**Designing and Building a Robotic Hand Using  
the Force Sensor Circuit GUIDANCE & TIPS**

**Use this instruction manual to help you design and build a robotic hand. Incorporate the force sensor into the inside of a glove finger. The sensor remains connected to the electric circuit as force is applied to an object. Make sure you have the following items:**



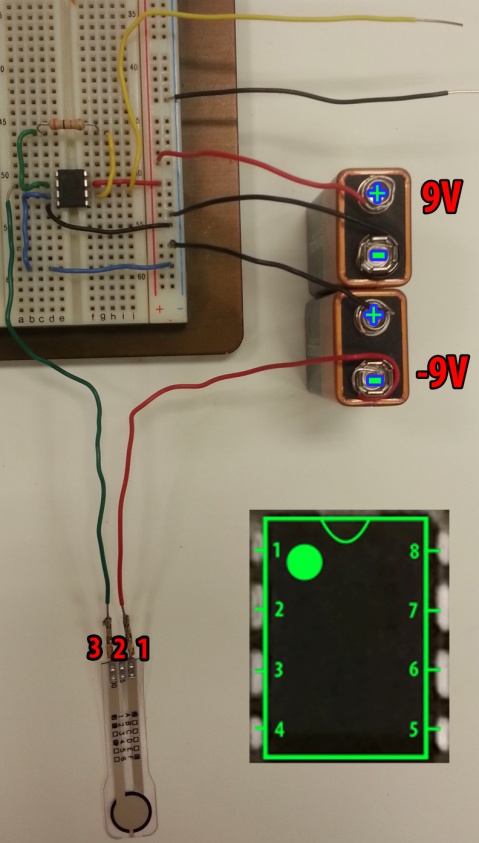
**robotic hand circuit with sensor**

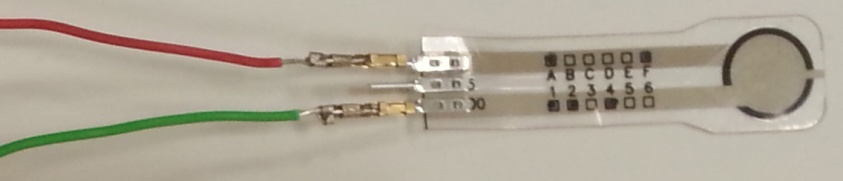
**wood puck**

**threaded needle**

**super glue**

**glove**

**NOTE: Record the minimum force required to crack an egg on the *Building an Electric Circuit Evaluation Sheet.***

1. **FlexiForce Sensor**
   1. Disconnect ONLY the FlexiForce sensor   
      from the robotic hand circuit.
   2. You may want to replace some sensor   
      wires with longer ones.
   3. The sensor will be used inside the glove!!

**Figure 1**

1. **Glove Stitching Removal**
   1. Turn glove inside out.
   2. Choose any glove finger and remove the stitching from the upper half.





**Figure 2A**

**Figure 2B**

1. **Sensor**
   1. Turn glove inside out.
   2. Place the FlexiForce sensor inside the chosen glove finger.

Tip: The sensor sensing area should be facing DOWN.

* 1. Secure the sensor inside by sewing around it from side to side.

Tip: Make sure not to pierce the sensor!



**Figure 3A**

**Figure 3B**

1. **Puck**
   1. Glue the puck to the sensor sensing area.

The puck is between the sensing area and the glove surface.

* 1. Sew the glove finger back to its original state.

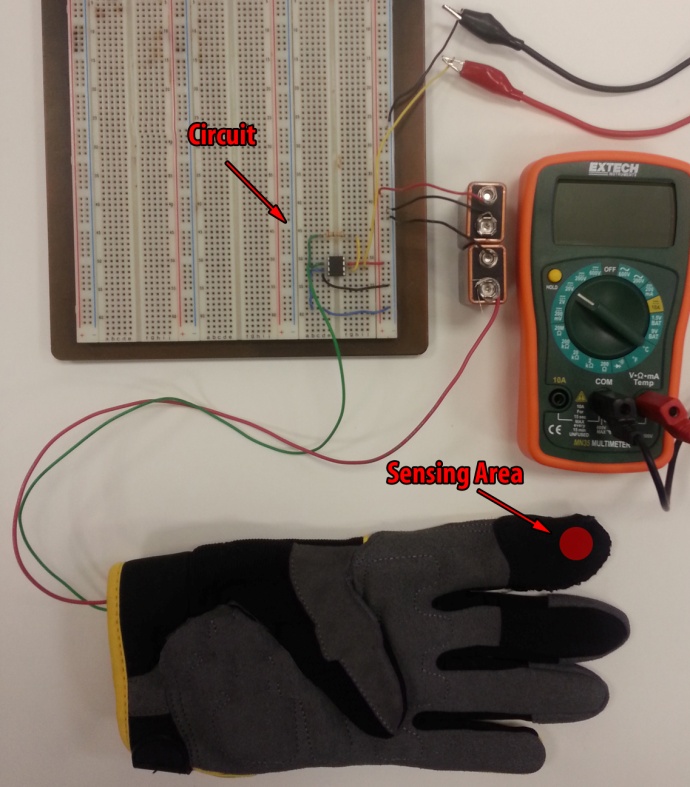




**Figure 4B**

**Figure 4A**

1. **Glove Testing**
   1. Connect the glove to the robotic hand circuit.
   2. Connect the multimeter, if it is not already connected.
   3. Add pressure to an object (the egg).



**Figure 5B**

**Figure 5A**