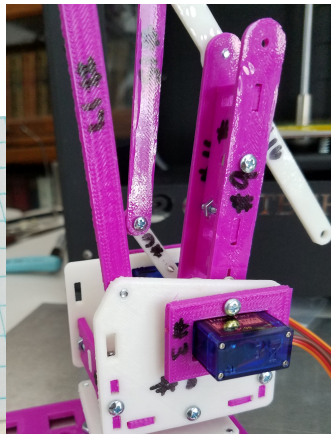


26. Attach piece #15 to piece #16 on the shorter side screw in from the outside with 1 ¼ inch screw.

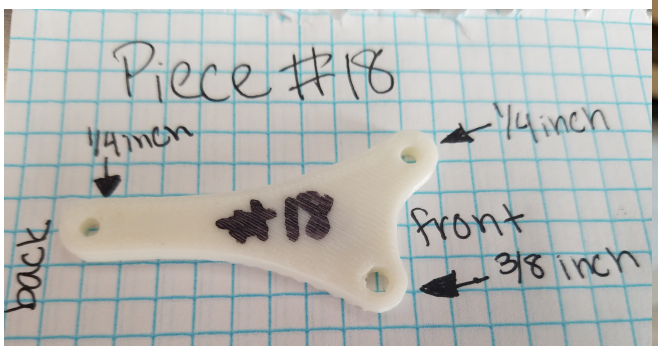


27. Attach piece #16 to piece #11 screw into place with 1 ¼ inch screw.

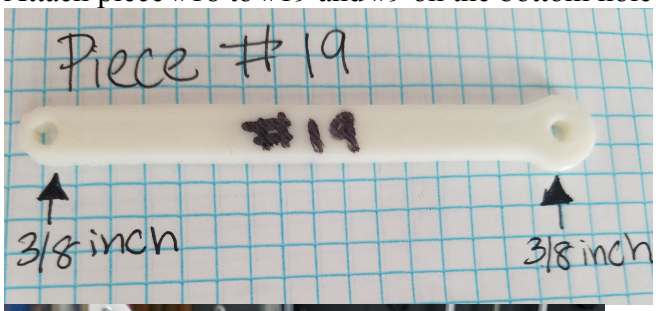
28. Attach piece #17 to piece #8 screw into place from the inside with 1 ¼ inch screw.



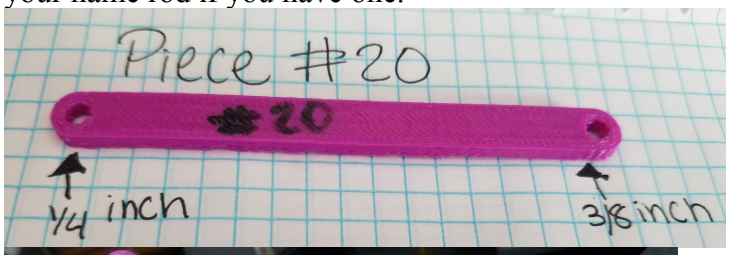
29. Attach piece #17 to piece #18 on the long part with 1 ¼ inch screw.



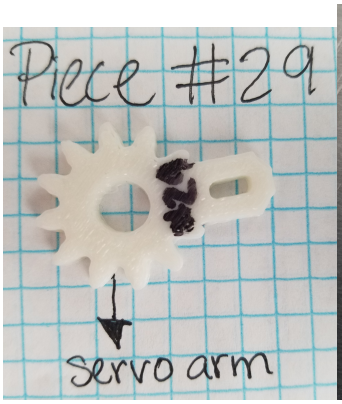
30. Attach piece #18 to #19 and #9 on the bottom hole with 1 3/8 inch screw.



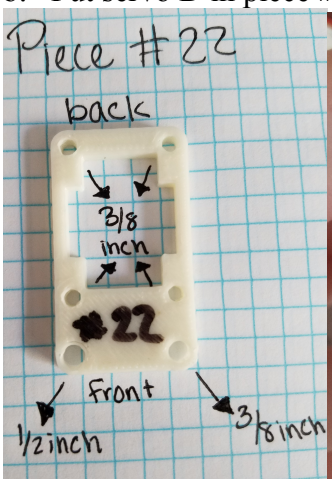
31. On the top hole of piece #18 attach piece #20 with 1 ¼ inch screw. This piece is your name rod if you have one.

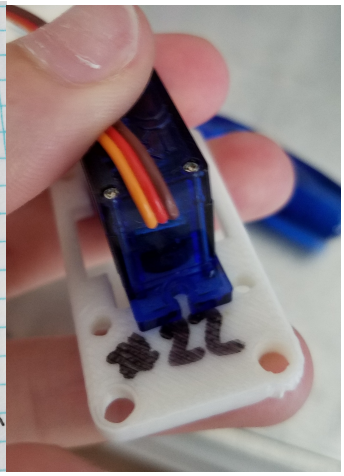


32. Separately build the hand.
    a. Attach servo D hand (with single leaf) to piece #29 with screws from servo D kit.

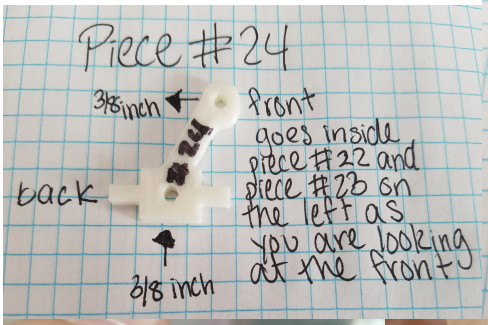


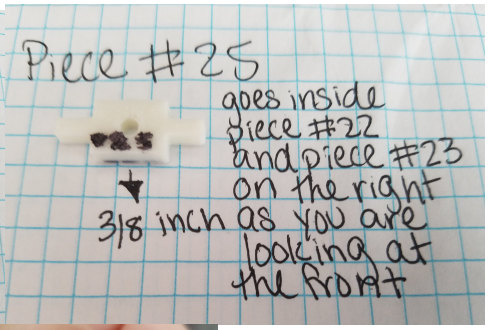
b. Put servo D in piece #22.

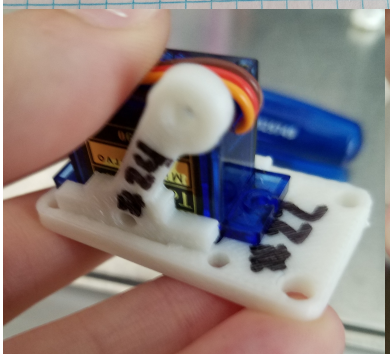


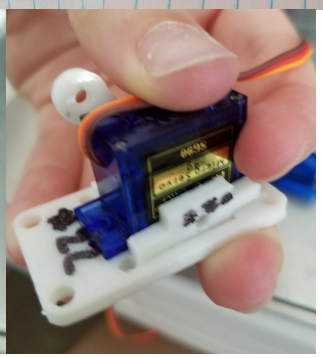


c. Place piece #24 and #25 inside piece #22.

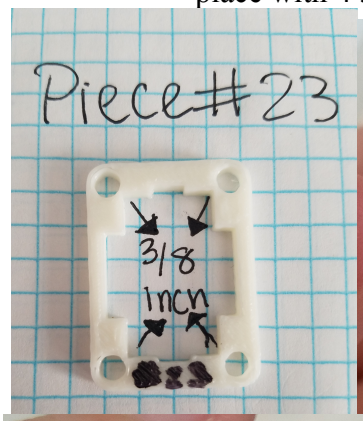


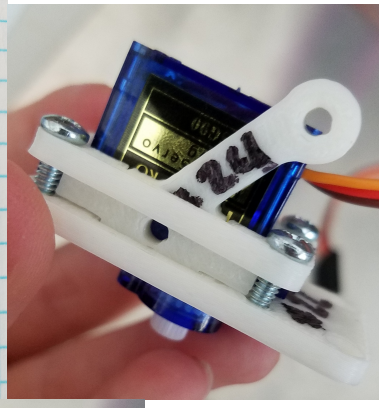
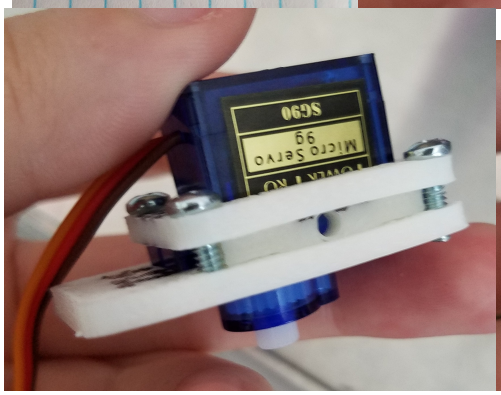


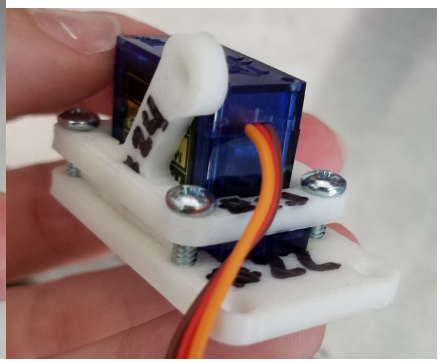




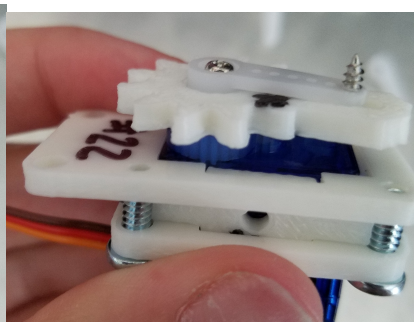
d. Put piece #23 on top of servo D and piece #22, #24 and #25 screw into place with 4 3/8 inch screws.



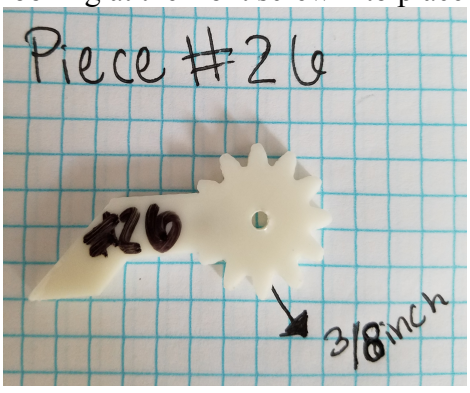





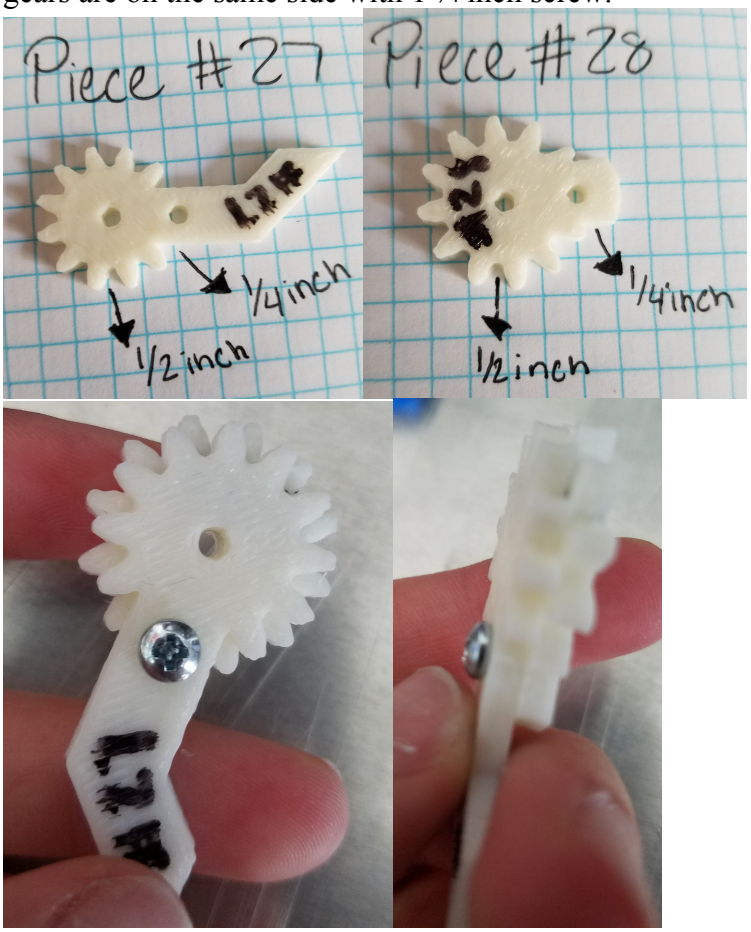
e. Screw piece #29 and servo hand #4 to servo D with screws from servo D kit.

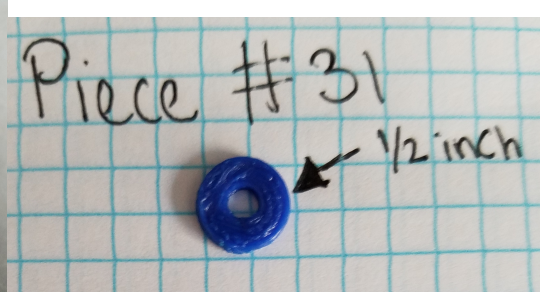
f. Attach piece #26 and piece # 30 to piece #22 on the right side as you are looking at the front screw into place with 1 3/8 inch screw.



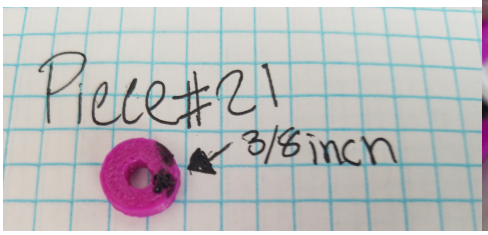
g. Attach piece #27 to piece #28 in the hole away from the gears to where the gears are on the same side with 1 ¼ inch screw.

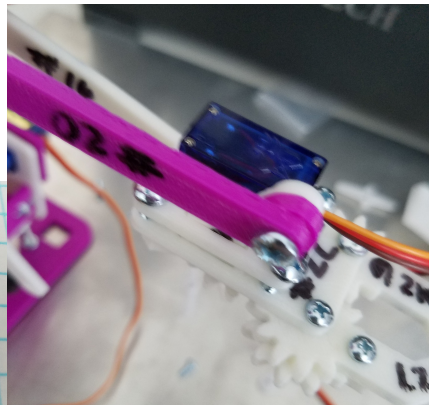


h. Attach piece #28 and #27 to piece #22 and piece #31 on the left side as you are looking at the front with 1 ½ inch screw.

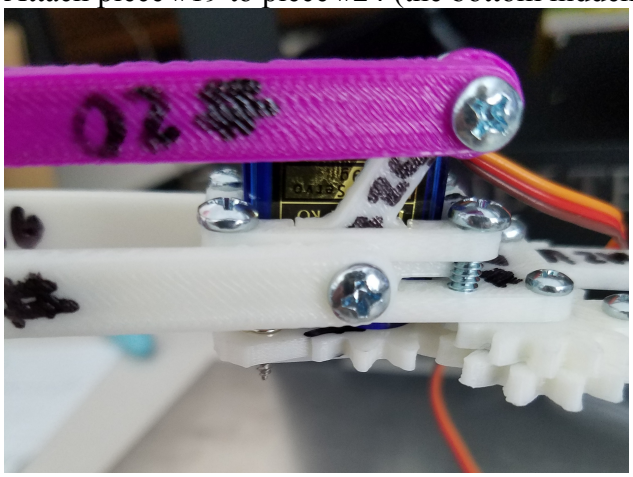


33. Attach piece #24 (the top hole that is sticking out) to piece #21 and piece #20 with 1 3/8 inch screw.



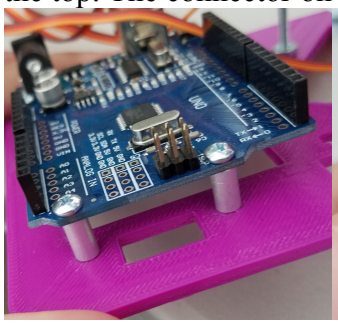


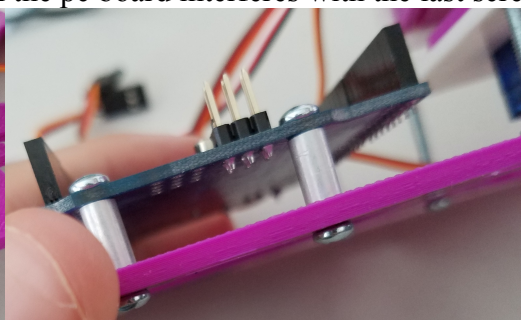
34. Attach piece #19 to piece #24 (the bottom hidden hole) with 1 3/8 inch screw.

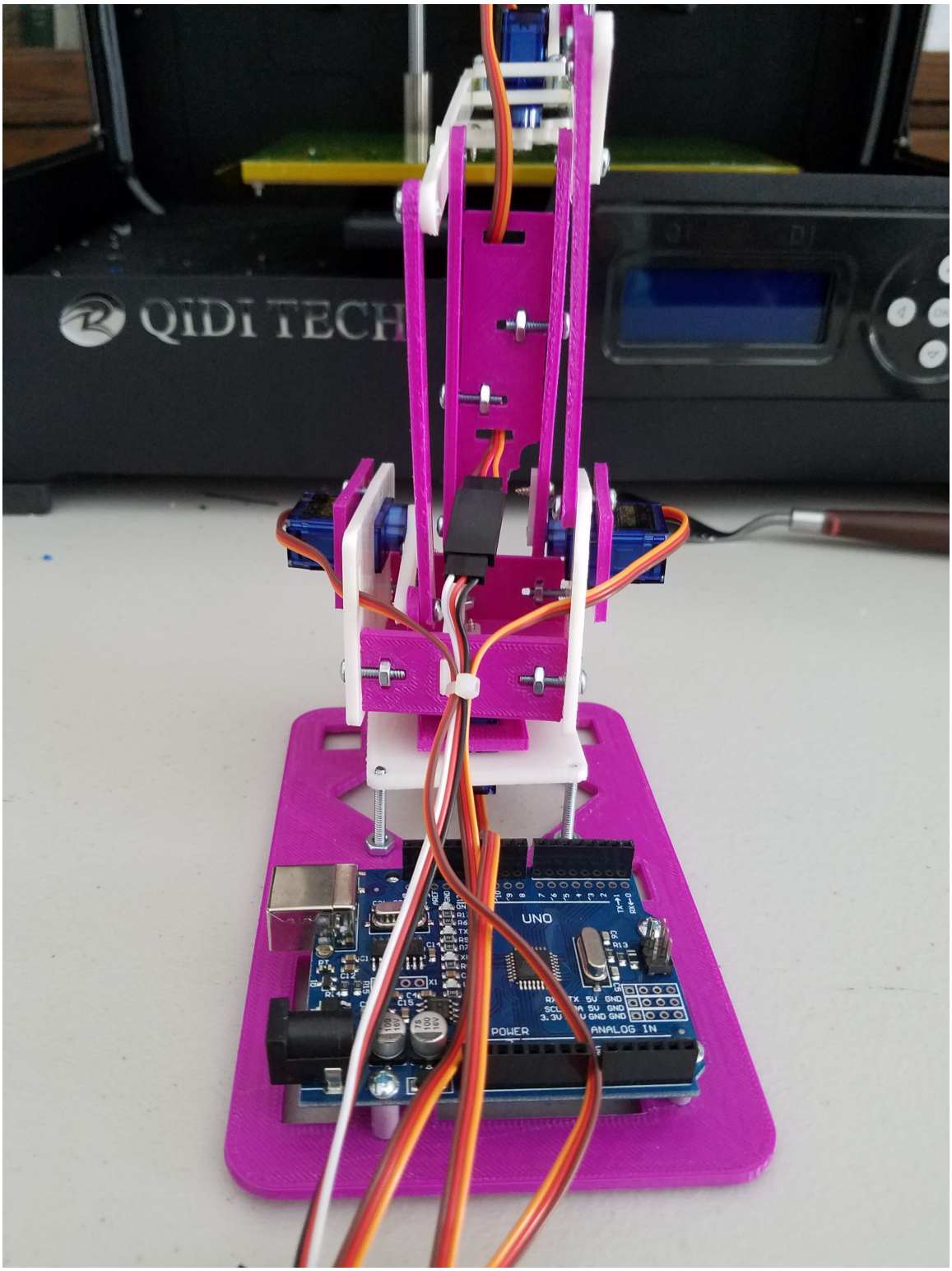


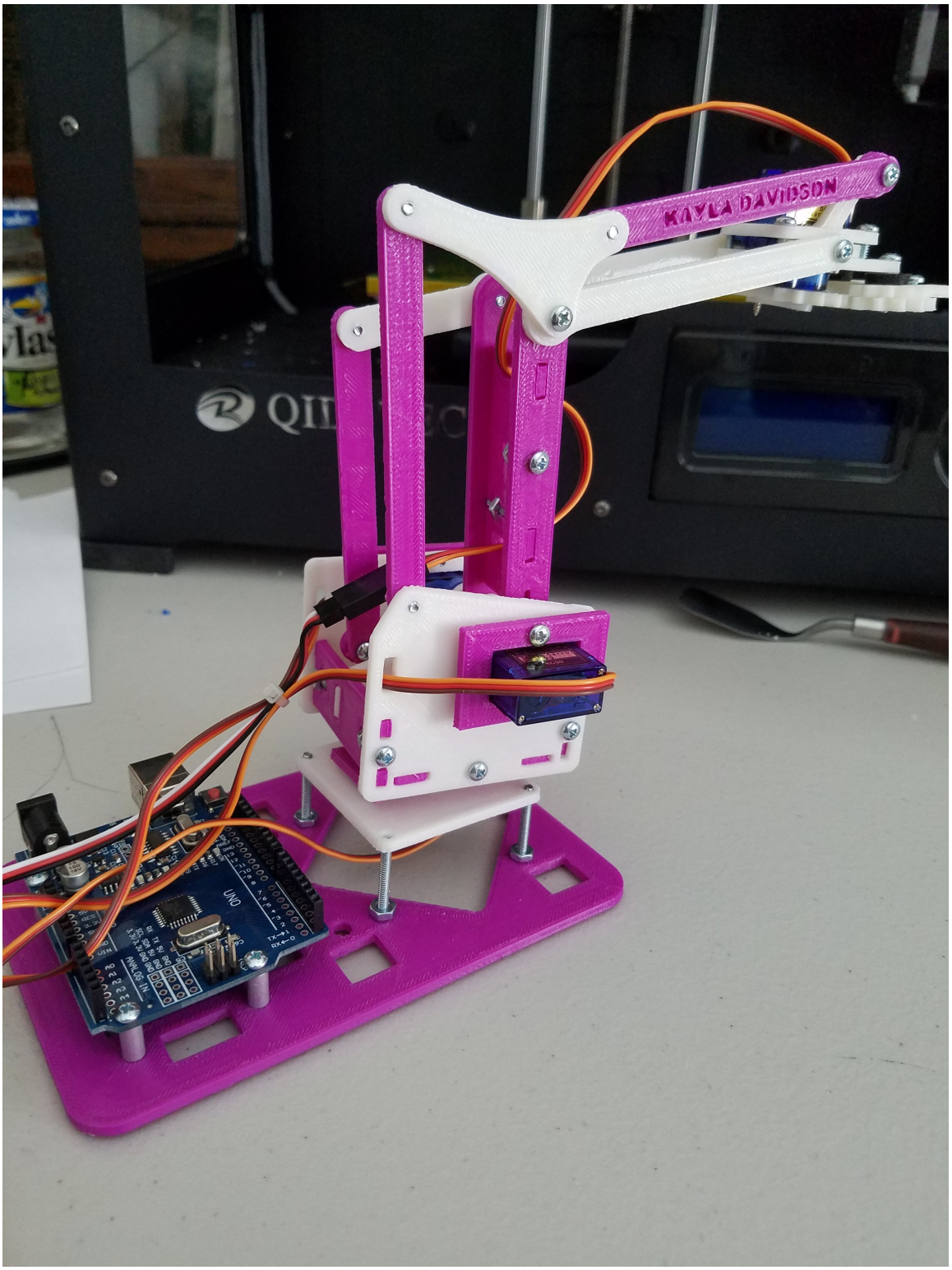
35. Attach piece #16 to piece #25 in the hidden hole with 1 3/8 inch screw.

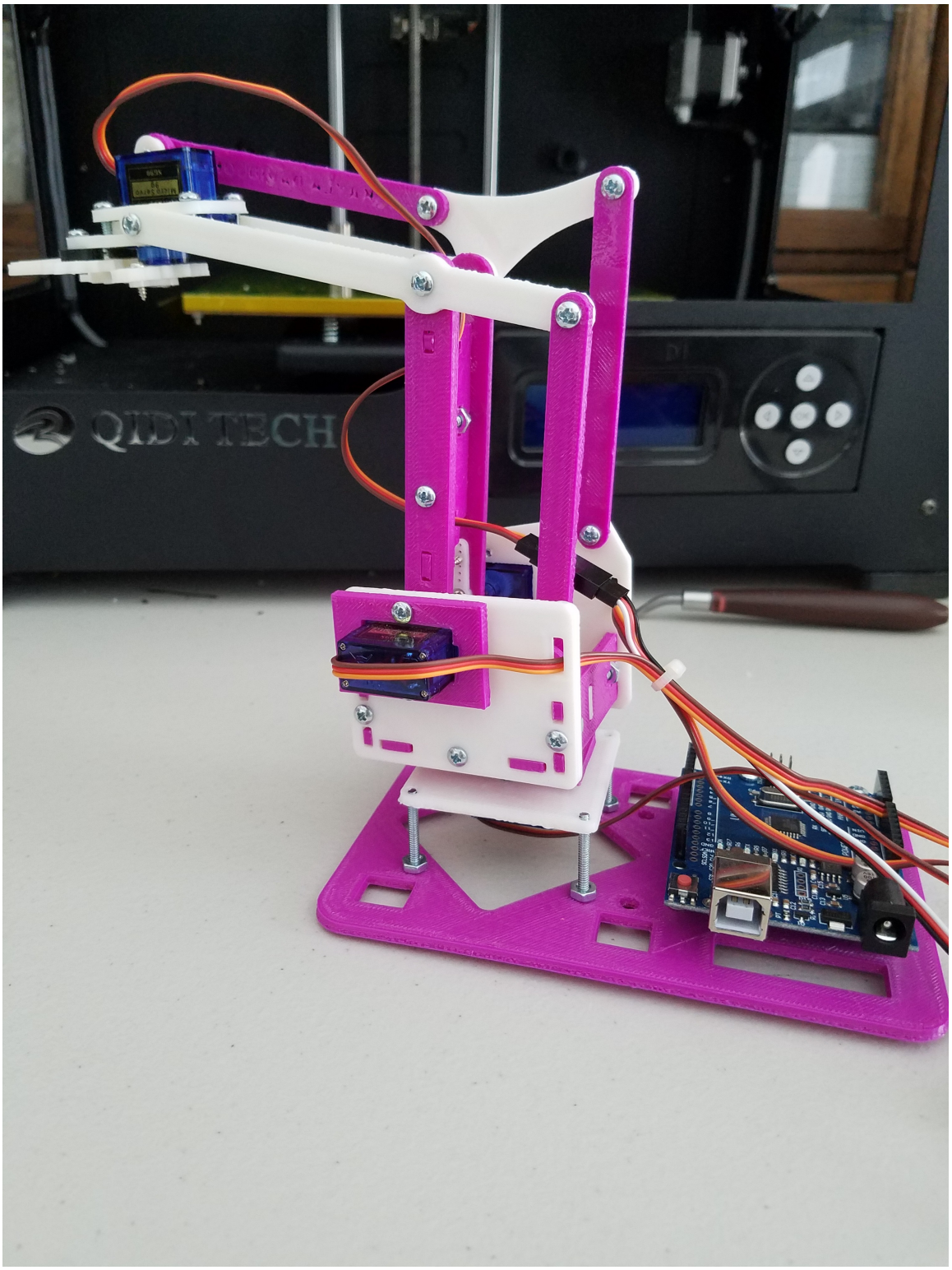
36. Screw in standoffs to piece #1 (the base) using 4 3/16 screws going up from the bottom.
37. Attach the arduino broad to the standoffs using 3 3/16 screws going down from the top. The connector on the pc board interferes with the last screw.






QIDI TECH
UNO
POWER
ANALOG IN


KAYLA DAVIDSON
UNO


QIDI TECH