

# ORTOP Modular Robot v3.0

## Final Assembly

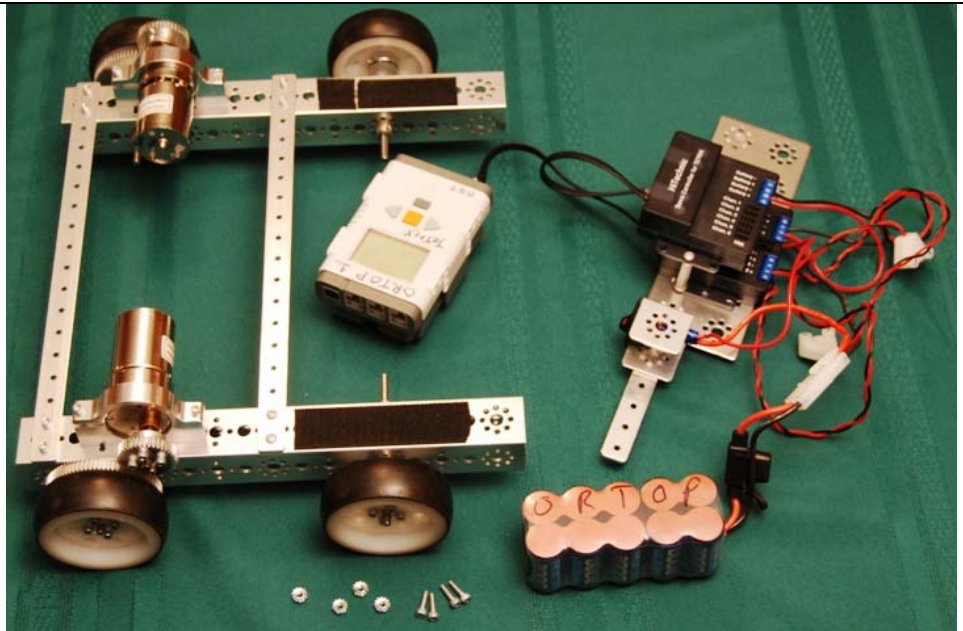
### Assemble Controller Module to Chassis

**Parts Needed:**

- 1 – Chassis assembly
- 1 – Controller module assembly

**Final Assembly BAG 1**

- 4 – Cap screws, 1/2"
- 4 – 6-32 nuts



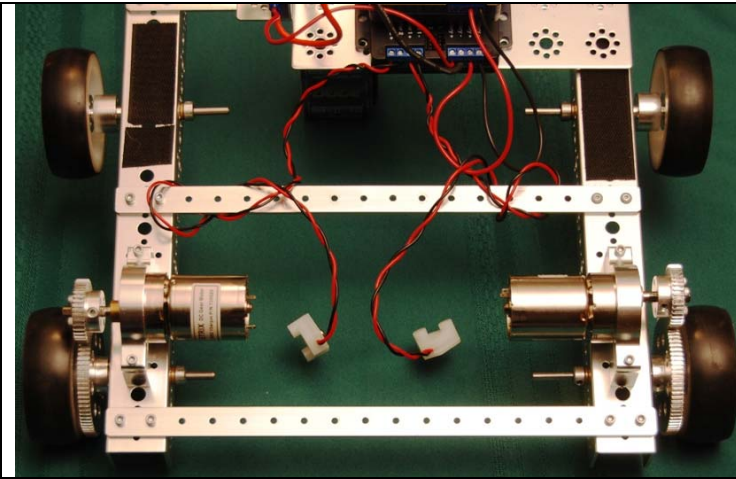
### Assembly



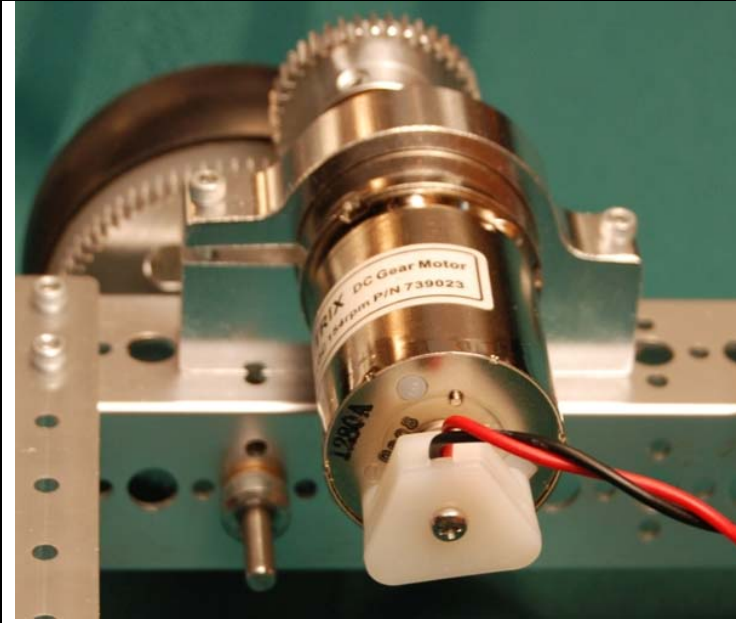
1. Place the controller module on the rear of the chassis as shown, with the outermost rear holes of the controller module aligned with the outermost rear holes on the chassis channel.
2. Note that the holes where the screws go are arrowed in the illustration.



3. Secure the module with four 1/2" cap screws and nuts.



4. Run the motor wires towards the motors as shown.

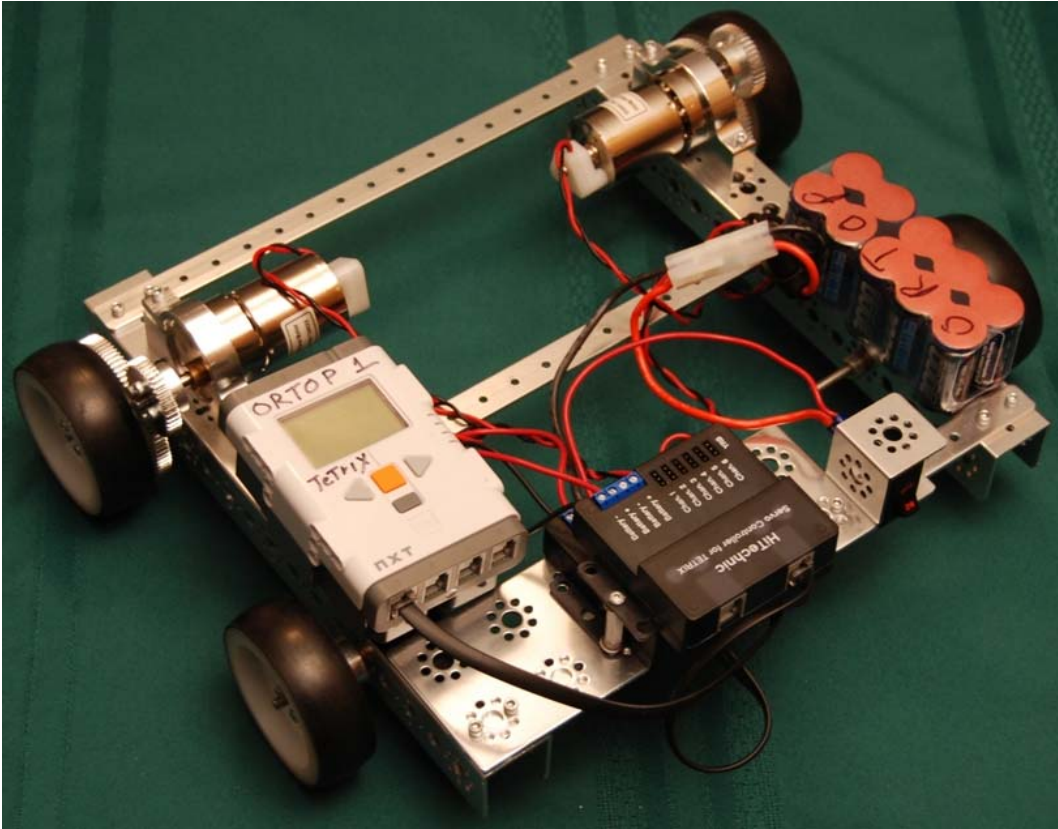


5. Connect wires from the port 1 of the motor controller to the left motor.

6. Connect the wires from port 2 of the motor controller to the right motor.

**Warning:** the motor tabs are very delicate and can be broken very easily.

## ***Controller Module Mounted to Chassis***





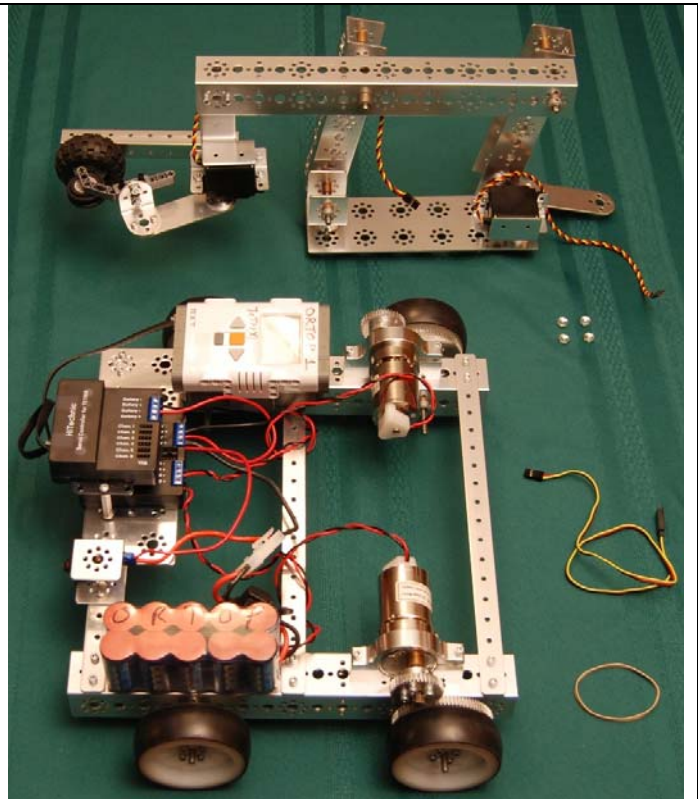
# Assemble Arm Module to Chassis

## Parts Needed:

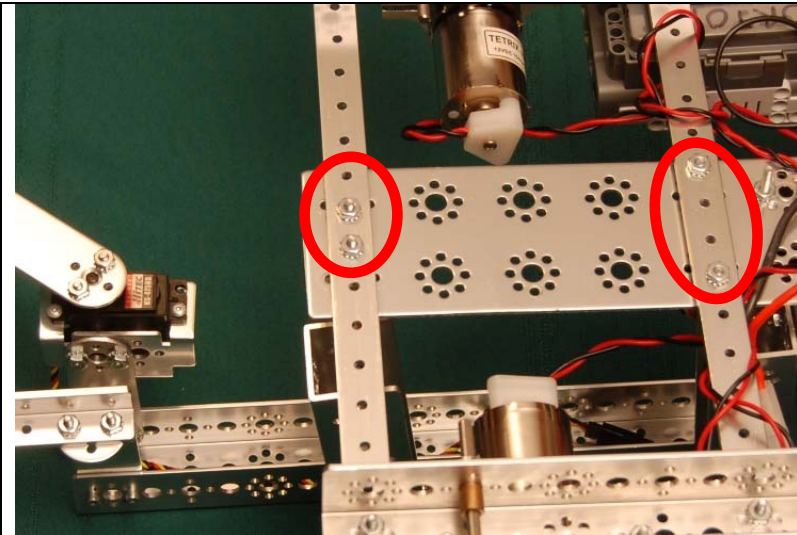
- 1 – Chassis and Controller Assembly
- 1 – Arm Assembly

## Arm Assembly BAG 2

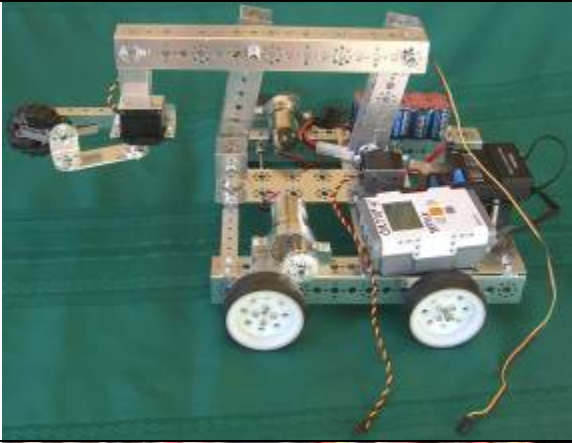
- 4 – 6-32 Nuts
- 1 – Rubber Band



## Assembly

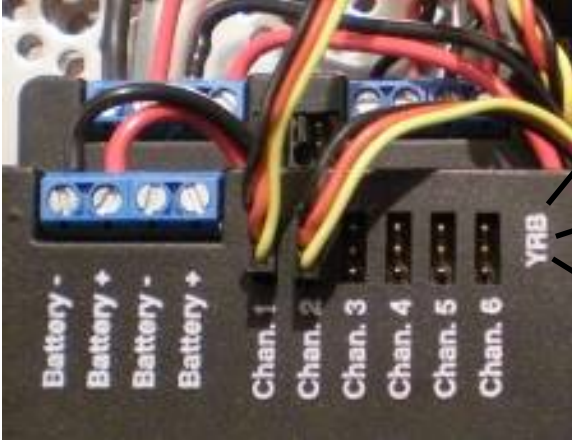


7. Remove the NXT and battery for safety. They will be reinstalled later.
8. Turn the arm assembly upside down and place the chassis upside down on top of the arm assembly such that the four screws protruding from the arm engage the four holes in the two flat bars as shown.
9. Secure with four nuts.



10. Reinstall the NXT and battery, making sure they are securely affixed with hook and loop material.

11. This is what the arm looks like screwed to the chassis.



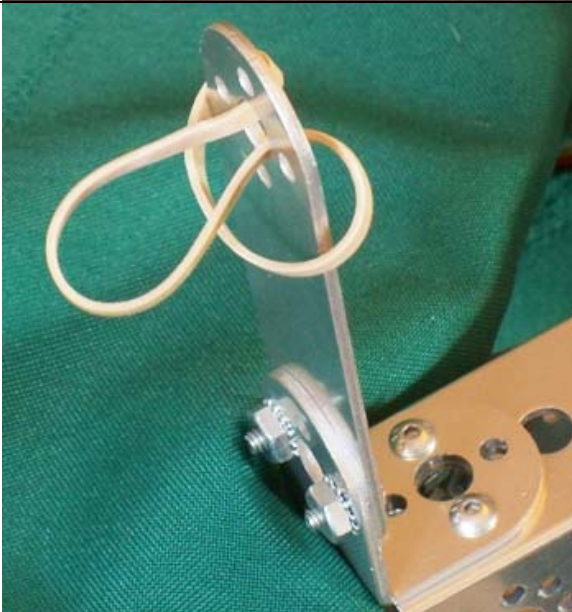
Black

Red

Yellow

12. Connect servo wires as shown. Make sure that the wire for the arm servo is plugged into Chan. 1 and the wire for the pincer servo is plugged into Chan. 2.

**NOTE:** make sure that the wire colors are exactly as they appear in the image to the left; the yellow wire should correspond to the "Y" end of the connector.



13. Attach the rubber band to the bracket on the back side of the arm as shown.



14. Remove the on/off switch from the channel and attach the rubber band as shown.
15. Then re-attach the on/off switch as shown in the final image below.



# Completed Robot

