FIGURE 1.

Using a wrench, remove the bolts that hold the wheels onto the sewing machine. Set these bolts aside. Install the Y-Axis drive bracket as shown in Figure 2. Use two (2) 1/4-20 X 1" screws provided to attach the bracket to the machine. Note from the figure, that the screw goes through the bracket, then the wheel, then into the sewing machine. Tighten.

FIGURE 2.

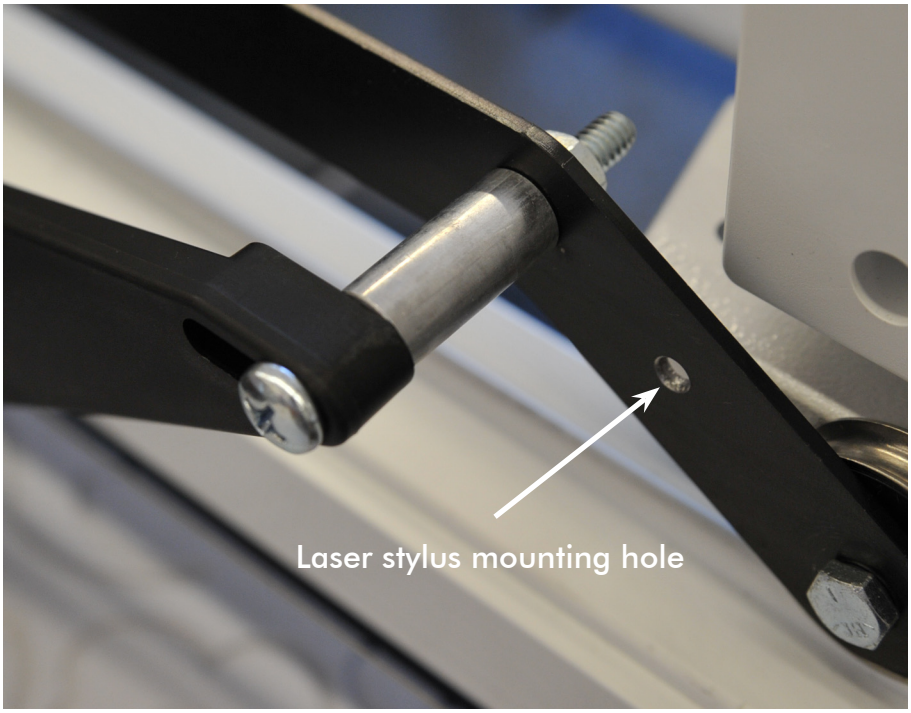


FIGURE 3. Y-Axis assembly detail

Using (2) 1/4-20 X 2 1/2" screws, (2) 1 1/8" long aluminum spacers, (2) washers, and (2) nuts, attach the drive assembly to the drive bracket as shown in Figure 3. Tighten nuts securely.

Note: The laser stylus mounting rod can be relocated to the hole in the Y-Axis mounting bracket as shown in Figure 3.

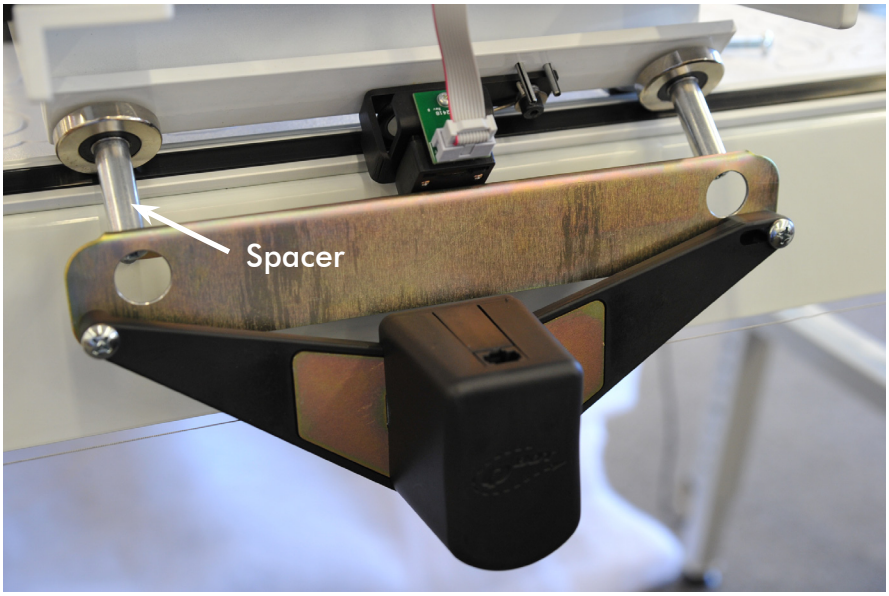


FIGURE 4. X-Axis Bracket Attachment

Next, the X-Axis drive bracket will be installed. You can do this step without removing the sewing machine from the carriage.

Using a 7/16" wrench, remove the bolts that hold the rear-most wheels onto the carriage. Place the two 1/4-20 X 2 1/2" long screws through the holes in the X-Axis drive bracket, then slide on the 1 1/2" long spacer and carriage wheel as shown in Figure 4. Using a Phillips screwdriver, tighten the screws.

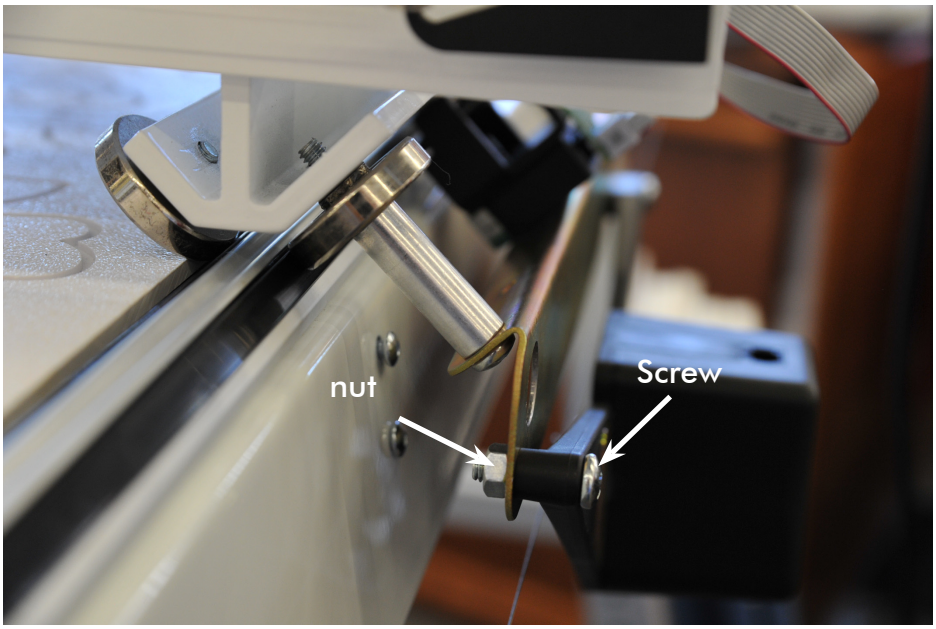


FIGURE 5. X-AXIS DRIVE ASSEMBLY ATTACHMENT

Next, attach the drive assembly to the drive bracket using two (2) 1/4-20 X 1" screws and two (2) nuts. When you are finished, it should look like Figure 5.

Now attach the X-Axis wire holders to the ends of the frame using two (2) 6mm X 25mm screws. Remove the original screws and replace with the new screws. Tighten as shown in Figure 6.

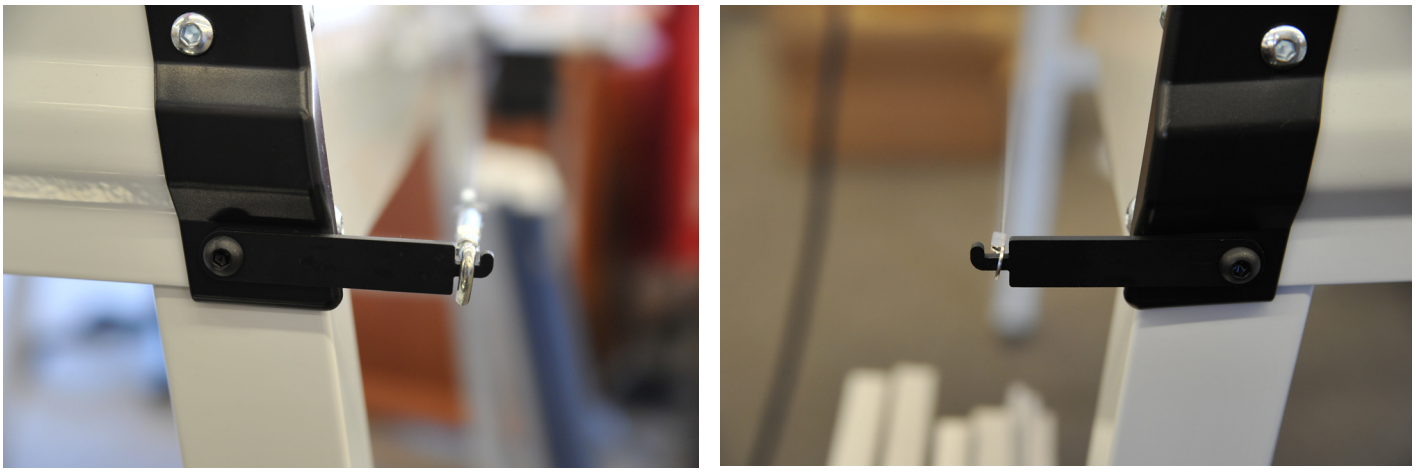
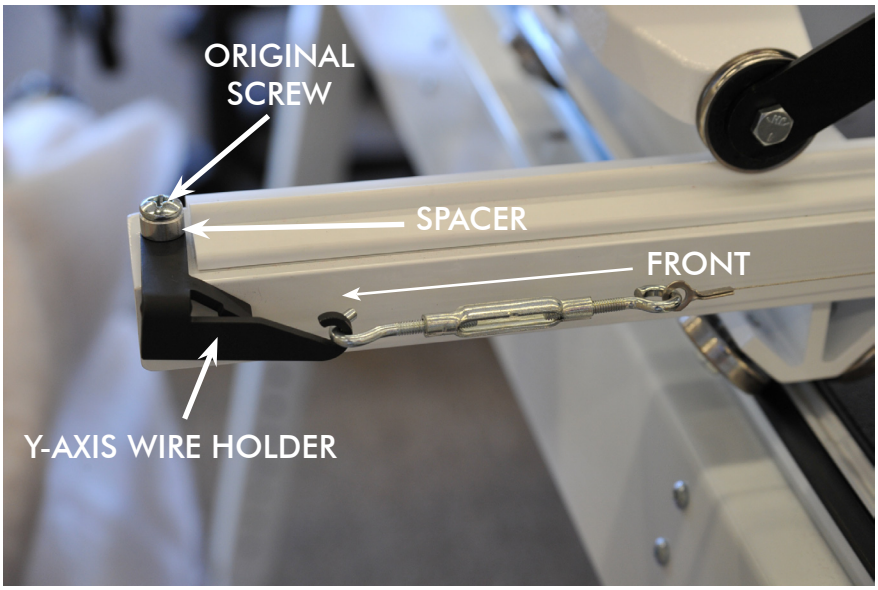


FIGURE 6.

FIGURE 7. X-Axis Turnbuckle Installation

Attach one end of the X-Axis drive wire to one of the X-Axis wire holders. While holding tension on the wire, wrap the wire twice (2X) around the X-Axis drive wheel so that the wire enters and exits from the bottom of the drive wheel. Place the eyelet on the other end of the wire on the end of the turnbuckle and finally, hook the other end of the turnbuckle to the opposite wire holder as shown in Figure 7.

Increase the tension in the wire by turning the barrel of the turnbuckle. DO NOT TURN THE EYEBOLTS or twist the drive wire. Twisting the drive wire will lead to premature failure of the drive wire.



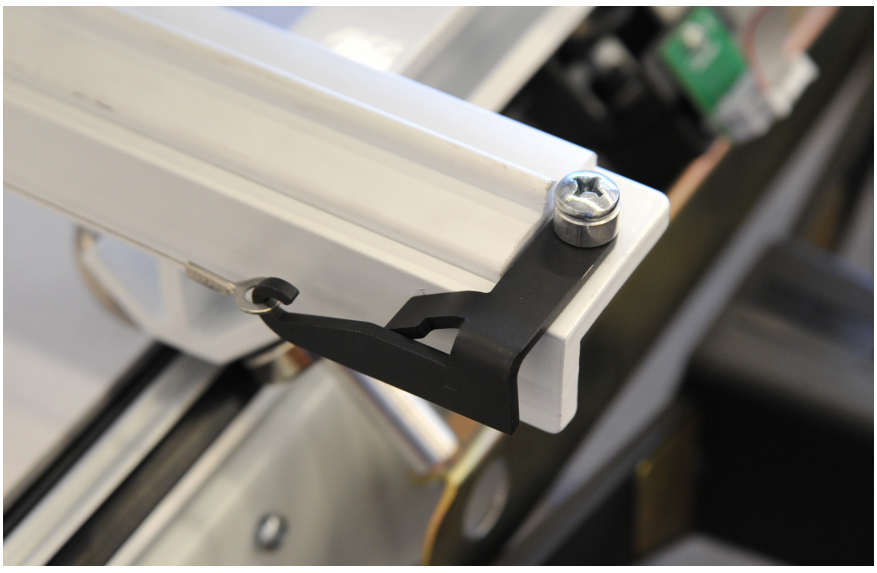


FIGURE 8. Y-Axis Wire Holder Installation

Next, install the Y-Axis wire holders as shown in Figure 8. Remove the screw that holds the original nylon wheel stop spacer. Remove the nylon spacer and replace with an aluminum spacer and the Y-Axis wire holder. Re-assemble to the carriage. Repeat this at the opposite end of the carriage.

Install the drive wire by connecting one end of the wire to the wire holder, wrapping it twice (2X) around the drive wheel so that the wire enters and exists from the bottom of the drive wheel. Finally, attach the other end of the wire to one end of the turnbuckle, then hook the other end of the turnbuckle to the Y-Axis wire holder at the opposite end of the carriage.

Increase the tension in the wire by turning the barrel of the turnbuckle. DO NOT TURN THE EYEBOLTS or twist the drive wire. Twisting the drive wire will lead to premature failure of the drive wire.

INSTALLING THE DRIVE SYSTEM

JEWEL ON MAJESTIC

FIGURE 9. Y-Axis Drive Wire Installation

Figure 9 shows how the drive wire is wrapped around the drive wheel. Both the X and Y drive wires are wrapped in this manner.

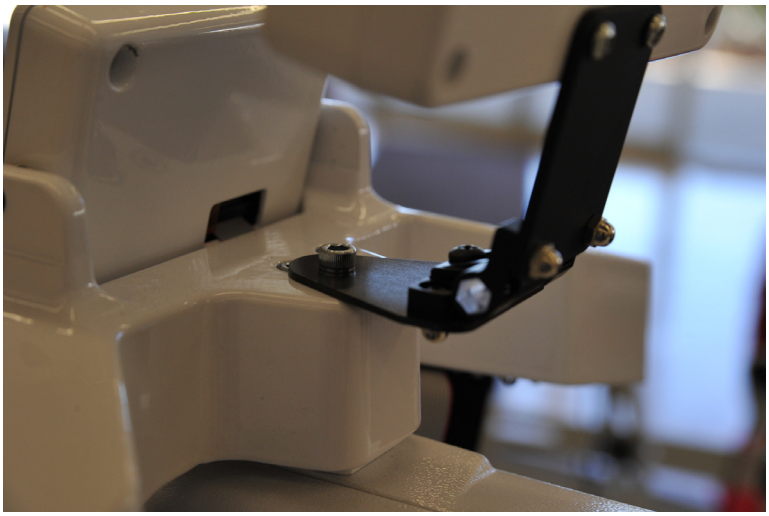


FIGURE 10. Attaching QBOT to handlebars

Attach the QBOT head to the front handlebar assembly as shown in Figure 10. Loosen the handle bar screw, then place through the hole in the bracket, then re-tighten.

Remove the hinge from the back of the QBOT head. Set the two screws aside. Using (2) 8-32 button head screws and (2) 8-32 acorn nuts, attach the QBOT head riser to the hinge. Now attach this assembly to the QBOT head using the original screws.

QBOT PARAMETERS	
X Direction	-1
Y Direction	-1
Motor Current	70%
SpdCtrl On Delay	500
Acceleration	1500
Delta Factor	.6

PARTS LIST

(2) 1/4-20 X 1" screws
(4) 1/4-20 nuts
(4) 1/4-20 X 2 1/2" screws
(2) 1/4" Aluminum Spacers
(2) 1 1/8" Aluminum Spacers
(2) 1 1/2" Aluminum Spacers
(2) Washers
(2) X-Axis Wire Holders
(2) Y-Axis Wire Holders

(2) Tensioners
(1) X-Axis Drive Wire
(1) Y-Axis Drive Wire
(2) 6mm X 25mm Screws

(1) Y-Axis Drive Bracket
(1) X-Axis Drive Bracket
(1) QBOT header bracket
(6) Strain Relief Pads
(6) Wire Ties

(1) Long Wiring Harness

(2) 8-32 Acorn Nuts
(2) 8-32 Button Head Screws