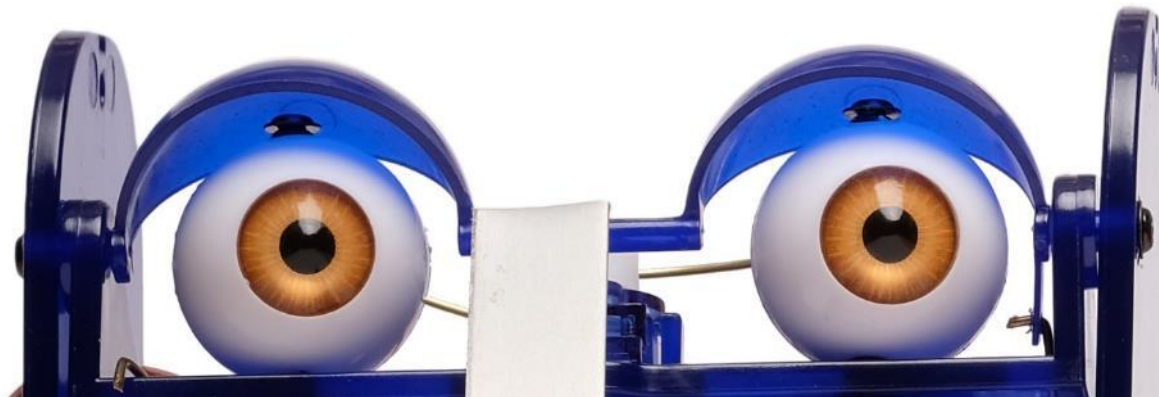# Replace a Motor
Instructions

⌂ Spare parts
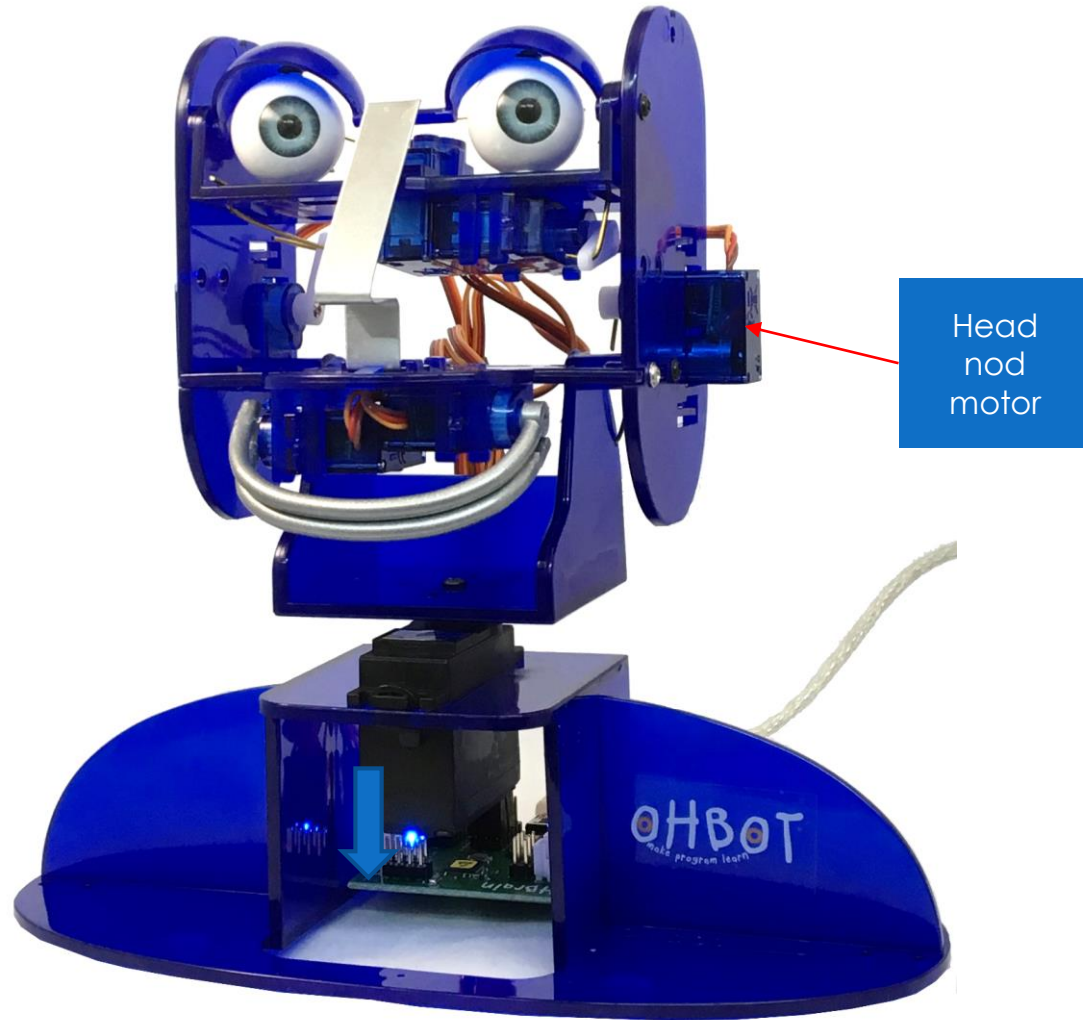
Provided
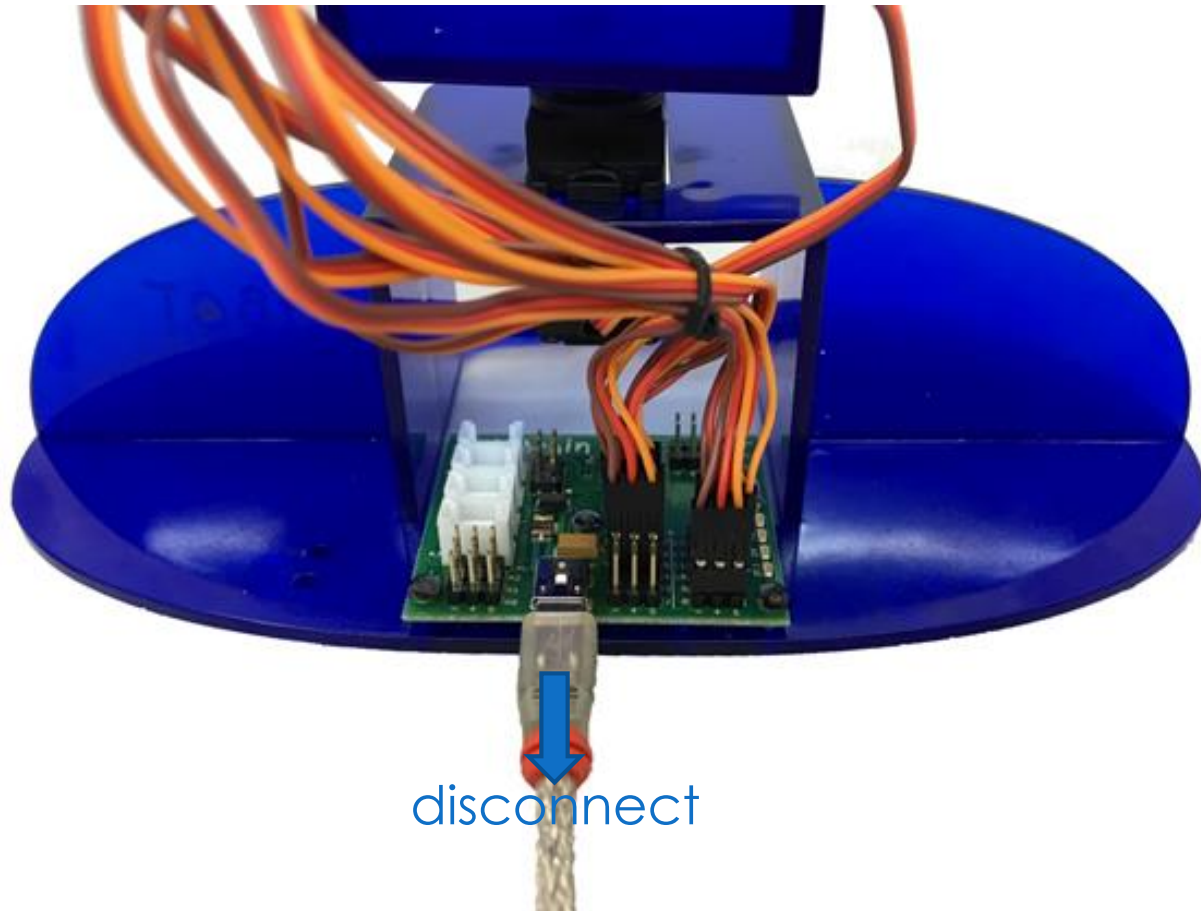
Needed

Eye Turn motor

Lid Blink motor

Eye Tilt motor

Head Nod motor

Bottom Lip motor

Top Lip Motor
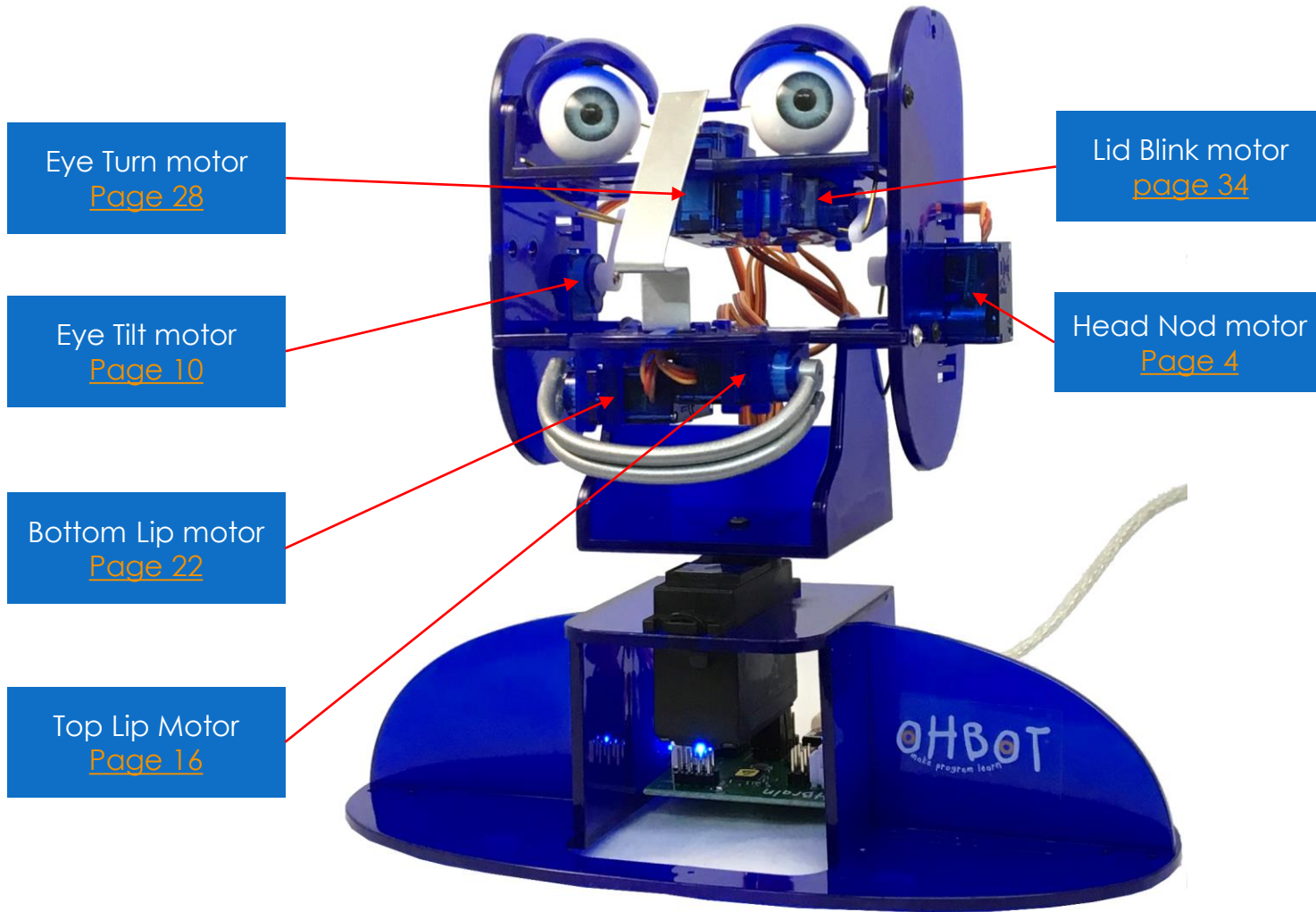
How to replace Ohbot's Head Nod motor

Head nod motor

disconnect
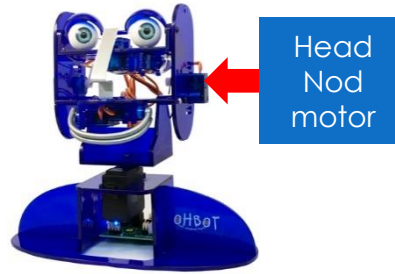
Head Nod motor

You will need:

1. Use screwdriver to undo the screw holding white arm onto Head Nod motor. Keep the screw.

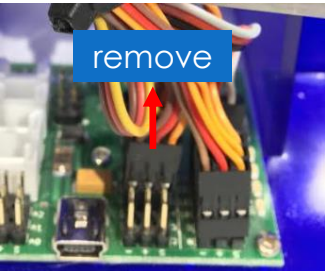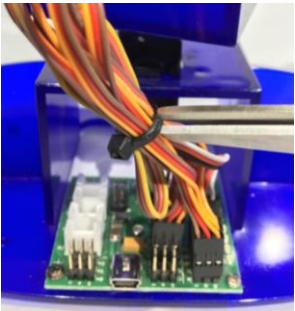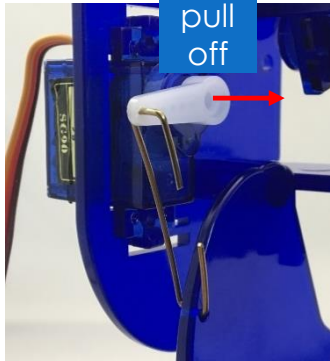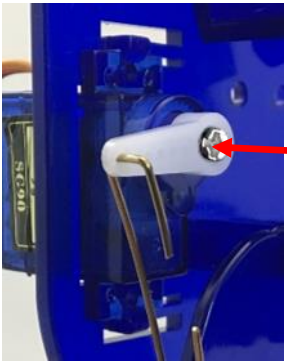**2. Pull the white arm off the shaft of the motor**

3. Push the clips apart and pull the motor through

4. Use scissors to cut the cable ties holding the wires together

5. Find the plug for the head nod motor on the control board. It is connected to the pins marked 4. Remove it.
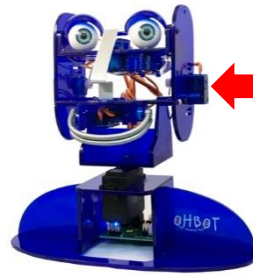
pull off

remove
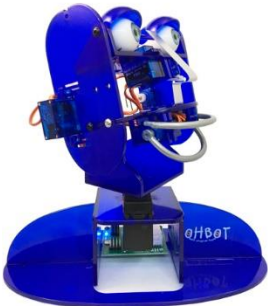
Fit Head Nod motor

You will need:

6. Thread the cable through the hole. Orient the motor with the cable coming out towards the top of the cheek.

7. Push the motor through at an angle, starting with the end of the motor where the cable comes out.
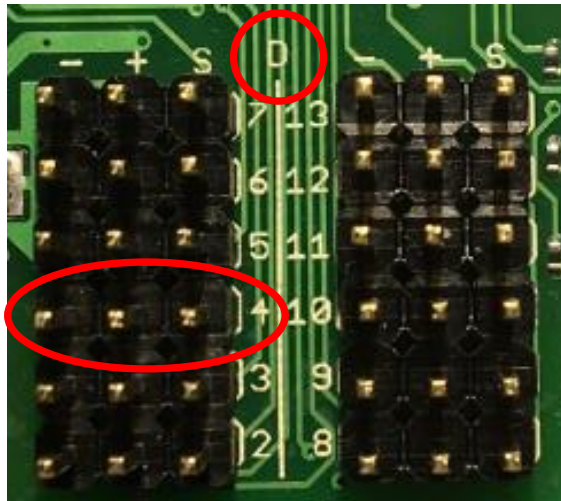
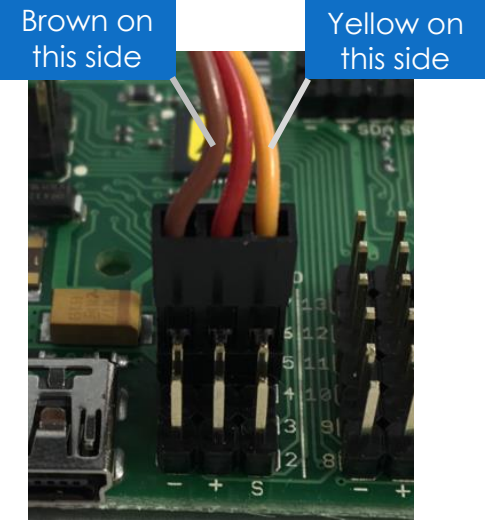8. Clip the motor in place.

top

top

9. Find the socket at the end of the wire for the Head Nod motor.
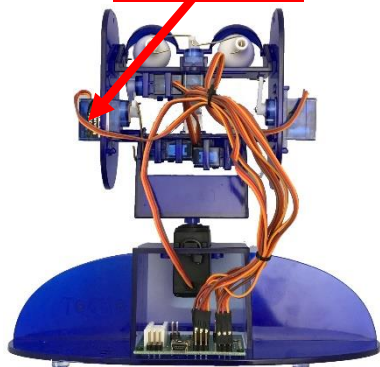

10. On the Ohbrain board locate the set of pins marked D4.

11. Attach the socket to the pins marked D4. Make sure the brown wire is to the left (-) and the yellow wire is to the right (S).
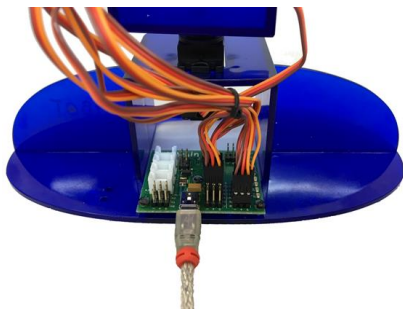
Brown on this side

Yellow on this side
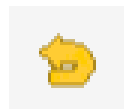
Head Nod

end hole

B

12. Connect the plug.

connect

13. Start the Ohbot application. Click the reset button.

14. Hold Ohbot's head upright.

Not like this
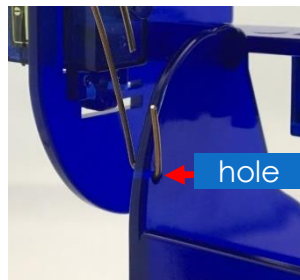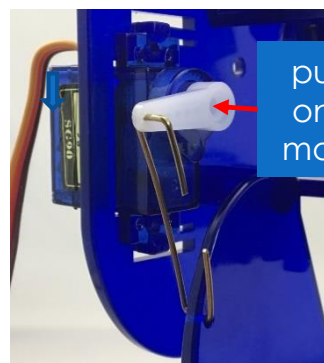
Yes! That's right

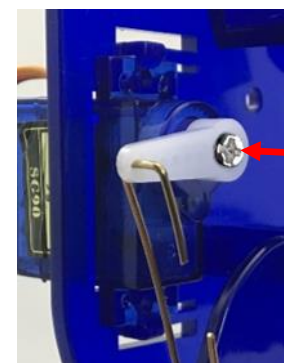15. Thread the link through the hole on the side of the neck.

hole

16. Find **Motor 4**. Push the arm onto the motor so it holds Ohbot's head **upright.**
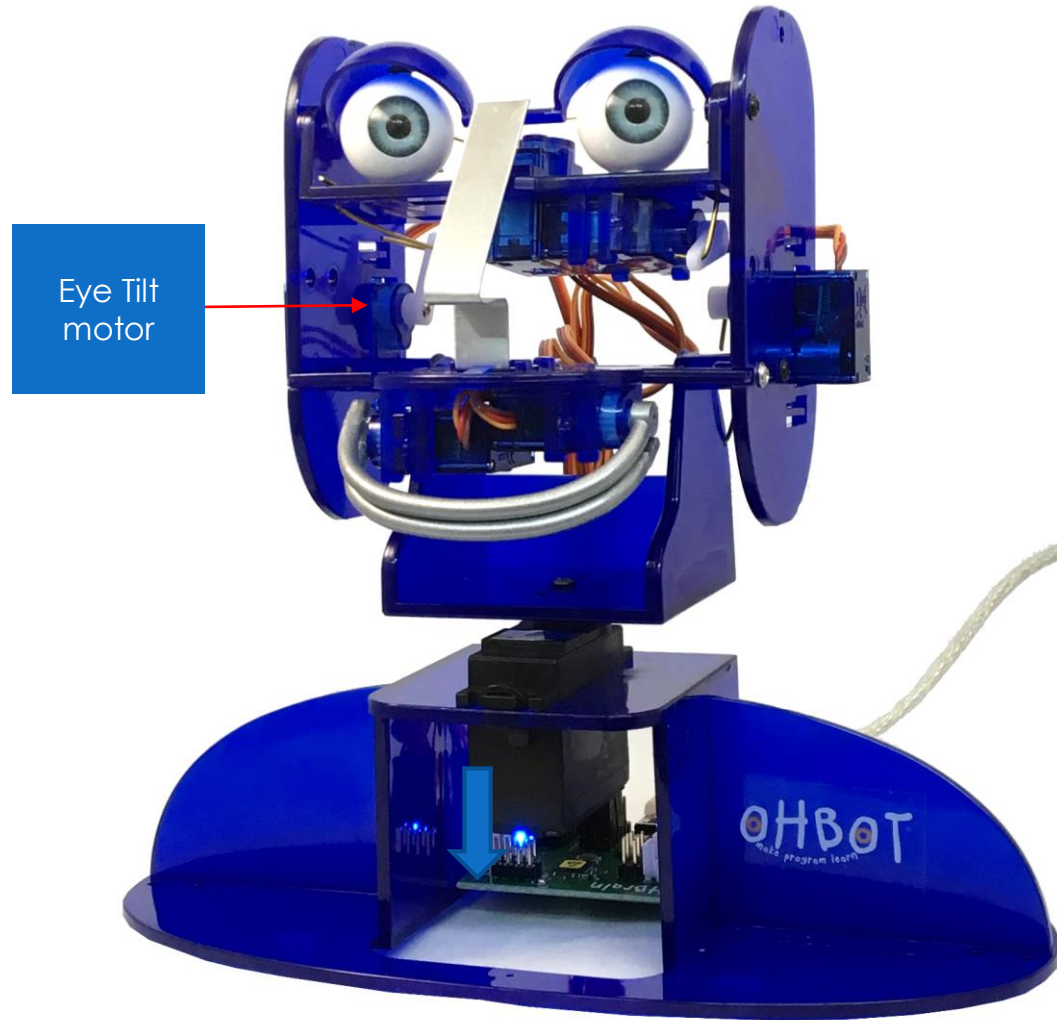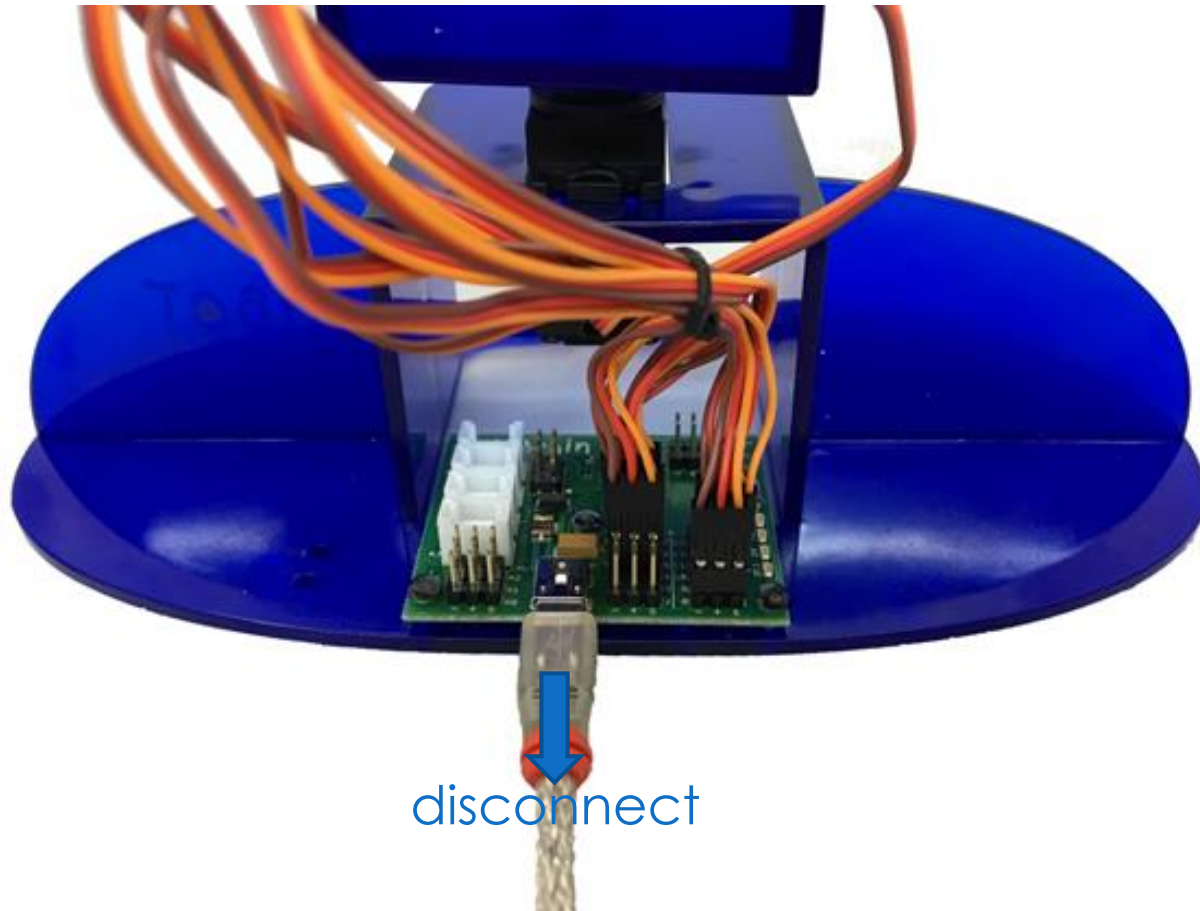
push onto motor

17. Fix the arm onto the motor using the screw.
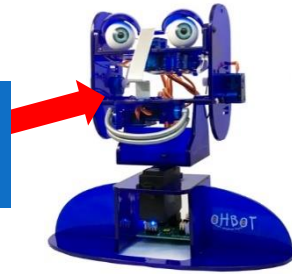
⌂ How to replace Ohbot's Eye Tilt motor

Eye Tilt motor

disconnect

Remove Eye Tilt motor
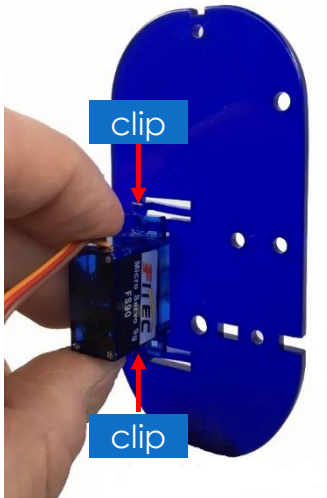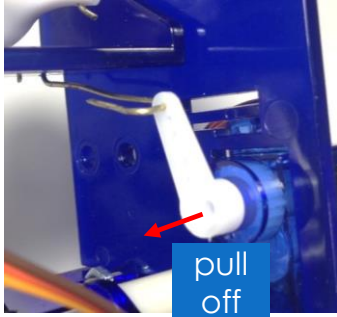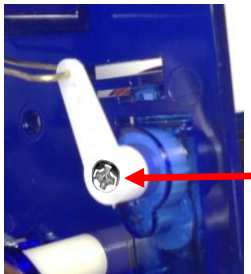
You will need:

Eye Tilt motor

1. Use screw driver to undo the screw holding white arm onto the Eye Tilt motor. Keep the screw.

2. Pull the white arm off the shaft of the motor.

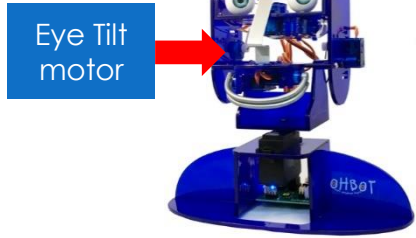3. Push the clips apart and remove the motor.

4. Use scissors to cut the cable ties holding the wires together.

5. Find the plug for the Eye Tilt motor on the control board. It is connected to the pins marked D10. Remove it.

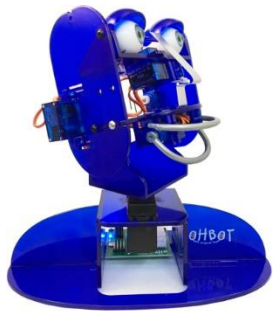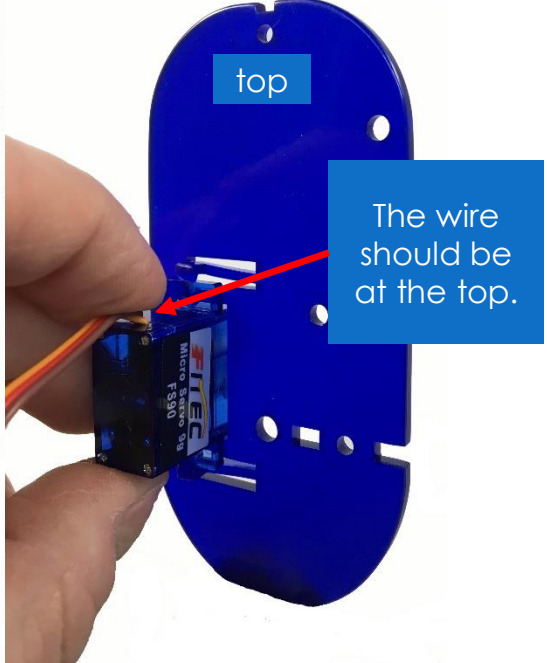pull off

clip

clip

remove
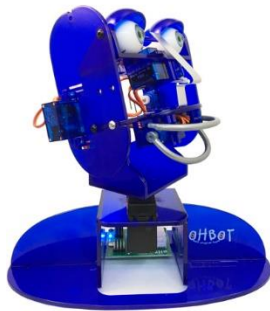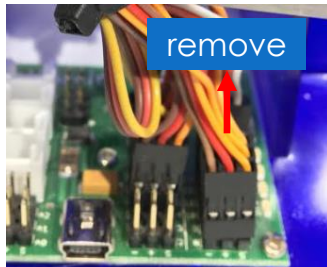
Fit Eye Tilt motor

You will need:

Eye Tilt motor

6. Orient the motor this way round, with the wire coming out of the motor to the top of the cheek.

7. Clip in place.

top

top

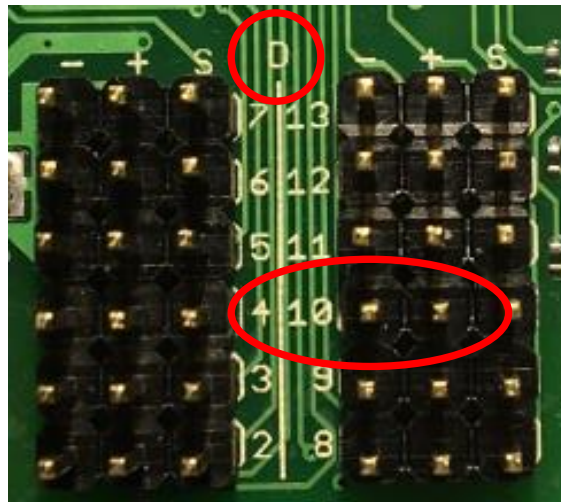The wire should be at the top.

wire

8. Find the socket at the end of the wire for the Eye Tilt motor.

9. On the Ohbrain board locate the set of pins marked D10.

10. Attach the socket to the pins marked D10. Make sure the brown wire is to the left (-) and the yellow wire is to the right (S).
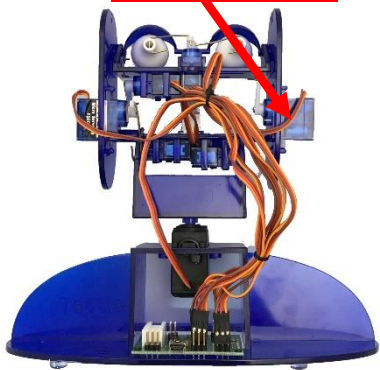
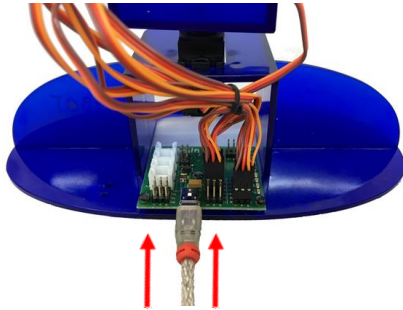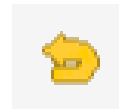Brown on this side

Yellow on this side

Eye Tilt Motor

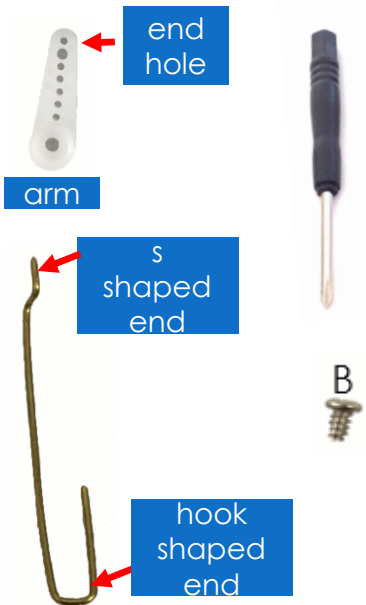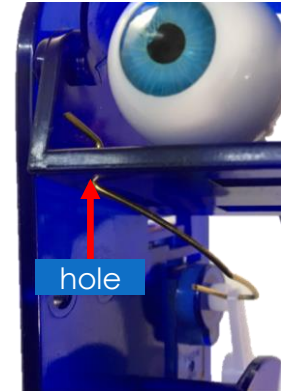end hole

arm

s shaped end

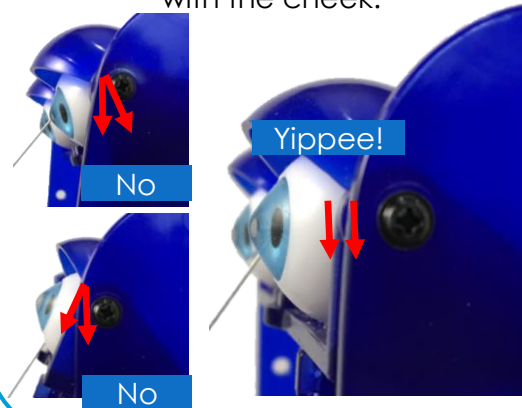hook shaped end

B

11. Connect.

12. With Ohbot connected to the computer start the Ohbot software. Click the reset button.
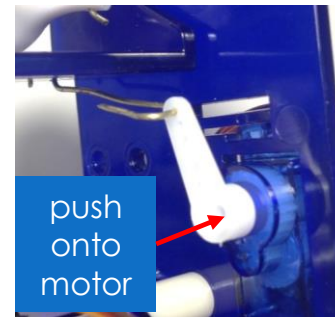
13. Thread the S shaped end of the link into the hole at the front corner of the eye box.
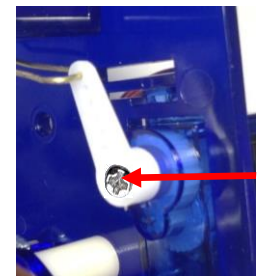
hole

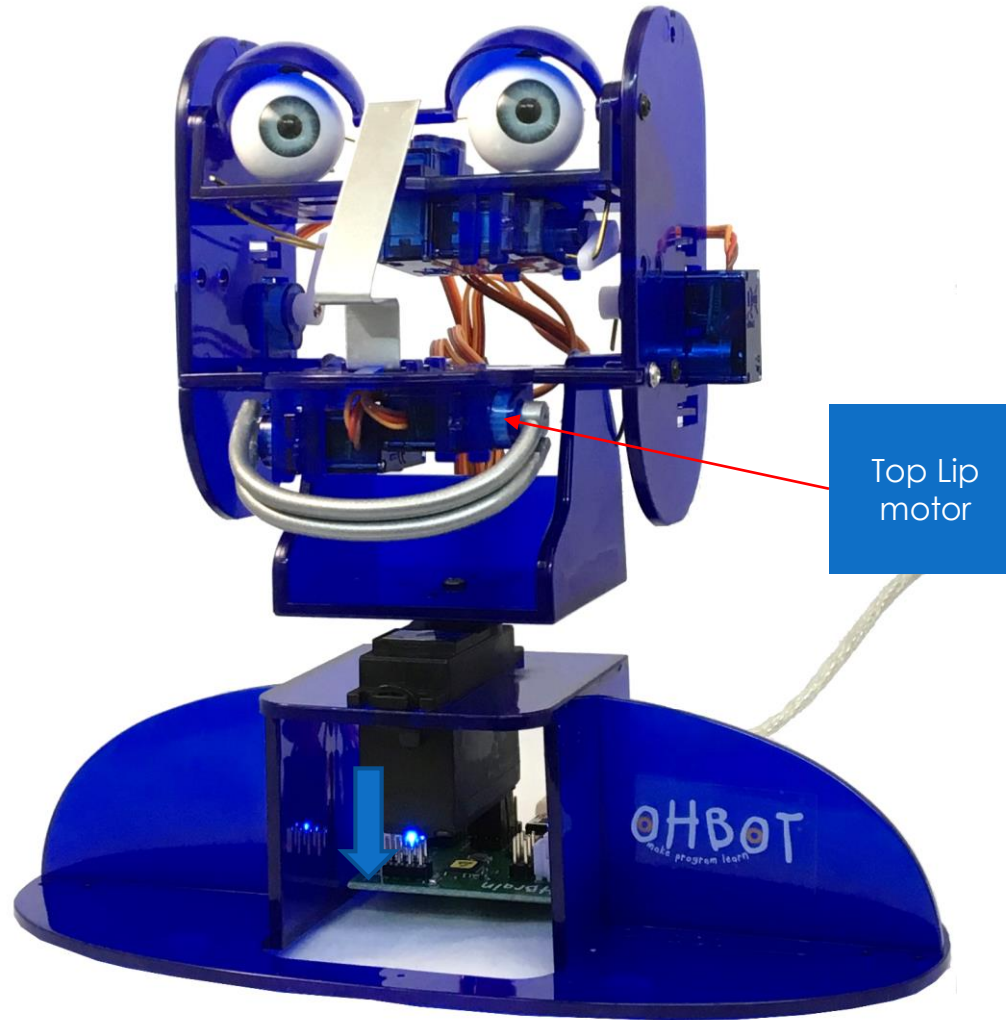14. Hold the eyebox so the upright on its front edge is flush with the cheek.

Yippee!

No

No

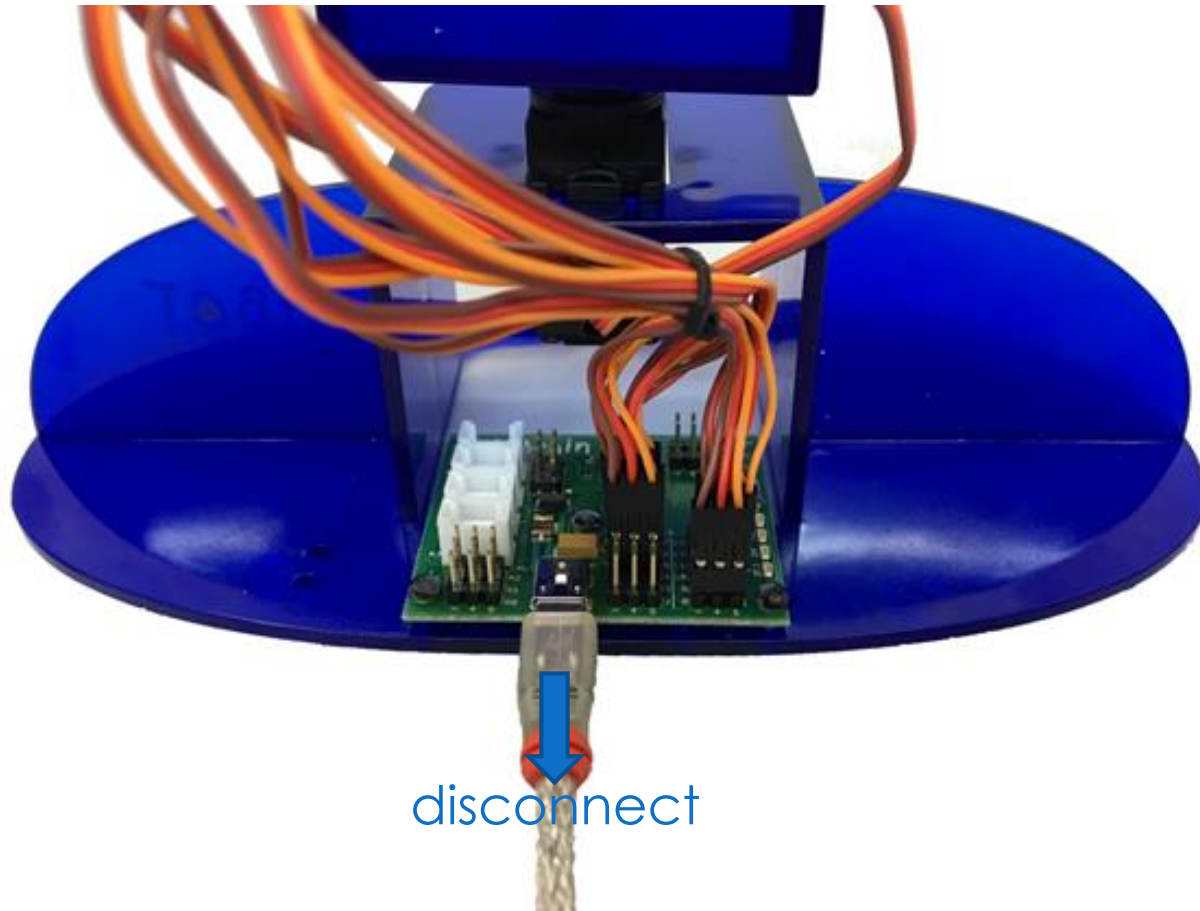15. Find **Motor 10**. Push the arm onto the motor so it holds the eyebox horizontal.

push onto motor

16. Fix the arm onto the motor using the screw.

Top Lip motor

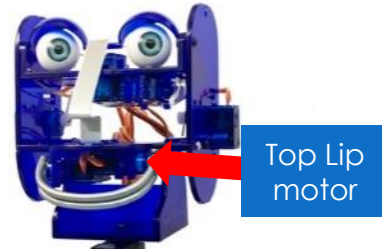disconnect

You will need:

Top Lip motor

1. Use the screw driver to undo the screw holding white arm onto the Top Lip motor. Keep the screw.

2. Pull the top lip off the shaft of the motor.

3. Tilt the head back to access the motor. Push the clips apart and remove the motor.

4. Use scissors to cut the cable ties holding the wires together.

5. Find the plug for the Top Lip motor on the control board. It is connected to the pins marked D8. Remove it.

pull off

clip   clip

Micro Servo 9g
FS90
FiTEC

clip   clip

remove
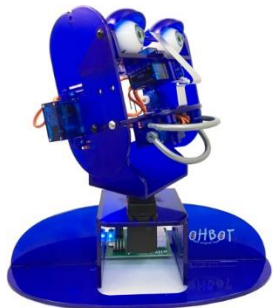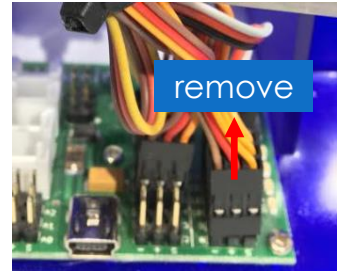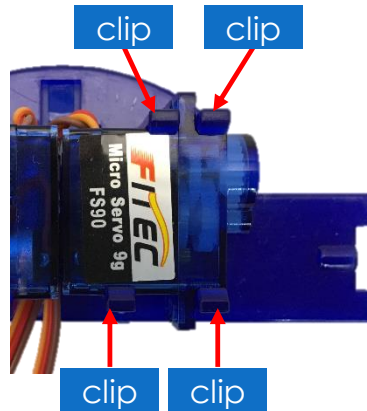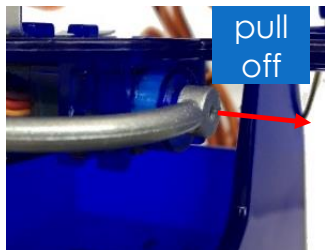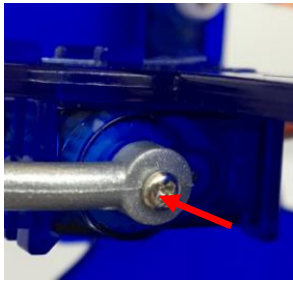
You will need:

6. Clip the Top Lip motor in. Ensure that the wires come out of the motor on the curved side of the jaw and go through underneath the Bottom lip motor.
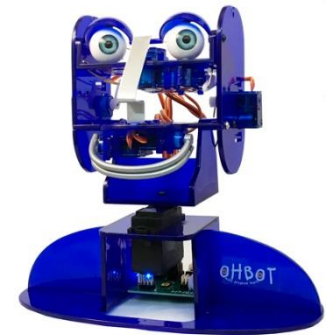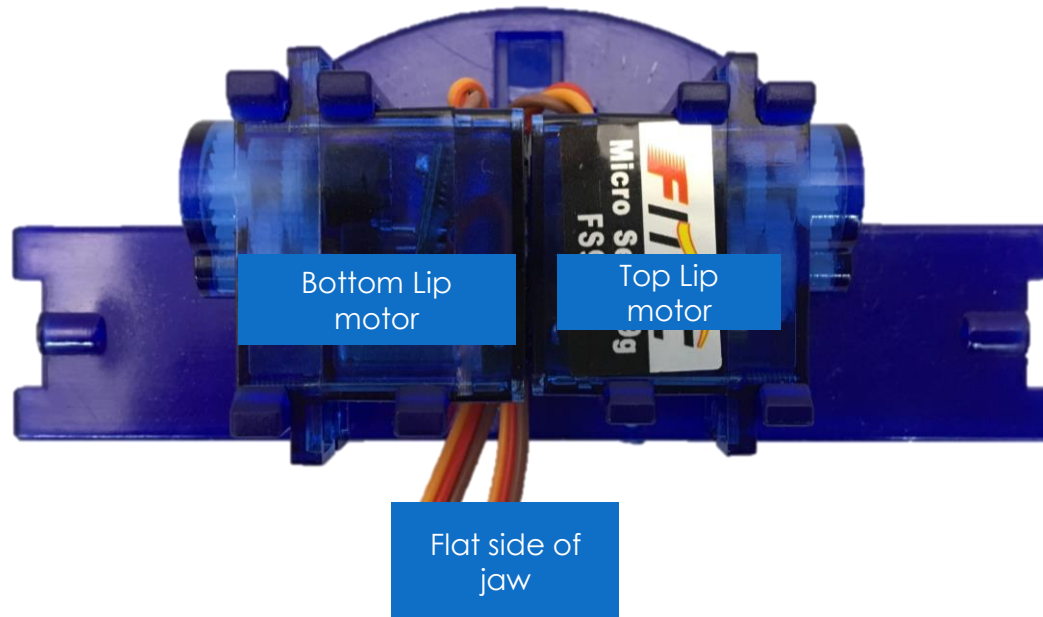
Curved side of jaw

Bottom Lip motor
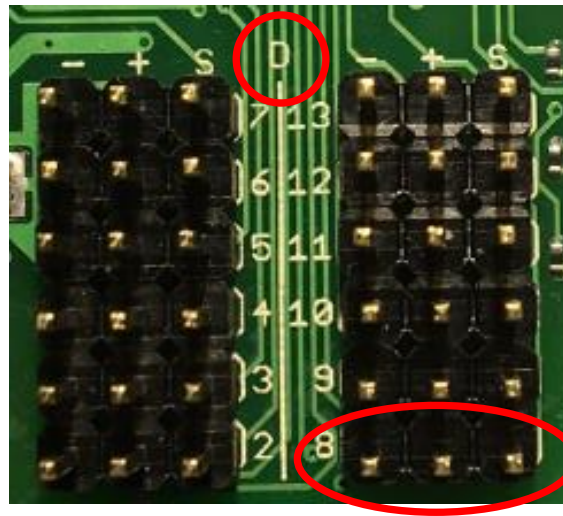
Top Lip motor

Flat side of jaw

7. Find the socket at the end of the wire for the Top Lip motor.

8. On the Ohbrain board locate the set of pins marked D8.

9. Attach the socket to the pins marked D8. Make sure the brown wire is to the left (-) and the yellow wire is to the right (S).
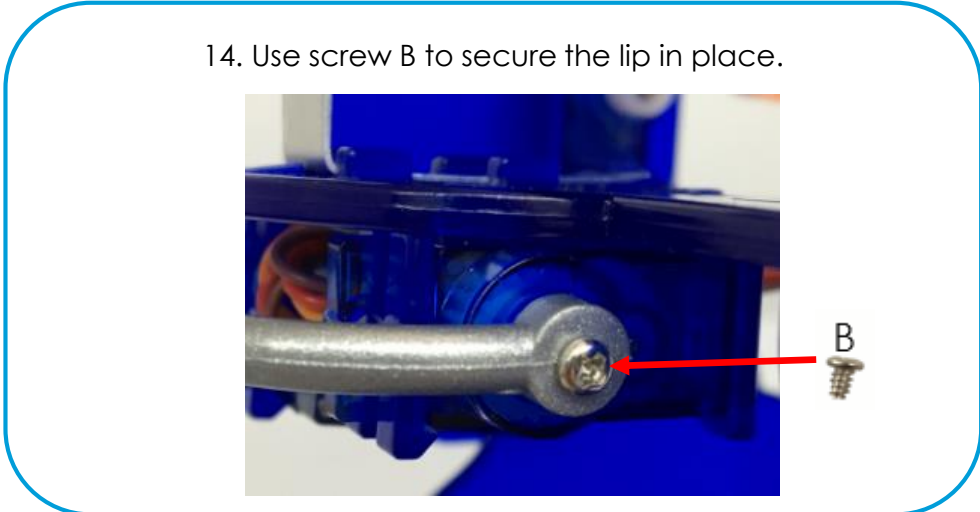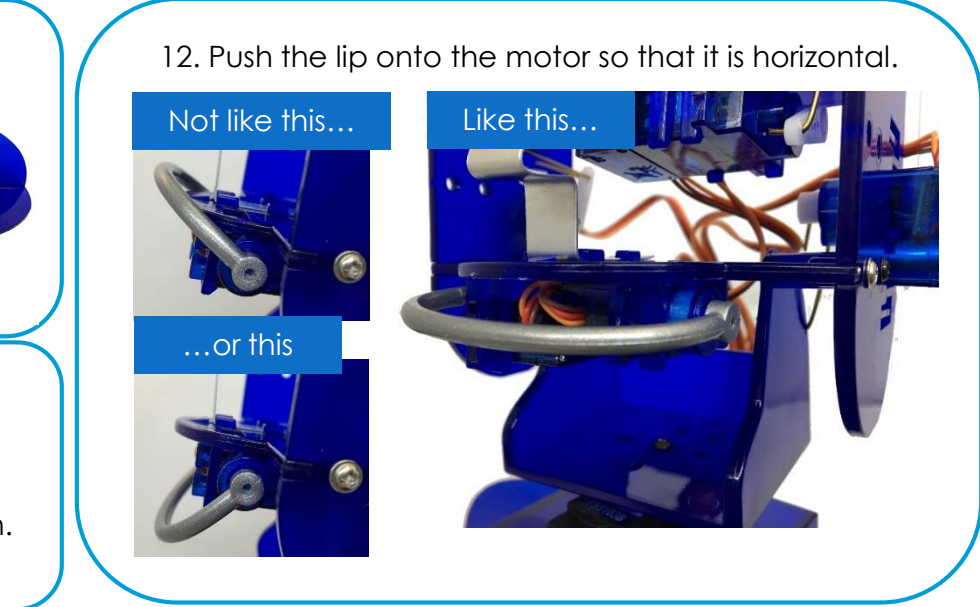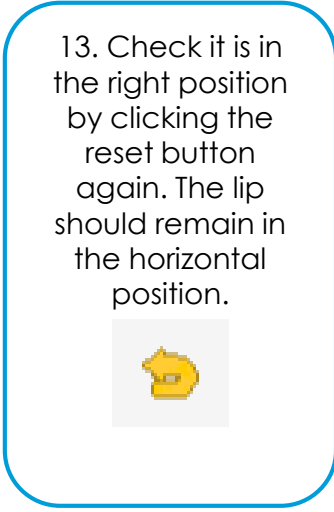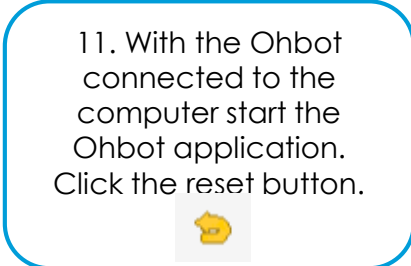
Brown on this side

Yellow on this side

Top Lip motor

10. Connect.

11. With the Ohbot connected to the computer start the Ohbot application. Click the reset button.

12. Push the lip onto the motor so that it is horizontal.

Not like this…

Like this…

…or this

B

13. Check it is in the right position by clicking the reset button again. The lip should remain in the horizontal position.

14. Use screw B to secure the lip in place.

B

B

Bottom Lip motor

disconnect
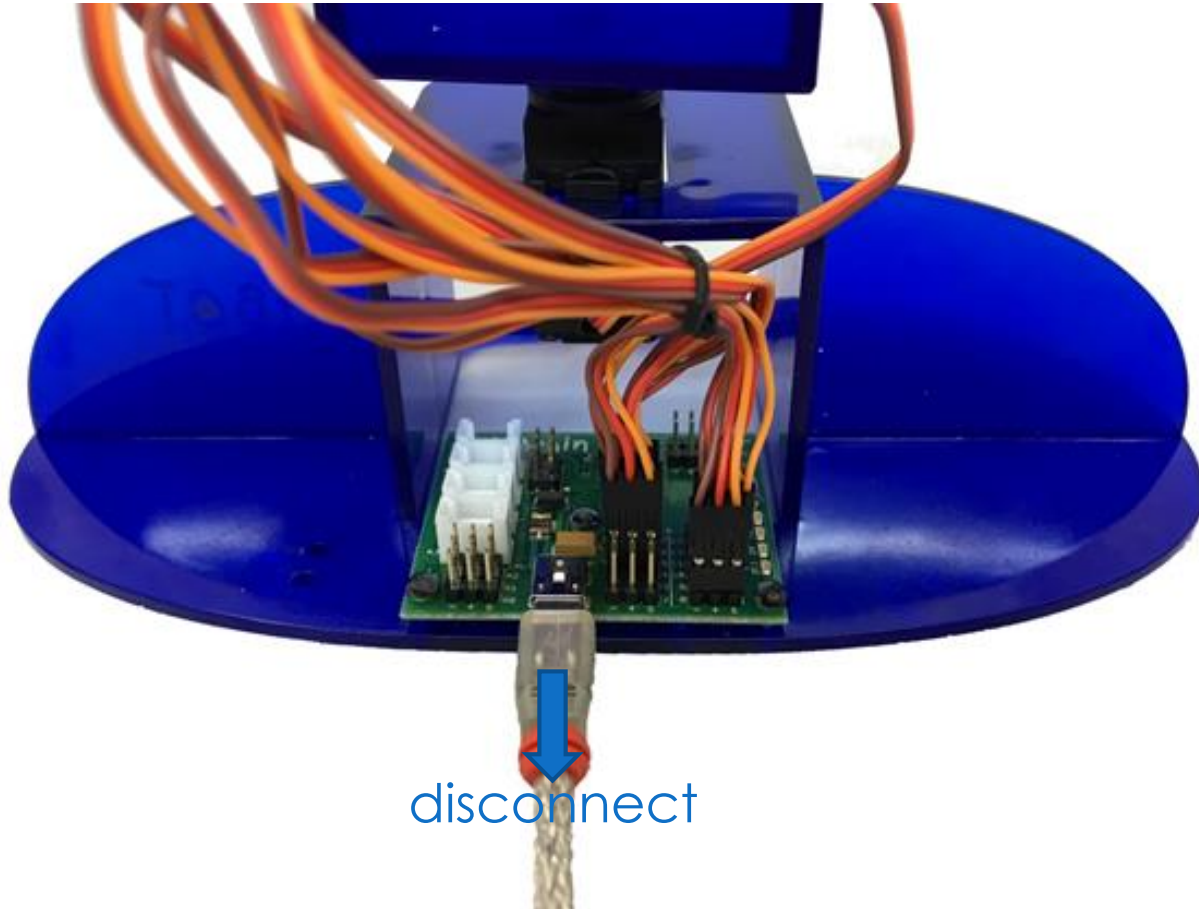
Remove Bottom Lip motor

You will need:

Bottom Lip motor
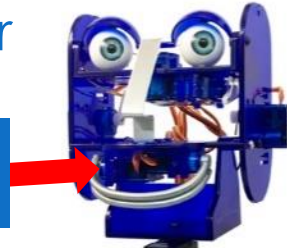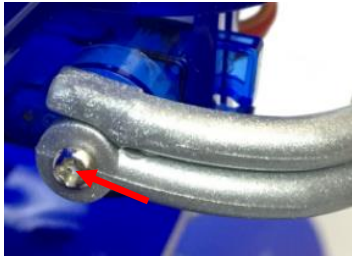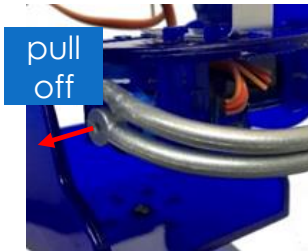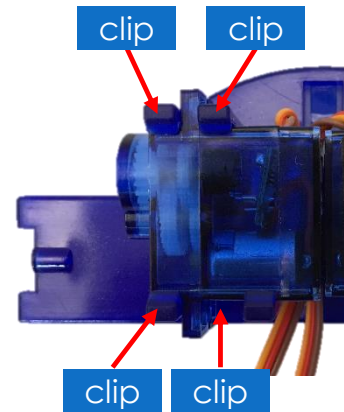
1. Use the screw driver to undo the screw holding white arm onto the Bottom Lip motor. Keep the screw.

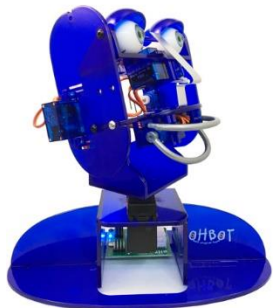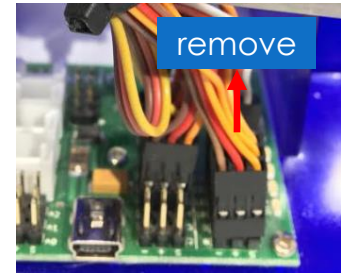2. Pull the Bottom Lip off the motor.

3. Tilt the head back to access the motor. Push the clips apart and remove the motor.

clip   clip

clip   clip

4. Use scissors to cut the cable ties holding the wires together.

5. Find the plug for the Bottom Lip motor on the control board. It is connected to the pins marked D9. Remove it.

pull off

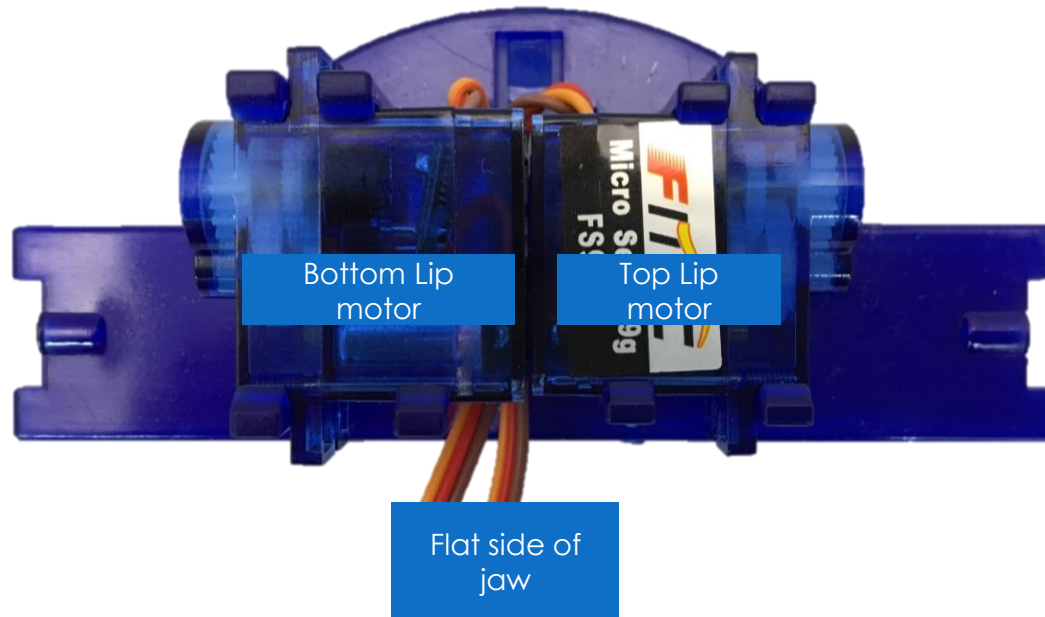remove

You will need:

6. Clip the Bottom Lip motor in. Ensure that the wires come out of the motor on the curved side of the jaw and go through underneath the Bottom Lip motor.
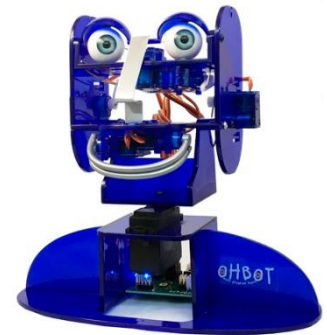
Curved side of jaw

Bottom Lip motor
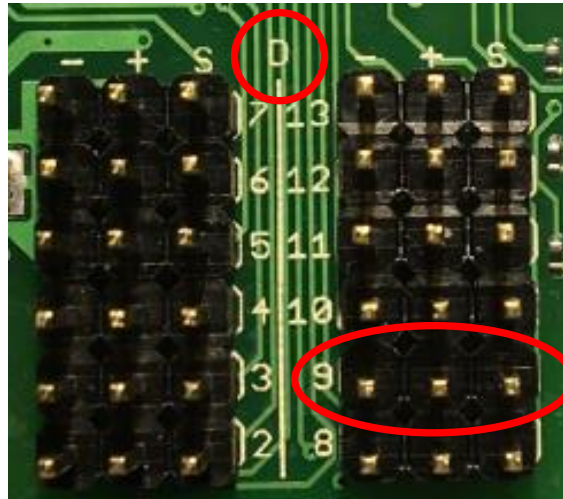
Top Lip motor

Flat side of jaw

Connect Bottom Lip motor to the control board

7. Find the socket at the end of the wire for the Bottom Lip motor.

8. On the Ohbrain board locate the set of pins marked D9.

9. Attach the socket to the pins marked D9. Make sure the brown wire is to the left (-) and the yellow wire is to the right (S).
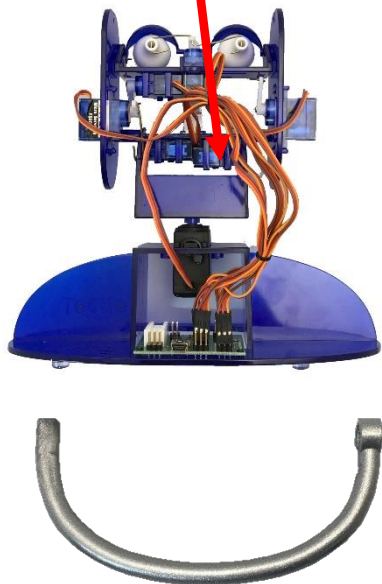
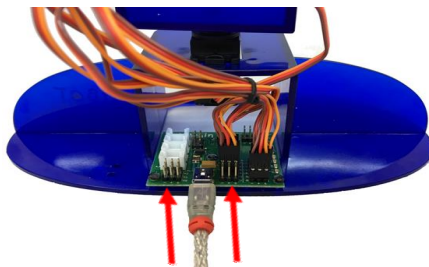Brown on this side

Yellow on this side
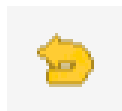
Set up Bottom Lip motor

Bottom Lip motor

10. Connect.

12. Push the the Bottom Lip onto the the servo so that it is horizontal beneath the top lip just like in the picture
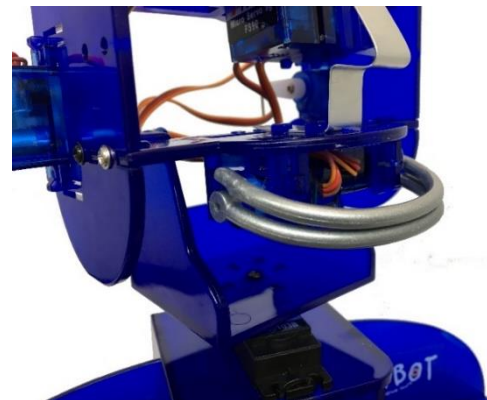
11. With Ohbot connected to the computer start the Ohbot software. Click the reset button.

13. Check it is in the right position by clicking the reset button again. The lips should remain in the horizontal position.
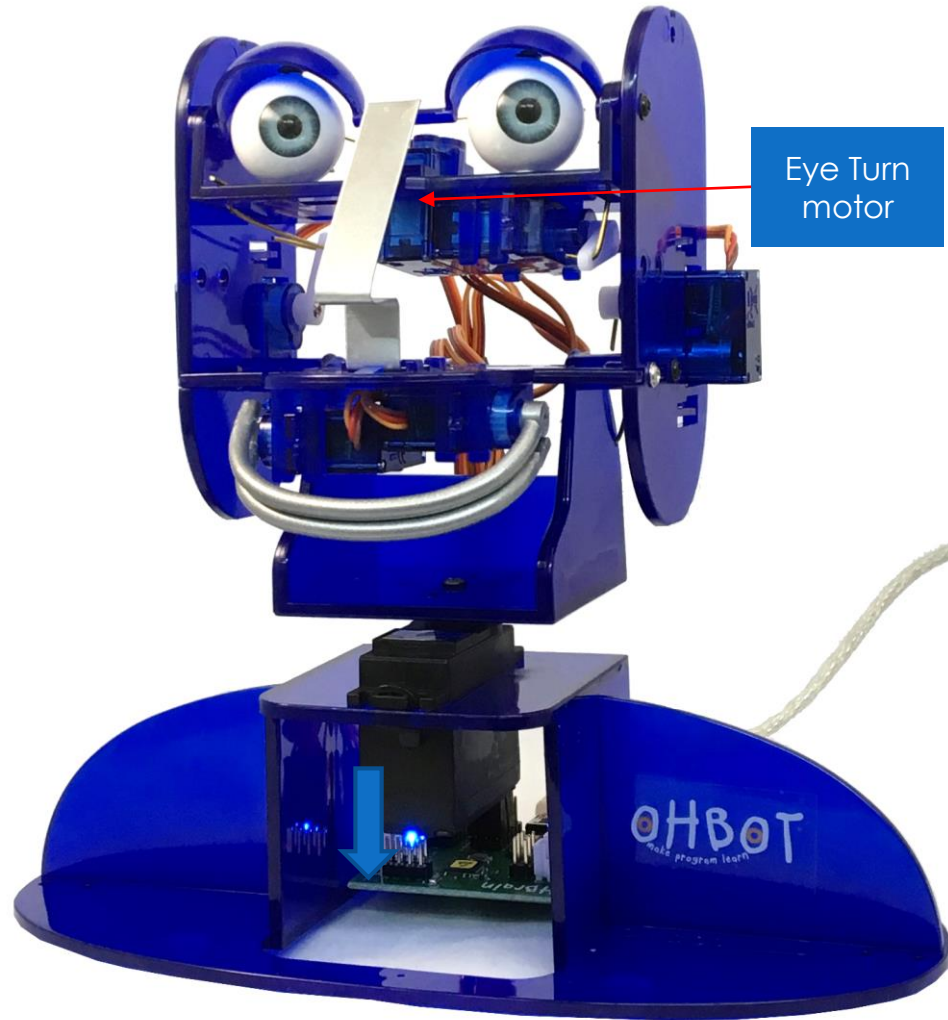
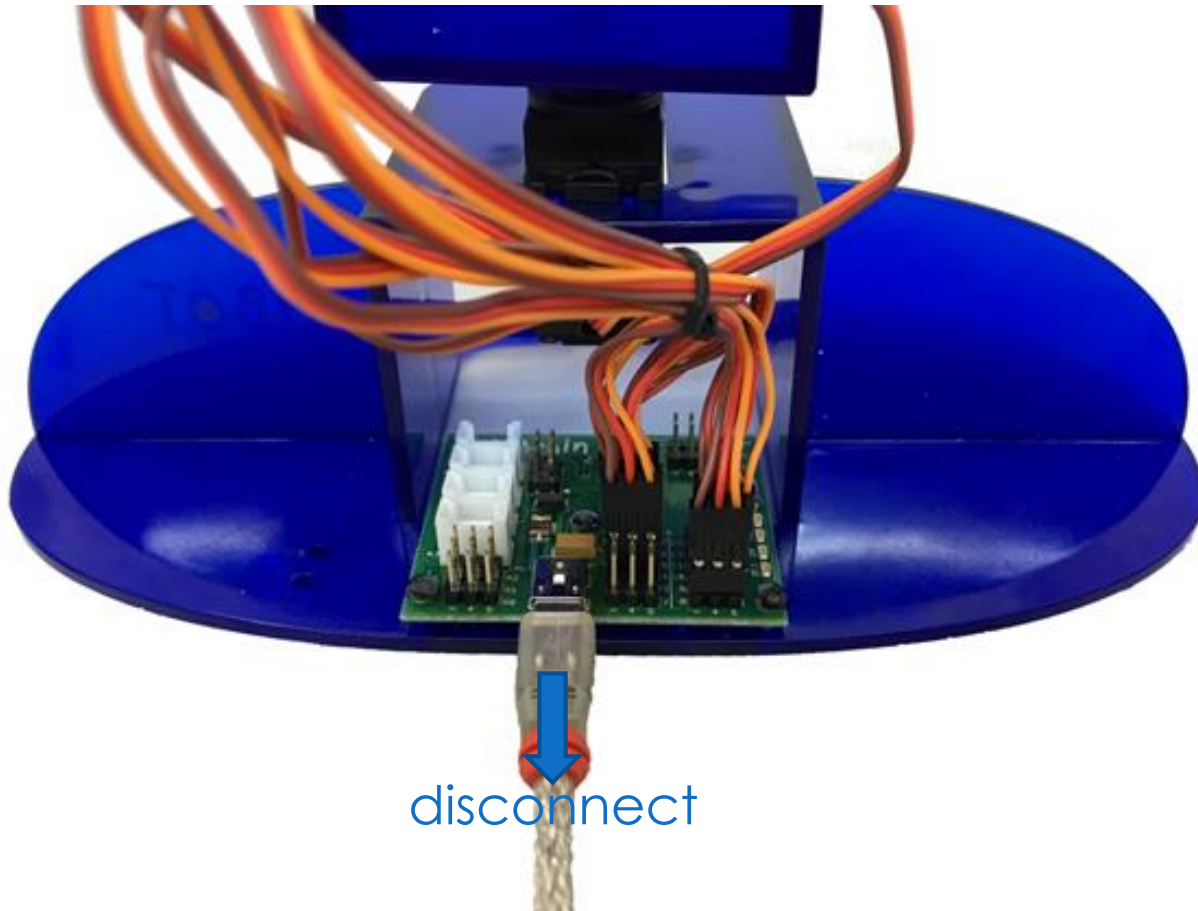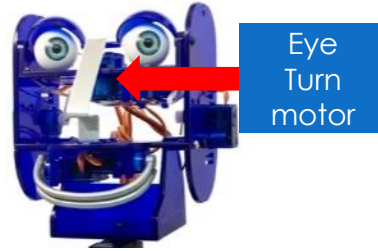14. Use screw to secure the lip in place

Eye Turn motor

disconnect

Remove Eye Turn motor
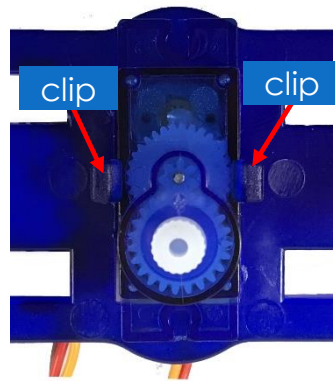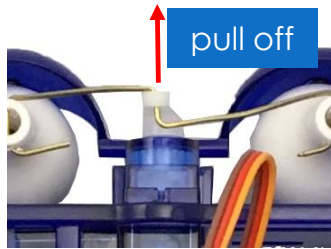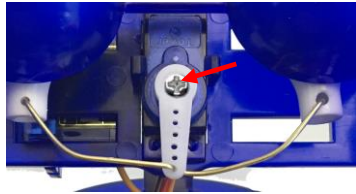
You will need:

Eye Turn motor

1. Use the screw driver to undo the screw holding white arm onto the Eye Turn motor. Keep the screw.

2. Pull the white arm off the shaft of the motor.

3. Push the clips apart and remove the motor.

4. Use scissors to cut the cable ties holding the wires together.

5. Find the plug for the Eye Turn motor on the control board. It is connected to the pins marked D6. Remove it.
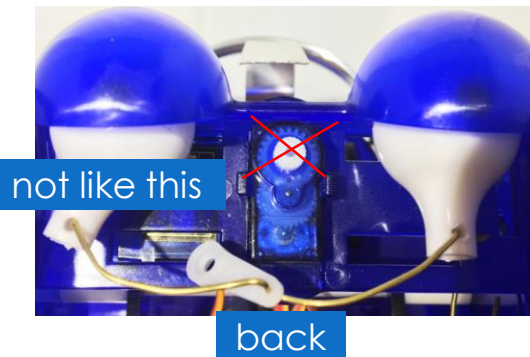
pull off

clip   clip
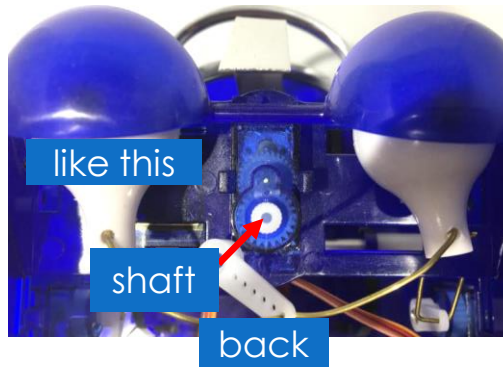
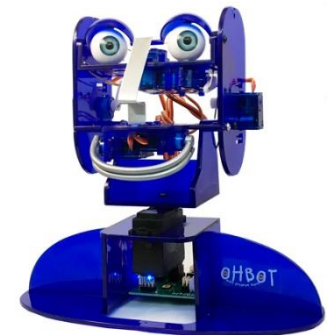remove
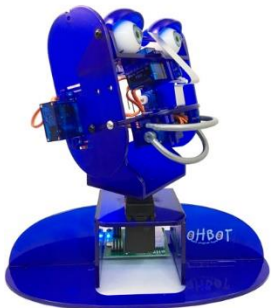
Fit Eye Turn motor

You will need:

6. Thread the wire through the hole.

7. Orientate the motor so that the shaft is towards the back.

like this

shaft

back

not like this

back

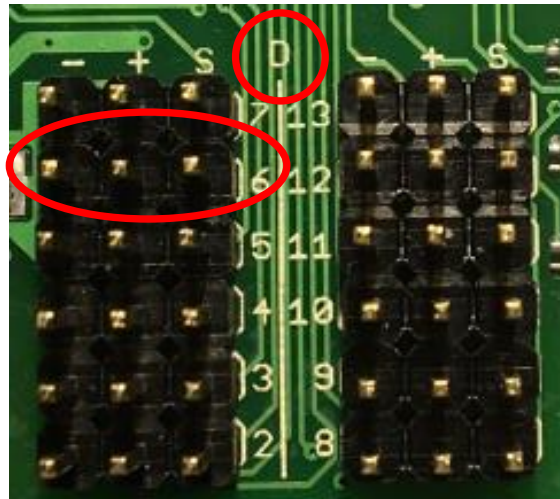**8. Clip the motor in place.**

clip

clip
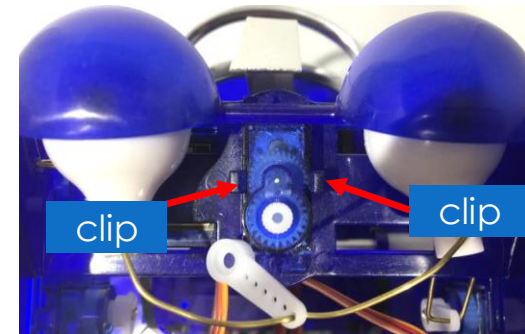
Connect Eye Turn motor to the control board

9. Find the socket at the end of the wire for the Eye Turn motor.

10. On the Ohbrain board locate the set of pins marked D6.

11. Attach the socket to the pins marked D6. Make sure the brown wire is to the left (-) and the yellow wire is to the right (S).
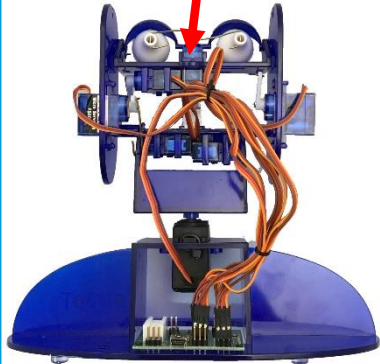
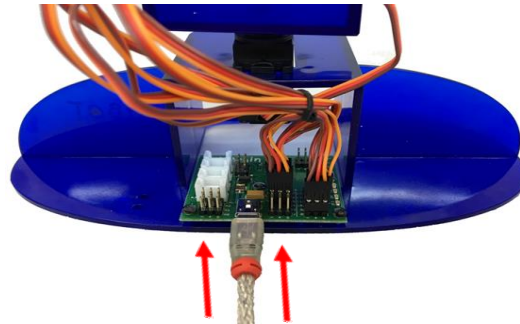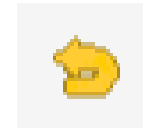Brown on this side
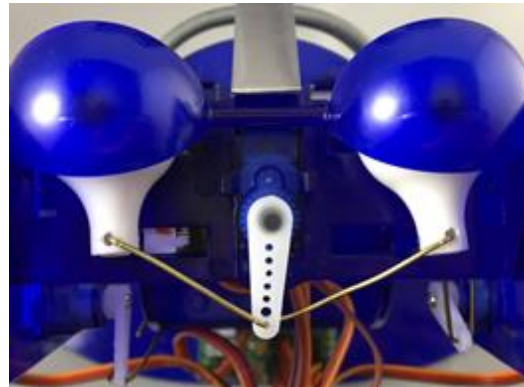
Yellow on this side

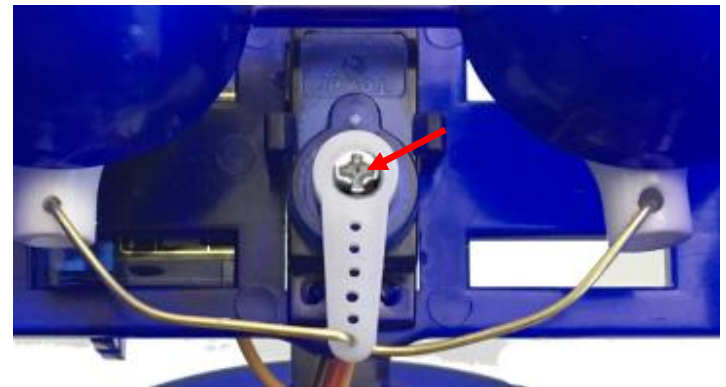**Eye Turn motor**

12. Connect.

13. With Ohbot connected to the computer start the Ohbot software. Click the reset button.
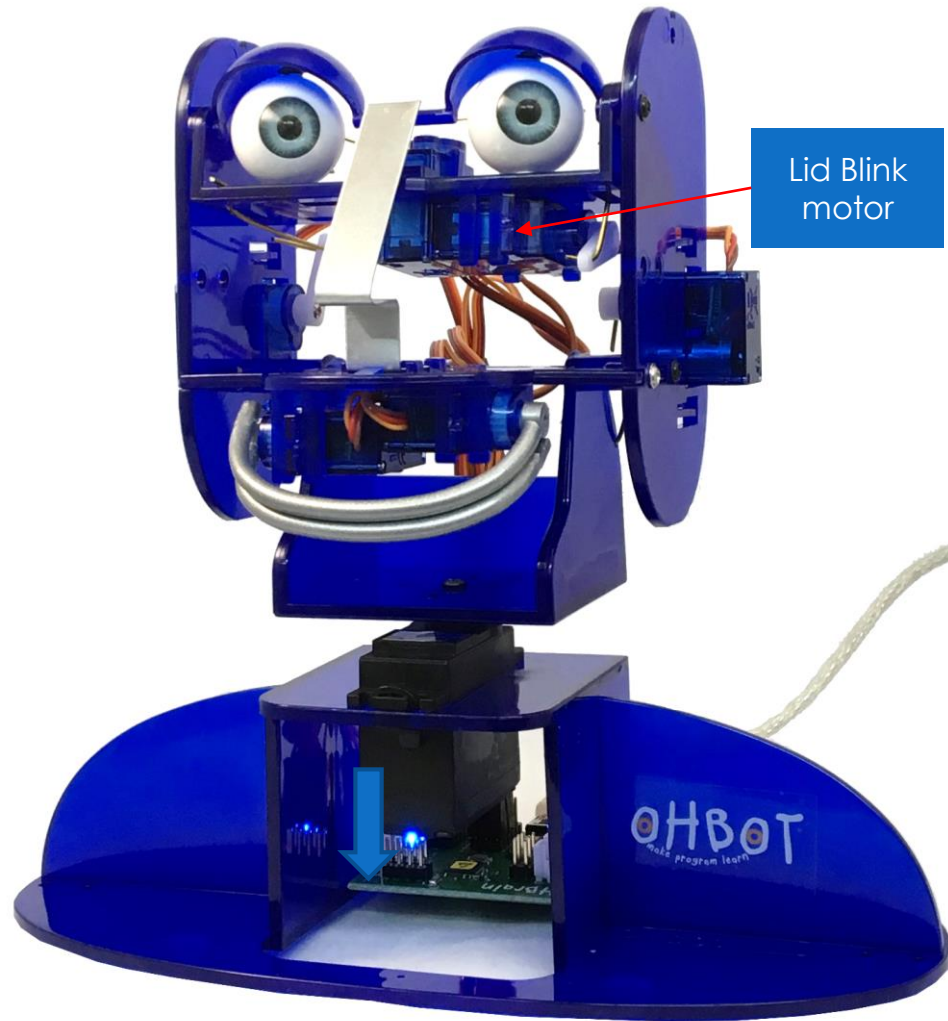
14. Push the white arm onto the motor in the position shown, so that Ohbot's eyes face straight forward.
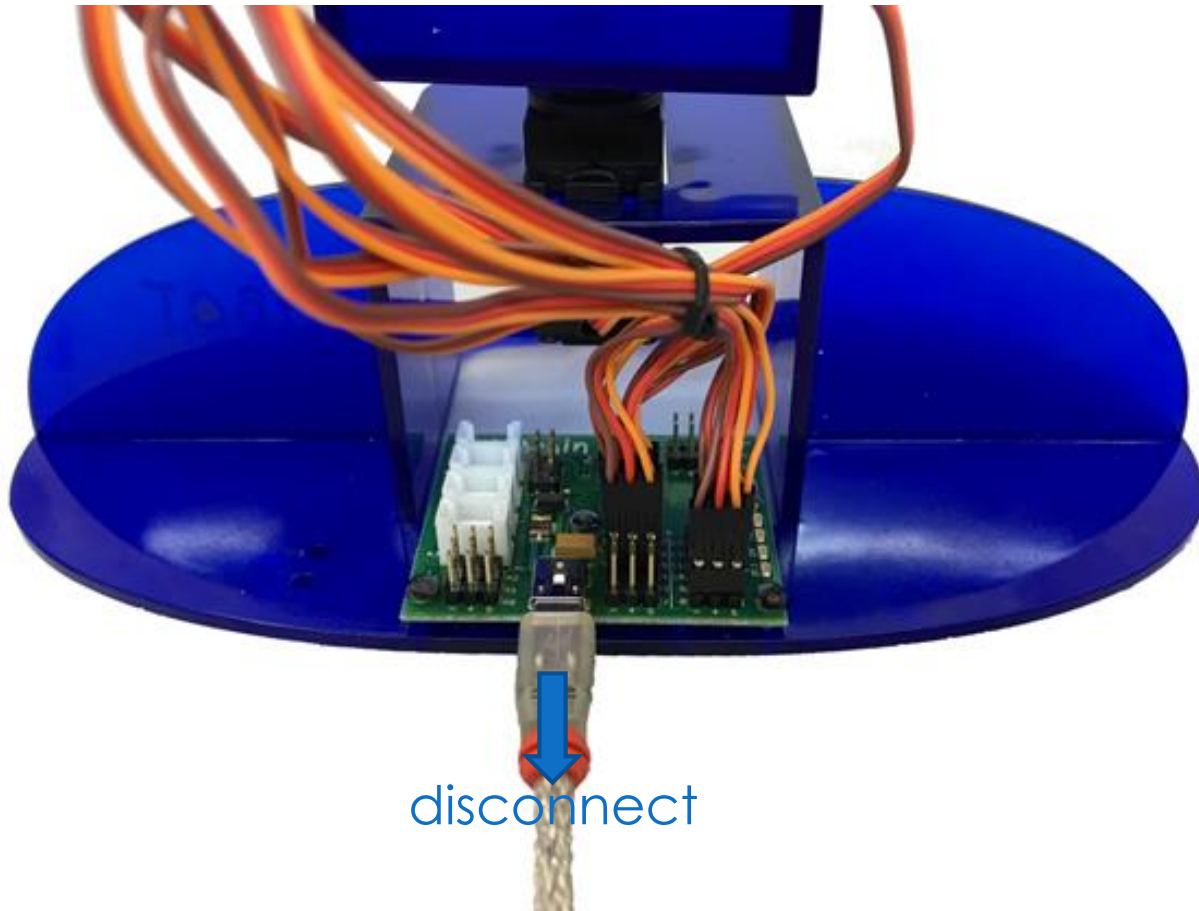
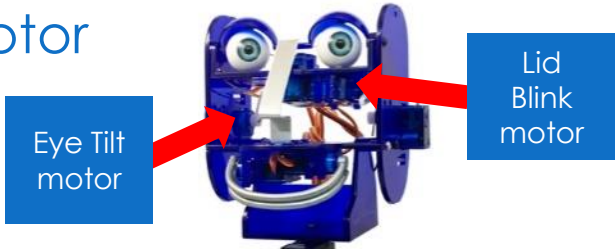15. Fix the arm onto the motor using the screw.

Lid Blink motor

disconnect

Remove Lid Blink motor

Eye Tilt motor

Lid Blink motor

You will need:

1. To access the lid blink you will need to remove the Eye Tilt motor link first. Use screw driver to undo the screw holding white arm onto the Eye Tilt motor. Keep the screw.

2. Pull the white arm off the motor.

3. Now you can tilt the eyes up so they face the ceiling. Remove the screw holding the white arm onto the Lid Blink motor. Keep the screw.
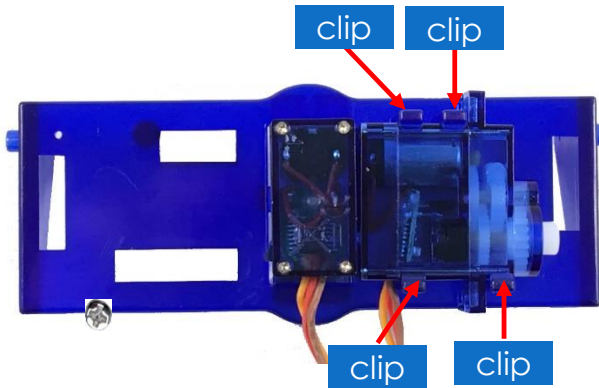
4. Pull the white arm off the motor.

Eye Tilt motor

pull off

Lid Blink motor

pull off
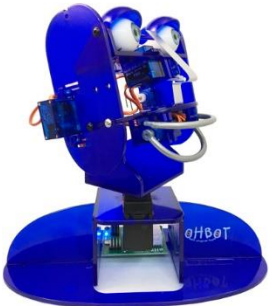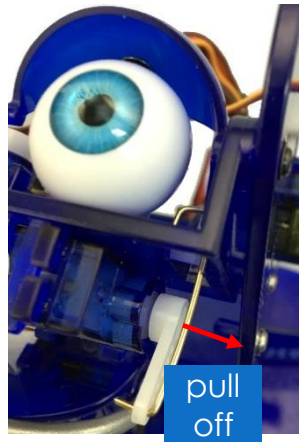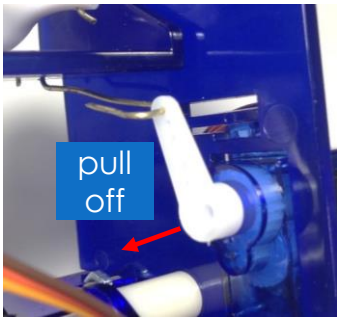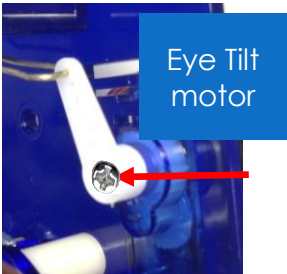
Remove Lid Blink motor

You will need:

Lid Blink motor

5. Push the clips apart and remove the motor.

clip   clip

clip   clip

6. Use scissors to cut the cable ties holding the wires together.

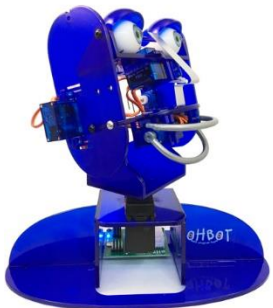**7. Find the plug for the Lid Blink motor on the control board. It is connected to the pins marked D7. Remove it.**

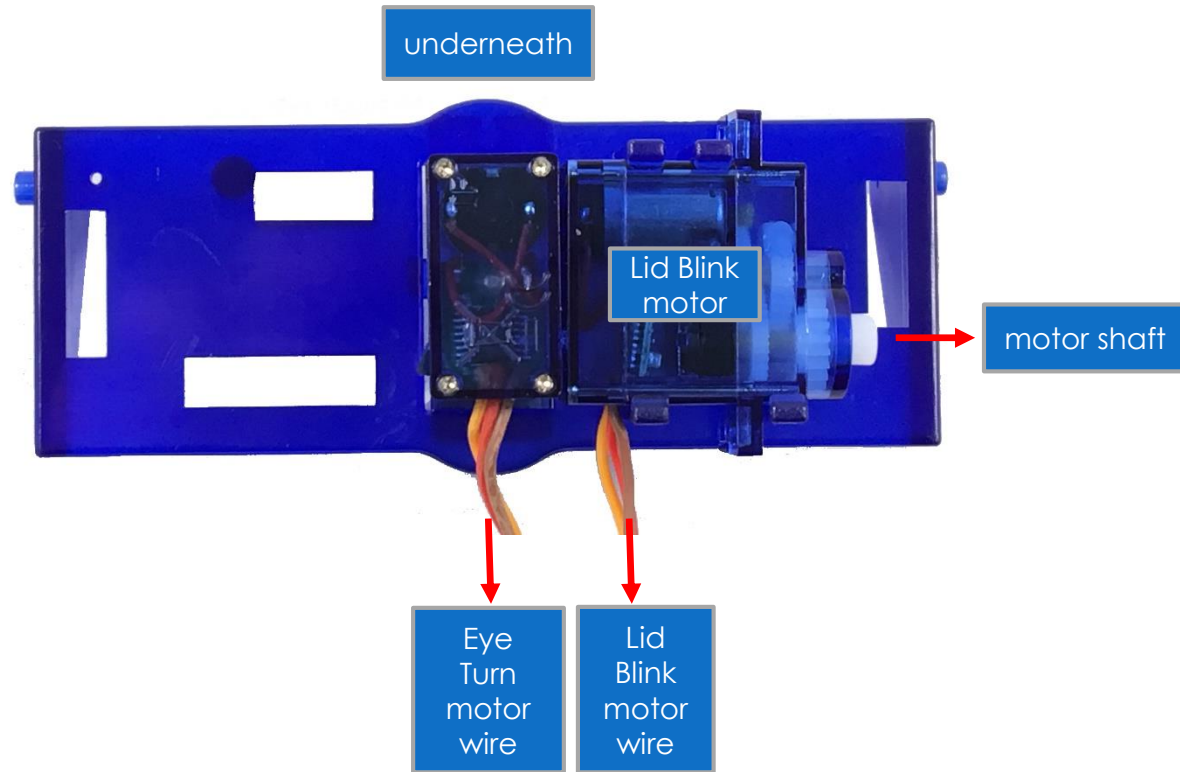remove
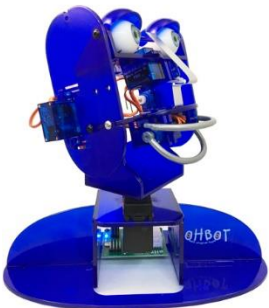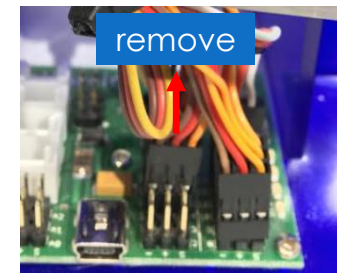
You will need:

8. Orient the Lid Blink motor as shown. Ensure the wires for both the Eye Turn and Lid Blink motors come out on the same side. Clip in place.
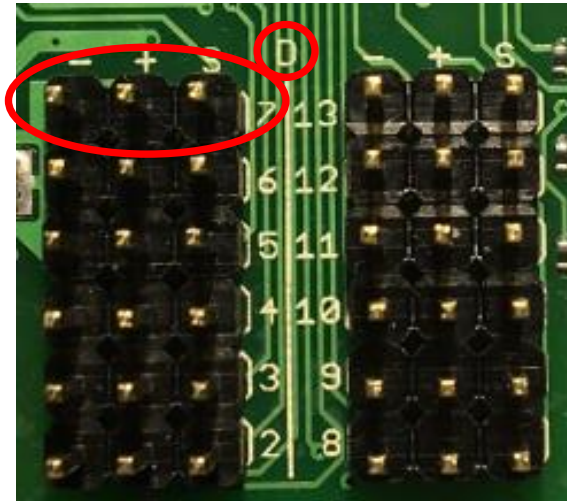
underneath

Lid Blink motor

motor shaft

Eye Turn motor wire

Lid Blink motor wire

9. Find the socket at the end of the wire for the Lid Blink motor.

10. On the Ohbrain board locate the set of pins marked D7.

11. Attach the socket to the pins marked D7. Make sure the brown wire is to the left (-) and the yellow wire is to the right (S).
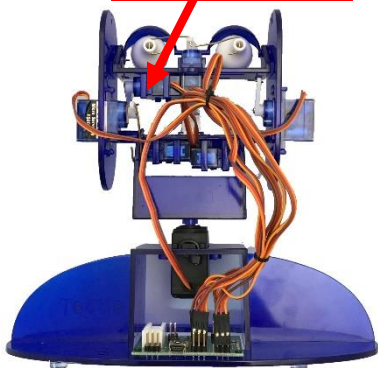
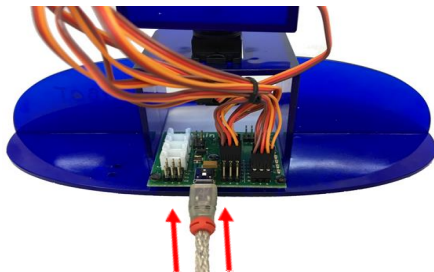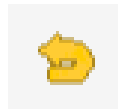Brown on this side

Yellow on this side

Lid Blink motor

1. Connect.

2. With Ohbot connected to the computer start the Ohbot software. Click the reset button.

3. Thread the link onto the end hole on the arm.

3. Push the arm onto the motor so that it holds the eyelids wide open.

4. Tilt the eyebox up fix the arm onto the motor using the screw.

4. Turn to page 12 and follow instructions to reattach the Eye Tilt motor arm.