

# Advanced Manufacturing Academy 2016

APPENDIX A – WHEEL ASSEMBLY INSTRUCTIONS

**ROBOTICS**

College of Engineering and Technology

East Carolina University

# Wheel Assembly Instructions

- Wheels intended for different servo
- Must use servo horn adapter to attach
  - Use round servo horn adaptor provided with the servo.
- Middle screw
  - Centers wheel
  - Holds on to servo
- Hot glue locks wheel to adaptor
  - Could also use small screw

# Robot Parts – Servo

- The SERVO
  - Feetech FS90R
  - Continuous Rotation
  - Combined functions
    - ✓ Motor
    - ✓ Feedback control
    - ✓ Gearbox



[www.pololu.com](http://www.pololu.com)

# Robot Parts – Wheels

- Molded plastic wheels
  - Pololu #290
  - Intended for Futaba
  - Slight mod for us
  - Mount backward

INSTALL ON FUTABA  
SERVO SHOWN

Smooth side mounts toward servo.

[www.pololu.com](http://www.pololu.com)

Install screw in this pocket.



# Assembly – Wheels

- Install The Wheels!
- You will need
  - Wheel assemblies (2)
  - Servo adapter (2)
  - Mounting screws
  - Hot glue



# Wheel Assembly – Step 1

- Install the tires first
  - Only need one tire per wheel
  - 2 “tires” with each wheel – ONLY USE 1
  - Stretch over wheel



# Wheel Assembly – Step 2

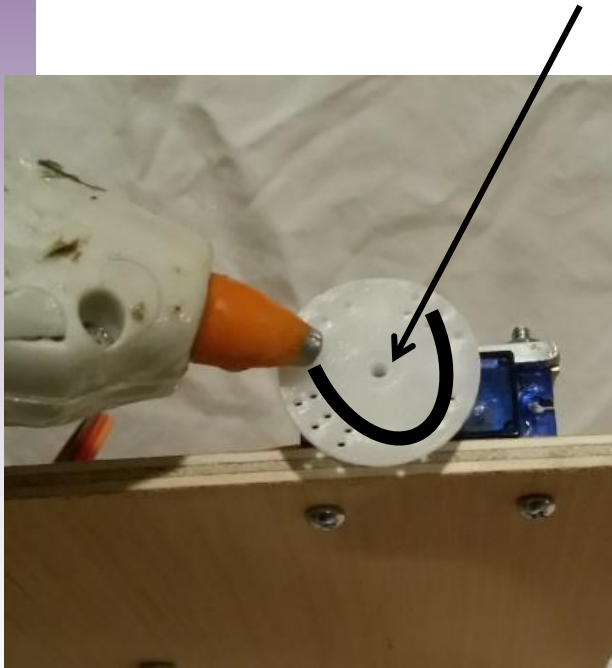
- Install Servo Adapter on servo
- Drop screw into wheel
  - NOTE Orientation of Wheel

POCKET THIS SIDE UP  
Flat side placed against  
adaptor

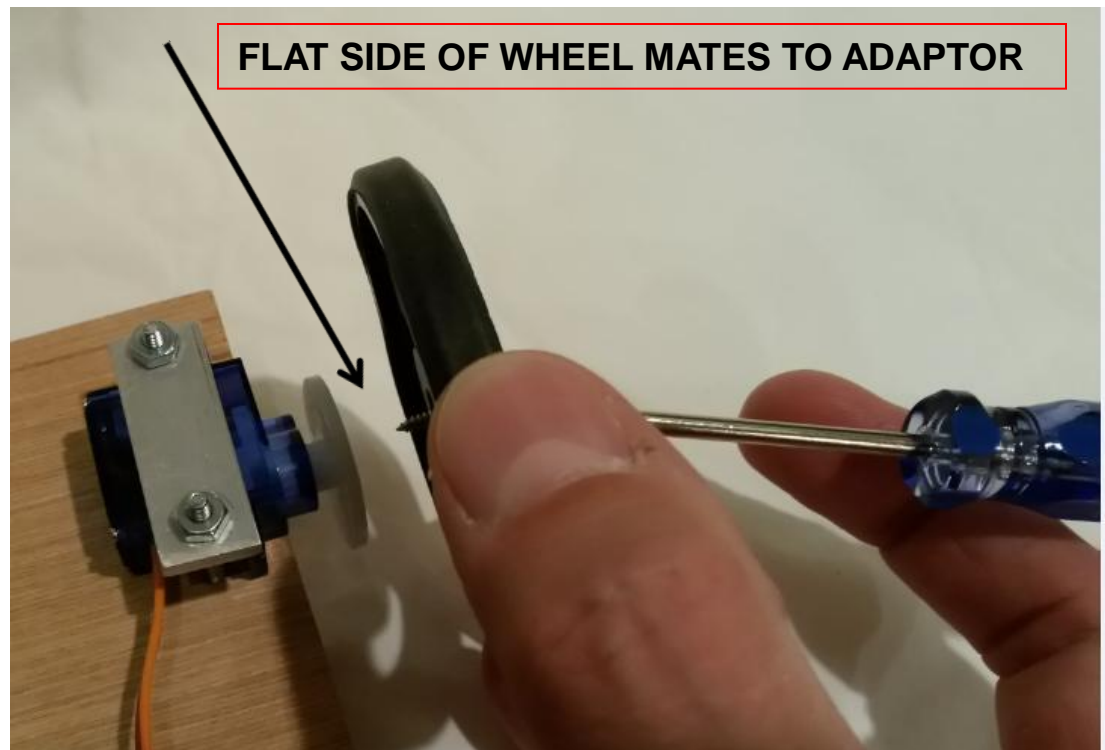


# Wheel Assembly – Step 3

- One small line of glue on servo adapter
- Center and install wheel – QUICKLY



APPLY A “SMILE” OF GLUE ON  
OUTSIDE OF ADAPTER AS SHOWN





# Wheel Assembly – Step 4

- Work quickly before glue cools
- Make sure wheel is centered
- Carefully tighten center screw – Both sides
  - Give glue 1-2 minutes to cool



# Assembly – Done

- Wheels Installed – It should look like this!
  - Test it: GENTLY turn the wheel by hand. Wheel, servo adapter and servo should turn together if you turn wheel.

