AX12+ 2 in 1 Gripper Kit

Kit Assembly Guide

VERSION 1.0

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Preparing to Assemble the AX12 2 in 1 Gripper Kit

REQUIRED TOOLS

The following tools will be required to build your SG5/6 robotic arm:

- Phillips screwdriver
- Loctite thread tightener

Aluminum Parts:

- (1) AX – A Gripper
- (1) AX – B Gripper
- (1) AX – C Gripper
- (2) AX Side brackets
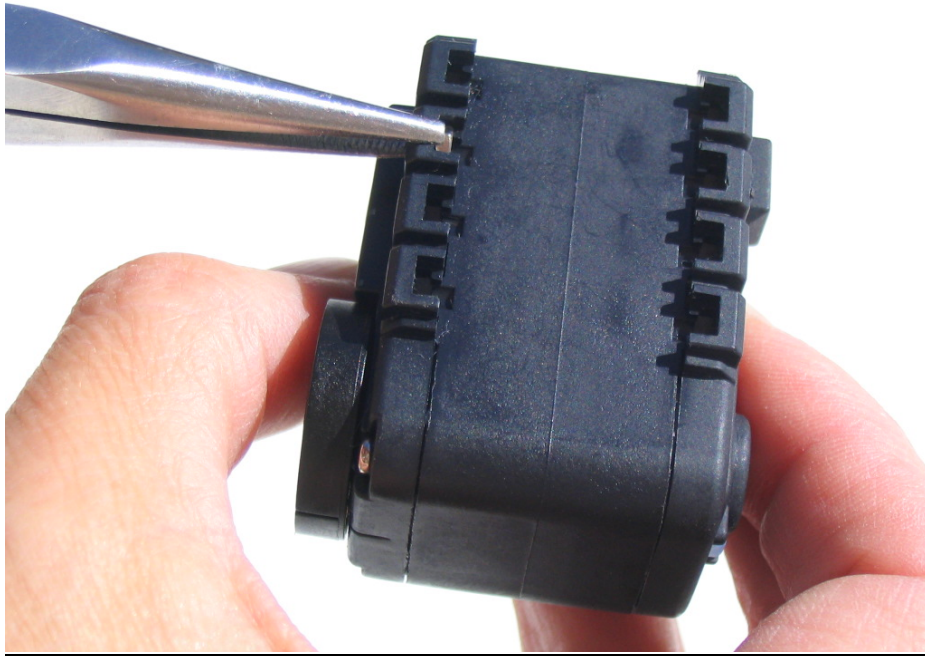- (1) AX-45 bracket

Nuts, Bolts, Washers Screws & Spacers

- (8) – #4 screws
- (4) - #2 washers

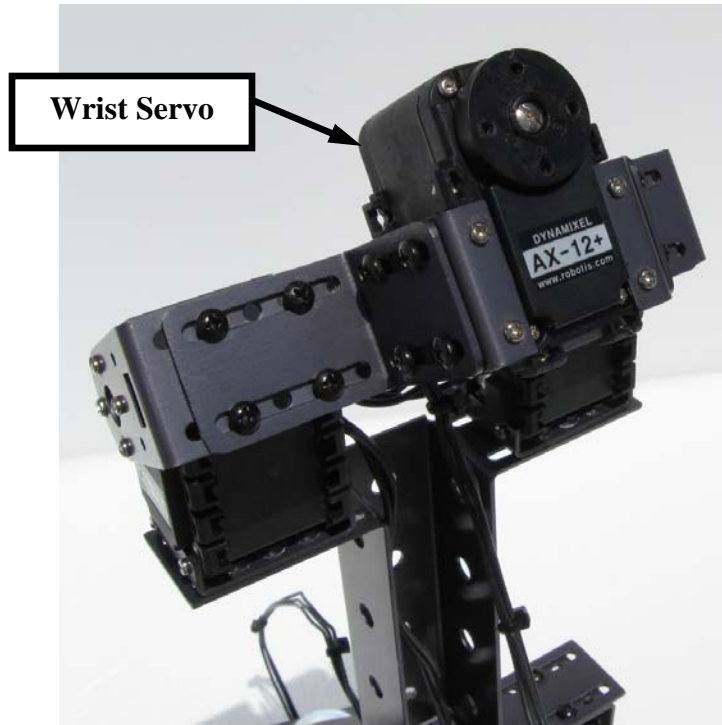** The screws and nuts used to attach the brackets to the AX-12+ servo are provided with the AX12+ Servo.

Installing the nuts to the AX12+ Servos

Installing the nuts into the slots of the AX12+ servo is best performed by using needle nose pliers as shown in the picture below.

1. Place the nut into the slot of the AX12+ and ensure that the nut is <u>sitting straight</u> <u>up and down</u> in the slot.

2. Place the lower tip of the needle nose pliers into the corresponding hole the nut was place into (only half way ino the hole or it will push the nut).

3. Place the upper tip of the needle nose pliers onto the top of the nut and <u>squeeze gently</u> until the nut "clicks" into place. DO NOT FORCE THE NUT OR YOU WILL BREAK THE PLASTIC TAB.

4. If you are unsure if the nut is placed correctly into the AX12+ slot, simply look through the plastic hole to ensure the nuts opening is aligned with the plastic holes opening.
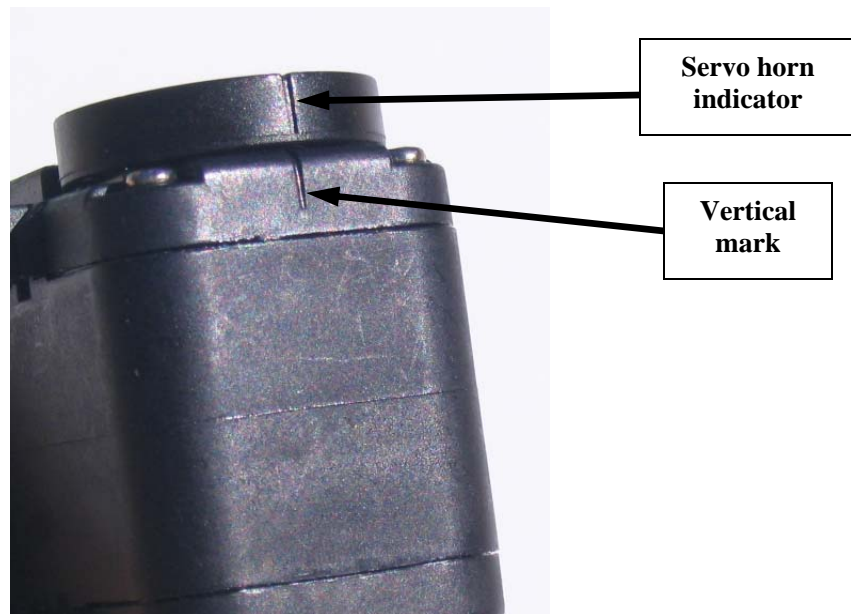
1. Remove the standard gripper from the wrist servo of the AX-12 Smart arm (figure 1) .If you are re-using the gripper servo, remove it from the gripper assembly at this time.
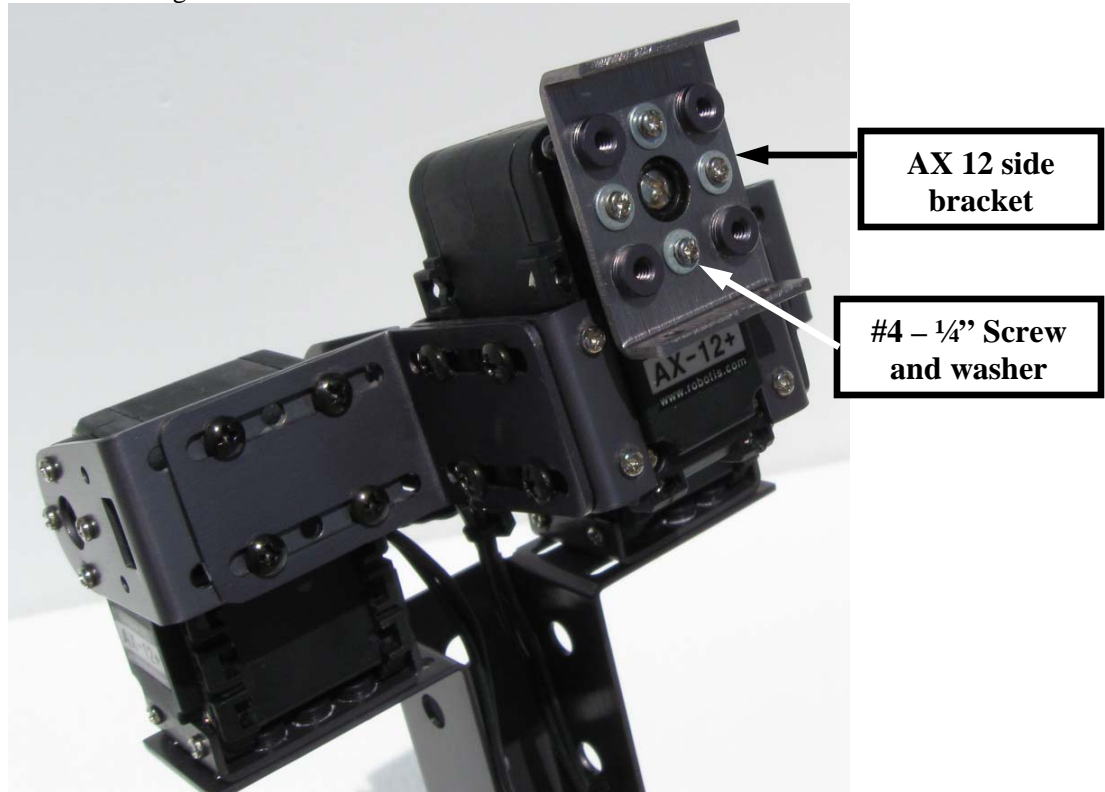
Wrist Servo

Figure 1

2. Before installing the AX12 side bracket to the servo horn of the wrist servo, ensure that the AX12 servo horn is centered as shown in figure 2.

Servo horn indicator

Vertical mark

Figure 2

3. Using (4) #2 (¼") screws and washers, install an AX12 side bracket to the face of the wrist servo as shown in figure 3.

AX 12 side bracket

#4 – ¼" Screw and washer

Figure 3

4. Using (4) #2 -1/4" screws and nuts, install the AX12 side bracket to the left side of the AX12 servo as shown in figure 4.
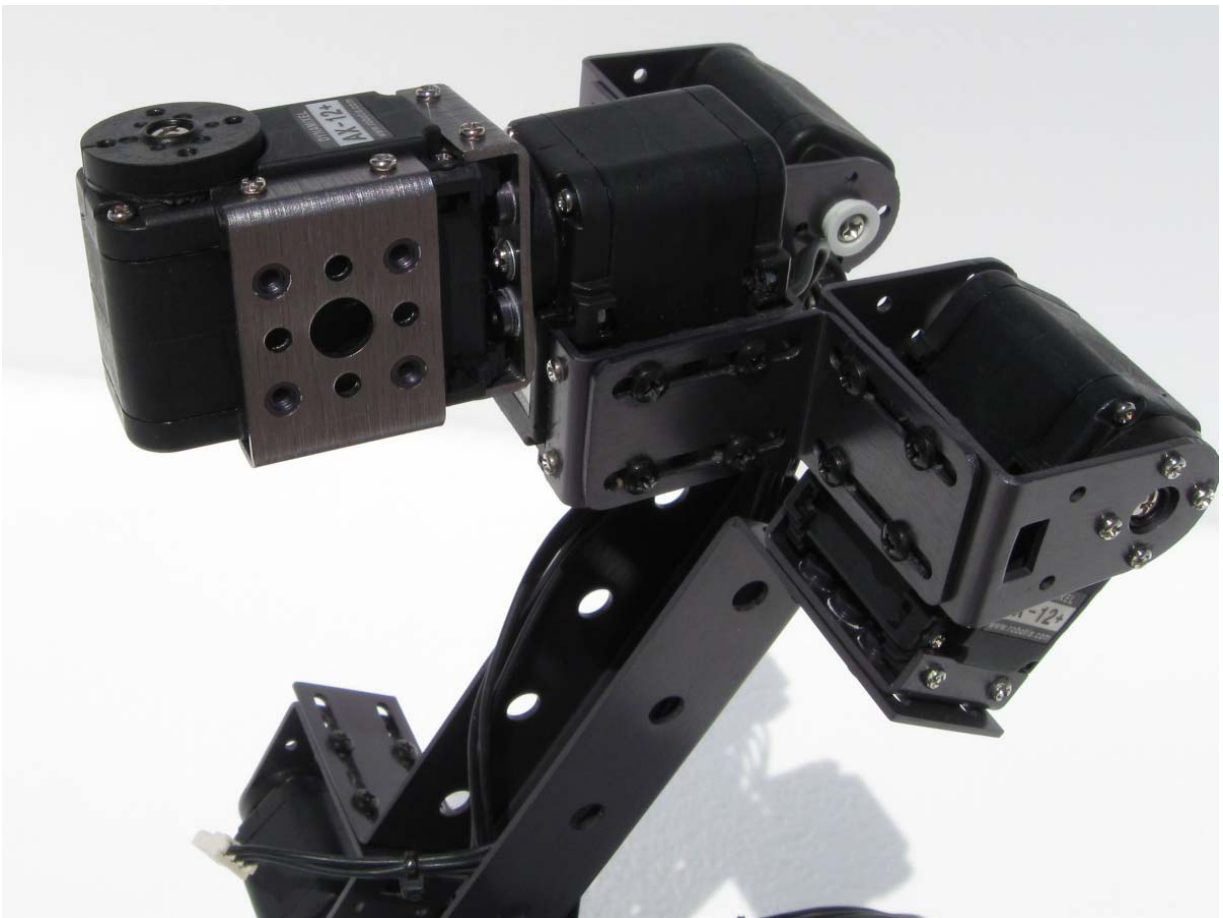

Figure 4

5. Install (4) #2 nuts to the bottom of the AX12 servo as shown in figure 5.

Figure 5

6. Install the assembly from step 5 onto the wrist servo of the AX12 smart arm with the servo assembly facing up as shown in figure 6.

Figure 6

7. Using (4) #2 (1/4") screws, (1) pivot set screw, pivot and pivot spacer, install the AX-45 bracket to the assembly in step 6 as shown in figures 7, 8 and 9. Ensure that the AX-45 bracket is mounted to the left side of the gripper servo as shown in figure 7.
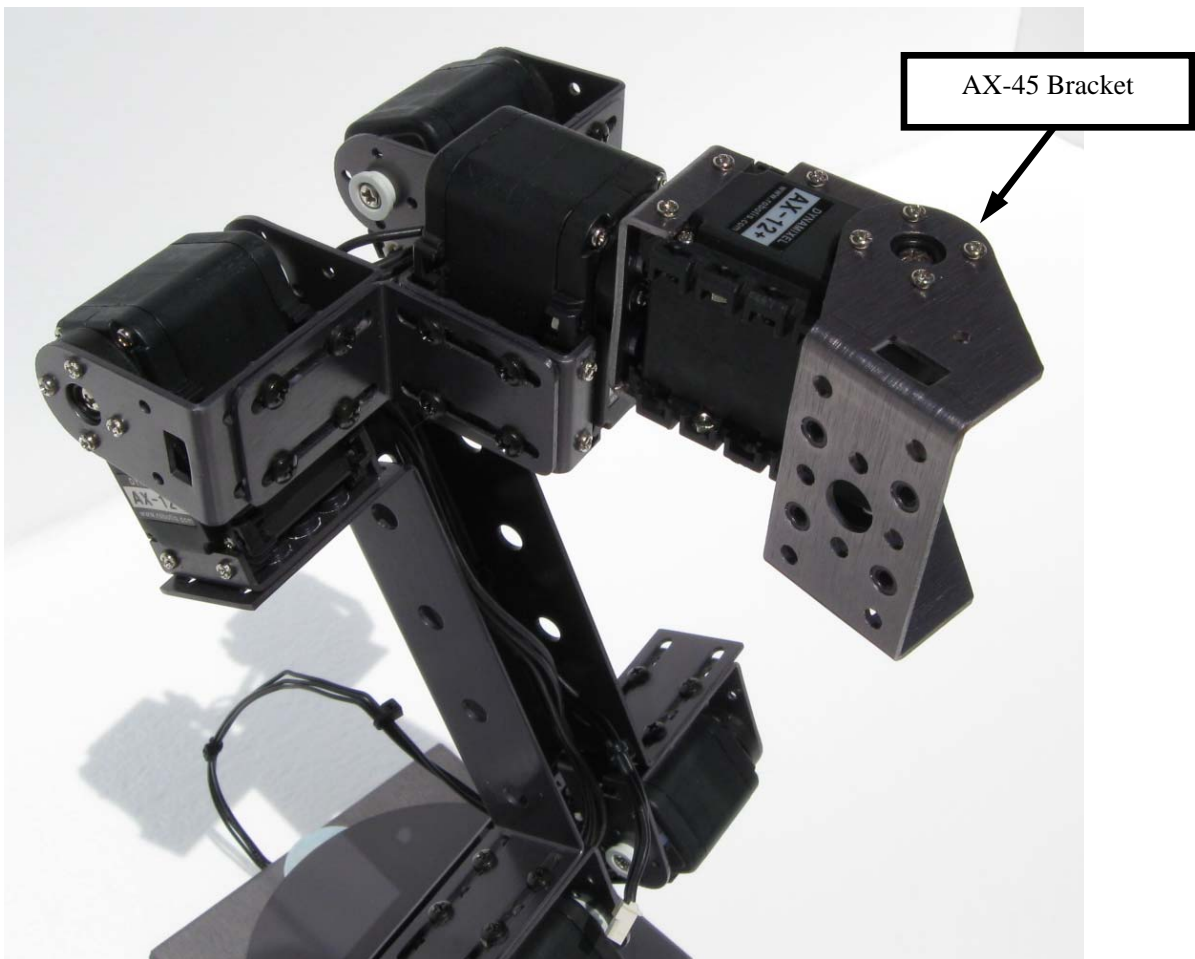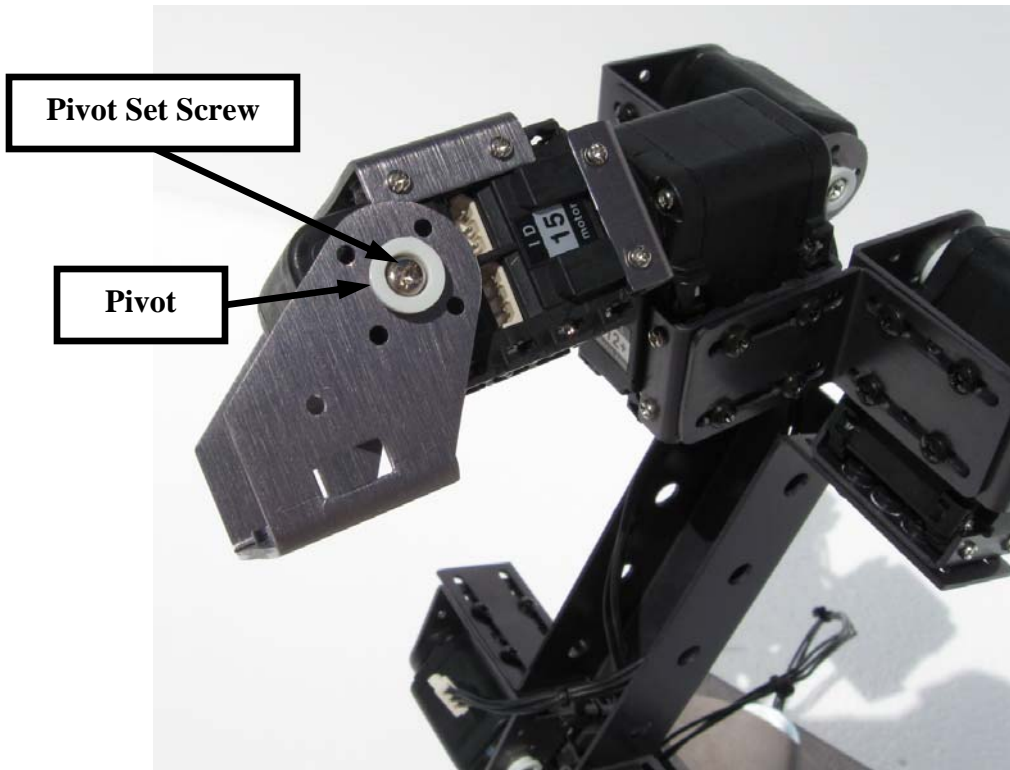

AX-45 Bracket

Figure 7

Pivot Set Screw

Pivot

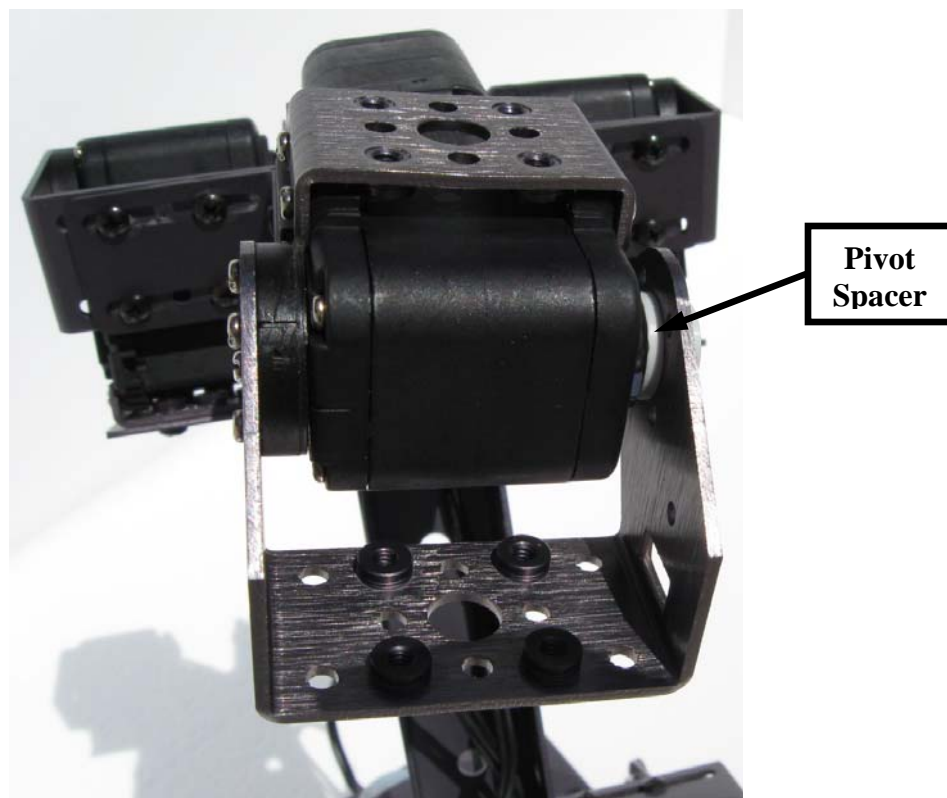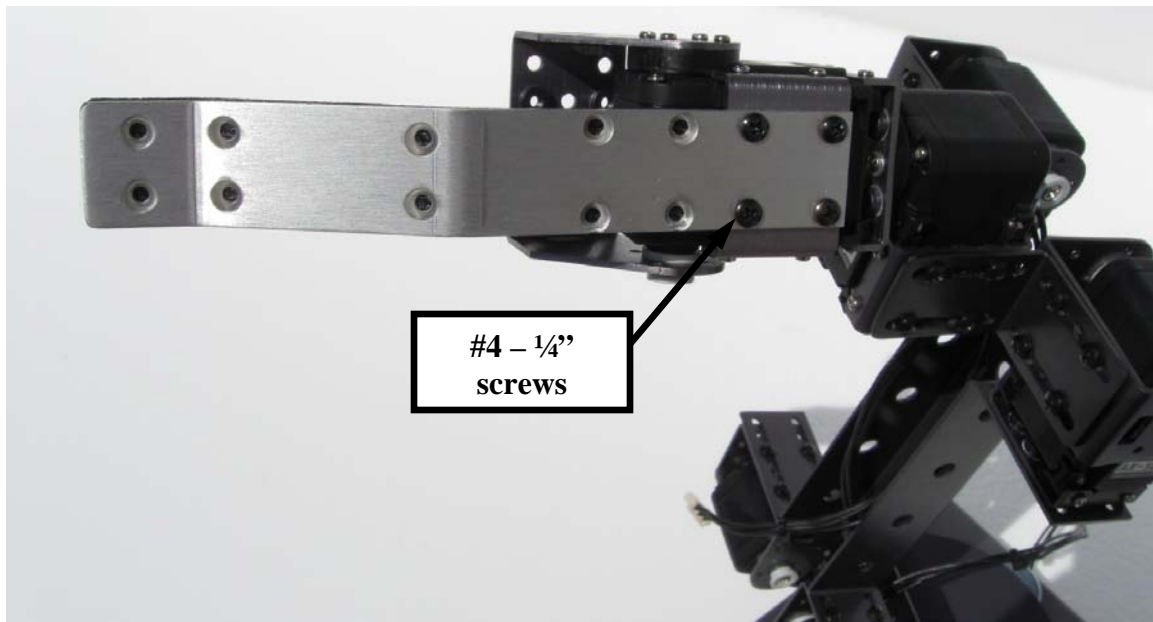**Figure 8**

Pivot Spacer

Figure 9

8. Install the gripper padding to the (3) gripper assembly parts as sown in figure 10.

Tip: Install the grippers onto the arm assembly and mark the limits as to where the gripper padding can be installed to ensure a clean and neat appearance.

Figure 10

9. Using (4) #4 - 1/4" screws, install the AX-C gripper to the AX side brackets pem nuts as shown in figure 11.

#4 – ¼" screws

Figure 11

10. Using (2) #4 – ¼" screws, install the AX- A gripper to the arm assembly as shown in figure 12. Be sure to slide the AX-A gripper all the way to the edge of the slot before tightening the #4 screws. **Note:** If you want just the (2) gripper configuration instead of the 3 gripper configuration, simply move the AX-A gripper until it is centered with the AX-C gripper and then tighten the #4 – ¼" screws.
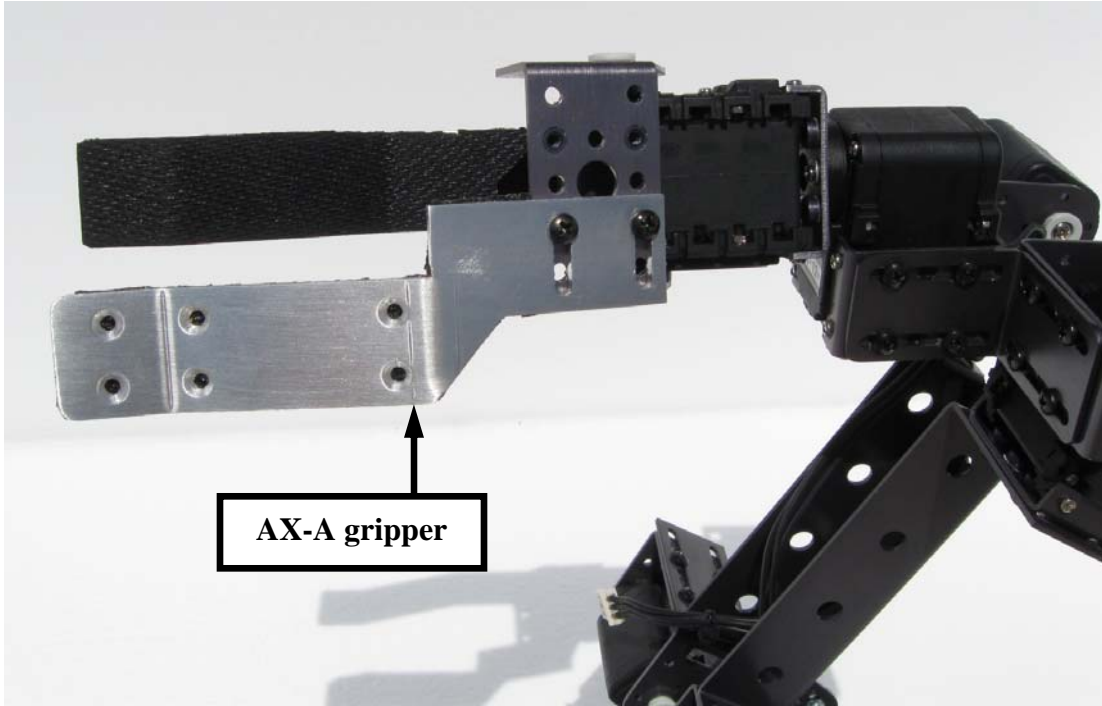

AX-A gripper

Figure 12

11. Using (2) #4 – ¼" screws, install the AX-B gripper to the arm assembly as shown in figure 13. Be sure to slide the AX-A gripper all the way to the edge of the slot before tightening the #4 screws. Install the AX-12 servo wire of the wrist servo into the left port of the AX-12 gripper servo.
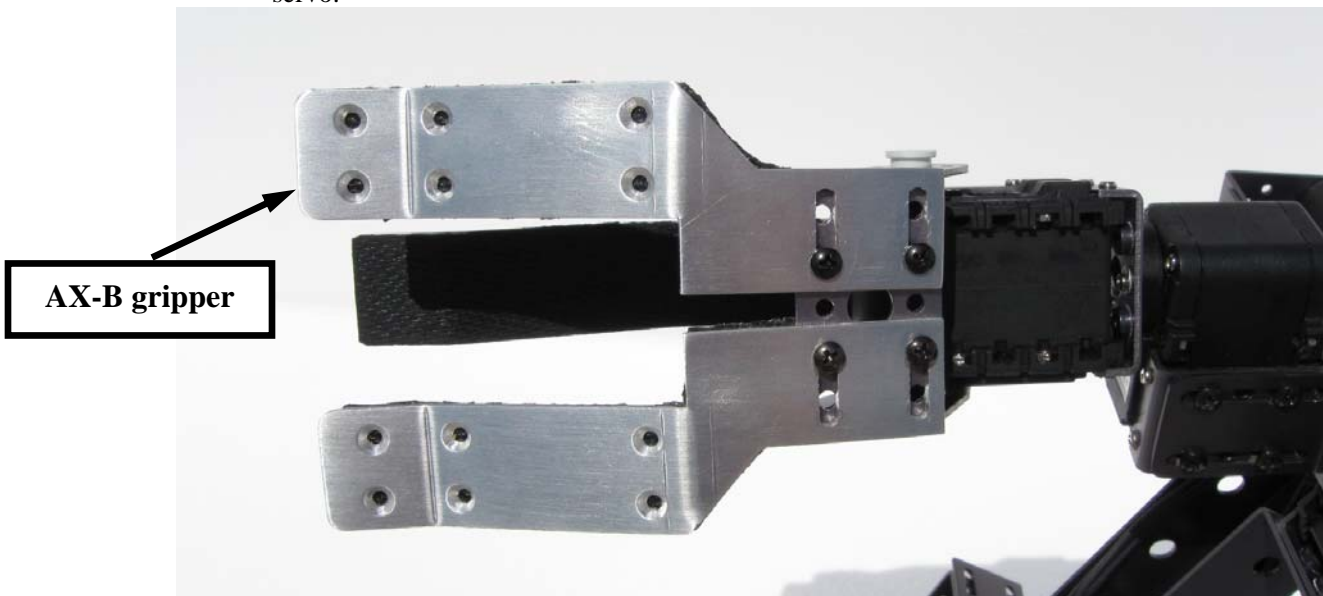

AX-B gripper

Figure 13

Reference Photos