

Lynx 5 Arm Assembly Instructions Rev. 5.

Updated 02/25/2008.

Safety first! Wear eye protection and never touch a powered robot!

Note: Do not use Loctite or thread locks on the assembly. They are not necessary and may cause damage to the Lexan.

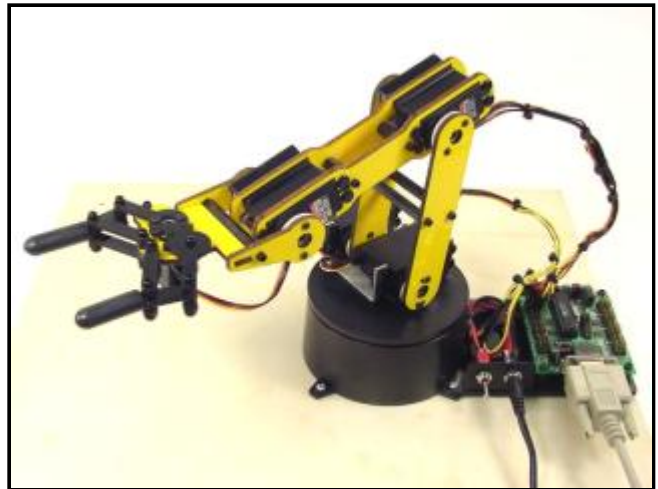


Image of complete arm.

Step 1.

Figure 1 illustrates a typical standard-size servo with its output horn (the round white part) at center position. Make sure your servo looks like the image. The arrows in the image point to the screw holes you will use.



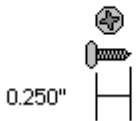
Figure 1.

Step 2.

Install the lexan panels as shown. Use four #2 tapping screws. Tighten the screws down completely on the left assembly. On the right assembly, use two star washers, and leave the screws loose for now.

4 x

#2 x .250" (1/4") Steel
Phillips Head Tapping Screw



0.250"

2 x

#2 x .188" Steel
External Tooth Lock Washer

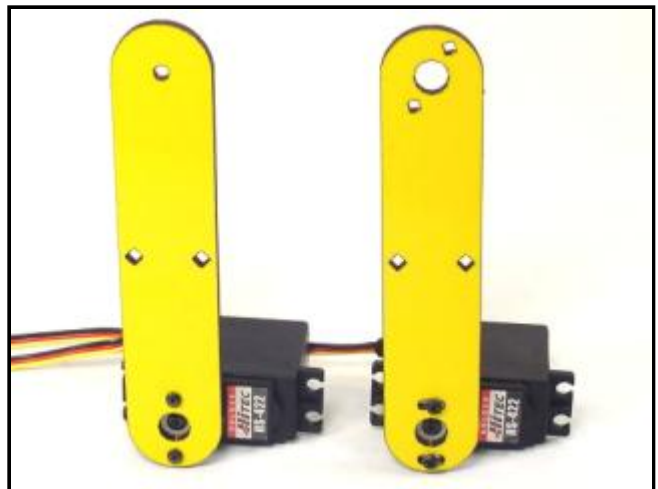


Figure 2.

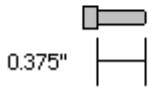
Step 3.

Install the 1.875" aluminum spacers to the lexan panels as shown. Use four 4-40 x .375" screws.

4 x

4-40 x .375" (3/8") Steel
Hex Socket Head Cap Screw

3/32" drive



2 x

4-40 x 1.875" Aluminum
.250" F/F Hex Spacer

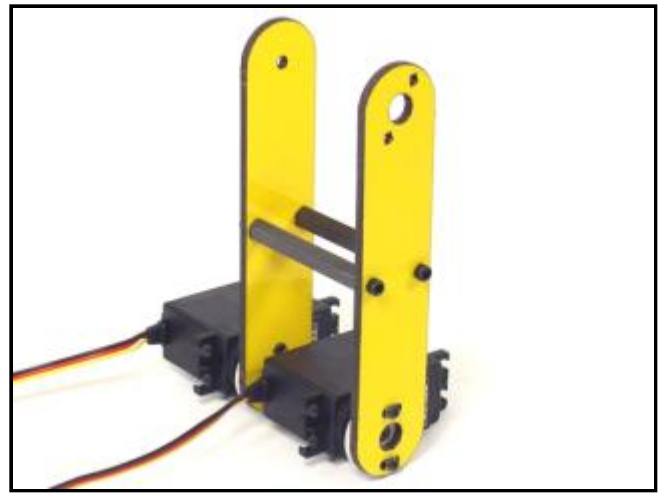
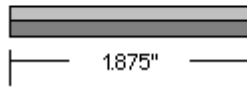


Figure 3.

Step 4.

Attach the assembly to the base bracket as shown. Use eight snap rivet fasteners. Route the shoulder servo wires between the inner lexan panel and the bottom of the servo.

8 x

.172" x (.187"-.250")
Nylon Rivet Fastener

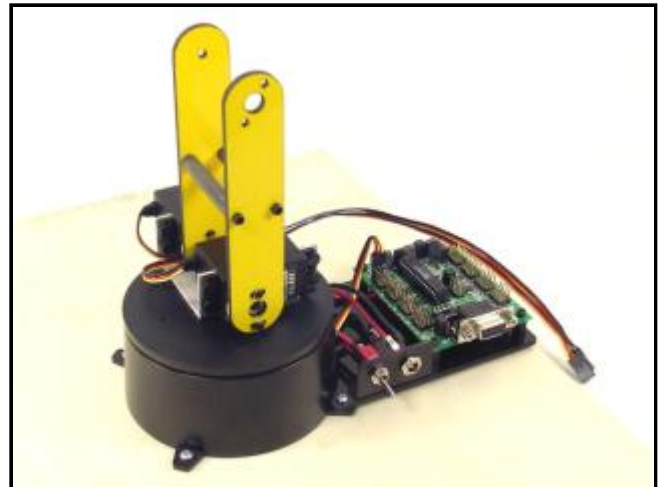


Figure 4.

Step 5.

Connect the shoulder servos to a Y-adapter as shown. Make sure to align the connectors properly, so that yellow goes to yellow, and black goes to black.

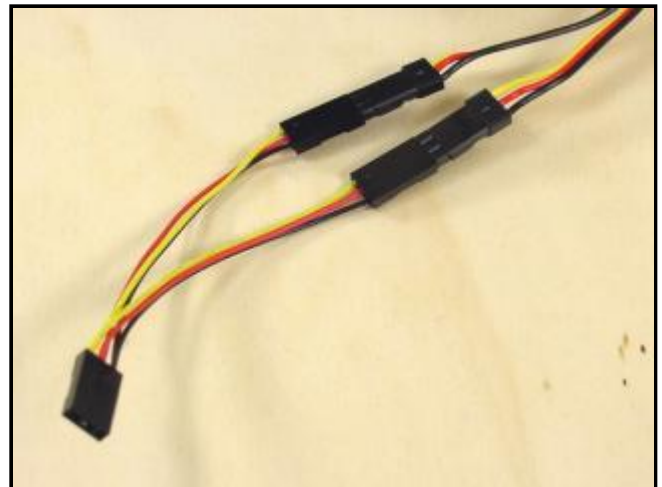


Figure 5.

Step 6.

Install the Y-adapter into channel 1 on the SSC-32. If you haven't already done so, download and install [Lynxterm](#). Plug in the 6vdc 2amp wall pack and DB9 data cable as shown. Press the "All=1500" button to center the servos.

Double check to make sure the lexan panels are aligned, then tighten the screws down.

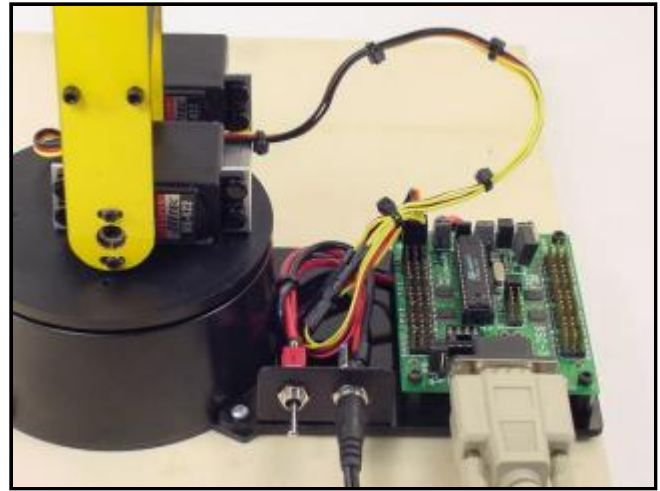


Figure 6.

Step 7.

Assemble the forearm structure as illustrated. Use eight of the rivet fasteners to hold the servos in place.

8 x

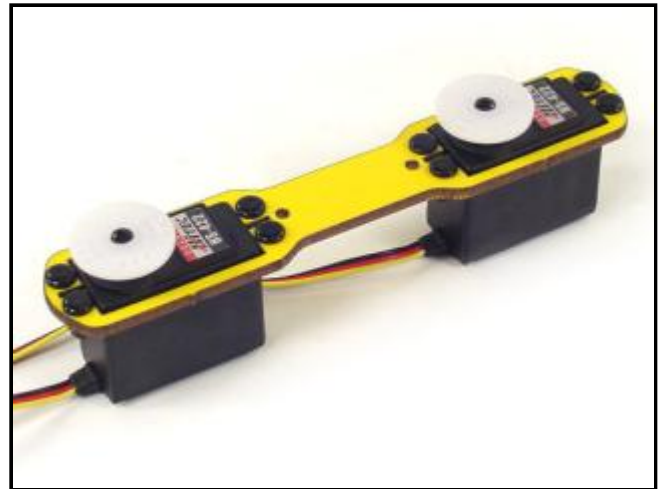
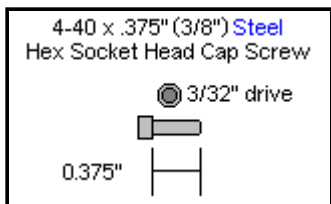


Figure 7.

Step 8.

Attach two 3/4" hex spacers using two of the 3/8" screws. Tighten them down snugly.

2 x



2 x

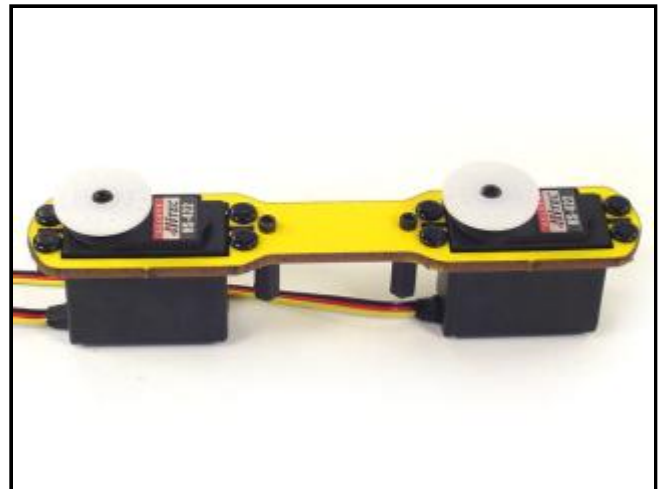
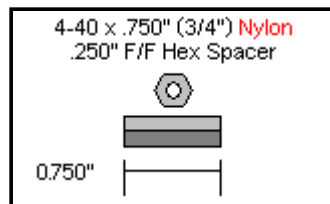


Figure 8.

Step 9.

Push the other arm panel onto the forearm structure carefully. Use two of the 4-40 x .375" screws, and tighten them down snugly.

2 x

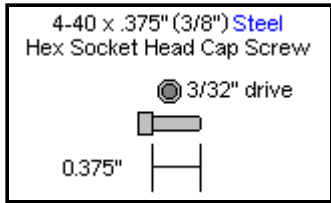


Figure 9.

Step 10.

Install the servo hinges as shown. Remove the green plaid cover from the double sided tape and press it firmly into place. The hinge should be lined up with the edge of the servo, directly across from the servo output shaft.

2 x

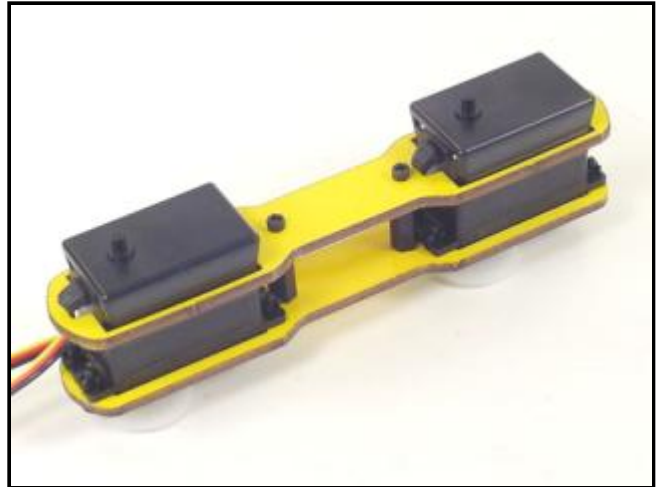


Figure 10.

Step 11.

Group the two servo wires with a wire tie as shown.



Figure 11.

Step 12.

Attach the forearm assembly to the lexan panels off of the base as shown. Use two #2 tapping screws.

2 x

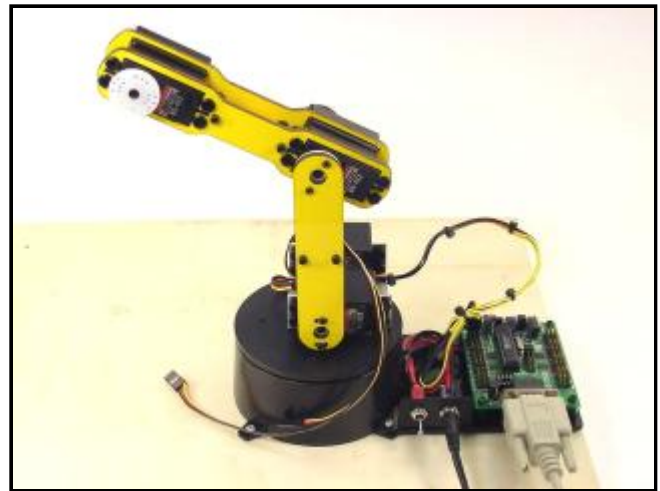
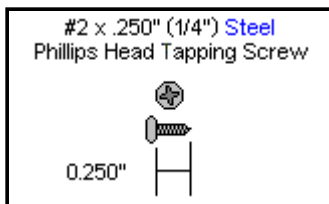


Figure 12.

Step 13.

Attach a 6" extender cable to the wrist servo cable as shown.

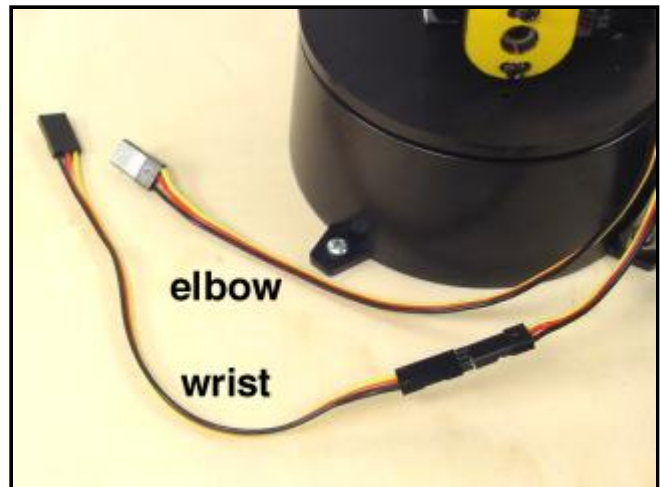


Figure 13.

Step 14.

Use a wire tie to hold the elbow and wrist cables together as shown. You will want to loop the wrist cable so that they are even.

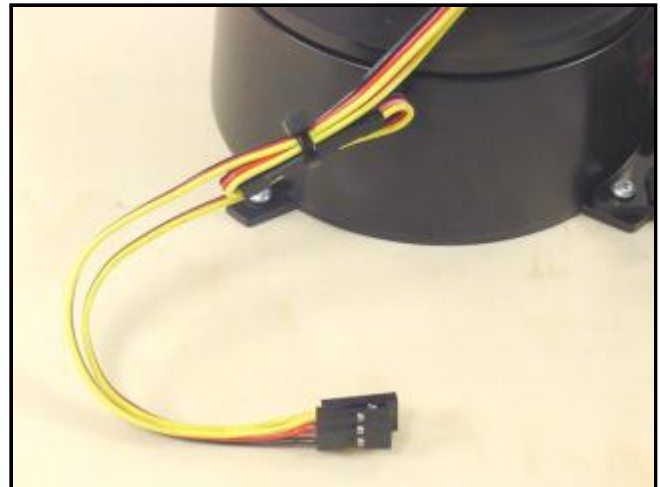


Figure 14.

Step 15.

Install the elbow in channel 2, and the wrist in channel 3. Don't add any additional wire ties to the elbow and wrist cables at this point. They will be added after the gripper is installed.

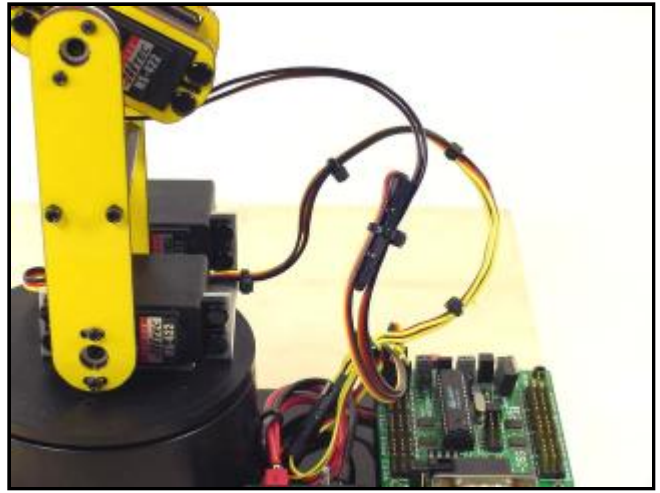


Figure 15.

Step 16.

Install the gripper on the arm using two #2 tapping screws as shown.

2 x

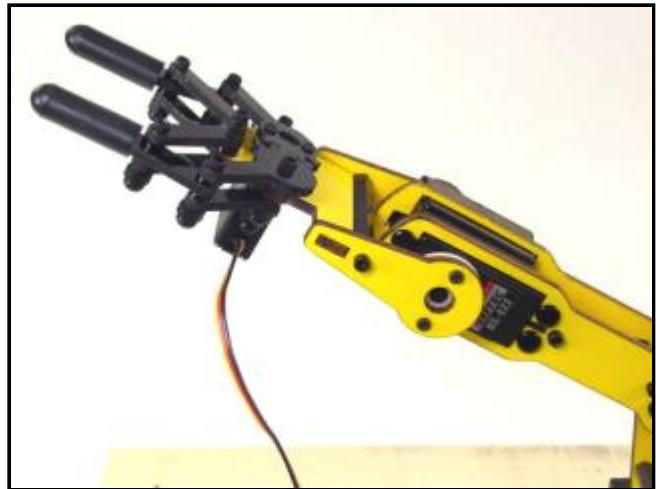


Figure 16.

Step 17.

Connect a 12" extender cable to the gripper servo cable as shown.

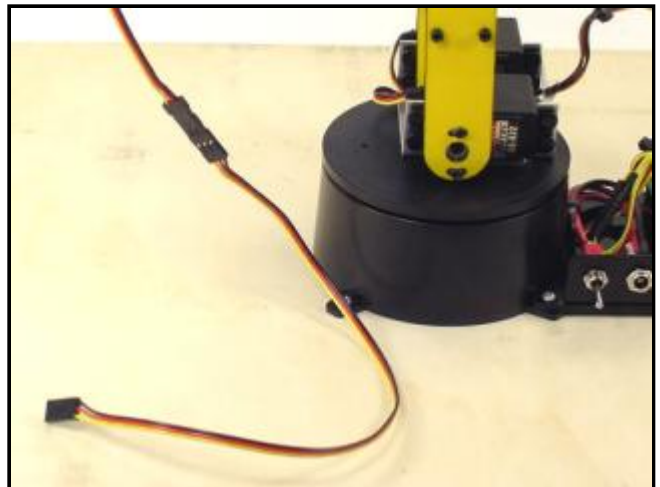


Figure 17.

Step 18.

Carefully rotate the wrist servo clockwise as far as it will go. Then tie wrap the gripper servo wire as shown.



Figure 18.

Step 19.

Bend the arm backwards as shown and secure the gripper servo wire to the wrist and elbow servo wires with tie wraps as shown.



Figure 19.

Step 20.

Plug the gripper servo into channel 4 on the SSC-32.

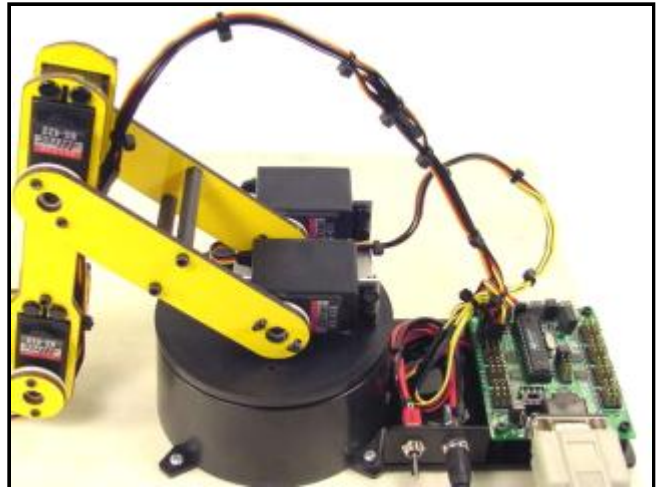


Figure 20.

Step 21.

Install RIOS (Robotic arm Interactive Operating System). **The serial number is located on the back of the CD sleeve.**

The RIOS user's manual (included with the program) will explain how to set up and use your robotic arm.

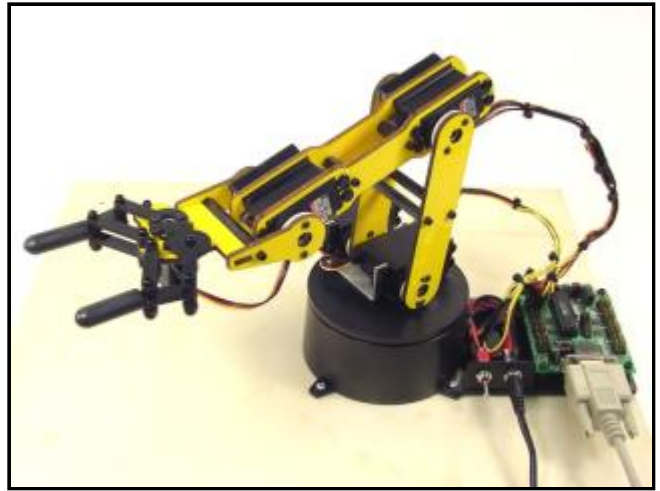


Figure 21.