ELECTRONICS
INTRODUCTION

Designing a Next-Generation Surgical Robot Activity
Connect switch to receiver. Red connector goes in the last slot of receiver marked “B.”
- Wires: red on the left; black on the right

Connect servos to receivers. At this point, it does not matter which channel you plug each servo into.
- Wires: white on the left; black on the right!!!!

Make sure switch is turned off.
Connect switch to battery pack. Line up the black wire on the battery pack with the black wire on the switch.

Always turn ON transmitters first and then turn on switch.

Tare (zero) continuous rotation servos if they are rotating on their own (see next slide for instructions).

Always turn switch OFF first and then transmitters.

The switch should never be on when the transmitter is off!!!!!

➤ You will break the servos if you do this!
To Tare the Servos

- If the servo is rotating **fast**, then follow the procedure below for **coarse adjustment**:
  - Locate the hole with the internal screw.
    - It is next to where the wires come out of the servo.
  - Use a small Phillips head screwdriver to turn this screw until the servo stops moving or is moving very slowly.
  - If the servo spins faster when turning the screw, then turn it in the opposite direction until it stops or is moving very slowly.

- If the servo is rotating **slowly**, then follow the procedure below for **fine adjustment**:
  - Locate the servo adjustment switch on the transmitter that corresponds to the channel that your servo is plugged into (there is one for each channel).
  - Move this switch until the servo stops moving.
Electronics Tips

- Always make sure all switches are turned off when not in use; otherwise it drains the batteries.
- Receivers are very delicate so please handle with care.
- Never use glue to attach any of the electronics (including the servos) to your device.
- Ensure that servos can be zeroed easily when attached to your device (internal screw should be exposed).
- Make sure batteries are easily accessible in case you need to check their voltage or replace them.
- Never glue anything on top of the accessory screw on the servos (so that devices can be completely disassembled at project end).