

INSTALLING THE DRIVE SYSTEM

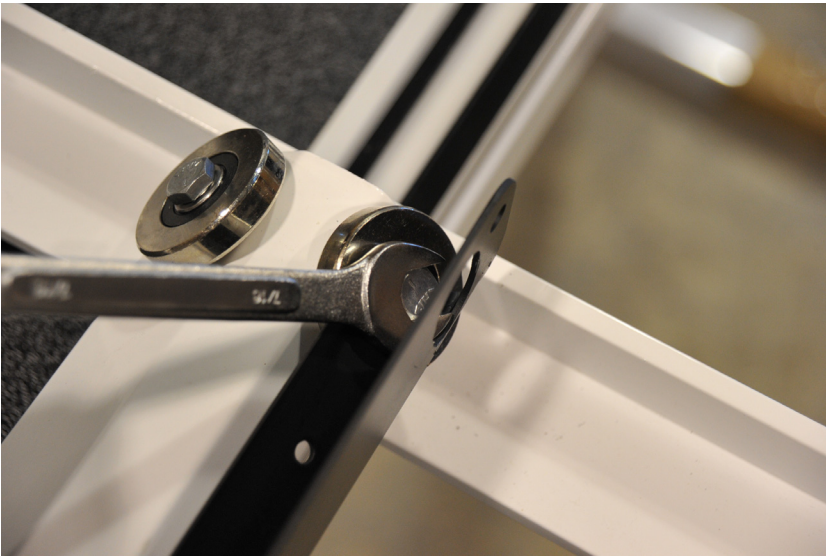


FIGURE 1. Bracket Installation on FRONT of carriage

The first step in installing the drive assemblies is to remove the sewing machine from the carriage and set aside. Next, turn over the carriage and remove the bolts that hold the FRONT wheels on the FRONT of the carriage. Place the bolt through the X-axis drive bracket, then through the wheel, then tighten to the carriage as shown in Figures 1 and 2.

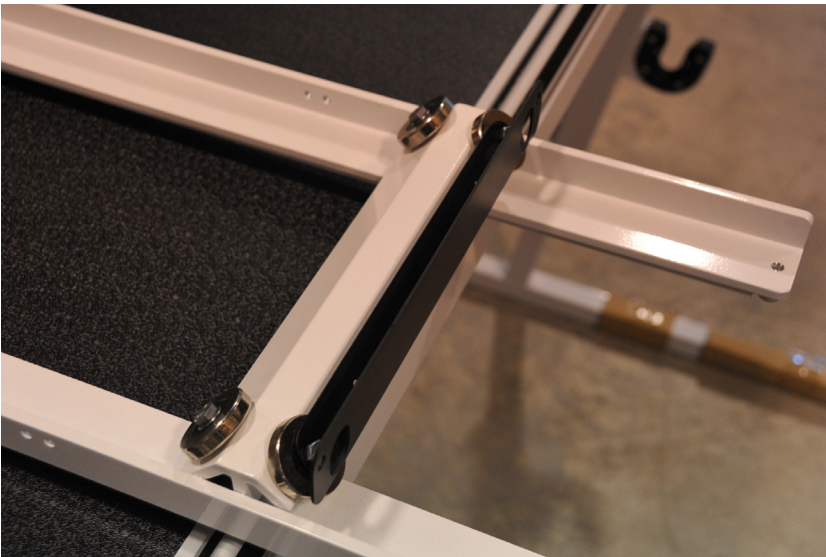


FIGURE 2. X-Axis Bracket Installed

Next, install the drive assembly as shown in Figure 3. You will need (2) 1/4-20 X 1" screws and (2) 1/4-20 nuts. Tighten securely.

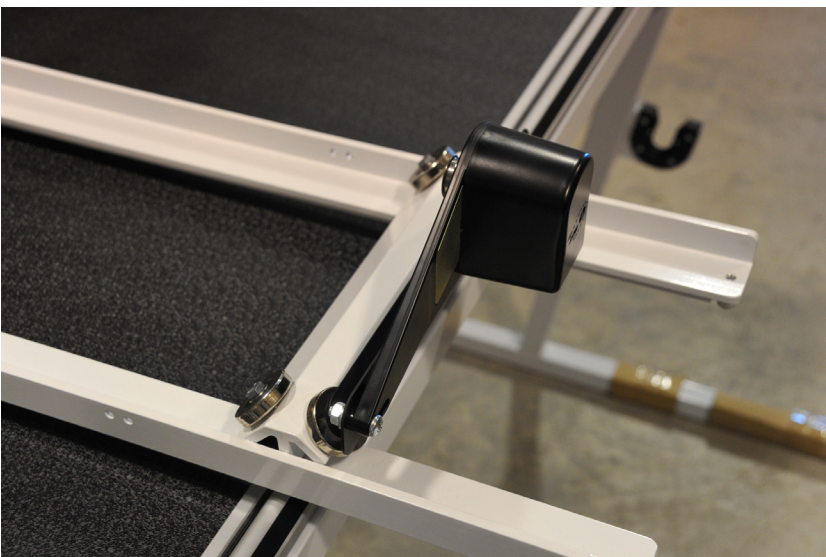
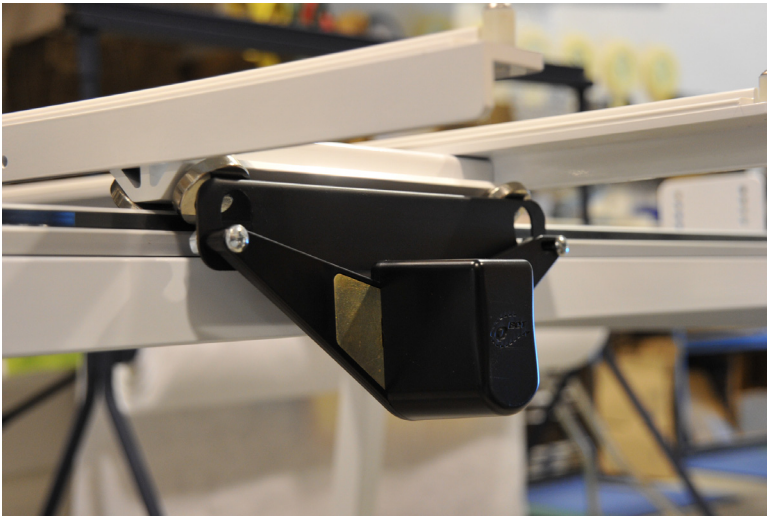


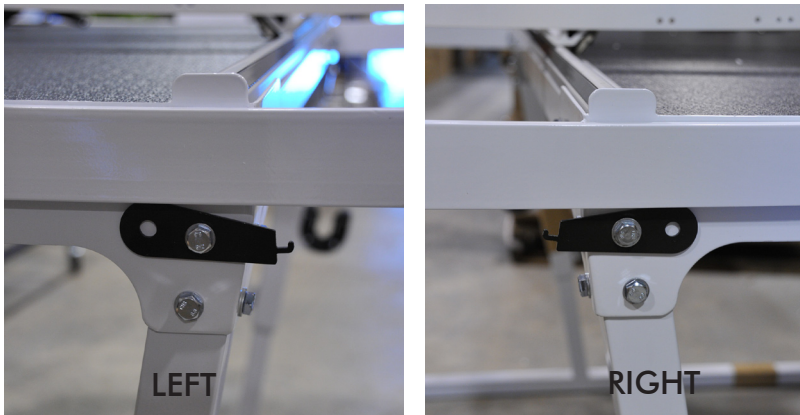
FIGURE 3. X-Axis Drive Assembly Installed

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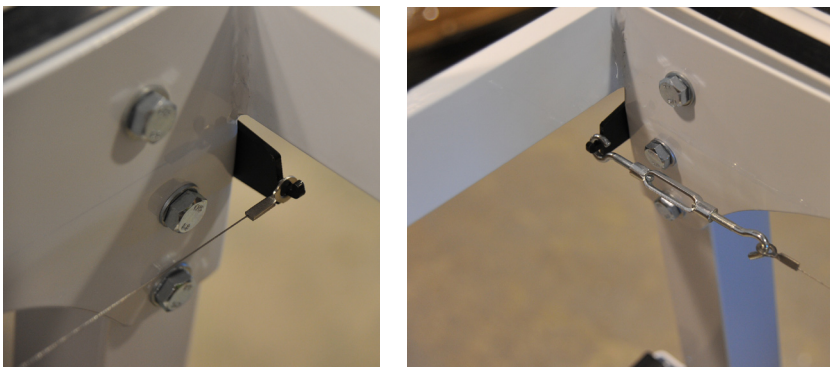
Return the carriage to the frame as shown in Figure 4.

FIGURE 4. Carriage Back onto Frame



Next, remove the upper leg attachment bolt and install the X-axis wire holders as shown in Figure 5. Tighten securely.

FIGURE 5. X-Axis Wire Holder Installation



Next, install the X-axis drive wire as shown in Figure 6. Place the eyelet at one end of the wire on the hook on one side of the frame, wrap the wire twice (2X) around the drive wheel as shown (coming off the **BOTTOM** of the wheel,) then hook the tensioner to the other end of the wire and then to the wire holder on the opposite side of the frame.



FIGURE 6. X-Axis Wire Installation

Turn the barrel of the tensioner to make the drive wire taut. The tension should be such that the wire will vibrate like a guitar string when plucked. **BE SURE TO TURN ONLY THE BARREL OF THE TURNBUCKLE. DO NOT TWIST THE ENDS OF THE TURNBUCKLE. TURNING THE ENDS WILL SHORTEN THE LIFE OF THE DRIVE WIRE.**

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FIGURE 7.

Using a wrench, remove the bolts that hold the wheels onto the 'tension side' of the sewing machine. Install the Y-Axis drive bracket as shown in Figure 8. Re-install the bolts to attach the bracket to the machine. Note from the figure, that the bolt goes through the bracket, then the wheel, then into the sewing machine. Tighten.



FIGURE 8.

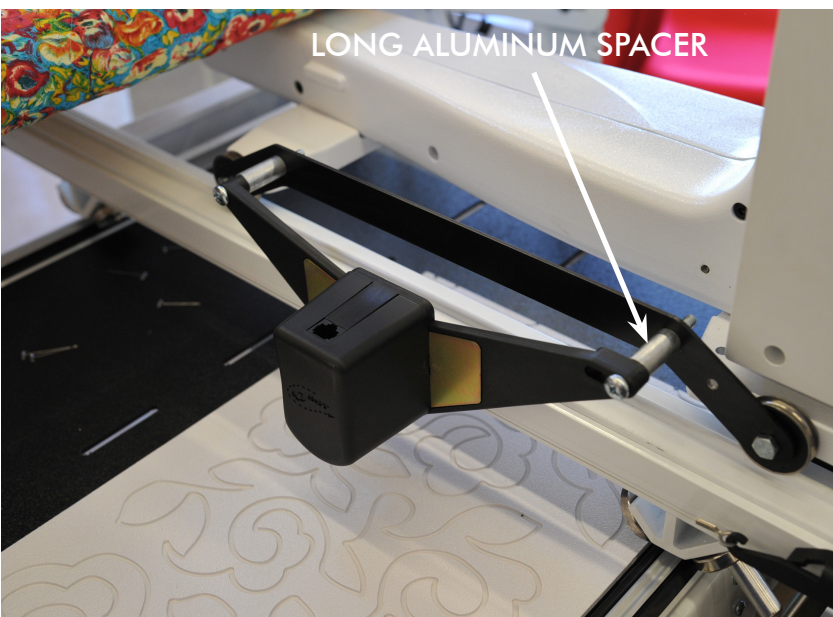
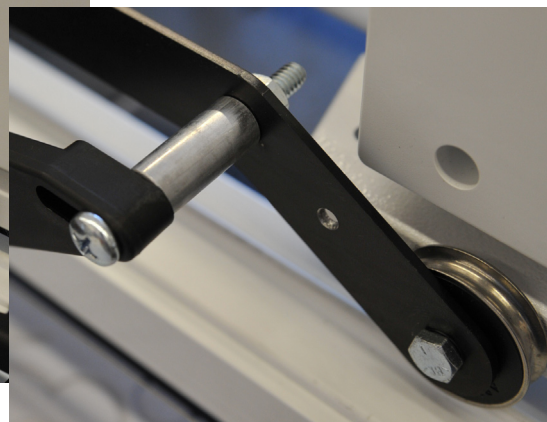


FIGURE 9. Y-Axis assembly detail

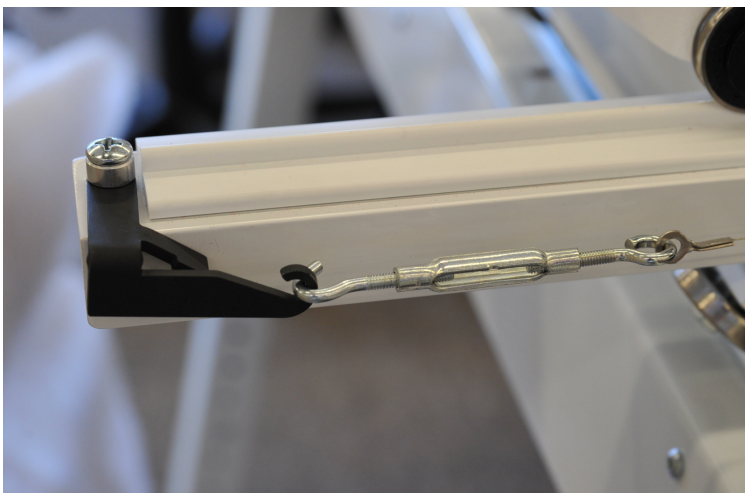
Using (2) 1/4-20 X 2 1/2" screws, (2) 1 1/8" long aluminum spacers, (2) washers, and (2) nuts, attach the drive assembly to the drive bracket as shown in Figure 9. Tighten nuts securely.



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Install the Y-Axis wire holders as shown in Figure 10. Replace the nylon carriage stop with the 1/4" aluminum spacer on both ends of the carriage as shown in Figure 10. Place the eyelet at one end of the wire on the hook on the holder and while keeping tension on the wire, wrap it twice around the Y-Axis drive wheel so that the wire enters and exits the **BOTTOM** of the drive wheel as shown in Figure 11.



Connect the other eyelet to one end of the turnbuckle and hook the other end of the turnbuckle to the opposite Y-axis wire holder. Increase the tension in the drive wire by turning the barrel on the turnbuckle.

DO NOT INCREASE TENSION IN THE WIRE BY TURNING THE EYEBOLT IN THE TURNBUCKLE. TURN ONLY THE BARREL OF THE TURNBUCKLE.

FIGURE 10. Y-Axis Drive Wire Installation



FIGURE 11. Drive wire wrapped on drive wheel

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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.

FIGURE 10. QBOT Mounted to Handles

PARAMETERS	
X-DIRECTION	-1
Y-DIRECTION	-1
MOTOR CURRENT	70
SPD CTRL ON DELAY	1500
ACCELERATION FACTOR	1500
DELTA FACTOR	.6

PARTS LIST

- | | | |
|-----------------------------|--------------------------|-----------------------------|
| (2) 1/4-20 X 1" screws | (2) Tensioners | (1) Long Wiring Harness |
| (4) 1/4-20 nuts | (2) X-Axis Drive Wires | (1) QBOT Head Riser |
| (2) 1/4-20 X 2 1/2" screws | (1) Y-Axis Drive Wire | (2) 8-32 Button Head screws |
| (2) 1/4" Aluminum Spacers | (1) Y-Axis Drive Bracket | (2) 8-32 Acorn nuts |
| (2) 1 1/8" Aluminum Spacers | (1) X-Axis Drive Bracket | |
| (2) Washers | (6) Strain Relief Pads | |
| (2) X-Axis Wire Holders | (6) Wire Ties | |
| (2) Y-Axis Wire Holders | | |