Cowlacious Designs Skull Kit
V1

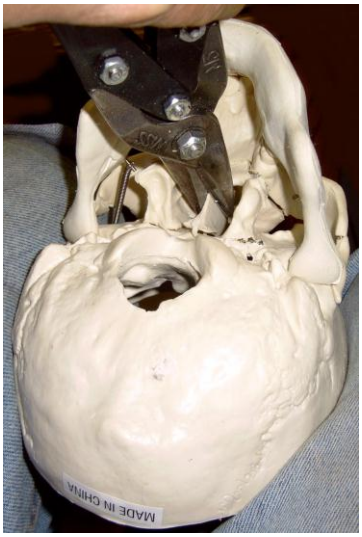
Updated construction information can be viewed on our web site at:
http://www.cowlacious.com/st-400-skull-kit/
Then click on the product videos tab.

Computer & Electronic Services
Cowlacious Designs

Instructions to assemble your new talking skull.

Parts supplied:
- 1- Bucky skull (4th class)
- 1 – HiTec HS-425BB servo
- 1 – Aluminum bracket (to support the servo)
- 4 – 6-32 x ½ in. screws with nuts (to secure the servo to the bracket)
- 1 – 8-32 x 1½ in. screw with nut (to secure the bracket to the skull)
- 2 – 4 in. natural color cable ties (to secure the jaw to the skull)
- 2 – 6 in. .041 dia. Music wire

Tools required:
- High Speed rotary tool (Dremel or similar brand)
- 1/8 in dremel drill bit.
- Cut off wheel bit
- Philips head screw driver
- Dykes or Tin snips
- Needle nose pliers

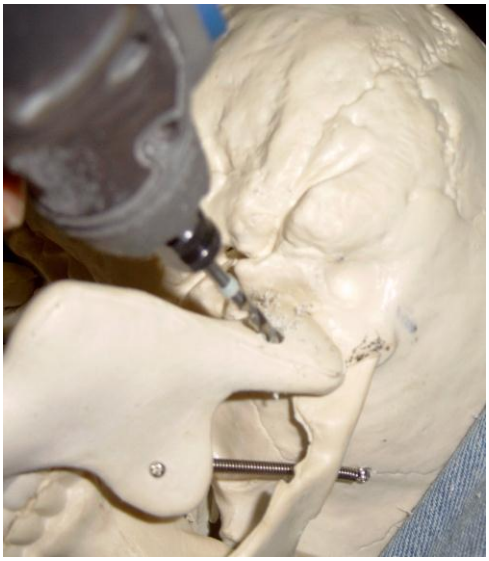


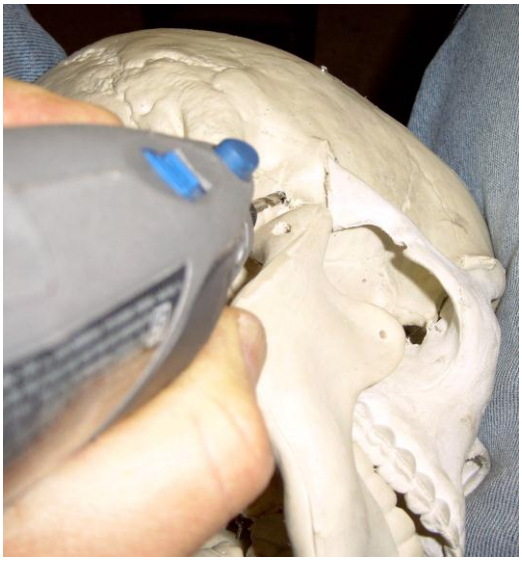
Step 1:

Use the dykes or tin snips to remove the lower part of the bone in the nasal passage. (*We want to remove only the lower part and leave the rest to hide the lower part of the 8-32 x 1½ screw and nut.)*

Step 2:

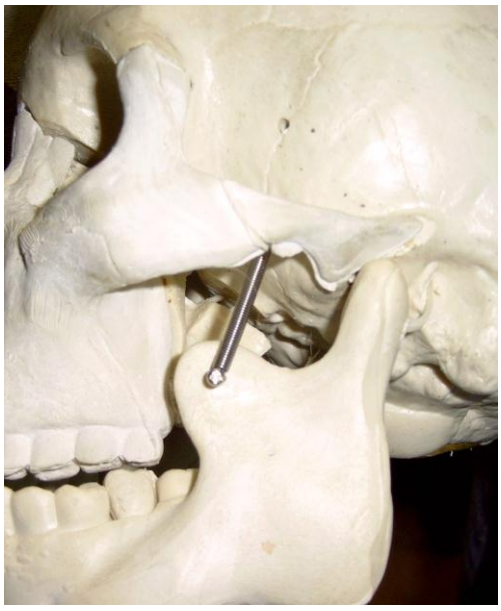
Use the rotary tool with the 1/8 in drill bit, to drill two holes on each side of the jaw to connect the jaw.





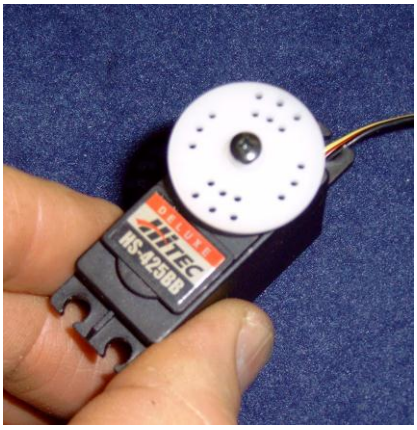
After drilling the holes, thread the cable ties, one for each side of the jaw, through the holes from the inside of the skull, to the outside of the skull, through the jaw, then back to the inside of the skull, then connect the tie ends.

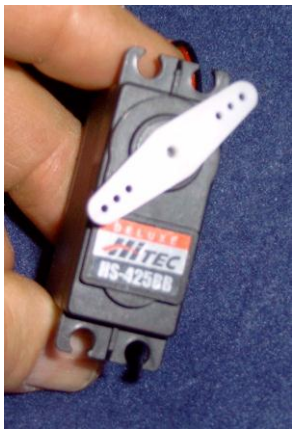
Once the cable ties are in place, remove the spring on each side of the jaw, and with the dykes, clip off the tail end of each cable tie.



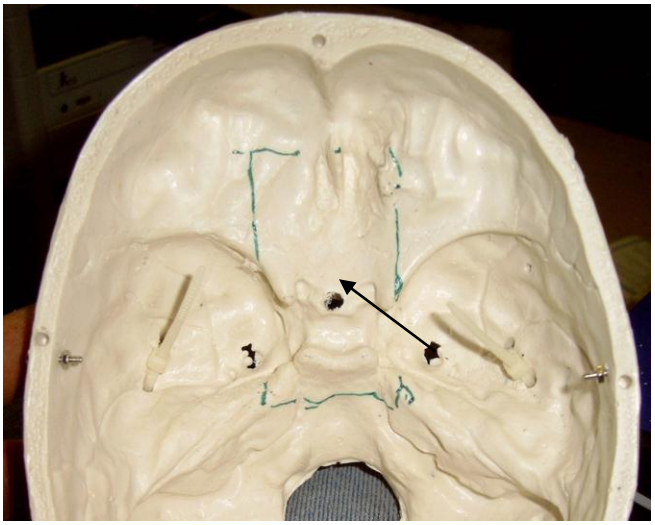
Step 3:

Take the servo and remove the circular attachment by first removing the center screw, and then replace the circular attachment with the two sided attachment. Leave the screw out for now; it will be put back in step 5.





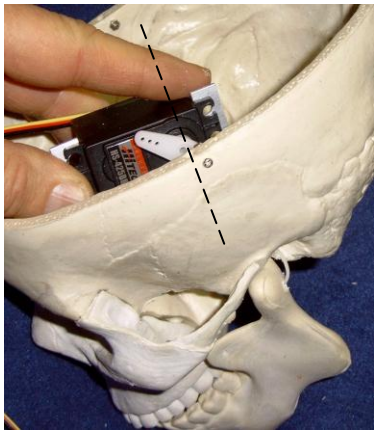
With the rotary tool, drill the hole to secure the bracket to the skull. Using the 1/8 in drill bit you will have to enlarge the hole enough to fit the 8-32 x 1 ½ screw. The hole should go from the inside (see picture A) and come out at the bottom of the skull (see picture B). Align the angle of your drill so that the hole in the bottom comes out on the flat platform area.

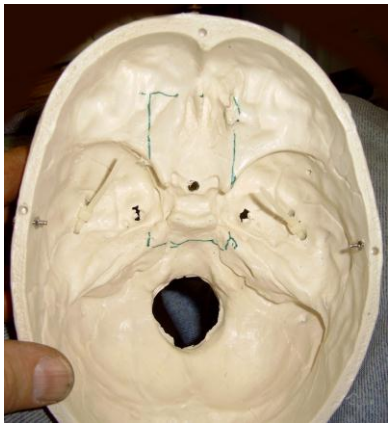


Picture A

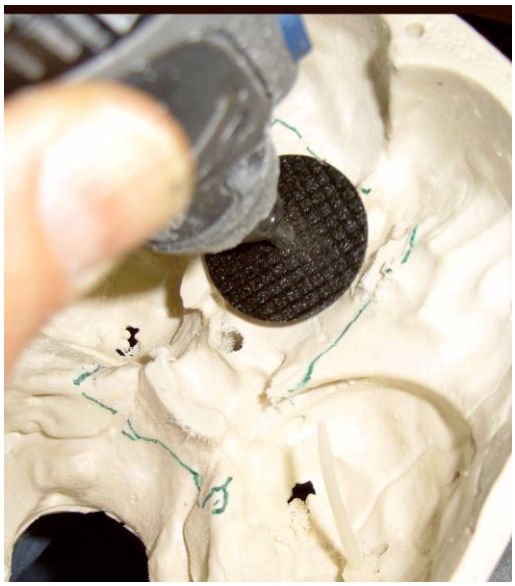
Picture B

After drilling the hole, take the servo, put it in the bracket, and position it in the interior of the skull over the hole and mark its position. Position the bracket so that you have a straight line from the servo drive to the hole on that side of the jaw where you previously disconnected the spring (This is where you will be connecting the servo to the jaw with the wire.)

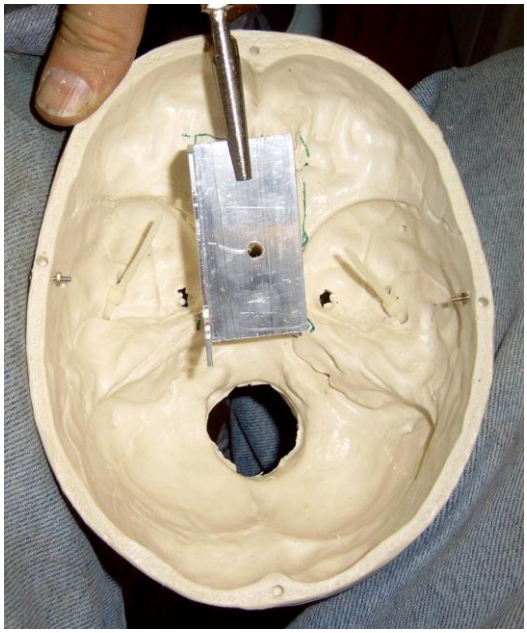




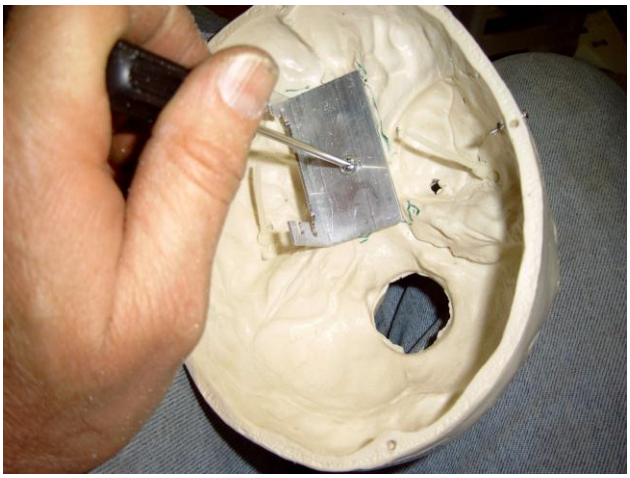
After marking the position take the rotary tool with the cut off disk and smooth the interior where marked so that you have a flat surface to mount the bracket.

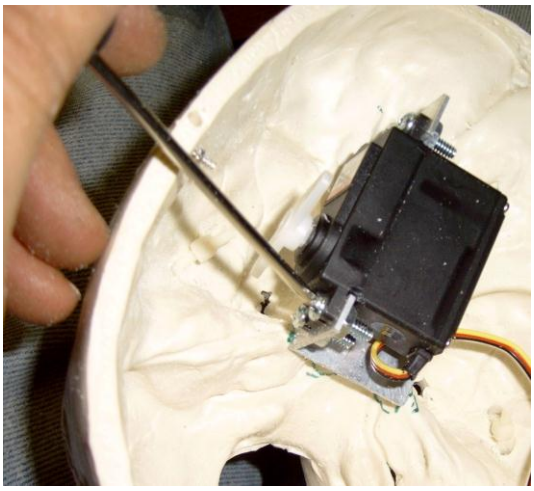


Once the area is flat, drill a hole in the bracket to match the mounting hole in the skull. Once again with the 1/8 in. bit you will have to enlarge the hole enough to fit the 8 – 32 screw.



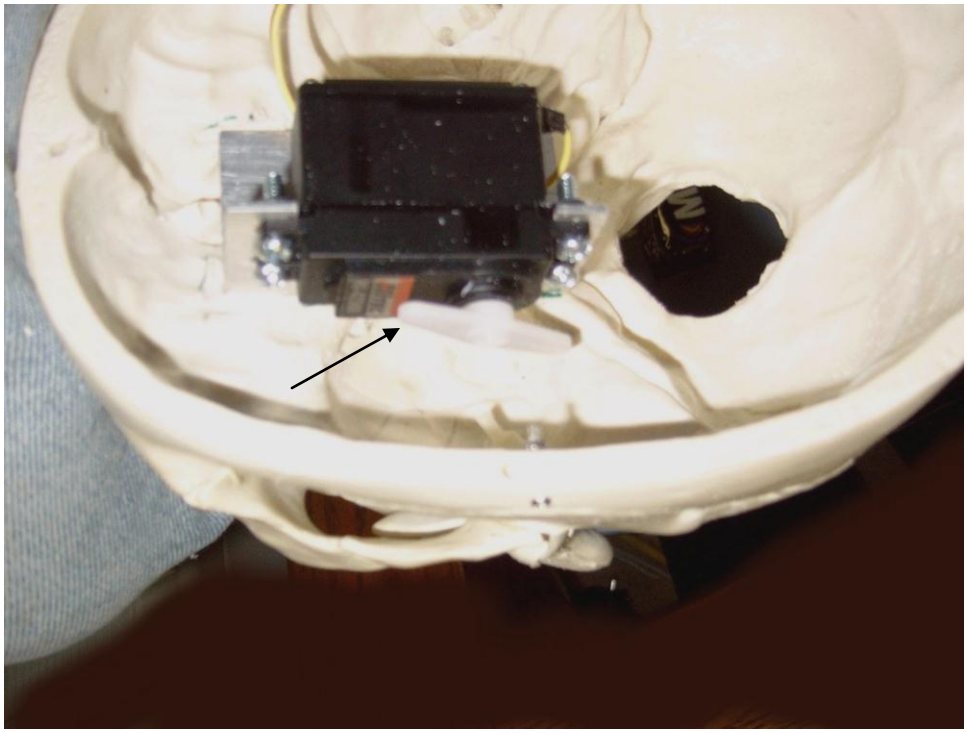
With the hole drilled, mount the bracket in place with the 8-32 screw going through the bracket, through the skull, and secure it on the outside bottom of the skull with the correspoinding nut. Then mount the servo to the bracket with the 4 6-32 screws as shown in the picture.





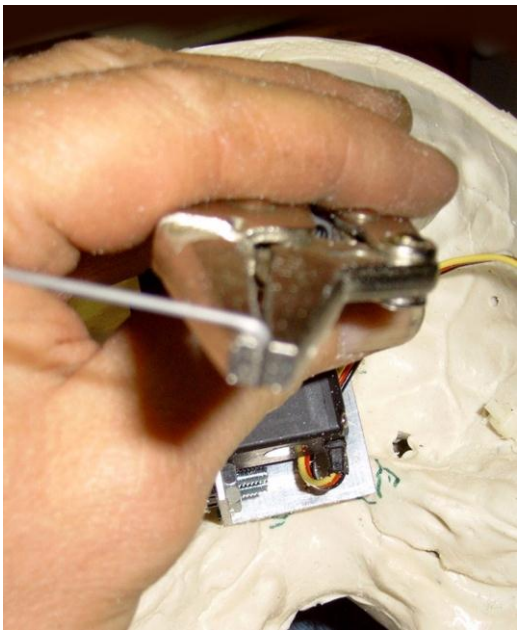
Step 4:

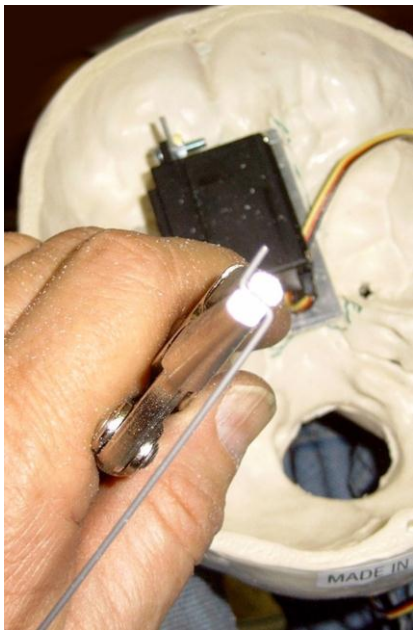
The next step is to drill the hole for the wire between the servo crank and the jaw. With one arm of the servo crank between the 10 and 11 o'clock position, visualize the position of the hole between the hole in the servo crank and the spring hole in the jaw.

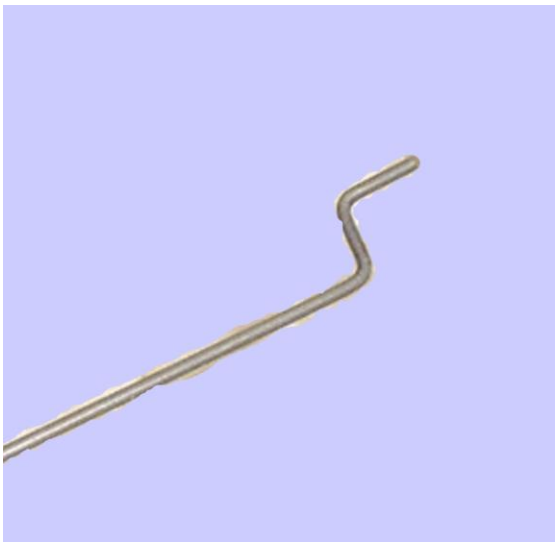


Mark and drill the hole in the skull.

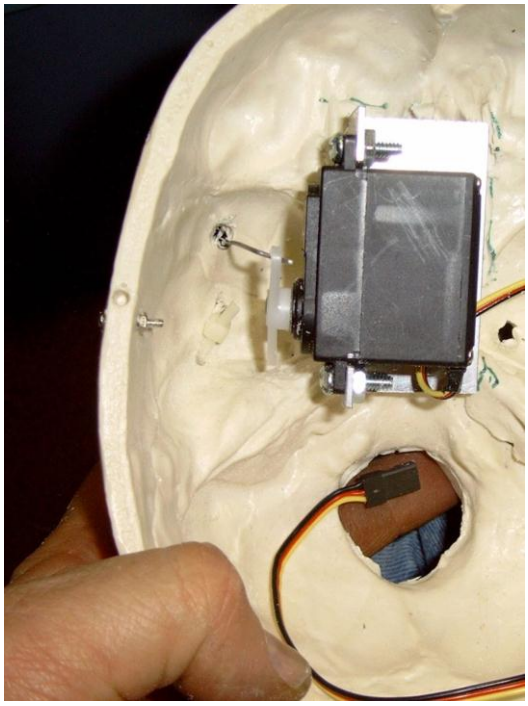
With the hole drilled, take one of the two pieces of music wire, (The other is a back up in case you have a problem with the first piece.) and make a 90 deg. bend at the very end of the wire (about the width of the needle nose plier end). After the first bend, make a second 90 deg. bend going the opposite direction.



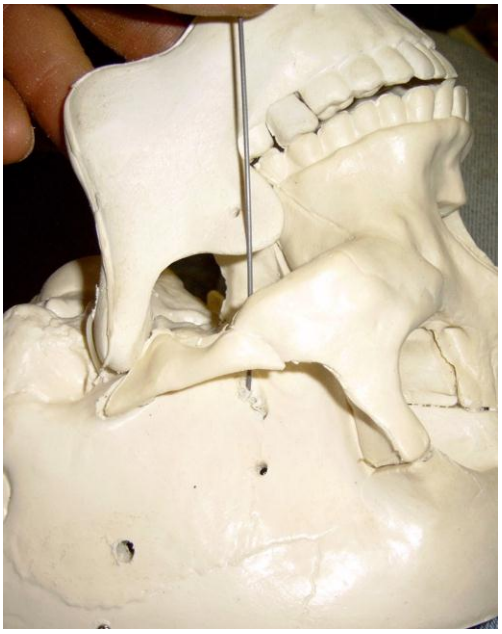


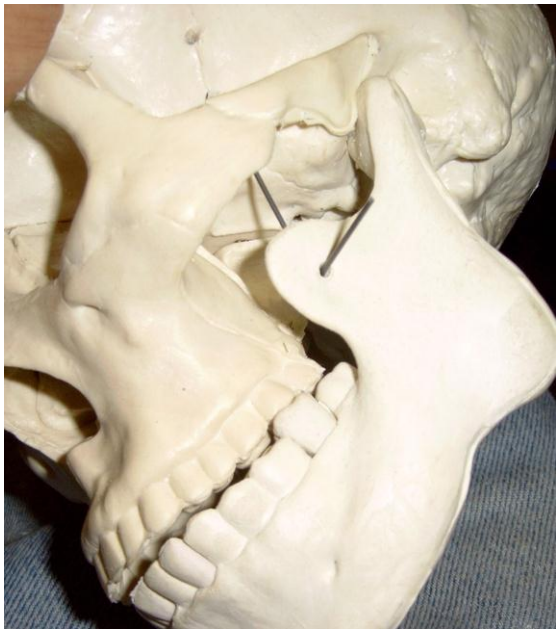


With the wire bent, pull the crank off the servo and install the wire on the crank. Put the bent end of the wire through the outer most hole of the crank and the other end of the wire through the hole in the skull, then install the crank back on the servo, with the crank end with the wire installed between the 10 and 11 o'clock position.

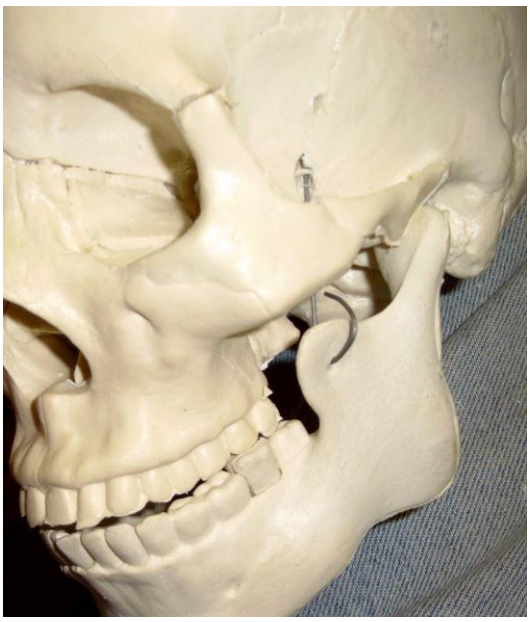


If you have aligned your hole correctly, the wire should go right across the hole in the jaw. With your dykes, cut the wire about 1 in. past the hole in the jaw. Using the needle nose pliers, make a 90 deg bend at the hole in the jaw. Remove the crank from servo, then manipulate the end of the wire through the hole in the jaw.



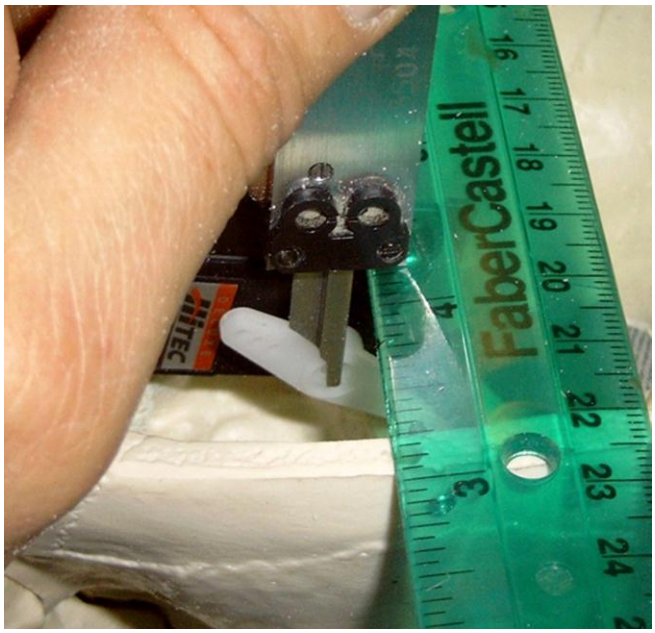


Make additional bends so that the wire is firmly attached to the jaw and the end is in a position where it won't scratch or cut anyone.

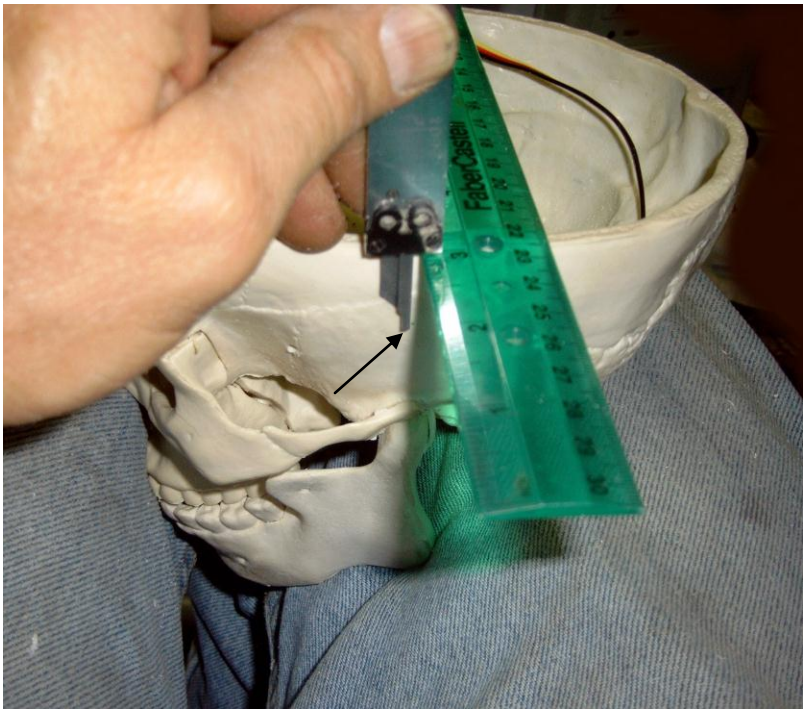


Step 5:

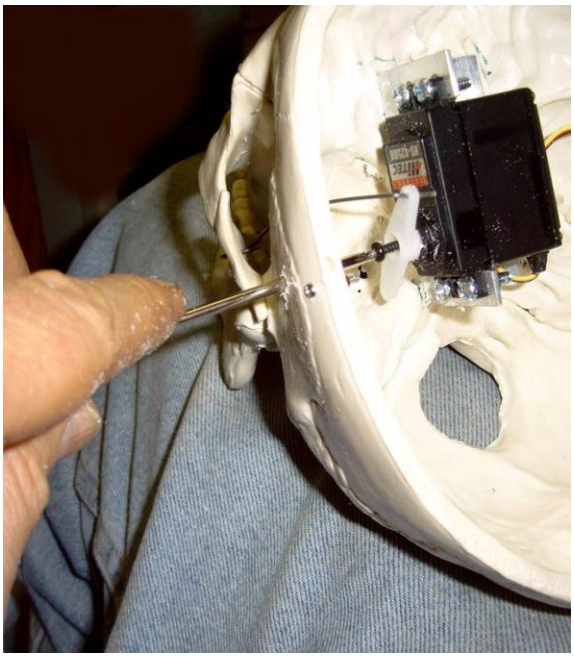
With something straight and flat (like a ruler) set across the top opening of the skull, measure the distance down from that straight edge to the center of the screw hole in the servo.



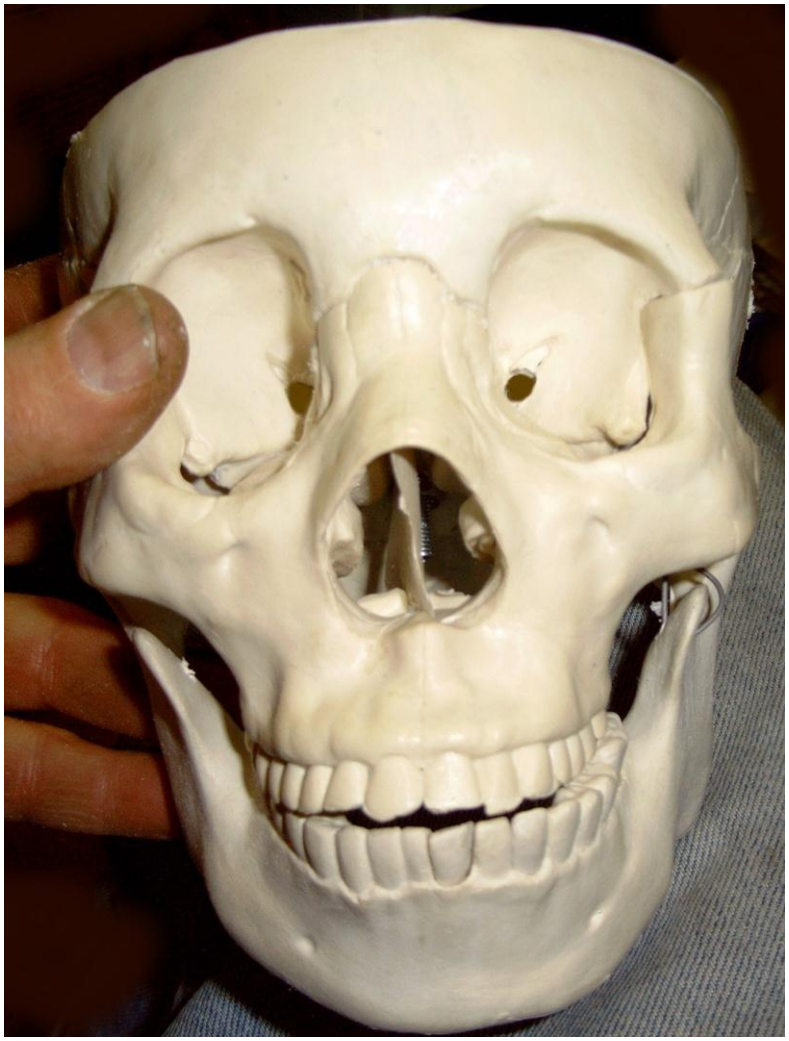
Transfer that distance to the side of the skull and mark it.



Drill a hole at the mark.



Use the phillips head screw driver, through the hole, to screw the crank onto the servo.



Job Done!

Thank you for buying a Cowlacious Designs Kit! Please don't hesitate to contact us if you have any questions.

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