



Animate - Alex

(BPE No. MAH-0250)

KIT CONTENTS

- | | |
|----------------------------------|----------|
| • Plywood Head Parts | 1 pack |
| • Brass Wire - 300 mm long | 2 pieces |
| • 24mm Beechwood Balls (eyes) | 2 pieces |
| • No. 2 x 3/8" Self Tap Screws | 2 pieces |
| • Plastic tube 50mm long | 1 each |
| • Cable Ties | 4 pieces |
| • Hobby servo | 4 pieces |
| • Servo Base Box | 1 each |
| • Blue LED with leads (eyes) | 2 pieces |
| • Speaker and Cable | 1 each |
| • Animate Plus Controller Board | 1 each |
| • M3x6 Screw / Nut | 6 pieces |
| • Instruction Guide | 1 each |
| • Animate Plus Programming Guide | 1 each |

ITEMS NEEDED

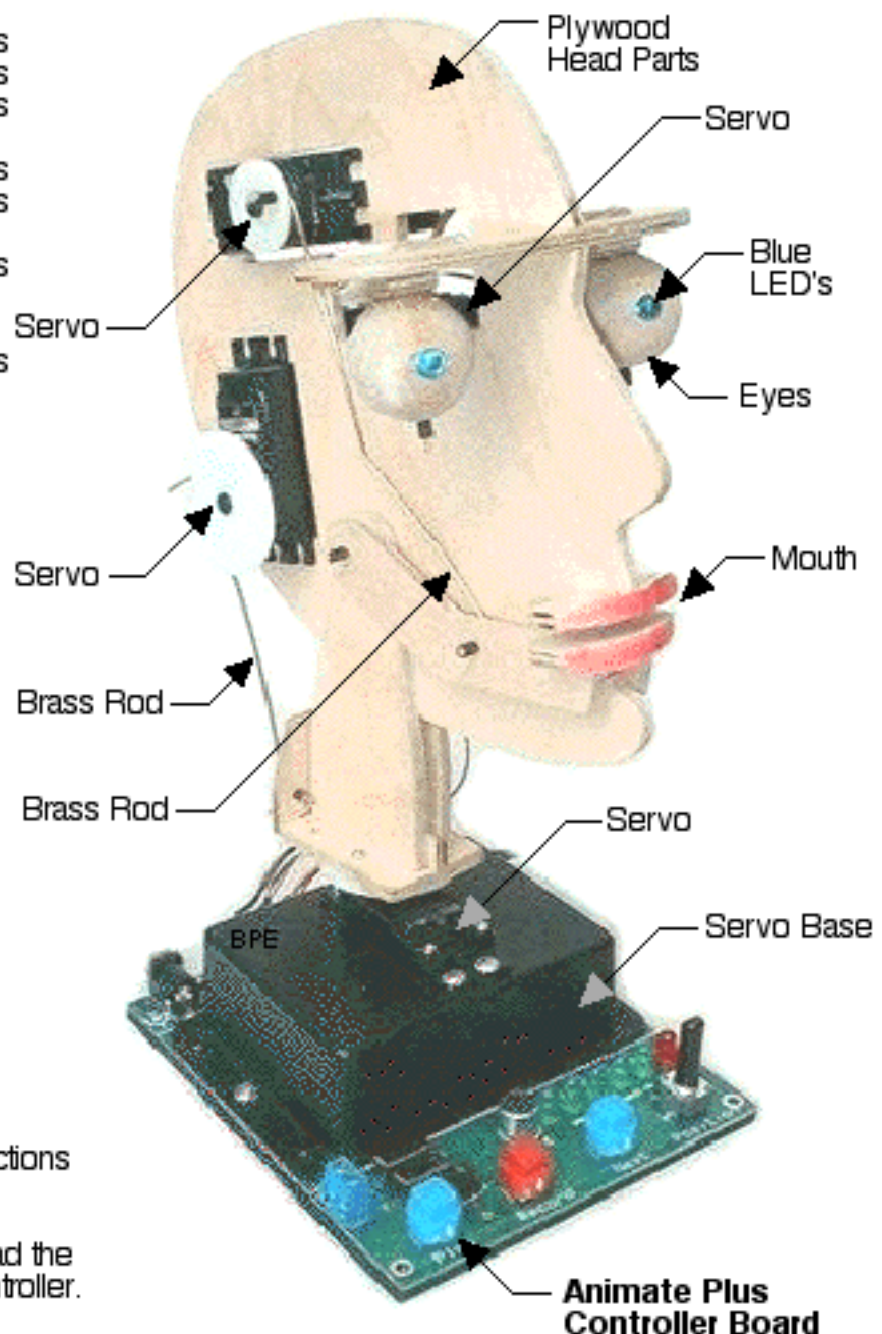
- Wood Glue
- Pliers
- Wire Cutter
- Paint - Optional
- Power Supply - 5V dc @ 2 Amp

INSTRUCTIONS

Build the head mechanism following the instructions contained on the following pages.

Once you have the head mechanism built, read the instructions for operating the Animate plus controller.

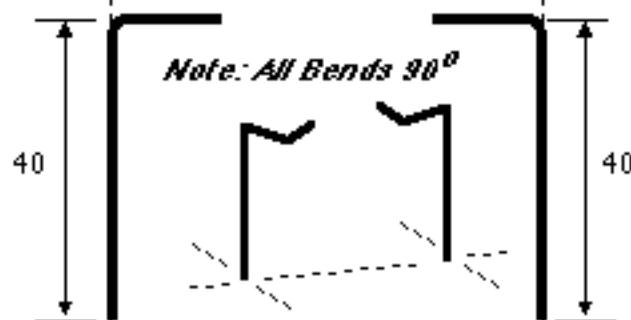
ALEX





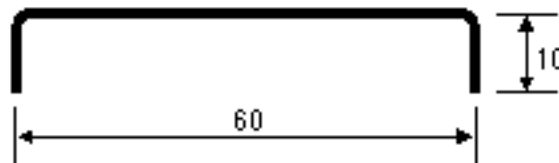
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Brass Rod

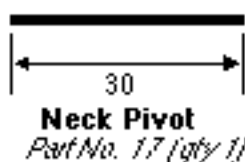
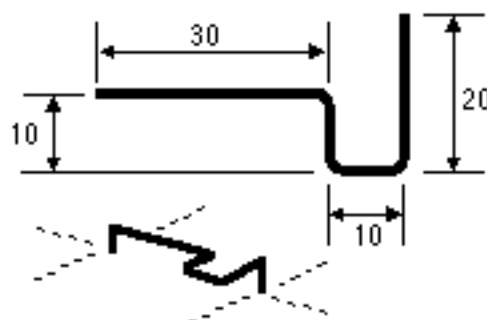


Right Eye Pivot
Part No. 14 (qty 1)

Left Eye Pivot
Part No. 15 (qty 1)



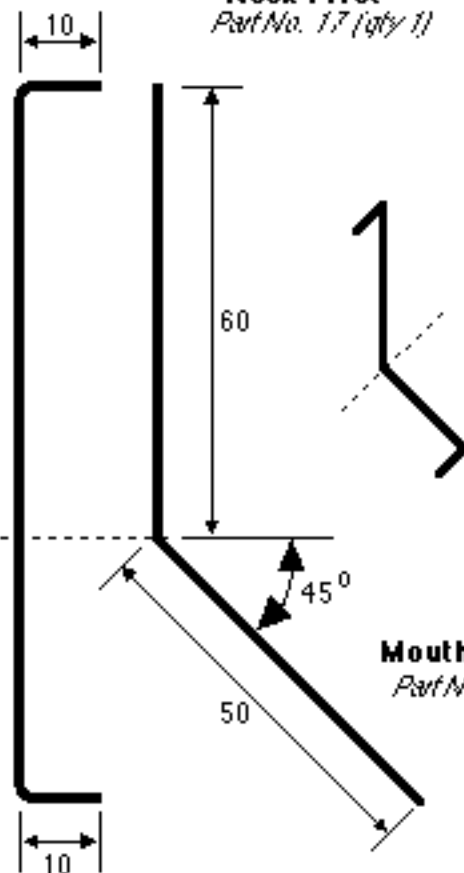
Eye Link
Part No. 16 (qty 1)



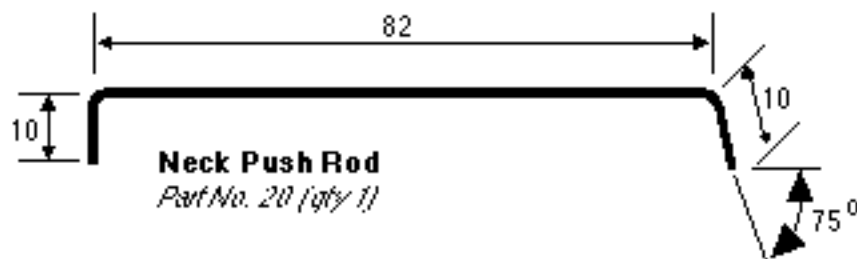
Neck Pivot
Part No. 17 (qty 1)



Eye Push Rod
Part No. 18 (qty 1)



Mouth Push Rod
Part No. 19 (qty 1)



Neck Push Rod
Part No. 20 (qty 1)

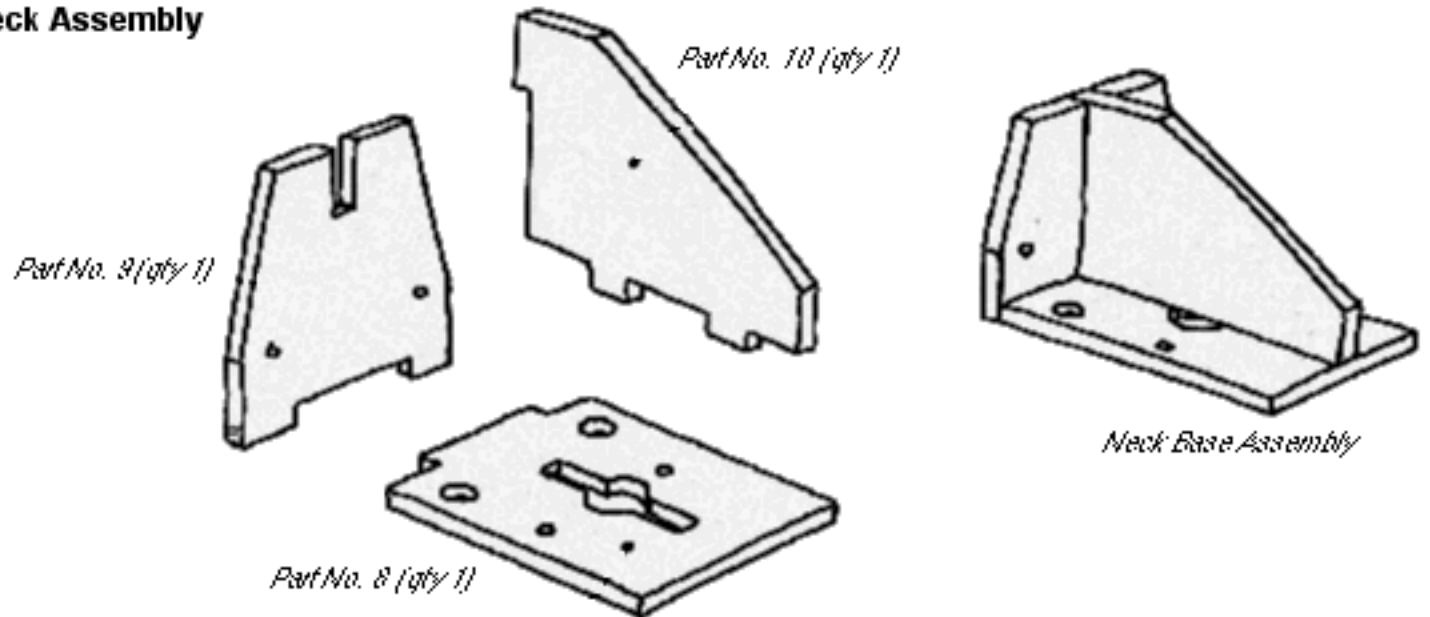
NOTE:

- All dimensions: millimeters
- 3rd Angle Projection
- All bends as sharp as possible.
(Use a pair of pliers)
- Brass Rod - hard: (18 swg)
- Dimensions to center line of wire
- Tolerance: +/- 1 mm

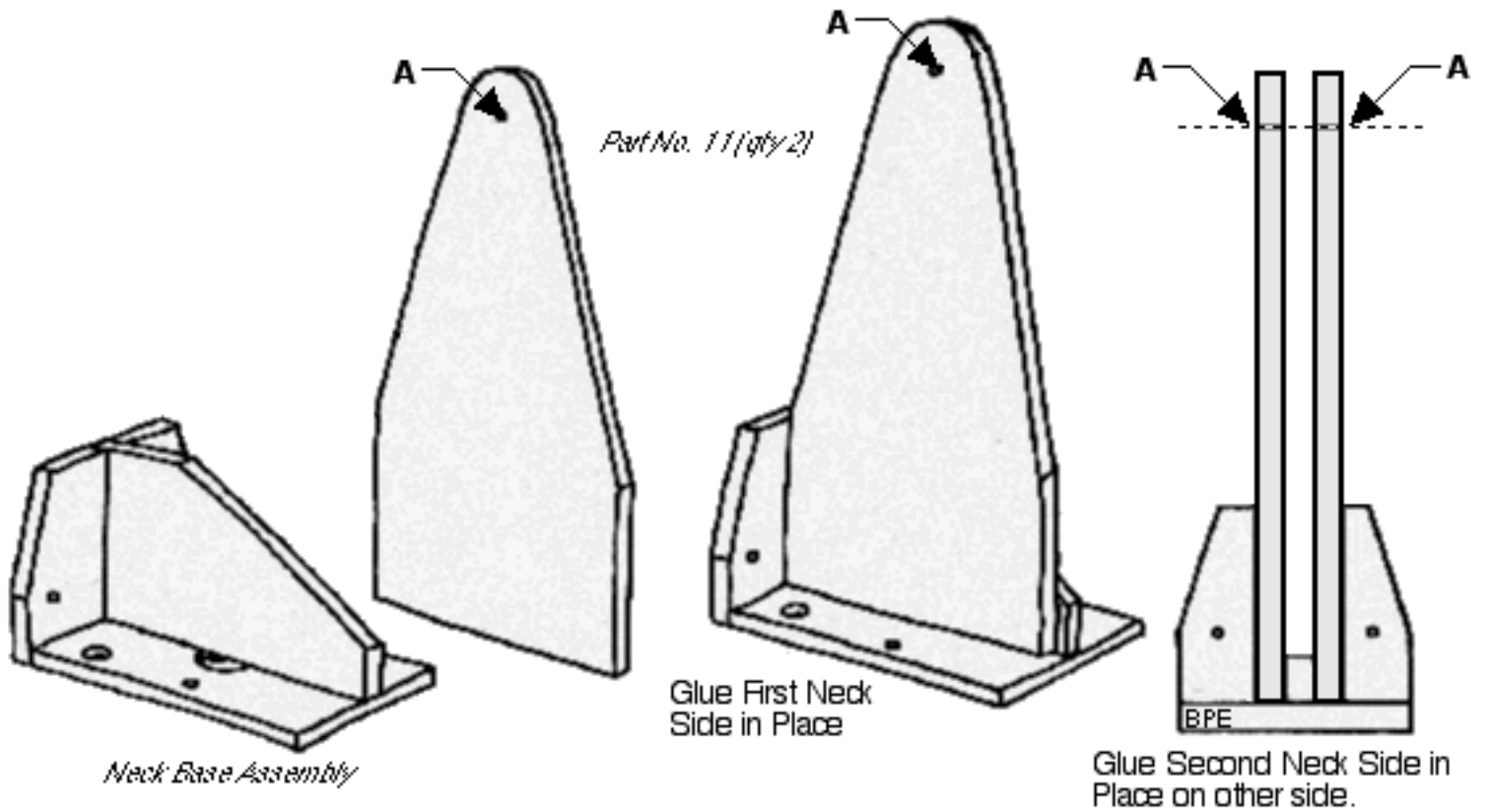


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Neck Base Assembly
Neck Assembly



- Glue Parts No. 8, 9 and 10 together.



- Glue Part No. 11 (L, R Neck Sides)

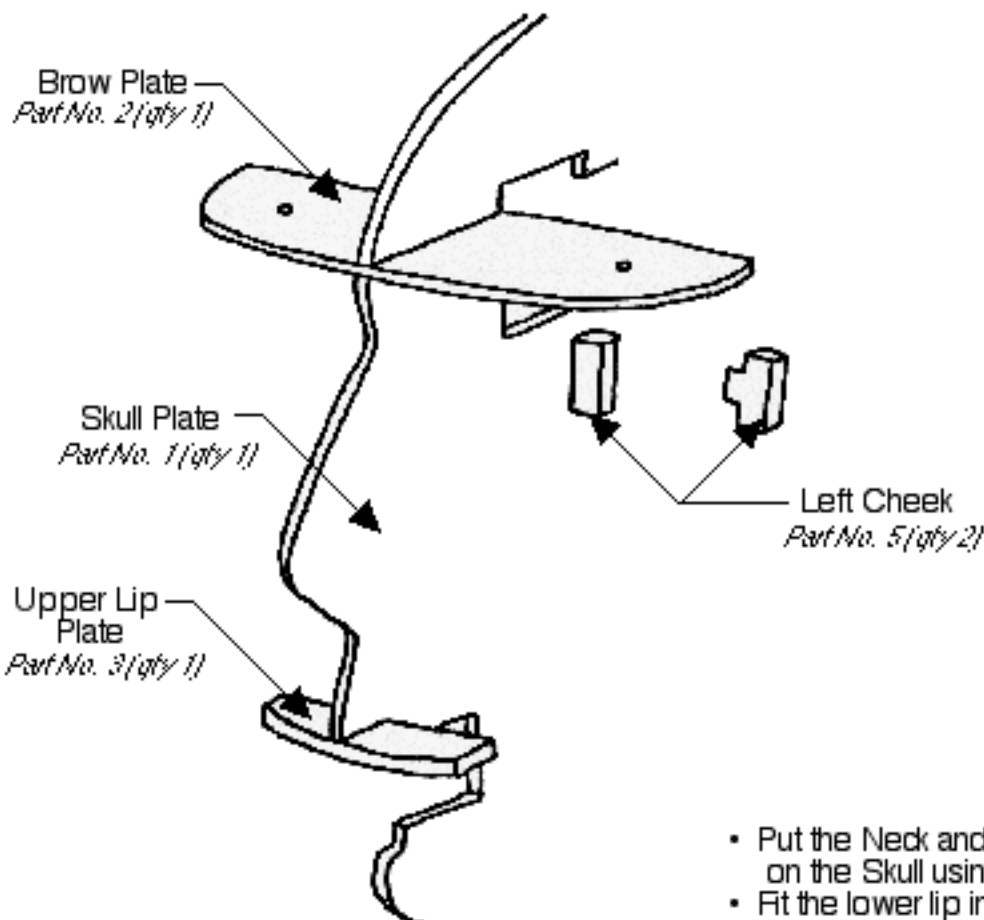
Glue Second Neck Side in Place on other side.

NOTE:
Make sure **(A)** holes match up

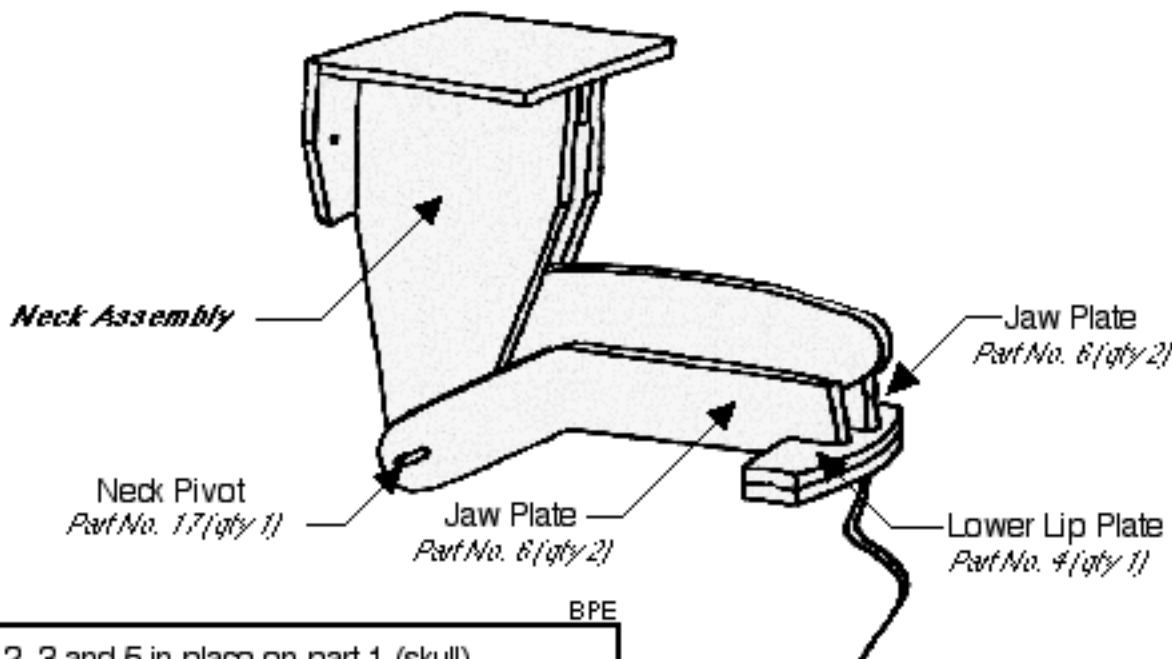


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Head Assembly



- Put the Neck and both Jaw Plates in place on the Skull using the Neck Pivot wire.
- Fit the lower lip in place and glue it



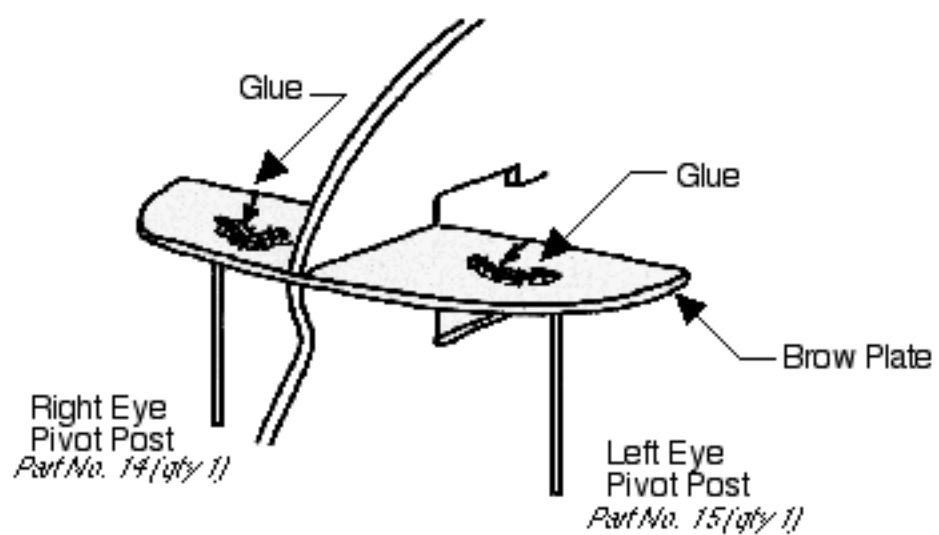
BPE

- Glue Parts No.2, 3 and 5 in place on part 1 (skull)

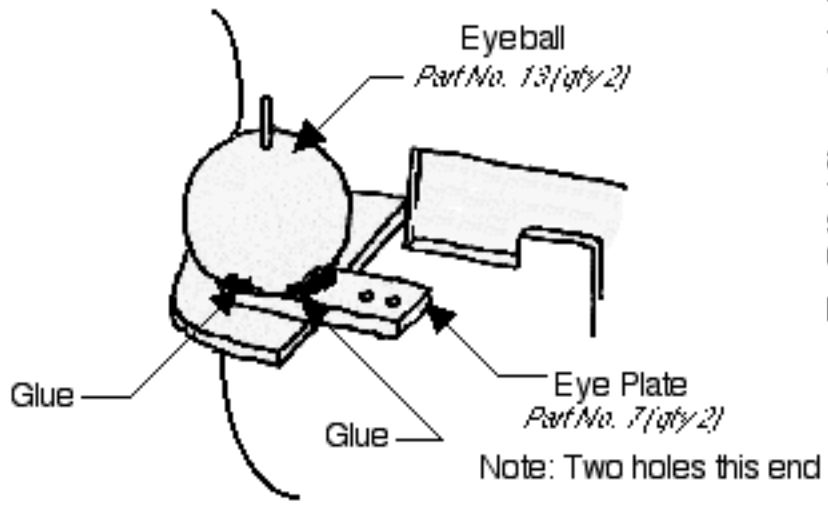


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Eye Assembly

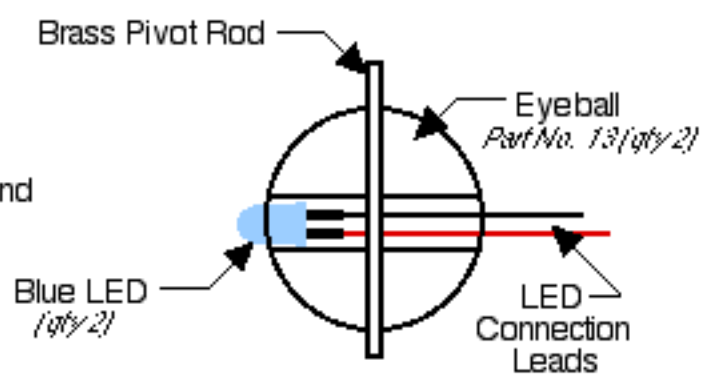


- Put the Eye Pivots through the holes in the Brow Plate and glue in place.



• The "Eyes" have been pre-drilled. The larger 7mm hole is for the LED's. The smaller 1.5mm hole is for the brass wire pivots.

• Push an LED into each eye- secure with a dot of hot-melt glue if necesasary. When fitting the eye to the head, the brass rod should pass to one side of the LED connection leads.

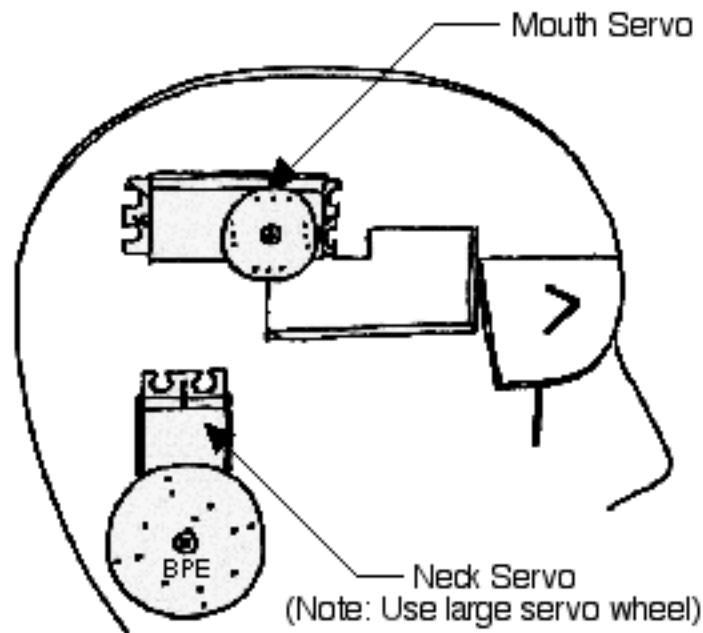


- Place an Eye plate and Eyeball on an Eye Pivot and carefully glue the Eyeball to the Eye Plate.

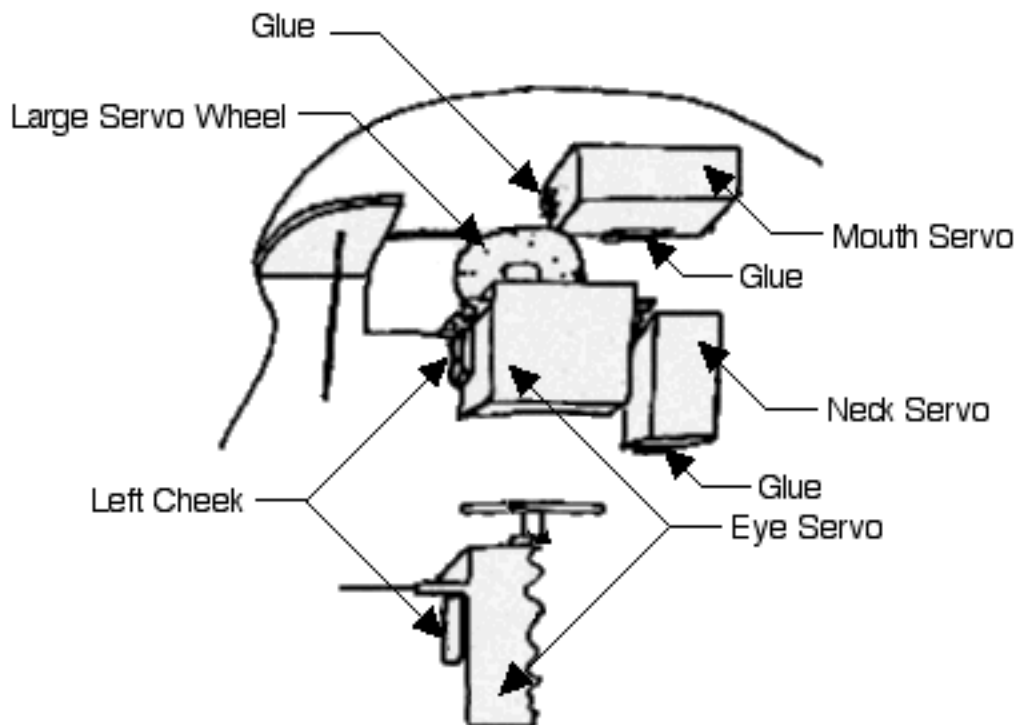


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Head Servos



- Insert mouth and Neck servos into holes and glue in place from left hand side of head.



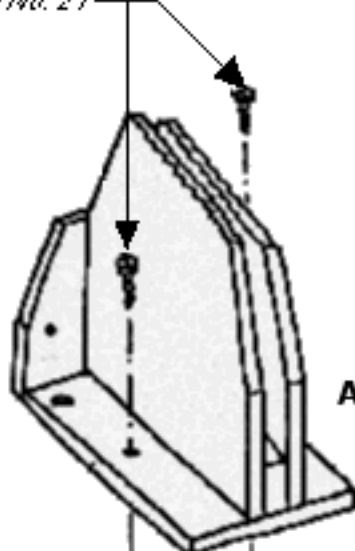
- Glue Eye Servo in place touching Left Cheek.



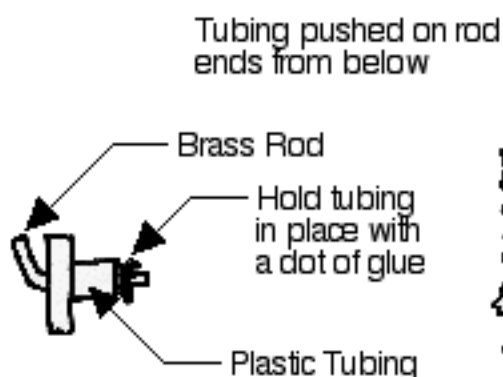
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Servo Links

Self Tap Screws
No.2 x 3/8 Inches
Part No. 21



Neck Assembly

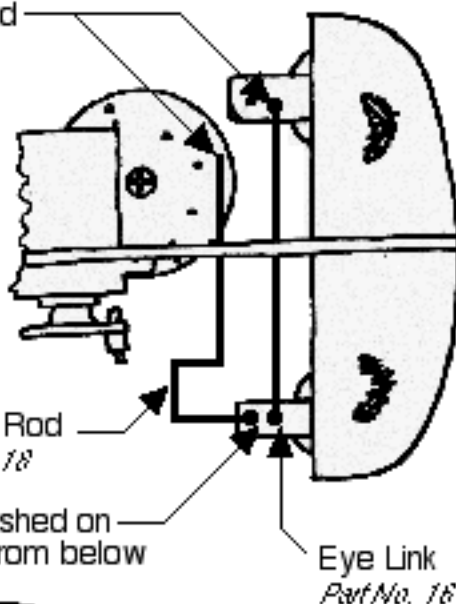


Brass Rod

Hold tubing
in place with
a dot of glue

Plastic Tubing

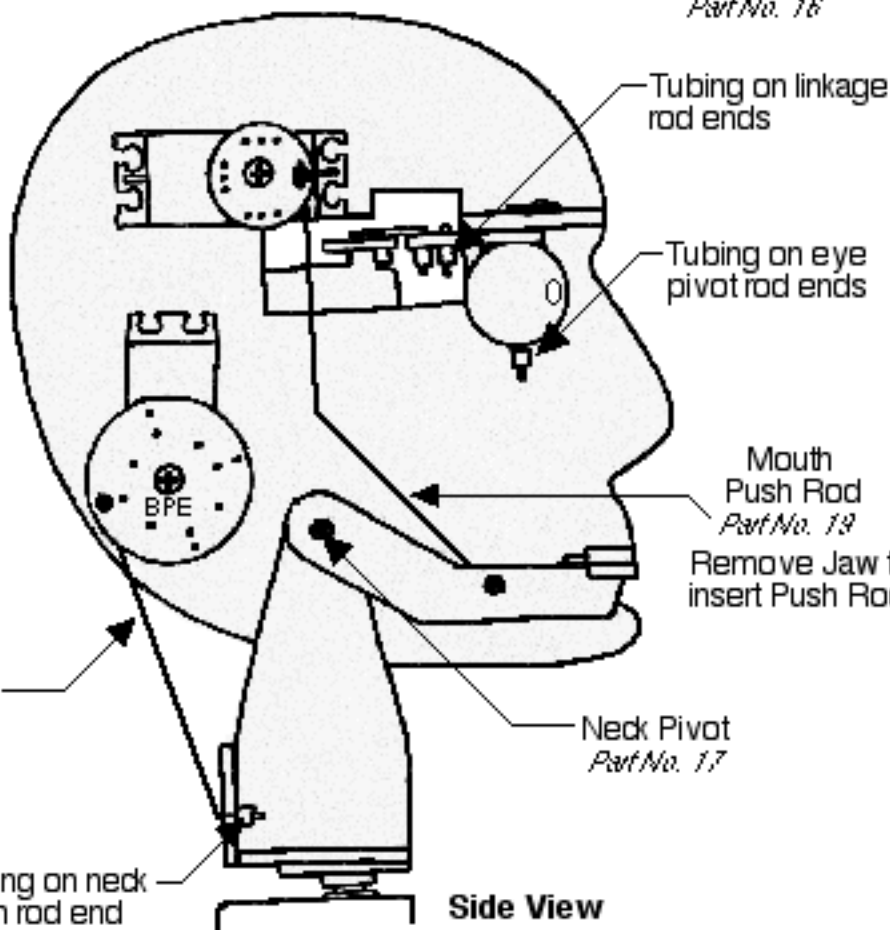
Top View



Eye Push Rod
Part No. 18

Tubing pushed on
rod ends from below

Eye Link
Part No. 16



Tubing on linkage
rod ends

Tubing on eye
pivot rod ends

Mouth
Push Rod
Part No. 19

Remove Jaw to
insert Push Rod

Neck Pivot
Part No. 17

Neck Push Rod
Part No. 20

Tubing on neck
push rod end

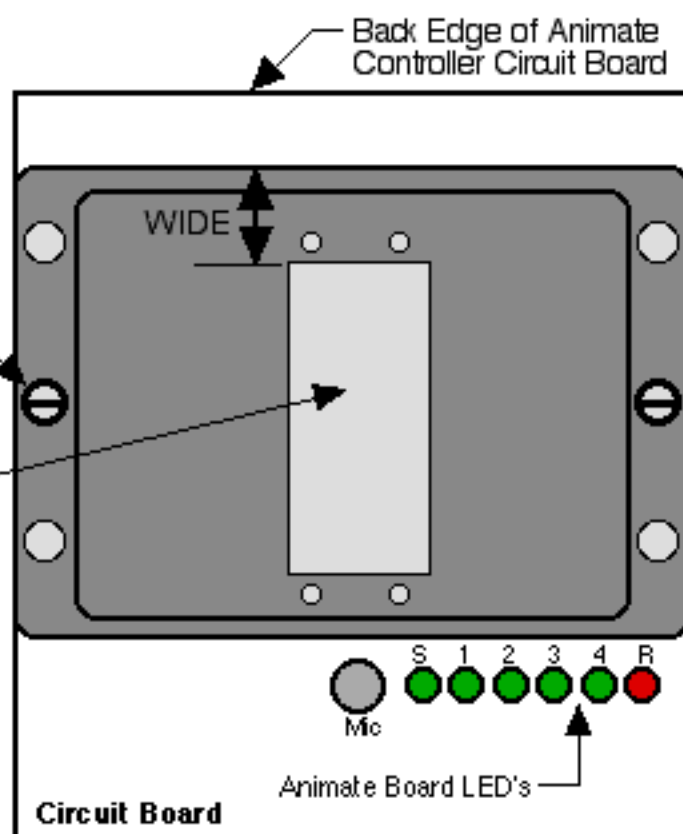
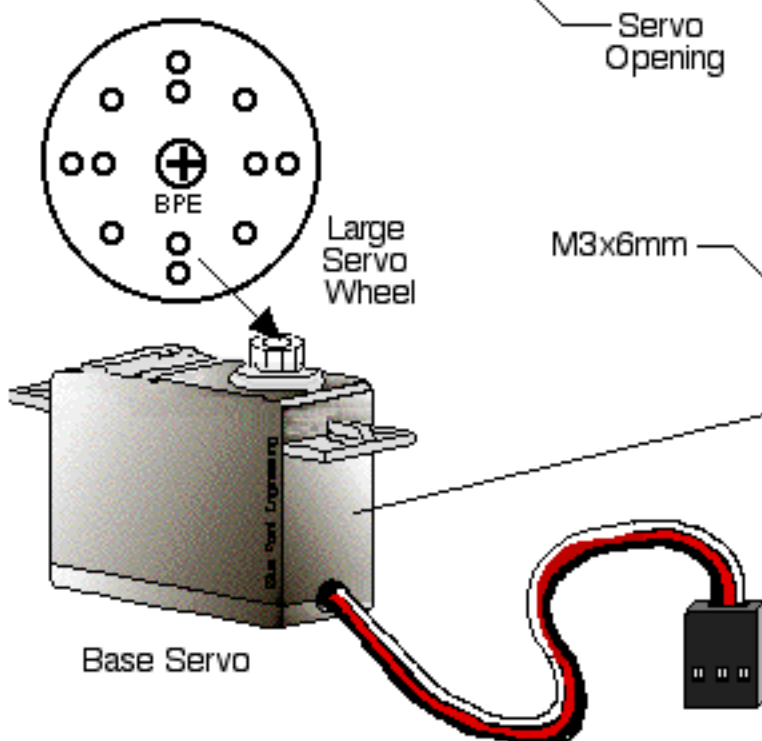
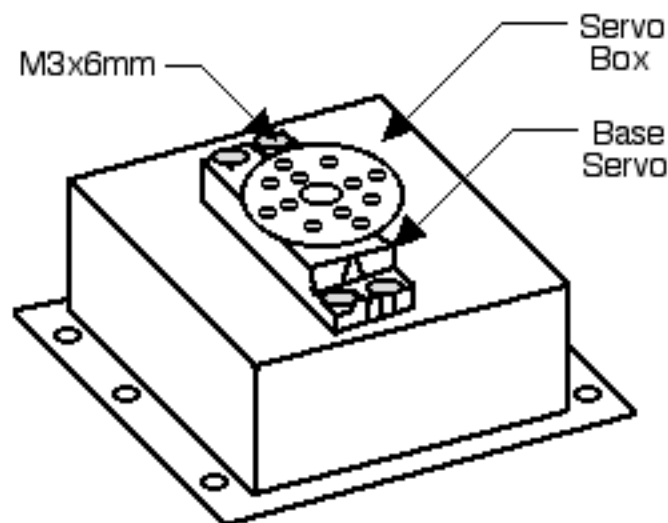
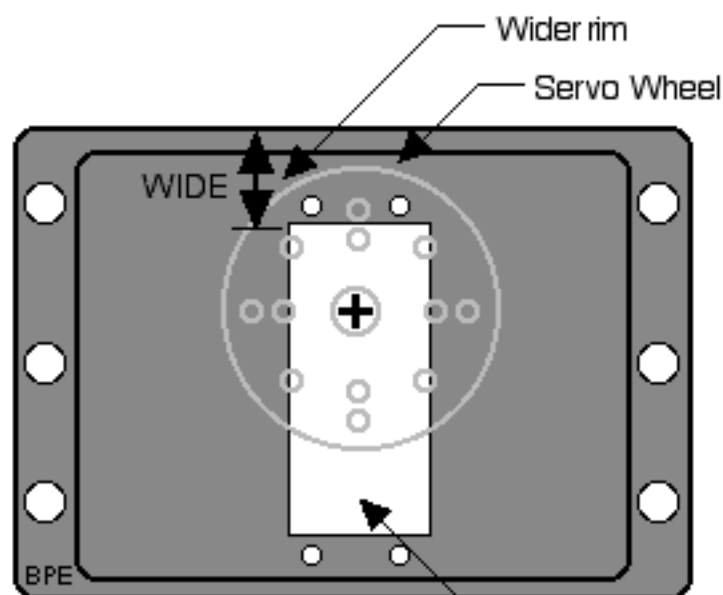
Side View

- Position servos to mid travel and fasten neck assembly onto servo wheel of base servo using two self tapping screws
- Fasten brass push rods and links in place with 4mm lengths of plastic tubing.
- Hold eyeballs onto eye pivots with 4mm lengths of plastic tubing.



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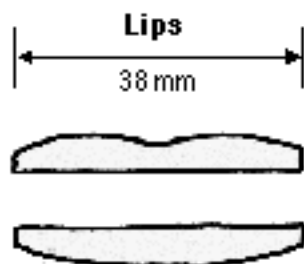
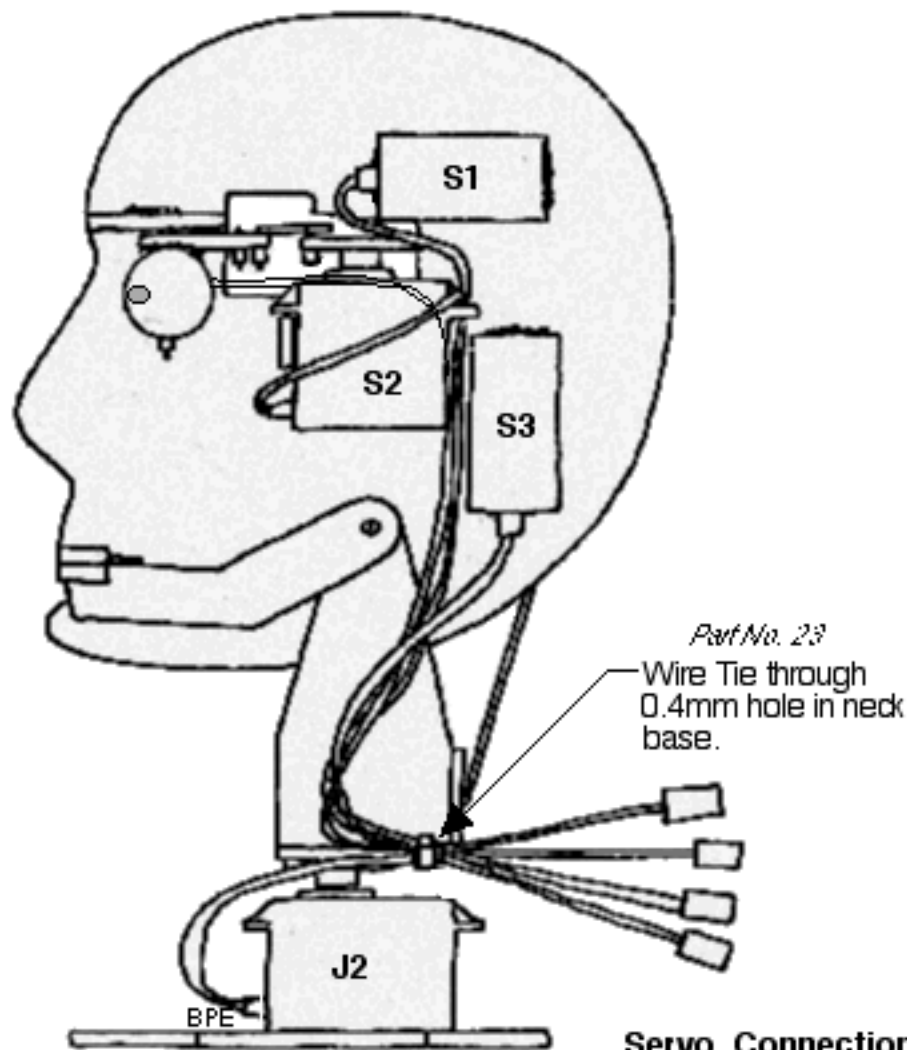
- Attach the base servo to the box using 4- M3x6mm screws bolt and nuts. The hole in the box is slightly off center, the base servo should be attached with the servo wheel nearest the wider rim.
- Plug the servo into the connector marked **J2** on the Animate Plus Board. (Carefully notice the connector orientation B,R,Y) and fit the base box to the the Animate board with the wider rim near the back of the Animate circuit board. Check to see that the box and servo do not hit /touch any components. Attach box to circuit board with nuts and bolt in center hole.





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Servo Lead Routing



Cut some lip shapes from thin cardboard and glue to front of the lip pieces No. 3 and No. 4

Servo Connections
S1 - Mouth
S2 - Eyes
S3 - Head Up / Down
J2 - Head Turn Left / Right

LED Connections
E1 - Left Eye Blue LED
E2 - Right Eye Blue LED

CAUTION:

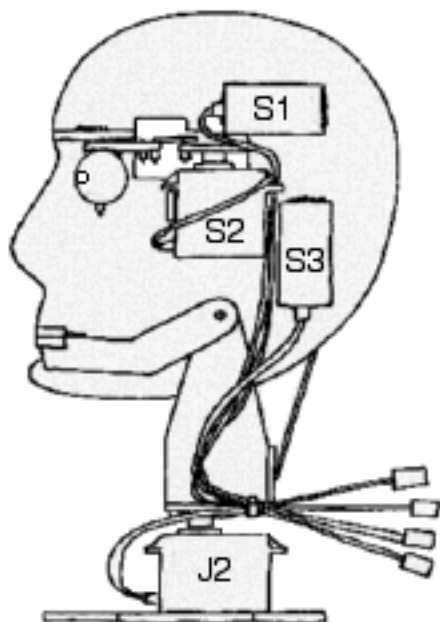
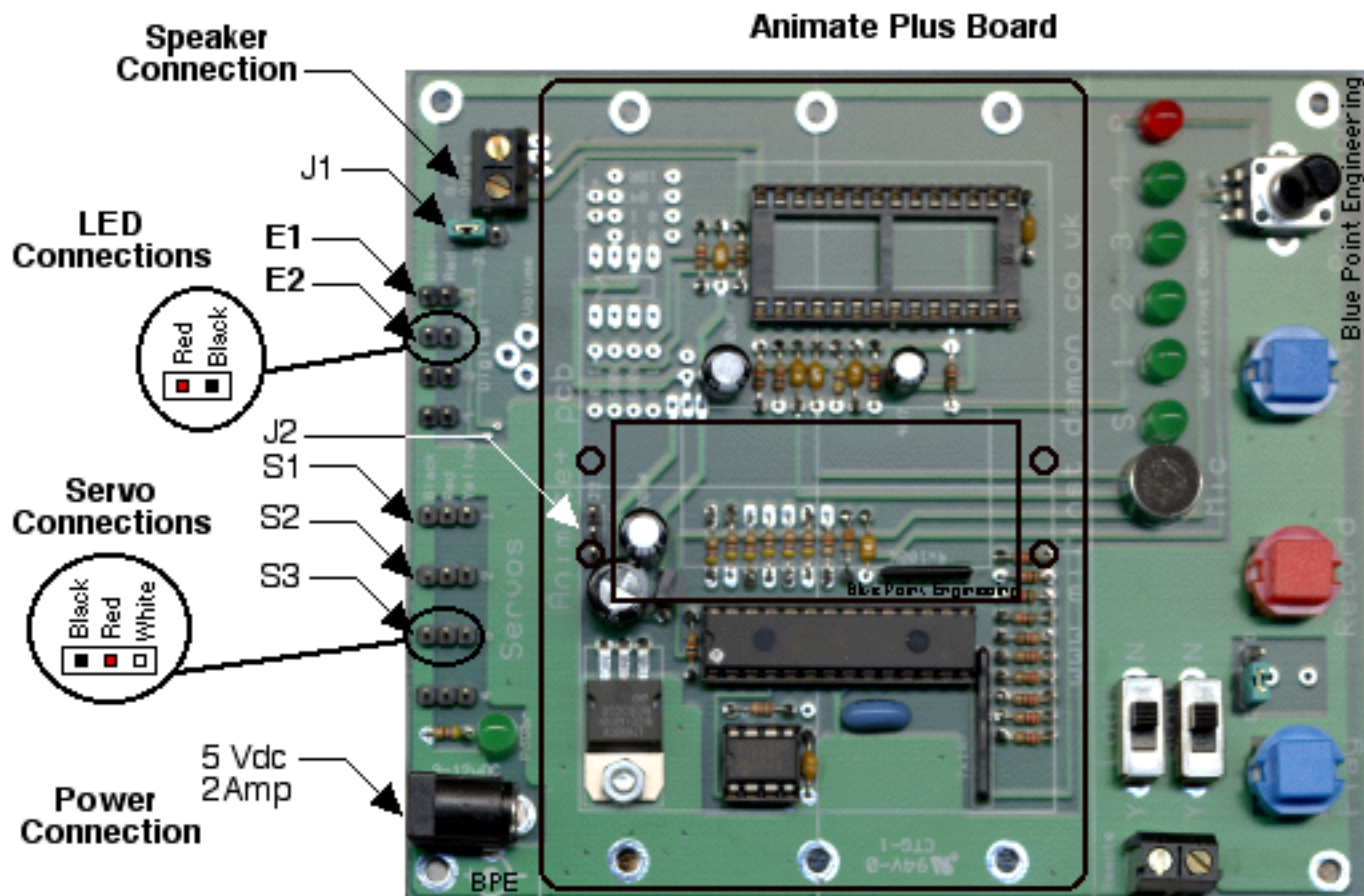
Leave enough slack in servo and LED wires so head can turn and nod without stress on the wires.

- Wire tie servo leads, and connect servo connectors to the Animate Plus circuit board. Caution. Observe servo connector polarity.



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Board Connection



Remote Switch Connection

Servo Connections

- S1 - Mouth
- S2 - Eyes
- S3 - Head Up / Down
- J2 - Head Turn Left / Right

LED Connections

- E1 - Left Eye Blue LED
- E2 - Right Eye Blue LED



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Optional Base Mount

