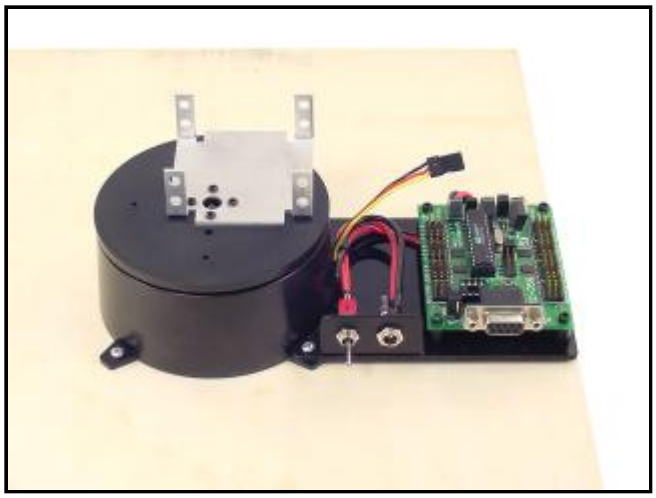
Arm Base Assembly Guide v1.0.

Updated 07/11/2007

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



Arm Base mounted

Step 1.
Insert the stainless steel pins into the plastic bearings as shown.

5 x

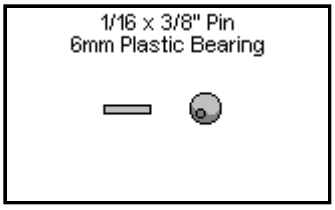


Figure 1.

Step 2.
Install the bearings into the base as shown. They will fit snugly.

Note, the notch in the bottom edge of the base indicates the back.

Figure 2.

Step 3.
Lay a piece of 400 grit sandpaper on a flat surface and move the base (upside down) in small circles on it. This will remove any imperfections on the bearings.

Figure 3.

Step 4.
Figure 4 shows the circle pattern on the sandpaper and the inset shows the bearings after any imperfections have been removed.

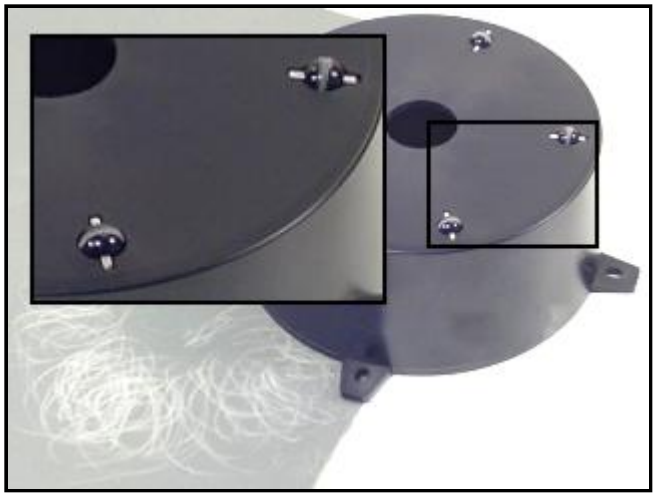


Figure 4.

Step 5.
Figure 5 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, and then carefully remove the servo horn screw and pull the horn straight off of the servo.

Kit	Servo
L5	HS-422
L6	HS-422
SESA	HS-645
Johnny 5	HS-475

Table 5.

Figure 5.

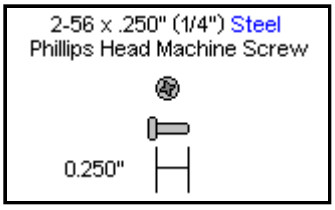
Step 6.
Place the servo in the base as shown and screw it in tightly using four #4 tapping screws.

4 x

Figure 6.

Step 7.
Attach the ASB-13B bracket onto the base top, using four 2-56 x .250" phillips head machine screws and four 2-56 nuts as shown. Note, the bracket is included in the **arm kit**, not the base kit.

4 x



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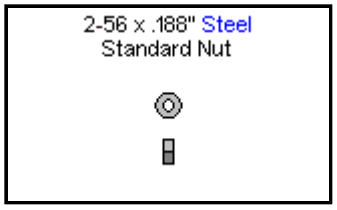


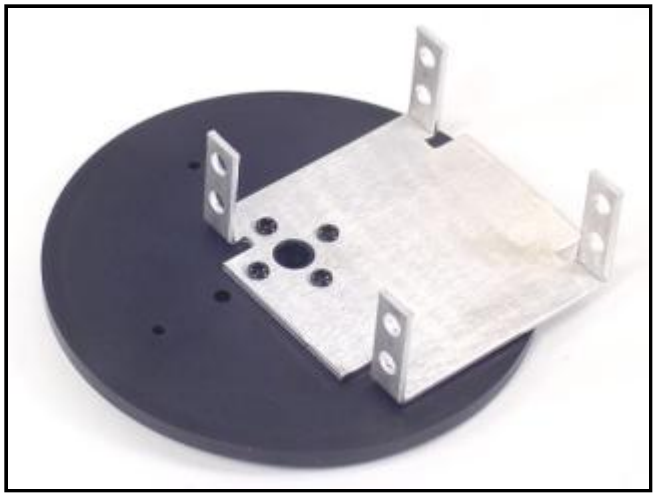


Figure 7.

Step 8.
Add a drop of 3-in-1 oil to each bearing.

Figure 8.

Step 9.
Install the base top. The hole pattern should line up as shown in Figure 9, with one line pointing to the servo wire hole, and all of the lines pointing between the mounting tabs.

Note, this top piece is manufactured to be a tight fit. You might have to press very hard.

Attach the top with the servo horn screw.

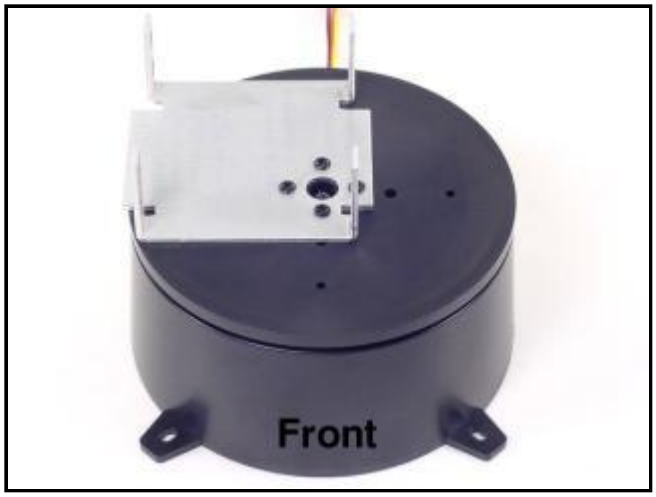


Figure 9.

Step 10.
Route the base servo's cable through the hole in the back of the base. This will keep the base level to the mounting surface.

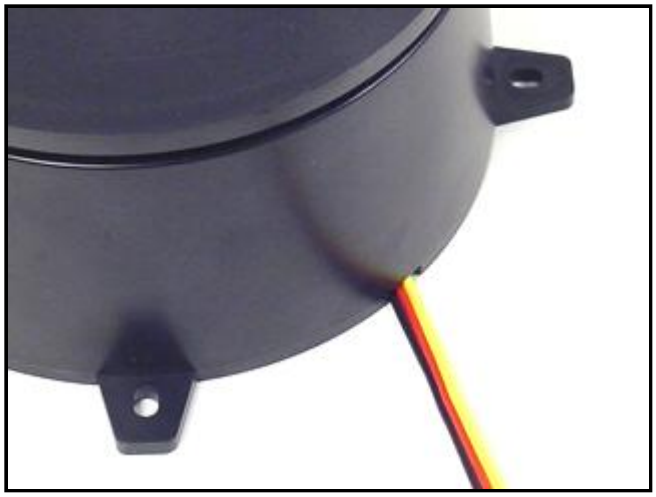
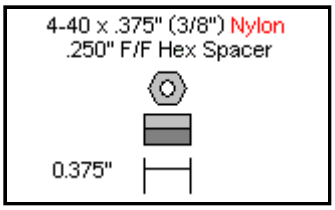


Figure 10.

Step 11.
Attach the 3/8" hex spacers as shown, using four 1/4" hex socket screws.

4 x



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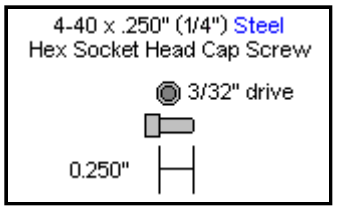


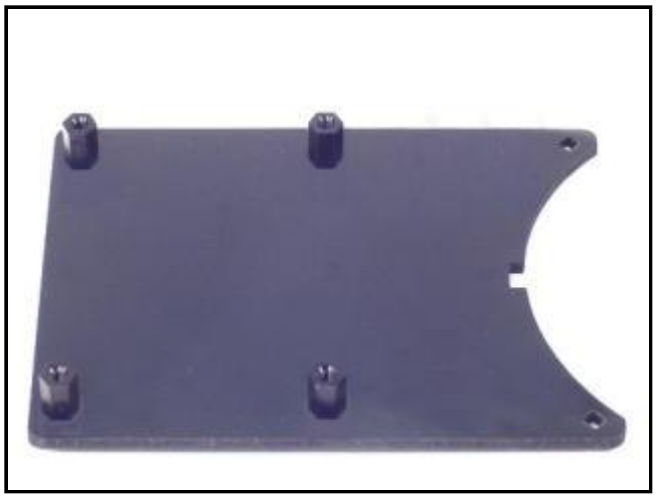
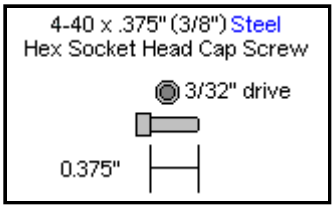


Figure 11.

Step 12.
Install the power switch bracket using two 3/8" hex socket screws and two nylon insert lock nuts.

2 x



2 x

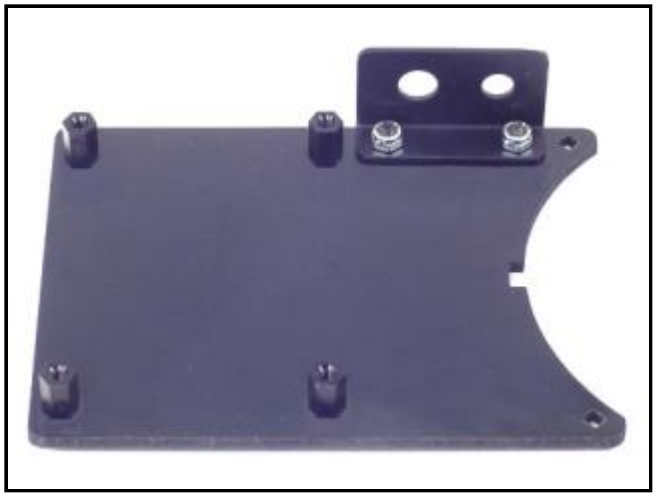


Figure 12.

Step 13.
Install the wiring harness as shown.

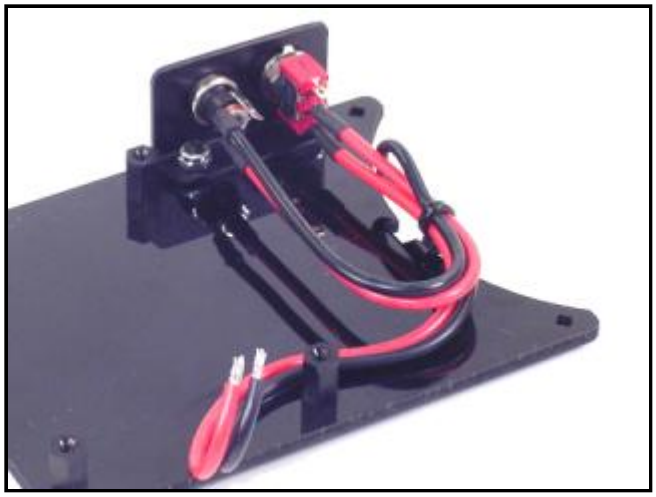
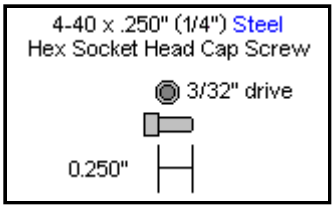


Figure 13.

Step 14.
Install the SSC-32 as shown. Use four 1/4" hex socket screws.

4 x



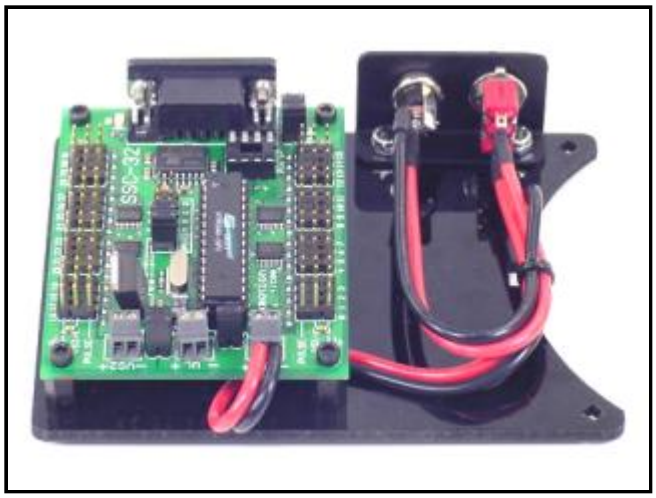


Figure 14.

Step 15.
Install the wires into VS1. Make sure the black wire goes to (-) and the red wire goes to (+). **Make sure the VL=VS1 jumper is installed.** This powers both the servos and the SSC-32's microcontroller (VL) from the 6vdc 2amp wall pack.

This will work 95% of the time without problems. However, if you notice the arm go limp or act erratic, you can power the microcontroller separately as illustrated in Figure 16.

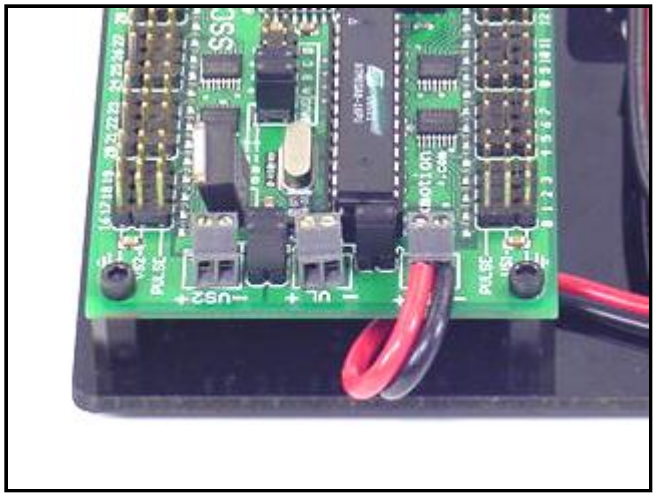


Figure 15.

Step 16.
To power the microcontroller separately from a 9vdc battery, attach the wires to the VL input. Make sure the black wire goes to (-) and the red wire goes to (+). **Make sure you remove the VL=VS1 jumper.** This will isolate the servos' power from the microcontroller's power. Remember to remove the 9vdc battery when not in use.

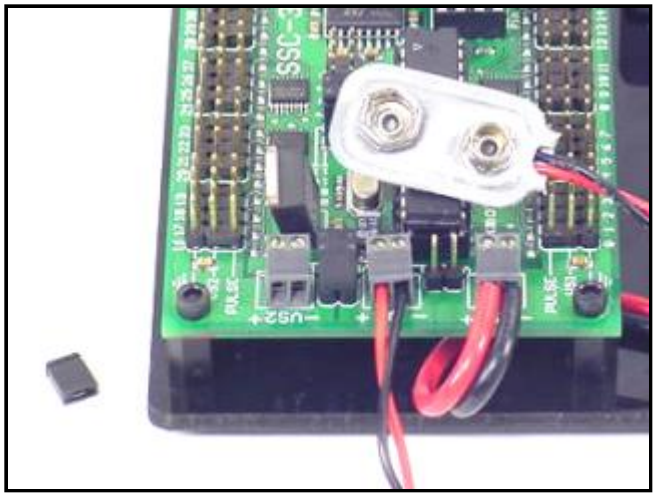


Figure 16.

Step 17.
Mount everything to a piece of plywood or the like. Attach the electronics carrier as shown. Make sure to route the base rotate servo wire through the holes, and verify that it isn't being pinched. Use the #4 x .500" tapping screws to secure the assembly to the plywood.

4 x

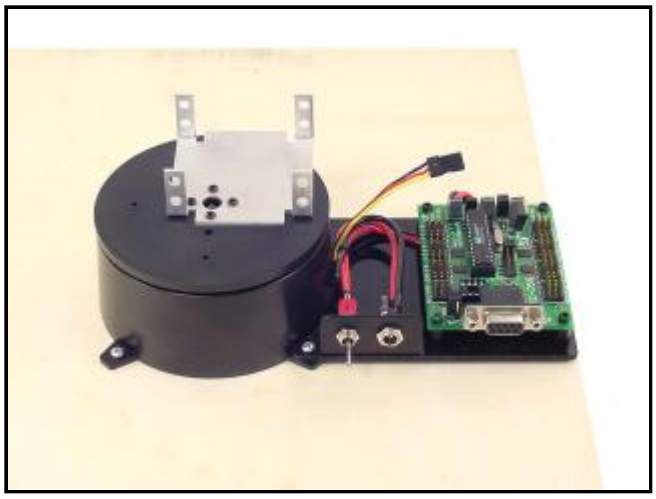


Figure 17.

Step 18.
Plug the base rotate servo into the SSC-32 channel 0 as shown. Note that the black wire goes closest to the outside of the board.

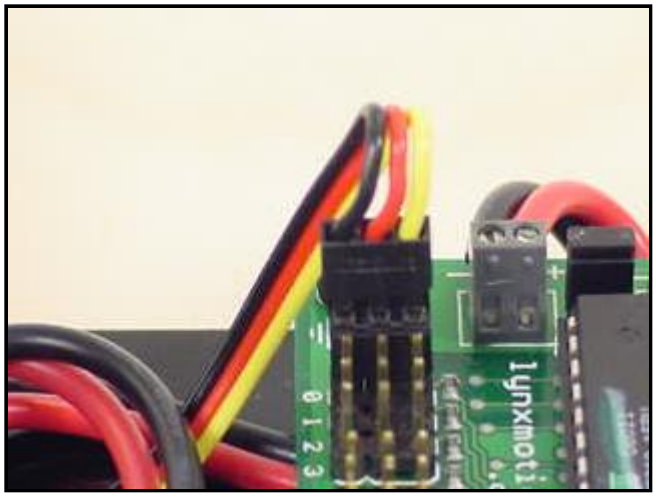


Figure 18.

Step 19.
At this point, download and install Lynxterm. Plug in the 6vdc 2amp wall pack and DB9 data cable as shown. With Lynxterm installed, you can select channel 0 and move the slider to rotate the base, fun, huh? Before moving on, press the "All=1500" button to re-center the base servo.

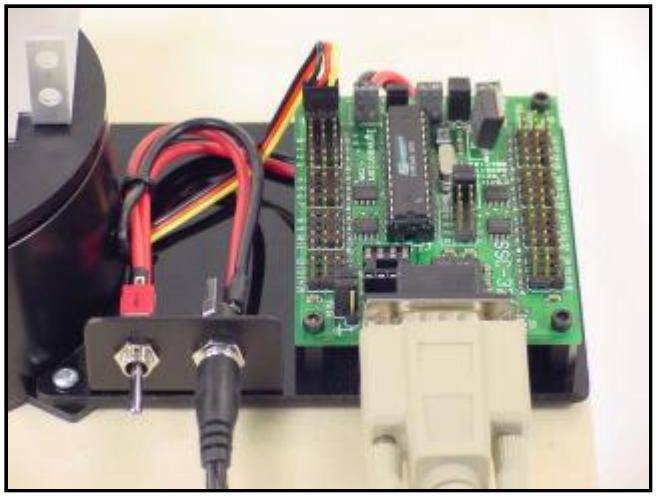


Figure 19.