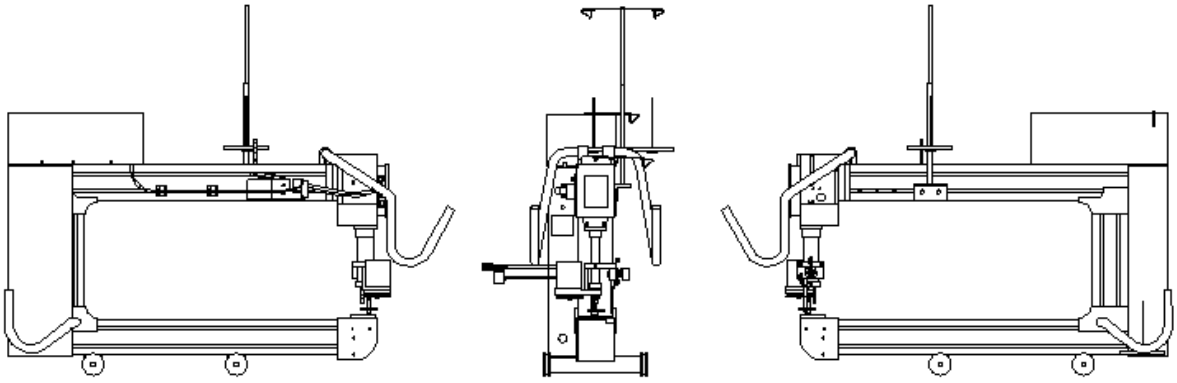
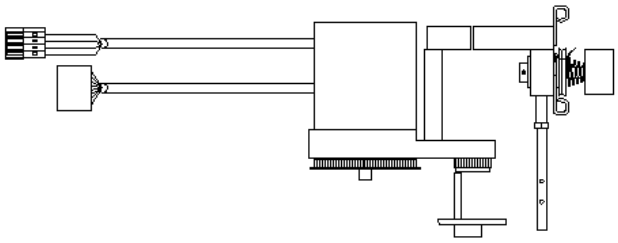


ABM International, Inc.

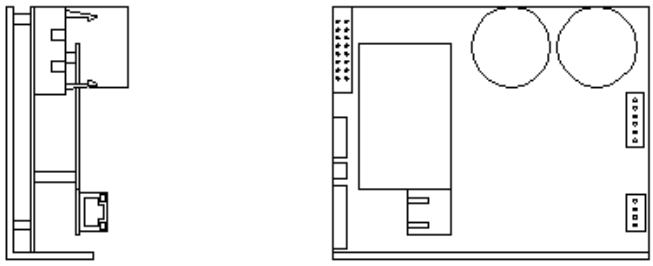
E-cording – Lightning Stitch required

1.0: Parts List

E-cording head and motor assembly (Qty. 1)

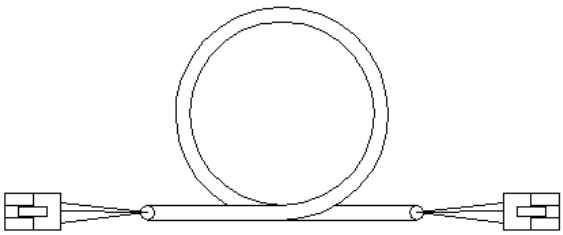


E-cording motor drive (Qty. 1)

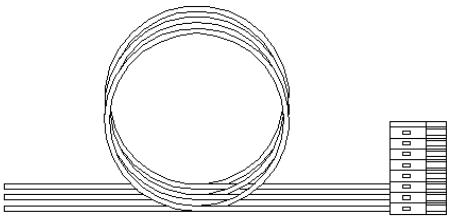


Cable harness with bracket (Qty. 1)

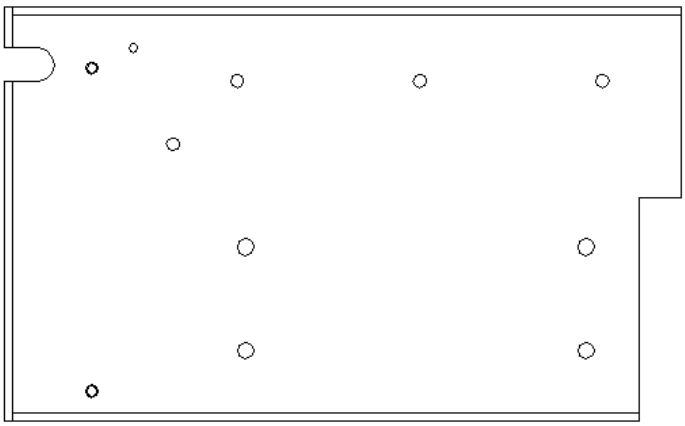
Communication cable (Qty. 1)



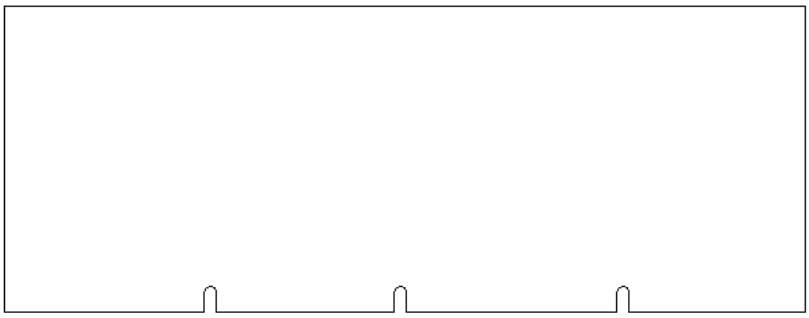
Drive AC power cable (Qty. 1)



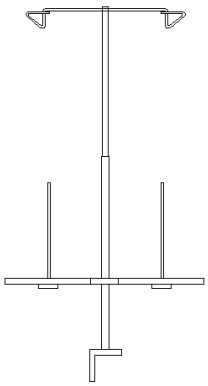
Motor cover base plate (Qty. 1)



Top cover (Qty.1)



Thread stand (Qty. 1)



Front cord guide (Qty. 1)

Angle nut (Qty. 2)

Twist lock cable tie holder (Qty. 2)

Bolt Kit:

Socket head cap screw:

(Qty. 2) ¼ x 1
(Qty. 1) #8 x ¼
(Qty. 1) #8 x ½

Set Screw:

(Qty. 1) Needle bar set screw 

Nylon insert lock nut:

(Qty. 1) 8-32 

Flat washer:

(Qty. 3) #8
(Qty. 2) 1/4 

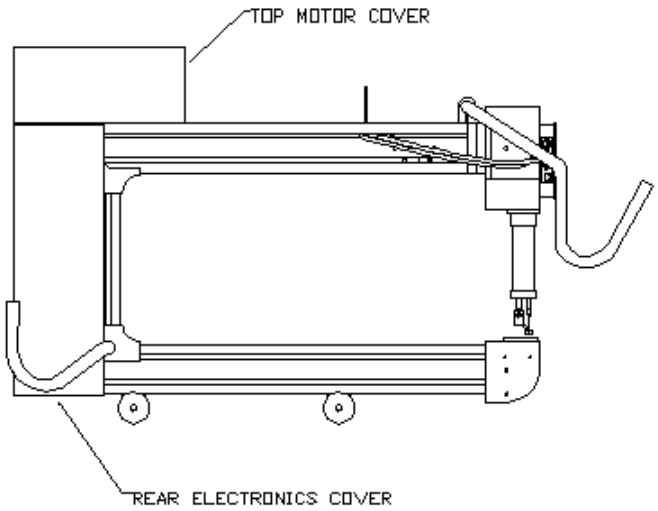
2.0 E-cording assembly

NOTE: THE LATEST VERSION OF E-CORDING WILL ONLY WORK ON MACHINES EQUIPPED WITH LIGHTNING STITCH REGULATION.

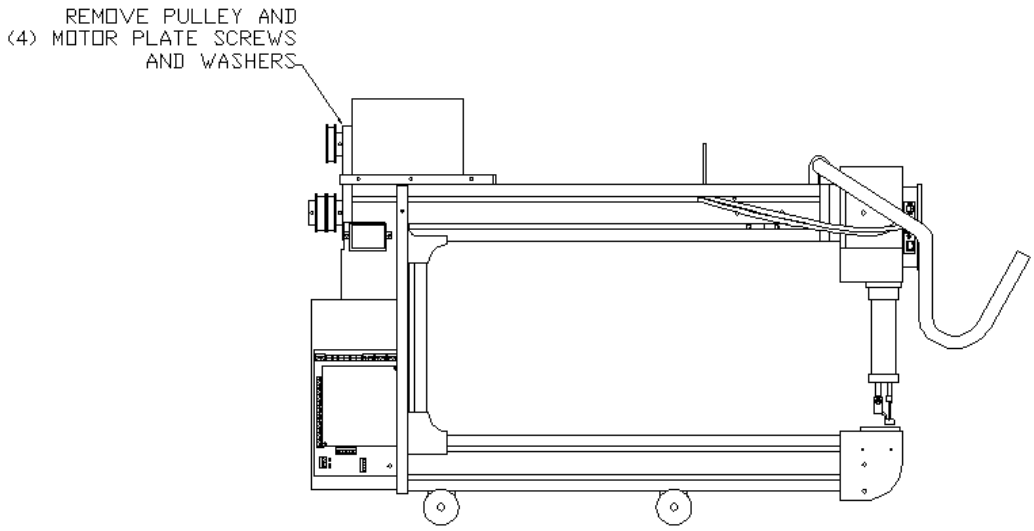
The E-cording instruction manual was written to install an E-cording module onto a machine with Lightning Stitch regulation already installed.

Step 1: Unplug the machine from the electrical outlet.

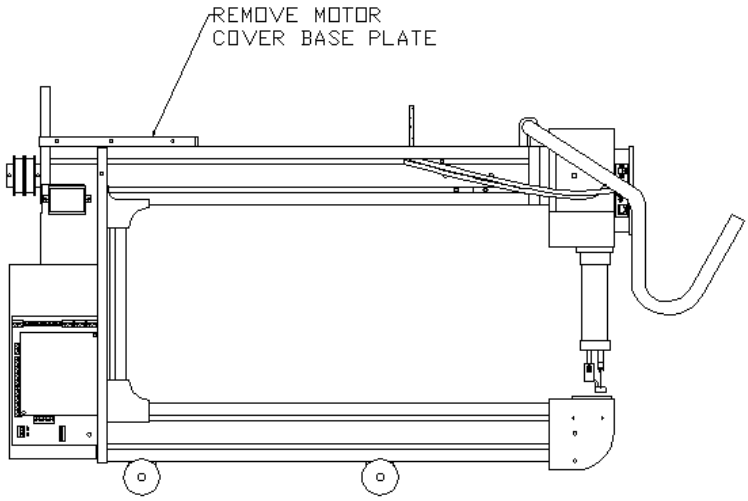
Step2: Remove the top and rear covers of the Innova.



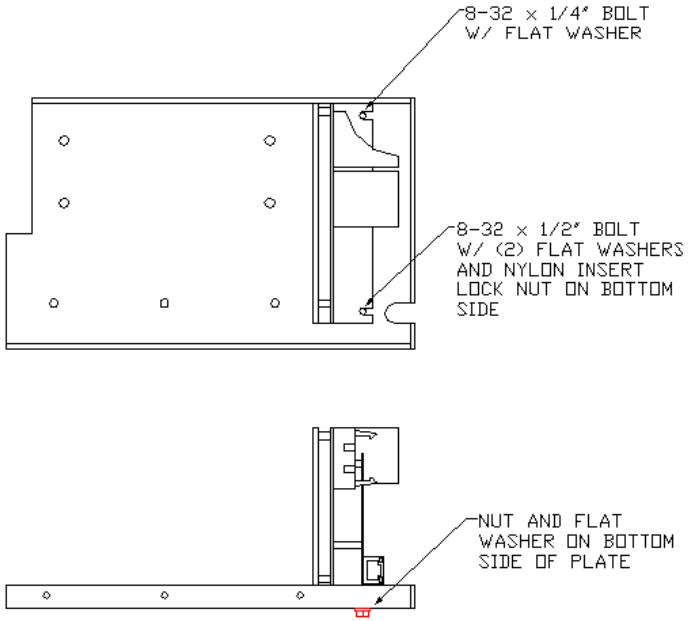
Step 3: Remove the motor pulley and (4) M5 motor plate screws from Lightning stitch motor. Unplug the communication and power cables from the drive unit and carefully set the assembly to the side.



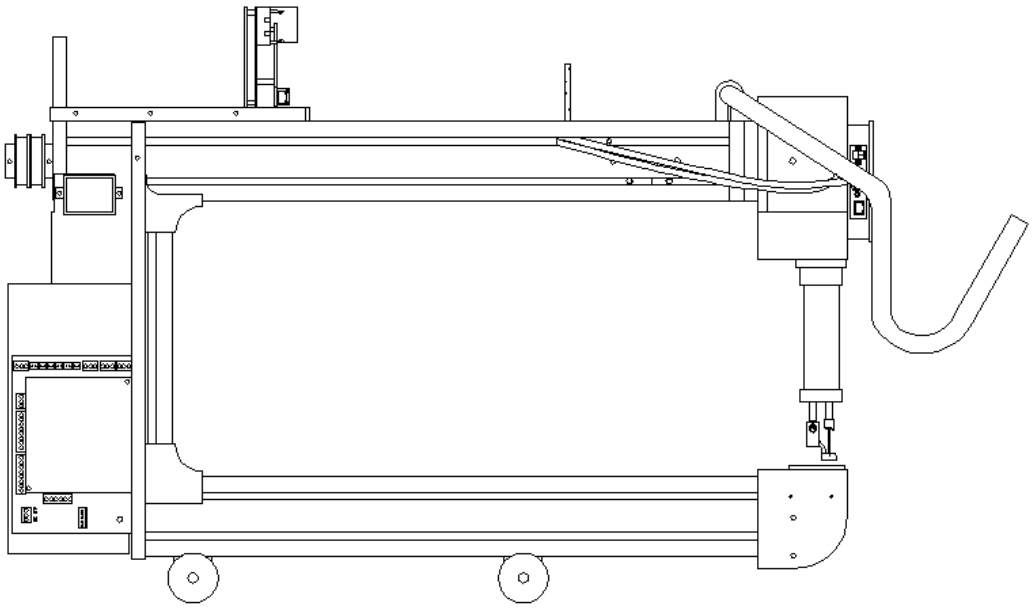
Step 4: Remove the (4) button head screws that hold the motor cover base plate to the Innova. Remove the plate.



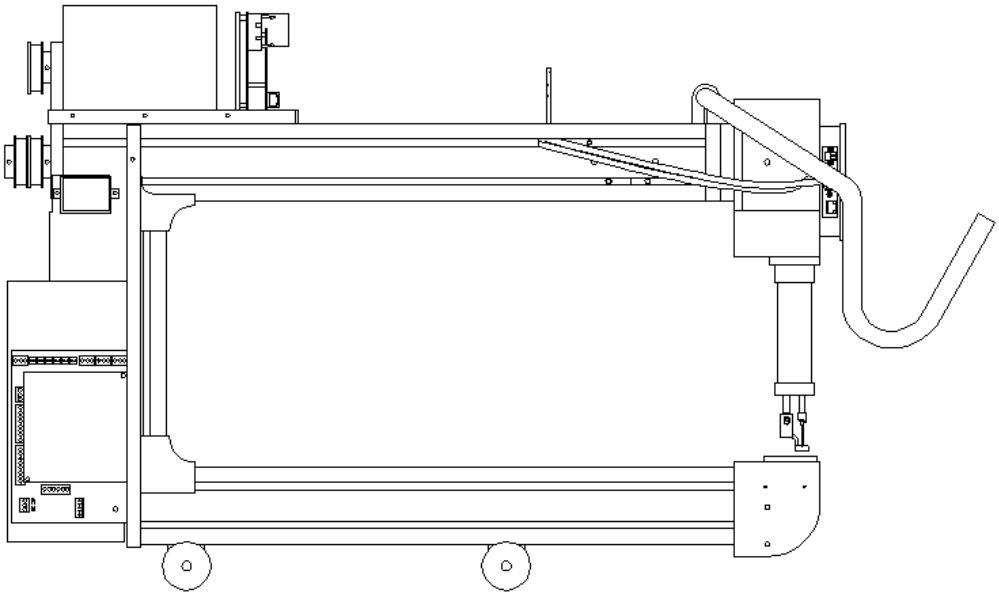
Step 5: Install the E-cording motor drive onto the new motor cover base plate using (1) #8 x ¼" bolt and washer and (1) #8 x ½ bolt, (2) flat washers and (1) nylon insert lock nut. See picture below for proper board orientation. Make sure to put correct length screws in noted locations on the picture below.



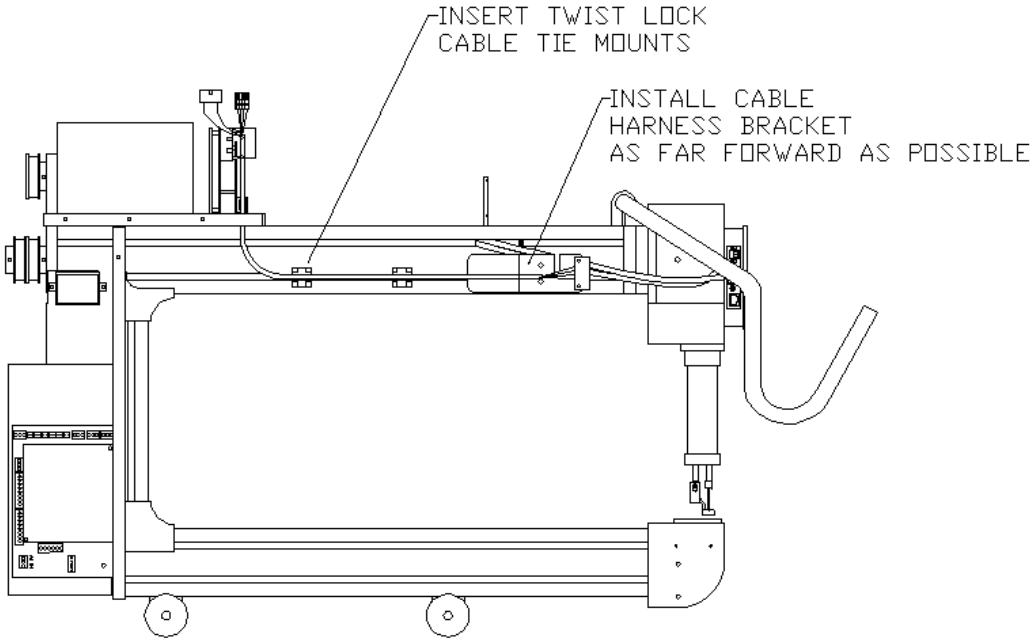
Step 6: Install new base plate and drive onto the Innova using the original (4) button head screws.



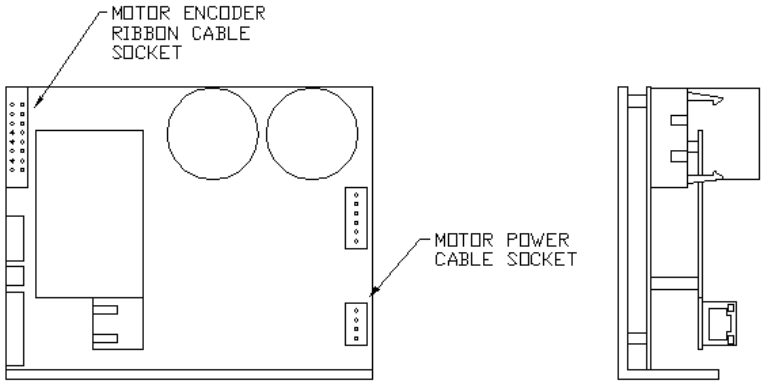
Step 7: Re-install Lightning Stitch motor and drive assembly using the (4) M5 bolts. Make sure to have (2) flat washers and (1) lock washer on each M5 bolt. Re-install the timing pulley with one of the set screws on the motor flat. Make sure to leave a small gap between the pulley and aluminum plate directly behind it. Lightly tension the drive belt and reconnect the communication and power cable to Lightning Stitch drive.



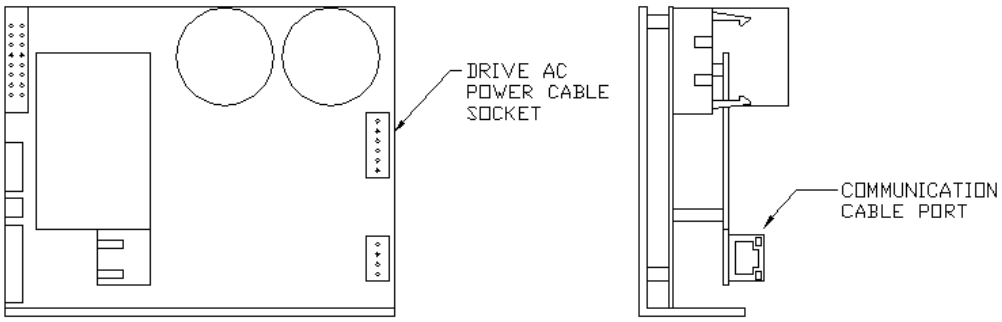
Step 8: Remove the lower slot cover on the top Innova beam. Install (2) twist lock cable ties into the slot. Install the cable harness bracket into the slot using (2) ¼ x 1 bolts, flat washers and angle nuts. Make sure to install the bracket as far forward as possible without interfering with the head pivot release handle. The bracket will cover the release handle when viewed from the side. Route the cable harness up through the notch in the base plate and secure the harness with wire ties on the wire tie mounts.



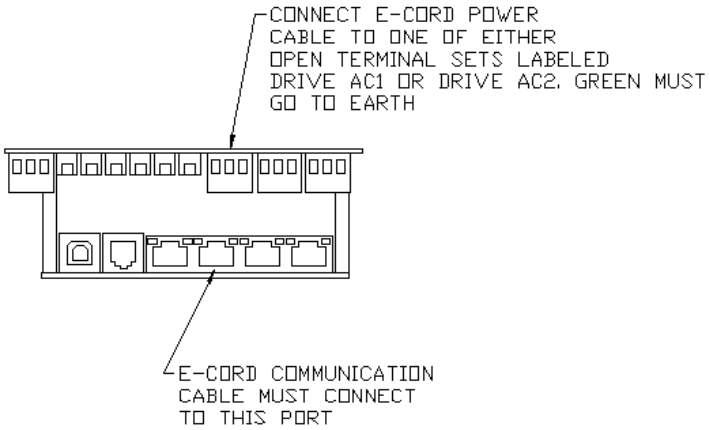
Step 9: Connect the (2) plugs of the harness to the E-cording drive. The plugs are keyed and can only be inserted one way. DO NOT FORCE THE PLUGS INTO THE SOCKETS.



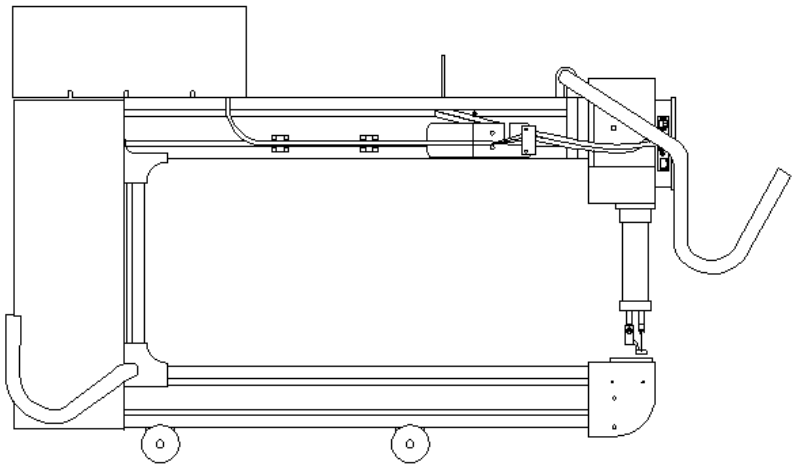
Step 10: Connect the communication cable and drive AC power cable to the E-cording board. DO NOT FORCE THE PLUGS INTO THE SOCKETS.



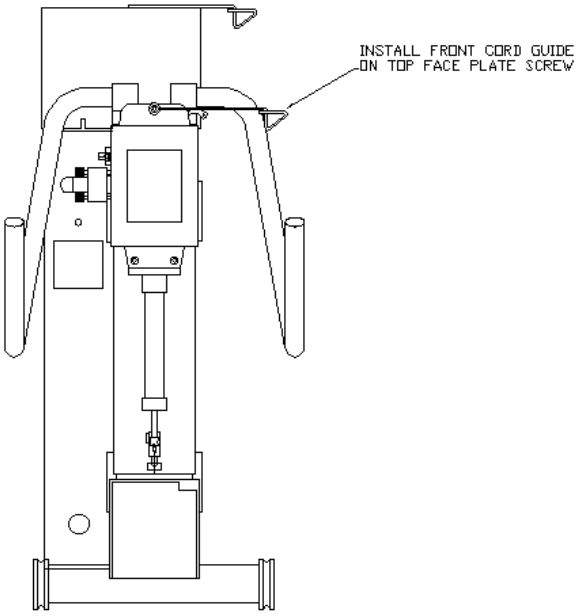
Step 11: Route the communication and power cable of the E-cording drive down to the Lightning Stitch main control board. Connect the wires of the power cable to the unused screw terminals labeled DRIVE AC1 or DRIVE AC2 – DO NOT USE AUX AC. Connect the communication cable to the socket identified in the drawing below. Be sure to nylon tie the cabling so that it cannot get caught or rubbed on any moving machine components.



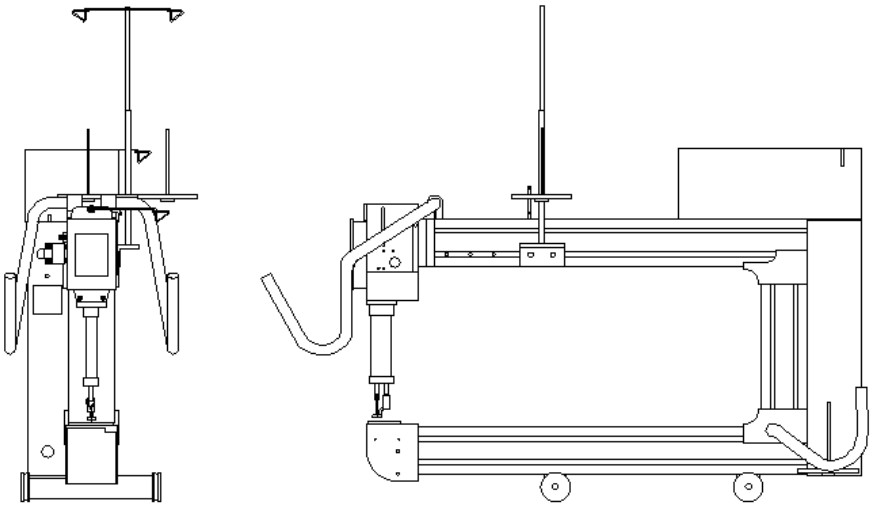
Step 12: Install the new top cover and original rear cover. Be sure to carefully tuck all loose wires under the covers so they do not get pinched.



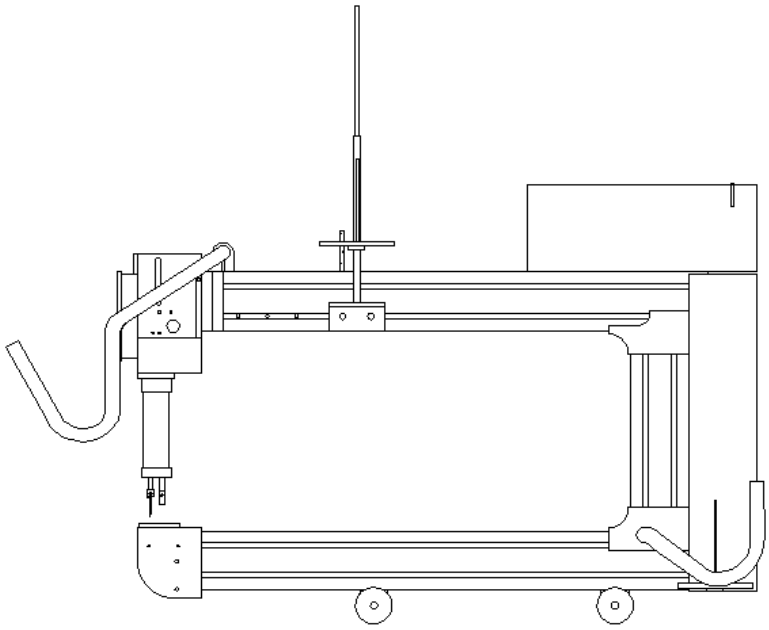
Step 15: Install the front cord guide onto the top face plate screw of the Innova.



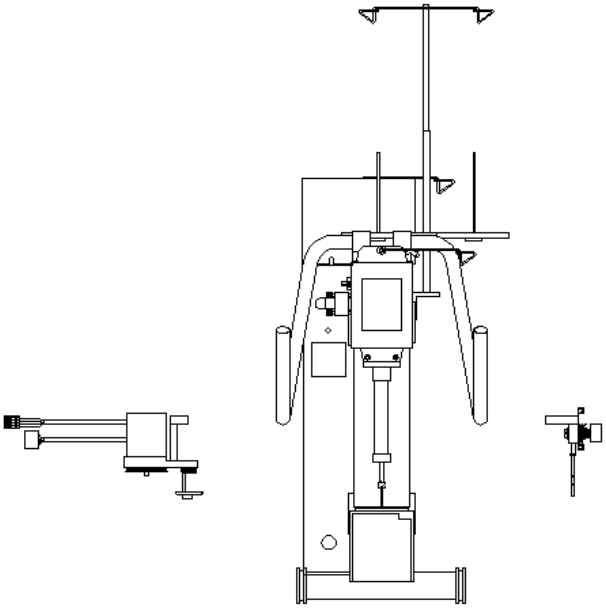
Step 16: Remove the plastic slot cover from the lower slot on the right hand side of the upper beam. Install the thread stand using the (2) angle nuts and (2) ¼ x 1 socket head cap screws.



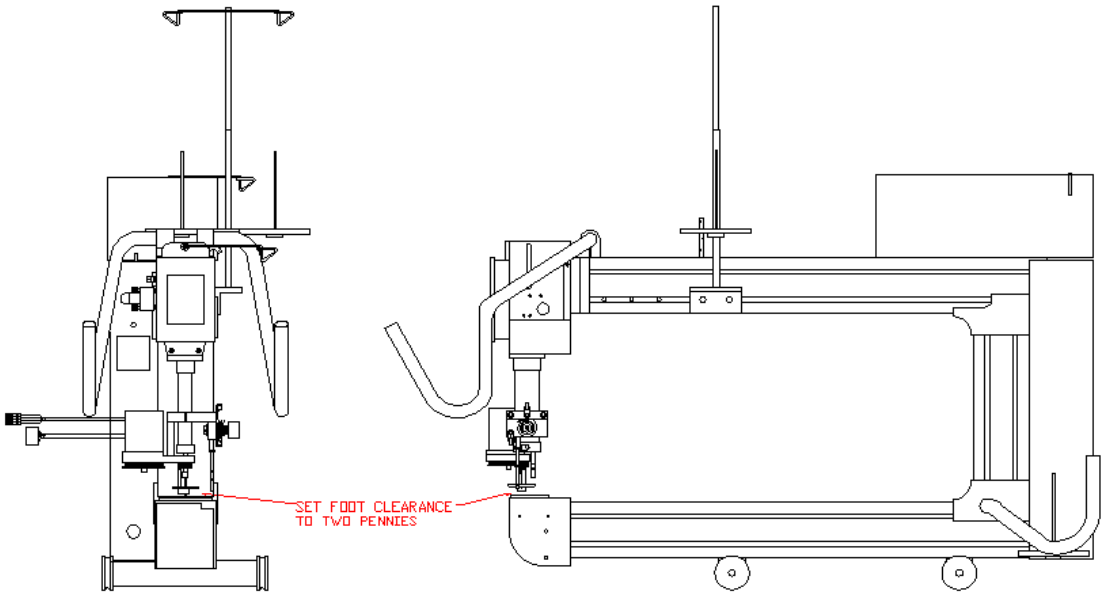
Step 17: Remove the presser foot and spring from the presser bar. Remove the original needle screw from the needle bar and install the needle set screw that came with the E-cording kit. Remove the needle from the needle bar.



Step 18: Remove the (2) #10 x 2" socket head cap screws from the e-cording head, this will allow the head to separate into two pieces. Install the two halves of the e-cording head onto the needle bar bushing. Connect the motor to the motor cable on the left side of the upper beam.



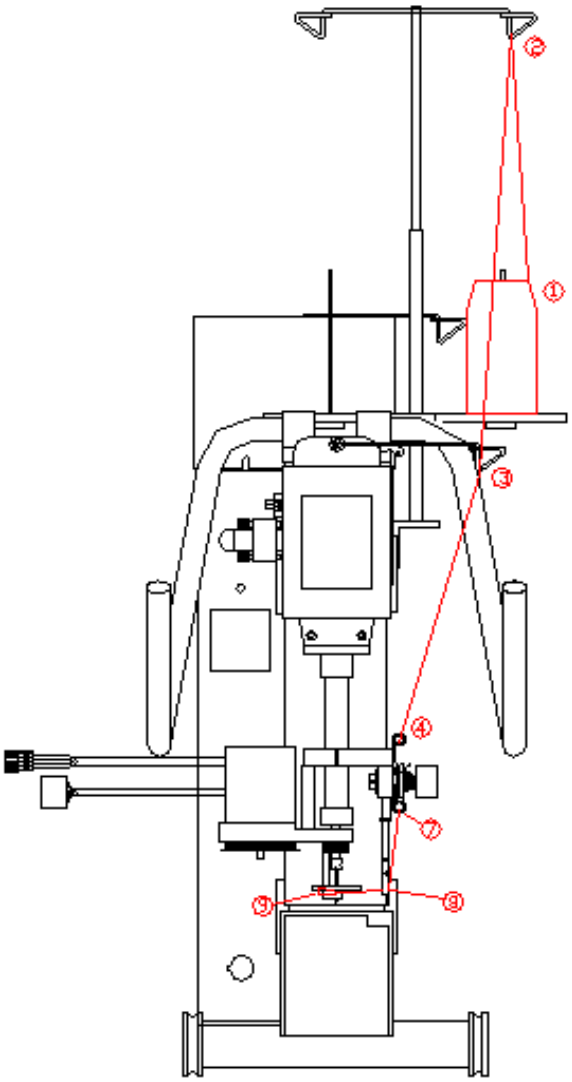
Step 19: Set the gap between the e-cording foot and the needle plate with two pennies. Install the needle in the needle bar.

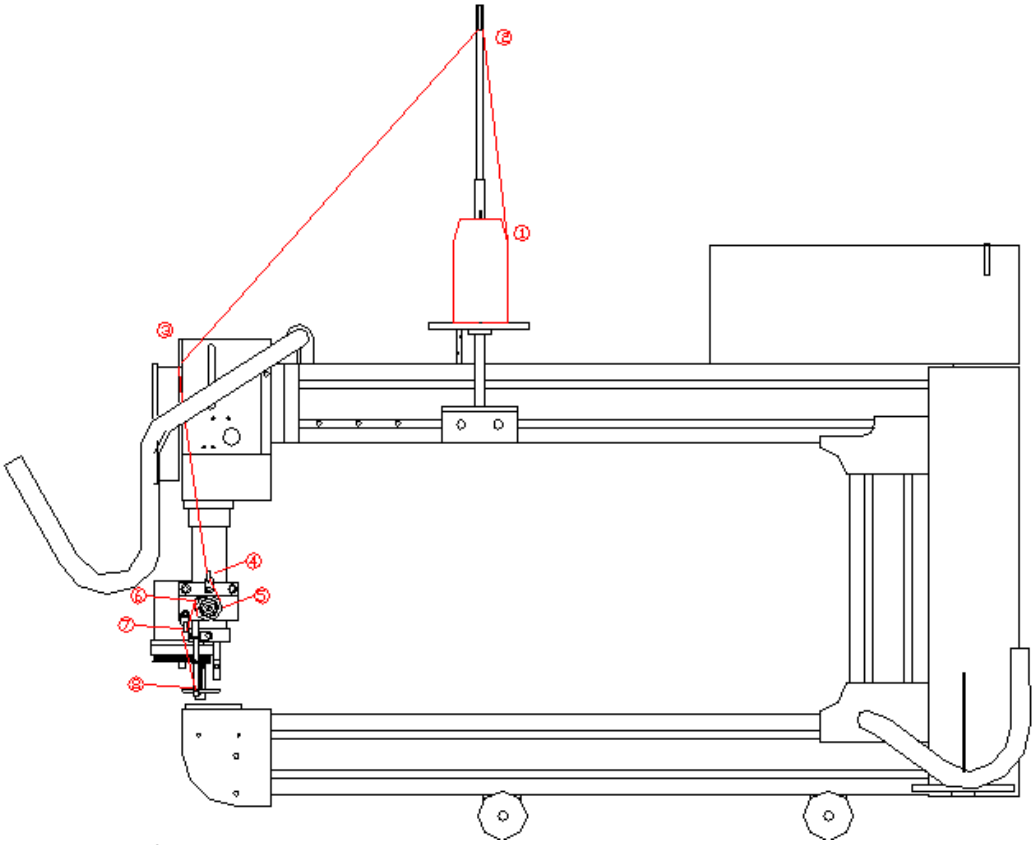


3.0 E-cording operation

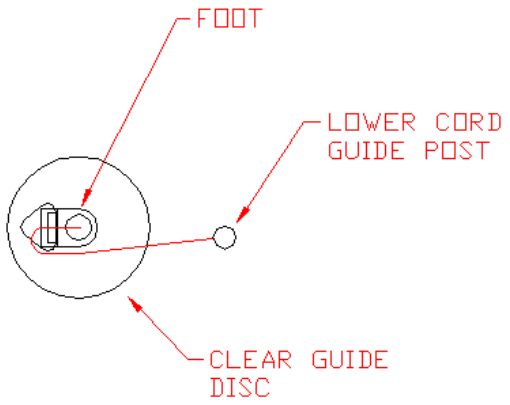
The e-cording system was designed to give owners the ability to create aesthetically pleasing sewn products. E-cording allows the operator to sew cording, yarn, ribbon and many other goods available on a cone or roll. The cording process, often called “couching”, weaves a cord under the stitches of the Innova quilting machine as it sews. The stitches lock the cord to the fabric creating a three dimensional effect.

3.1 Threading the E-cording system





1) Pull the cord from the cone on the thread stand.
2) Run the cord through the upper thread guide of the thread stand.
3) Pull the cord through the front cord guide on the front face plate of the Innova.
4) Pull the cord through the guide directly above the tension assembly.
5) Place the cord between the tension discs on the cording head and wrap around the discs clockwise. NOTE: DO NOT WRAP THE CORD COMPLETELY AROUND THE TENSION ASSEMBLY.
6) Run the cord over the check spring on the tension assembly.
7) Feed the cord through the thread guide directly below and to the left of the tension assembly
8) Feed the cord through the lowest hole of the guide post
9) With the e-cording foot post positioned on the left, run the thread on the front side of the foot under the clear guide disc and into the hole on the back of the foot. The cord must be run so that it passes clockwise around the foot and into the hole. With tweezers, pull a small amount of cord from the center hole of the foot, underneath the foot to the outside leaving a small tail.

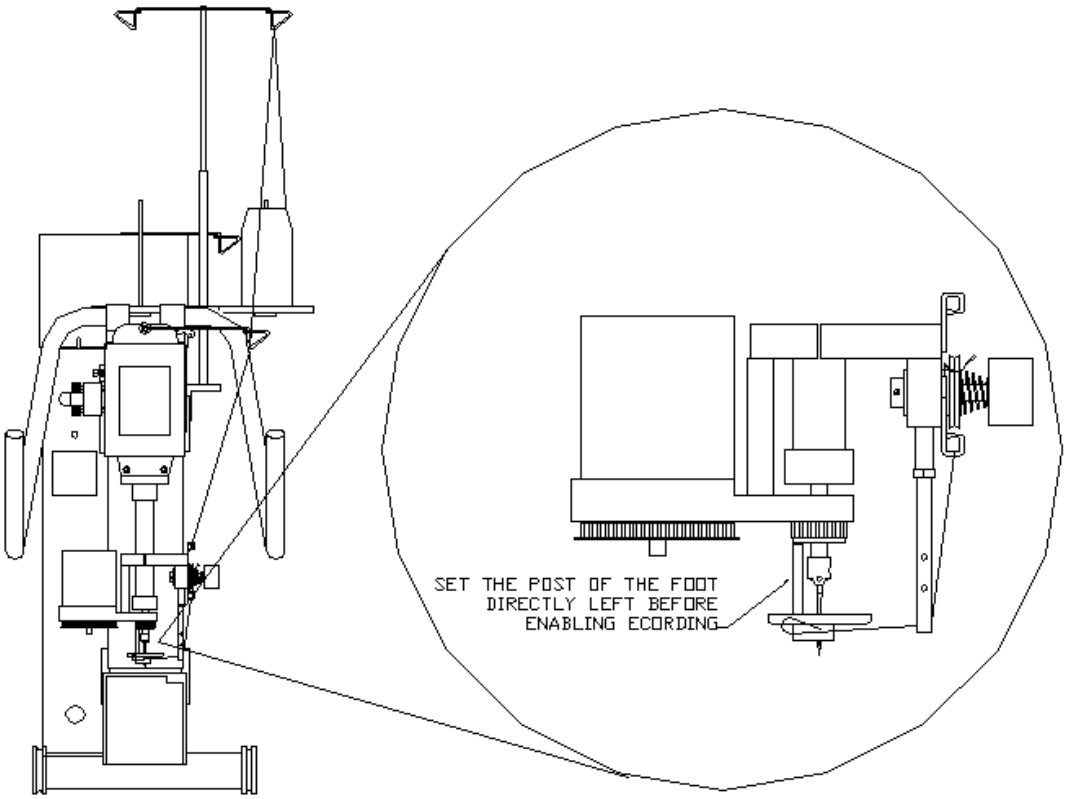


3.2 Controlling the E-cording system

The E-cording system is engaged on the front touch screen display of the Innova Lightning Stitch regulator. Touching the toggle switch will change the stitching modes between REGULATED, MANUAL, and E-CORDER.

3.3 Preparing to sew with the E-cording attachment

The foot of the E-cording attachment must be set to the home position. The home position of the foot is achieved when the post of the foot faces directly left. Once the Innova is turned ON, the E-cording motor will hold the position of the foot precisely. The cording should be threaded through the guides as outlined in the threading section and the cord must be set so that it comes from the lower cord guide post around the front of the foot and into the hole on the back of the foot post. Pull a small amount of cord from the center hole of the foot, underneath the foot leaving a tail of cord on the outside. To begin cording, make sure the touch screen toggle switch is set to "Ecording" on the front display and press the green button to start the Innova.



3.4 Adjusting the Innova E-cording attachment

The E-cording system will need to be adjusted to provide optimum performance with different types of cord. The tension disc pressure and check spring pressure and stroke will allow the user to create tight consistent cording effects. The tension should be set so that the check spring moves as the cord is pulled. Not enough tension may cause the cord to bunch up when sewing straight lines. Additionally, not enough check spring stroke or pressure may cause excessive slack in the cord during directional changes. The most common problem experienced is the cord pulling on the top thread towards the center of a curve or circle often exposing the stitching holes. In this case, the main tension on the Innova should be increased or the tension disc pressure on the cording attachment should be reduced until the pulling is eliminated.