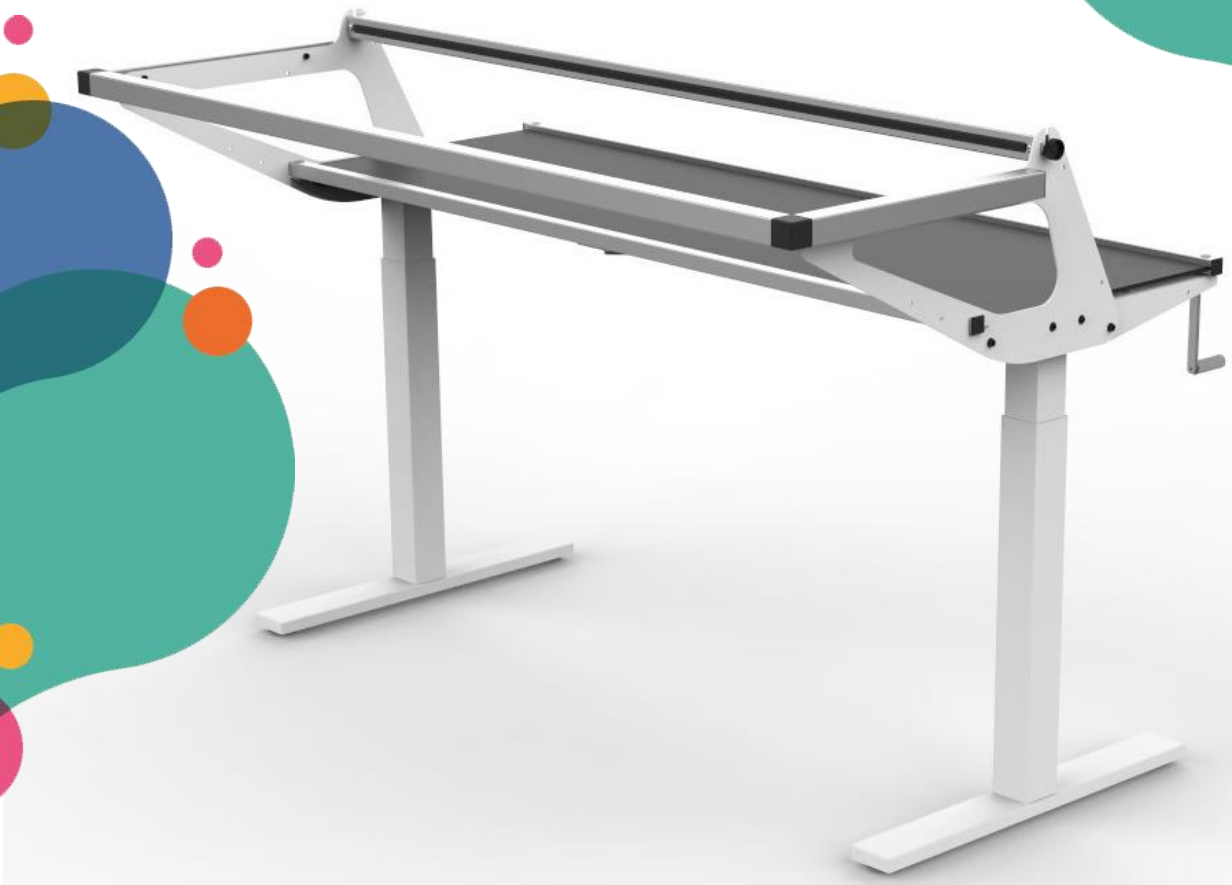
Rev.01.23.24

ELLIE HALO

ASSEMBLY MANUAL



APQS

Welcome to The APQS Family!

Thank you for selecting APQS as your longarm quilting company! As a family-owned company, we work hard to make our "new" family members feel welcome, and we provide lifetime customer support. We are honored to serve you.

This manual includes the necessary information to assemble your APQS Ellie Halo Table.

If you are missing any parts or have received incorrect or damaged parts, please call our Customer Service Team at 800-426-7233 so we can resolve the problem quickly for you. You can also reach us by email at service@apqs.com.

Even if you are not assembling the machine yourself, please read the assembly instructions and familiarize yourself with their contents. You'll learn the different part names and will better understand your setup should you ever need to call us for service.

Every machine purchased directly from APQS includes a free, 6-hour beginner class. Visit our Education Calendar to locate a beginner class near you or contact your local dealer for more information.

Be sure to join the APQS Quilting Channel on YouTube – you'll find video tutorials on everything from how to thread your machine to how to quilt feathers, along with helpful maintenance videos. Don't forget to "like" us on Facebook and follow the "We Love APQS" Facebook page!

You'll also find helpful tips on the APQS website at www.apqs.com. Visit the "Resources" and the "Service and Support" tabs for more videos, our blog, and the answers to the most frequently asked service questions.

If you have any questions, please contact us. We are here to help!

APQS

800-426-7233

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800-426-7233 ..... *3*

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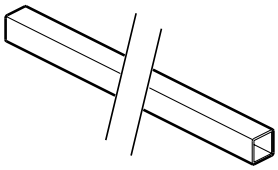
Halo Table Parts List

Box 1

A (x1)



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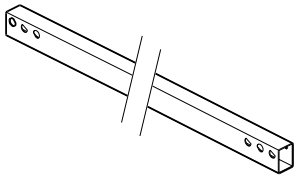

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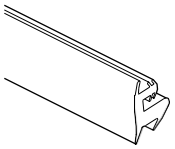

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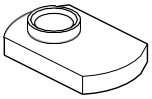

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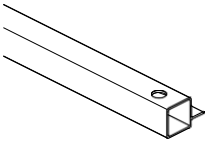

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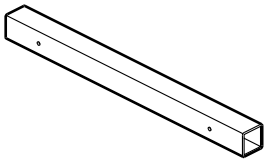

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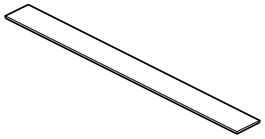

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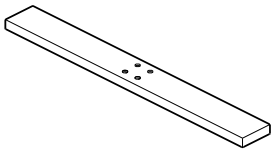

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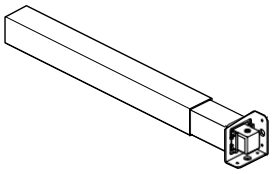

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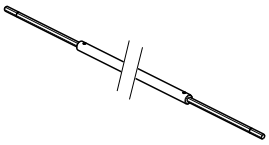

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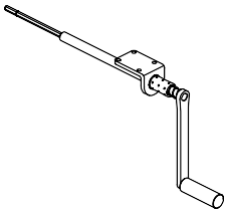

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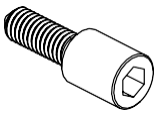

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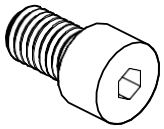

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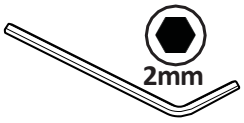

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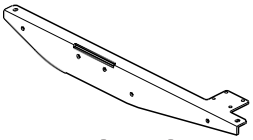

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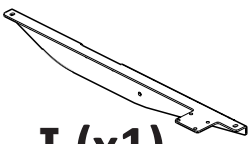

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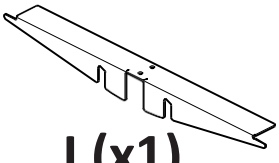

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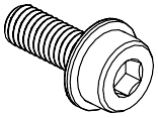

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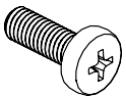

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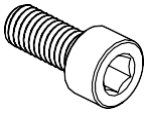

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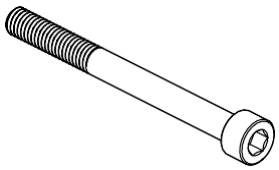

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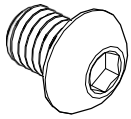

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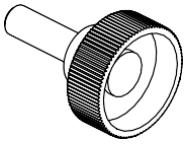

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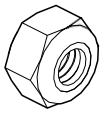

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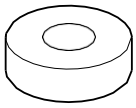

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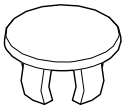

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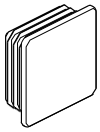

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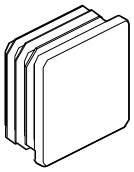

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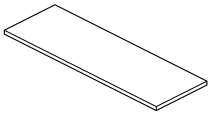

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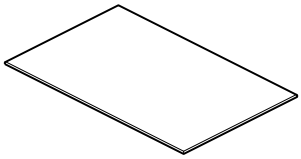

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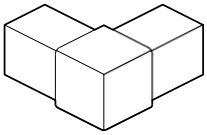

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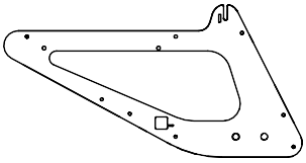

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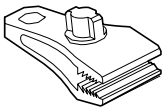

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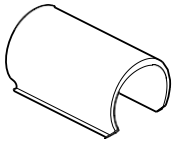

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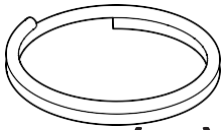

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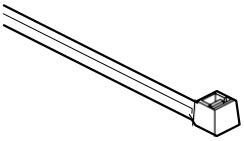

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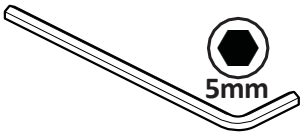

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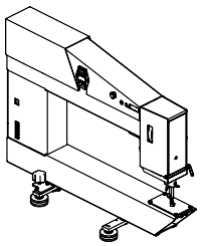

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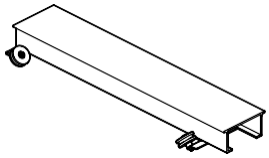

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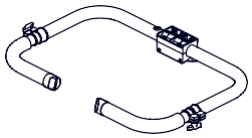

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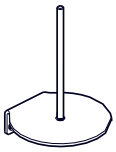

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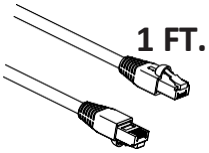

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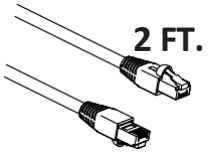

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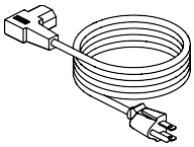

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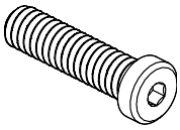

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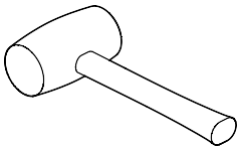
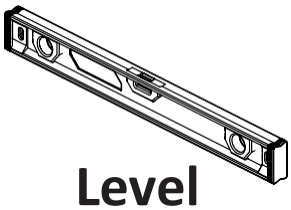
Additional Tools Needed



Rubber Mallet



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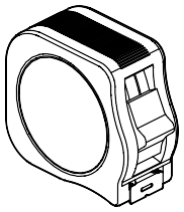

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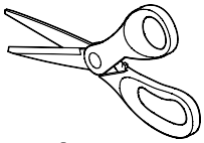

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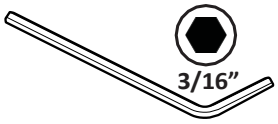
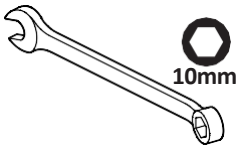


3/16” Allen Wrench



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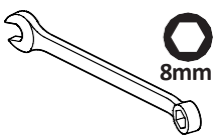
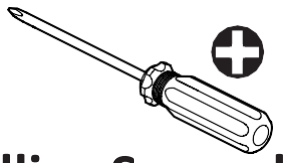
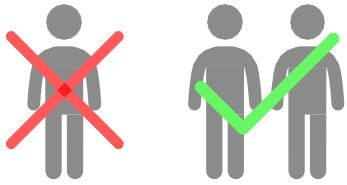


8mm Wrench



Phillips Screwdriver



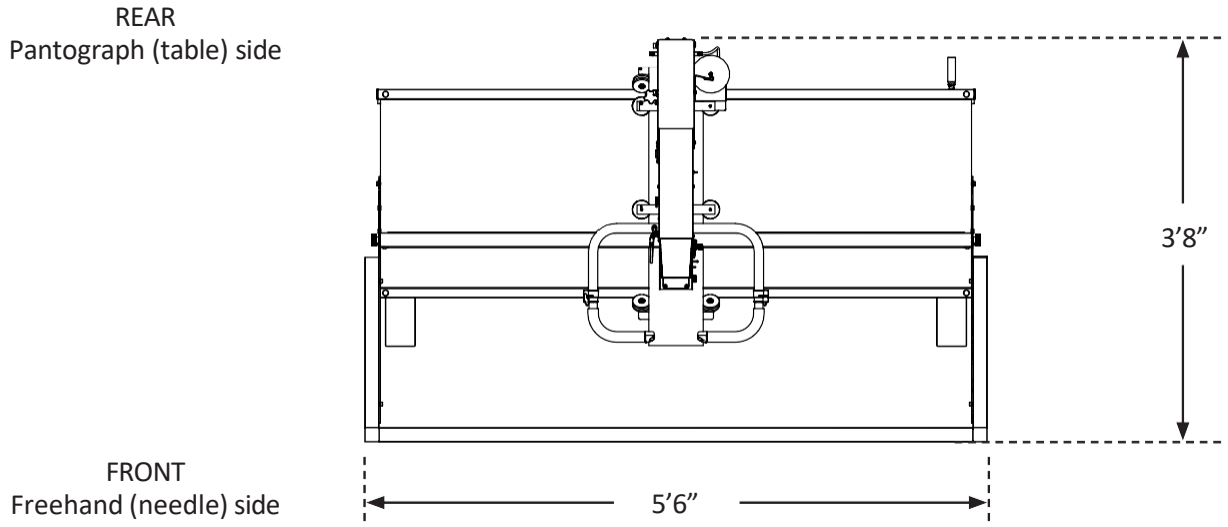
Determine Table Orientation

The table's orientation in your room will determine which becomes the "right" and "left" leg and which way the machine faces. When assembling the machine, the "freehand (needle) side" represents the "front" of the system. Decide which direction you want the needle side of the machine to face, and then use the side view diagram below to orient your two legs in the correct direction to match.

The table footprint is 3'8" deep with the head pushed as far back as possible towards the rear (Pantograph side). If you have the optional pantograph kit, allow an additional 2' to the rear side of the table.

With the machine oriented as shown below, the rear of the table can be against a wall if desired. Plan on another 2 feet on the remaining sides of the quilting system for comfort.

Top View



Side View

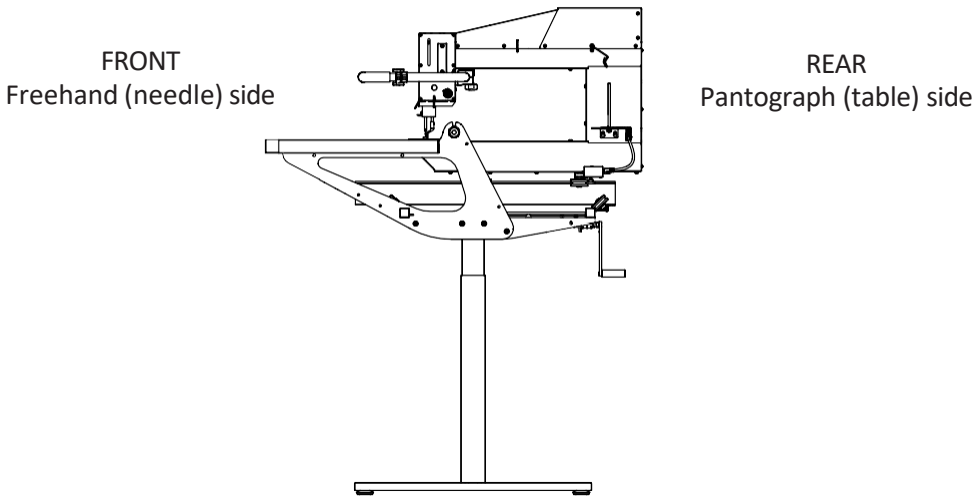
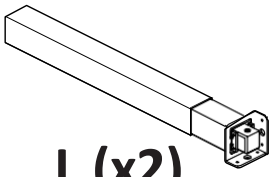


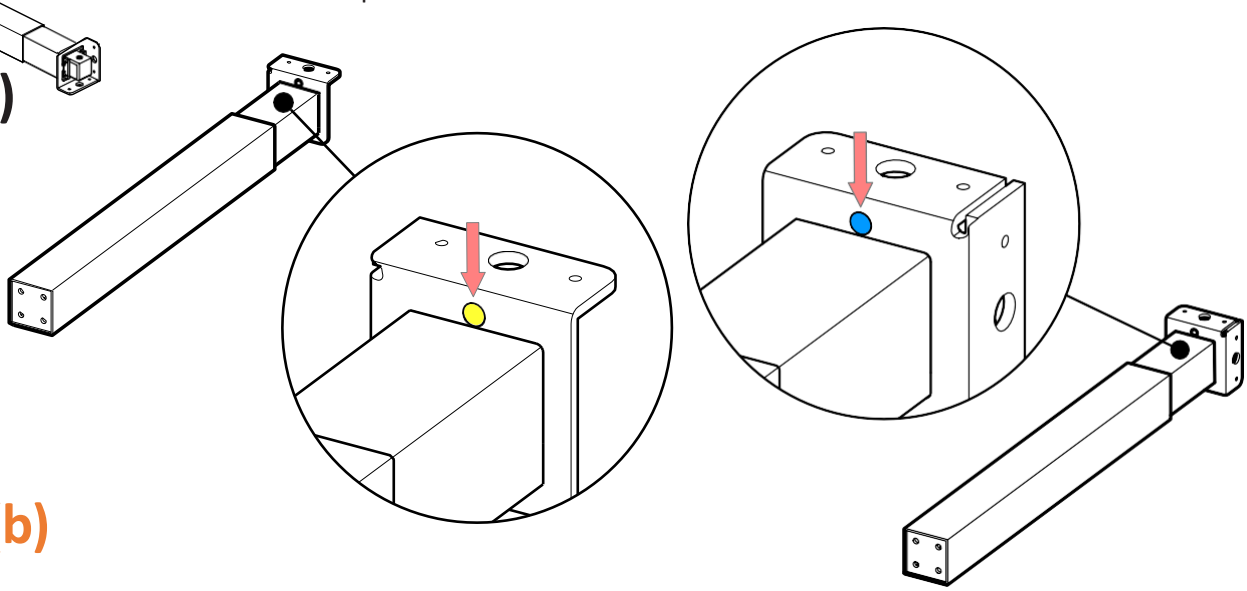
Table Assembly

Step 1(a) - Leg Assembly

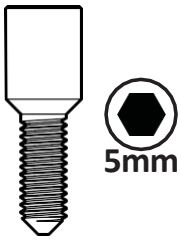


L (x2)

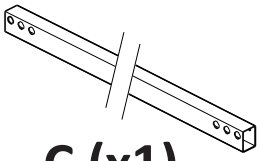
Place the lifting columns (L) flat on the floor. Make sure the column with the yellow dot is on the left and the column with the blue dot is on the right. Rotate the columns so the yellow and blue dots are on top.



Step 1(b)

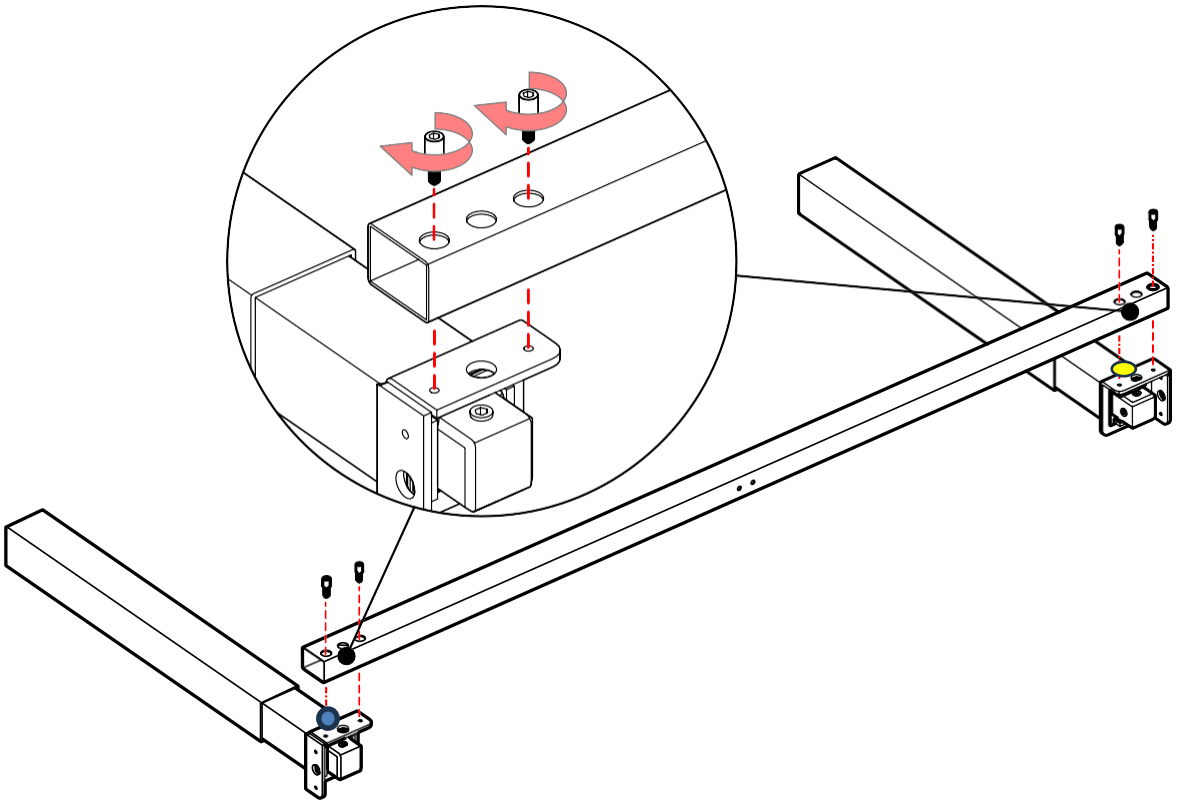


O (x4)



C (x1)

Lay the cross bar (C) on the lifting column flanges. Make sure the access holes are offset towards the top of the lifting column. Attach the cross bar to the column flanges with 4 screws (O).



Step 2(a)– Install Optional Casters

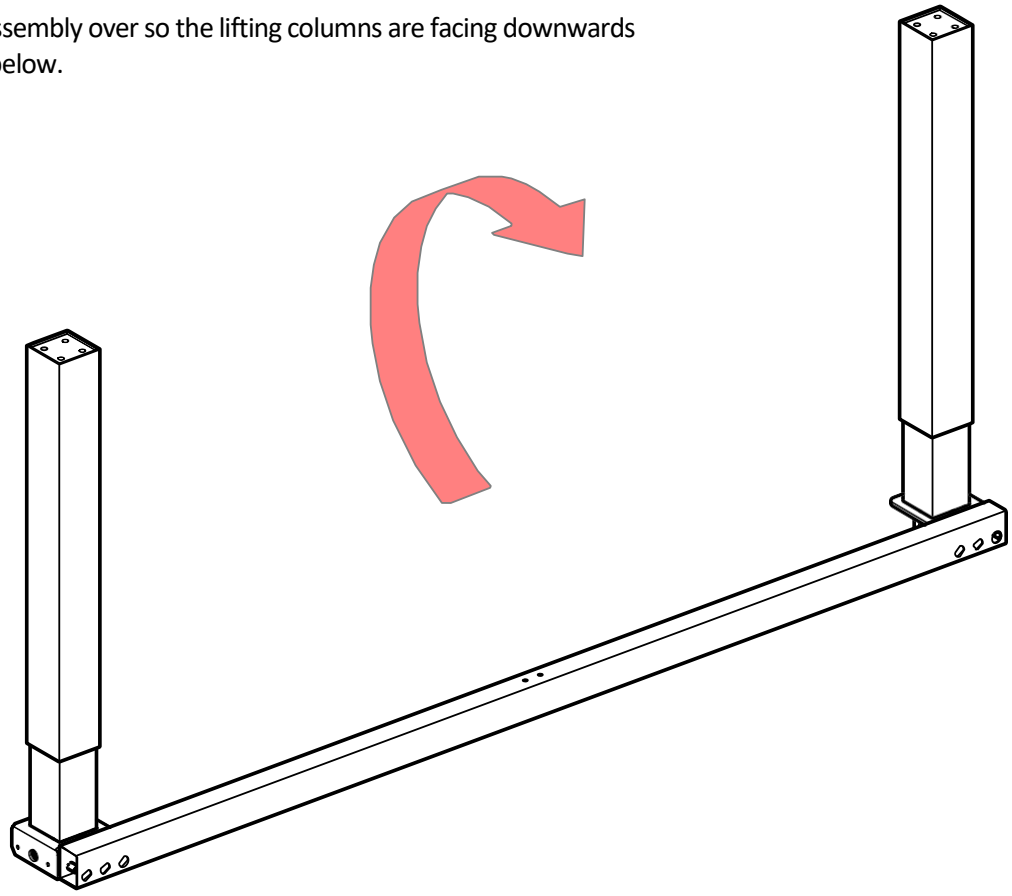
Are you installing the optional casters?

NO - Proceed to Step 4 below.

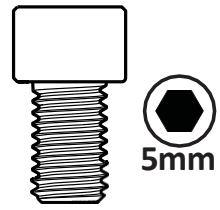
YES - Follow the instructions provided with the optional casters. After installing the casters, return here to proceed with Step 3.

Step 2 (b)

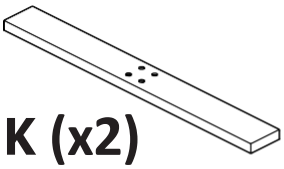
Turn the assembly over so the lifting columns are facing downwards as shown below.



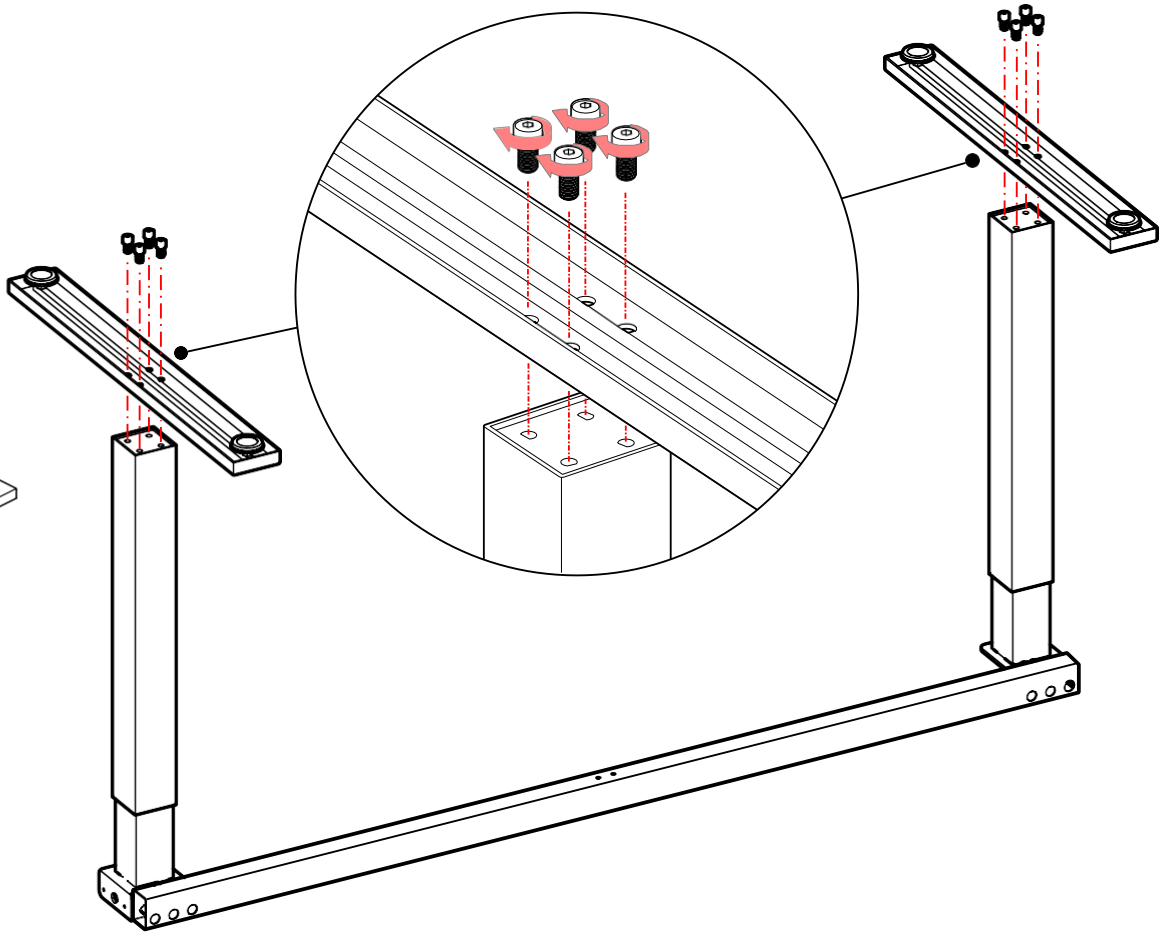
Step 3(a) – Install the Feet



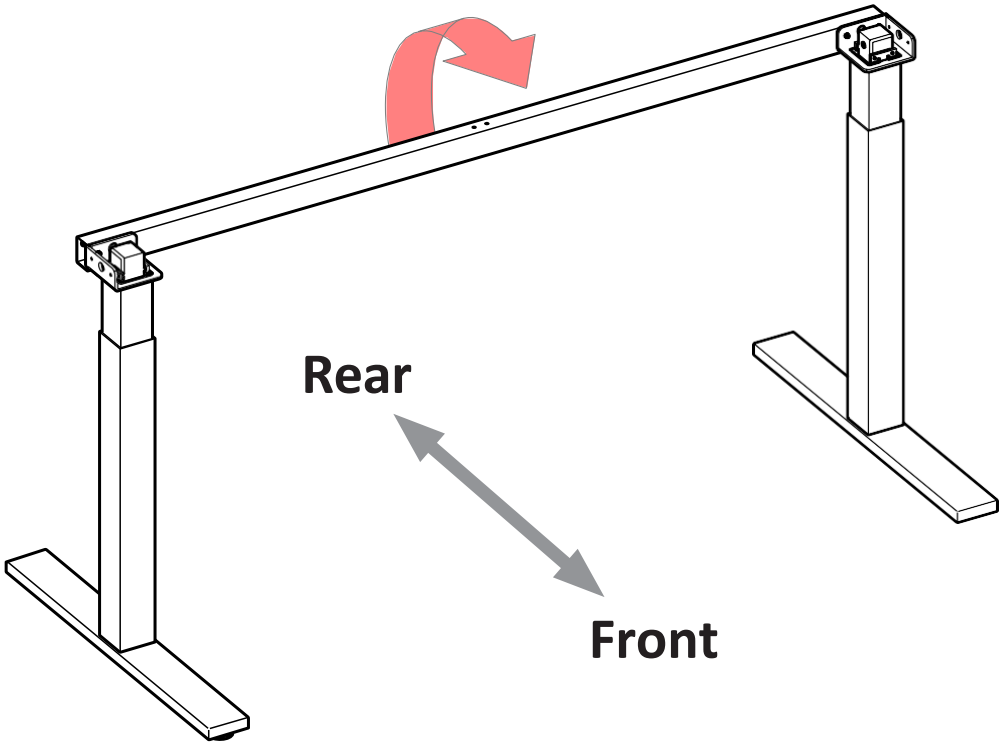
P (x8)



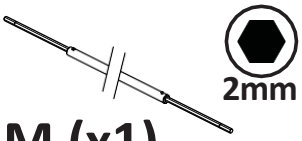
K (x2)



Step 3(b)

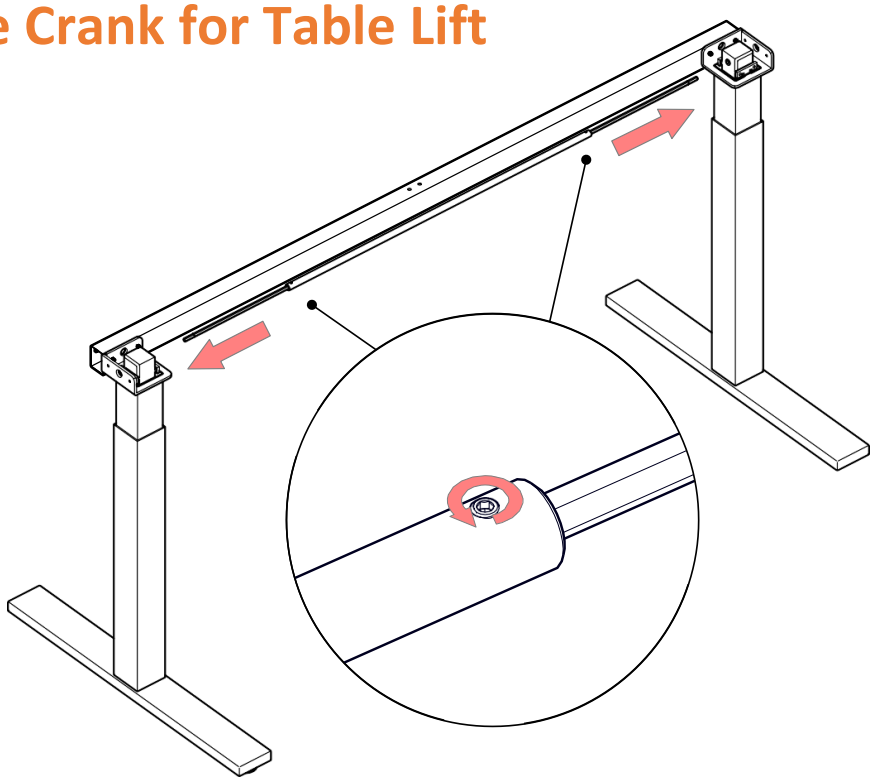


Step 4(a) – Install the Crank for Table Lift

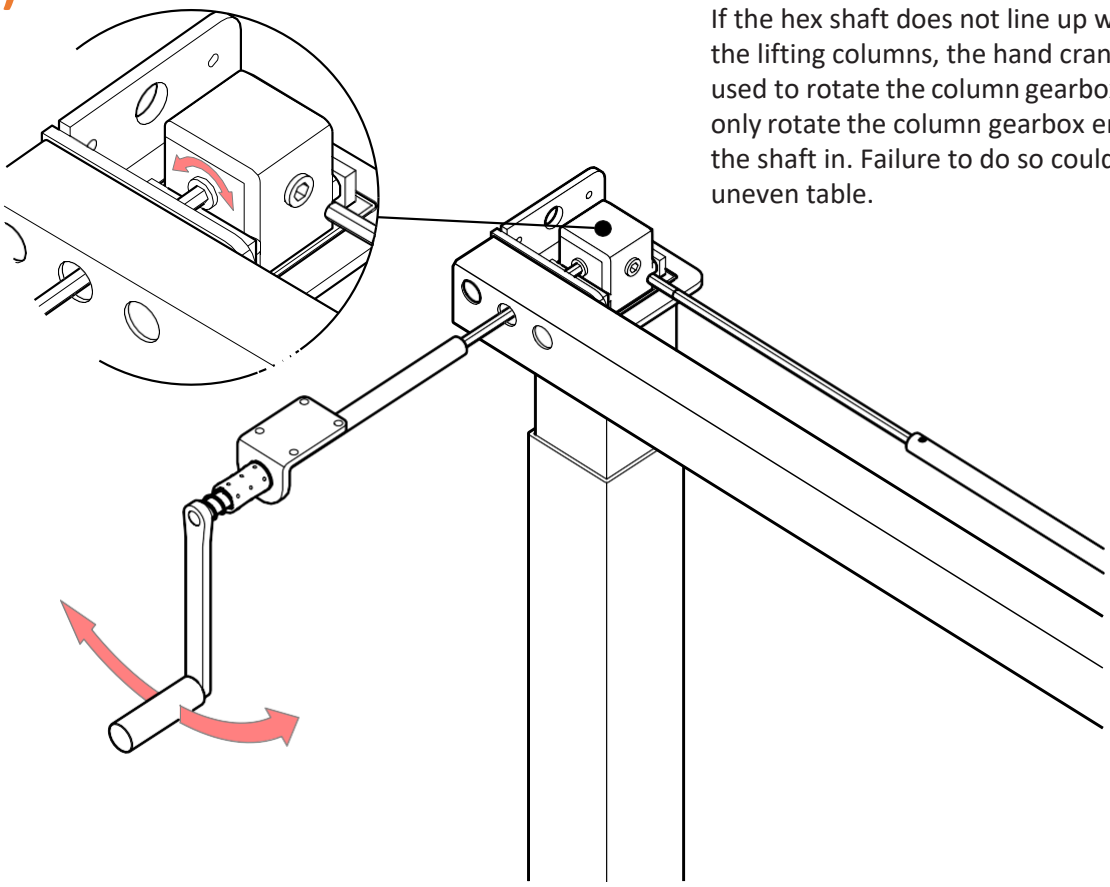


M (x1)

Loosen the 2 set screws on the hex shaft (M). Slide one end of the hex shaft into a lifting column.



Step 4(b)

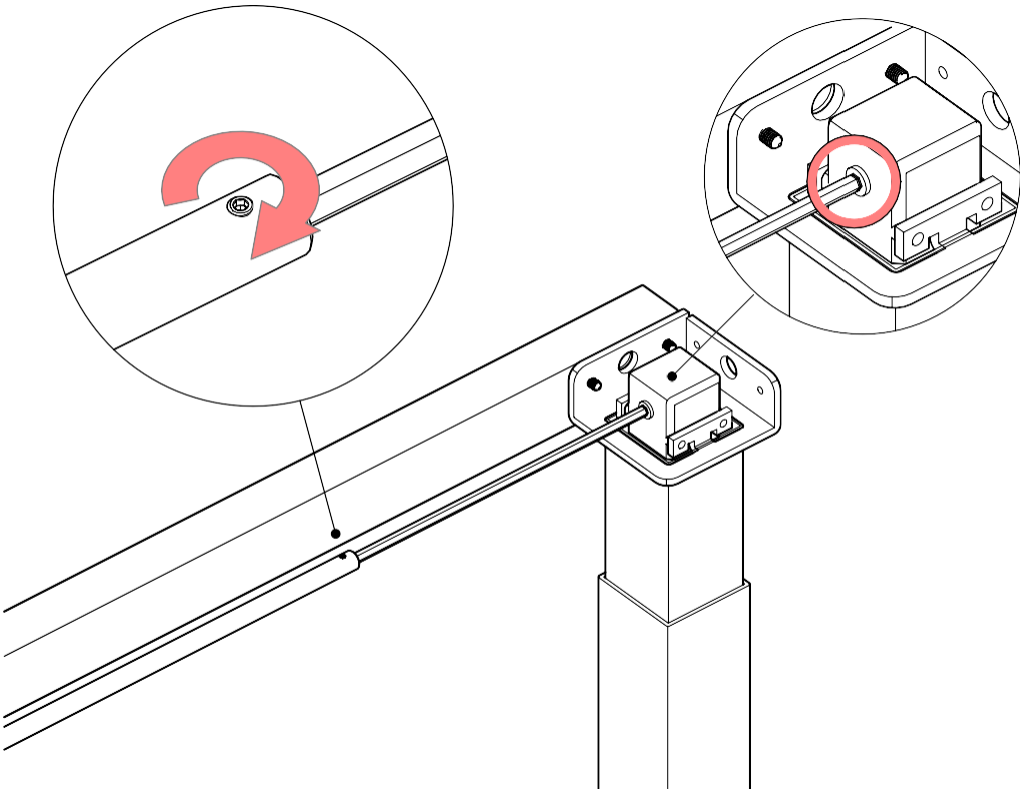


If the hex shaft does not line up with one of the lifting columns, the hand crank (N) can be used to rotate the column gearbox. Be sure to only rotate the column gearbox enough to slide the shaft in. Failure to do so could result in an uneven table.

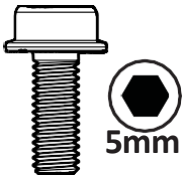
Step 4(c)

2mm

Slide the other end of the hex shaft into the other lifting column. Re-tighten the set screws.

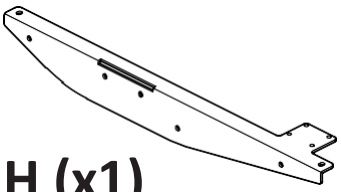


Step 4(d)

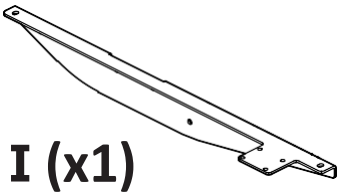


S (x4)

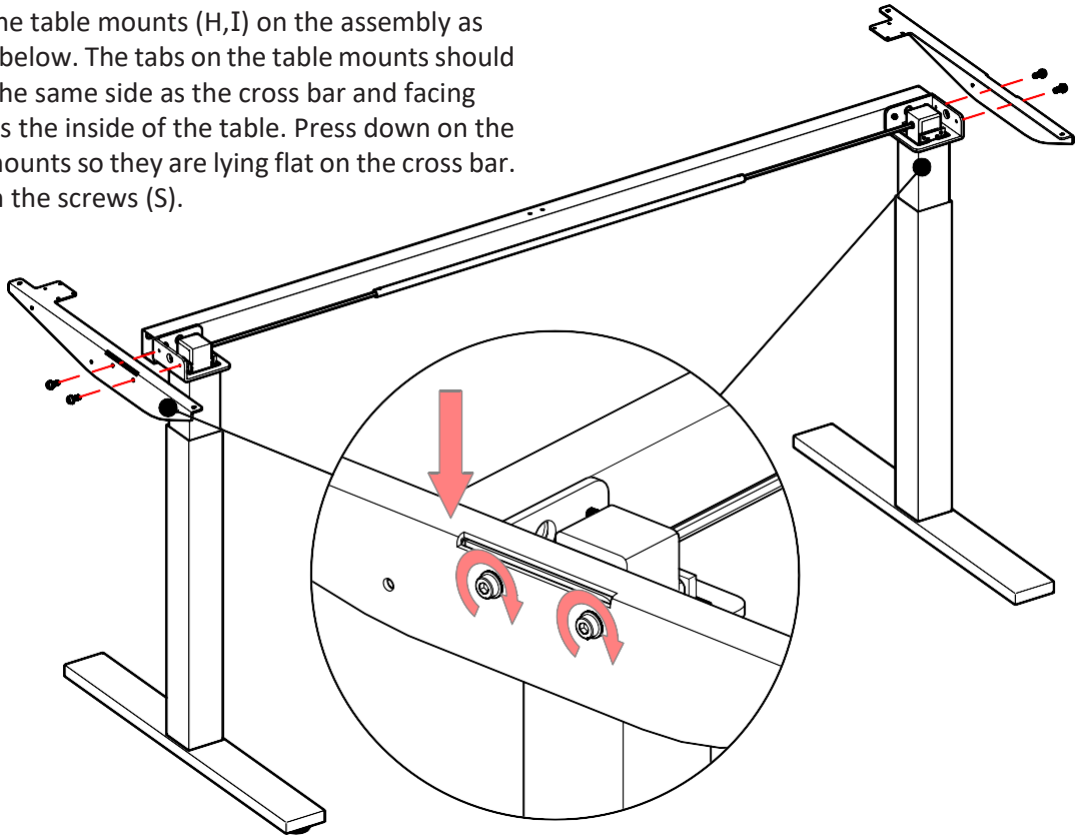
Place the table mounts (H,I) on the assembly as shown below. The tabs on the table mounts should be on the same side as the cross bar and facing towards the inside of the table. Press down on the table mounts so they are lying flat on the cross bar. Tighten the screws (S).



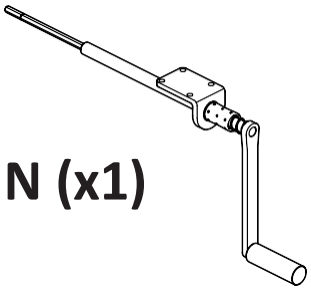
H (x1)



I (x1)

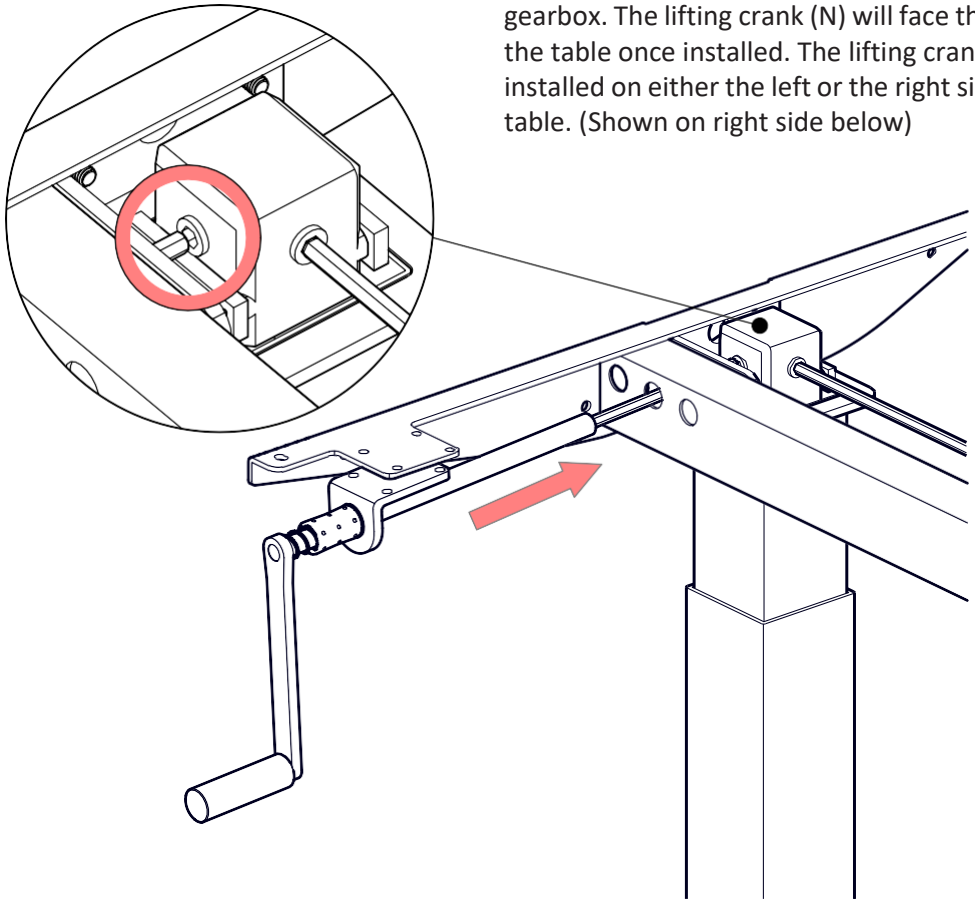


Step 4(e)

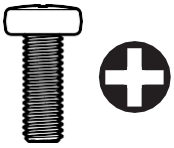


N (x1)

Slide the lifting crank shaft into the column gearbox. The lifting crank (N) will face the rear of the table once installed. The lifting crank can be installed on either the left or the right side of the table. (Shown on right side below)



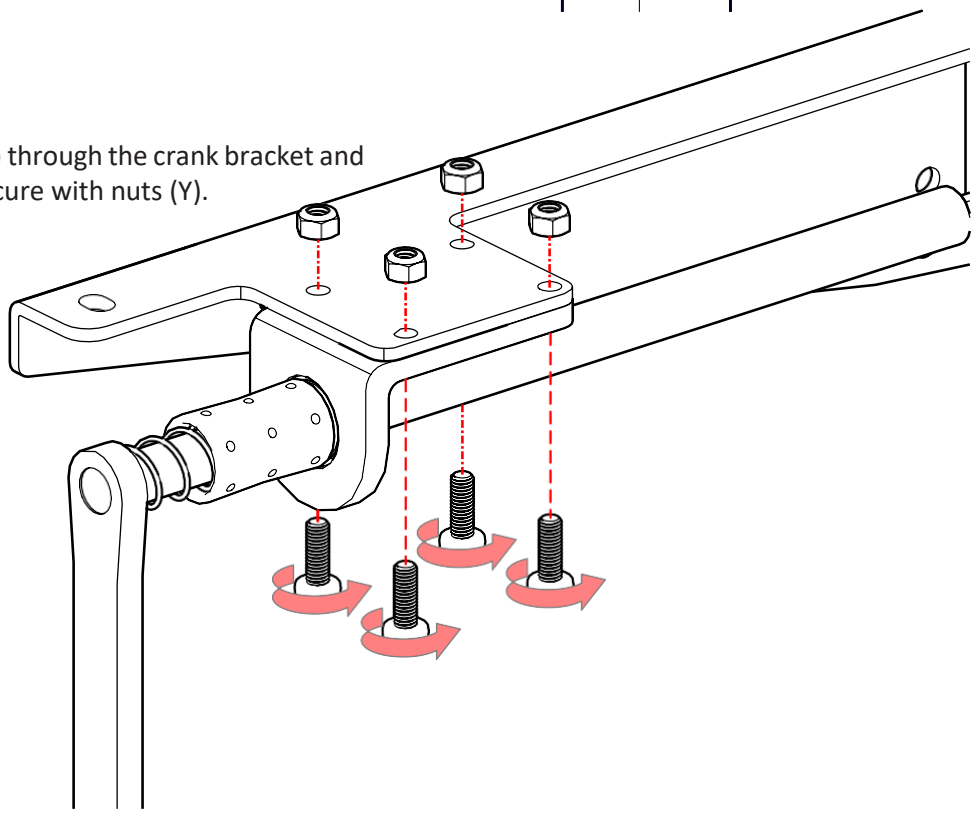
Step 4(f)



T (x4)

Y (x4)

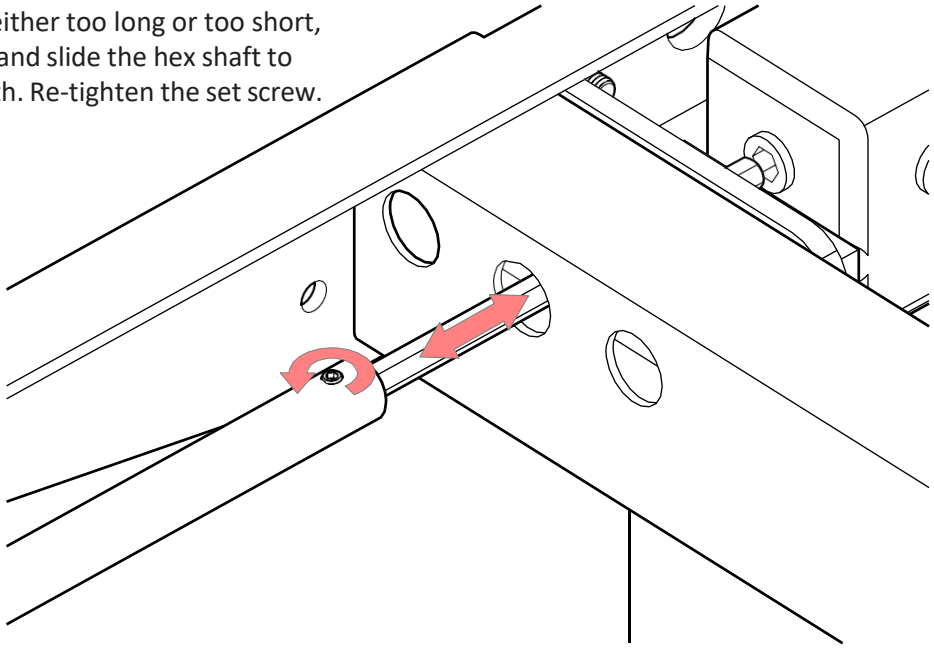
Insert screws (T) through the crank bracket and table flange. Secure with nuts (Y).



Step 4(g)

2mm

If the lifting crank is either too long or too short, loosen the set screw and slide the hex shaft to the appropriate length. Re-tighten the set screw.

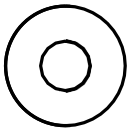


Step 5 – Install Rail Supports

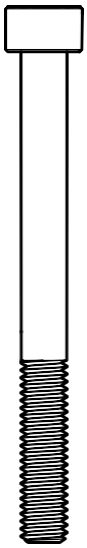
5mm

10mm

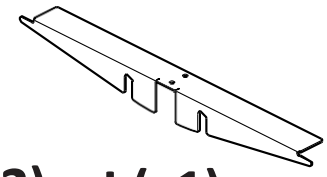
Z (x2)



AA (x2)

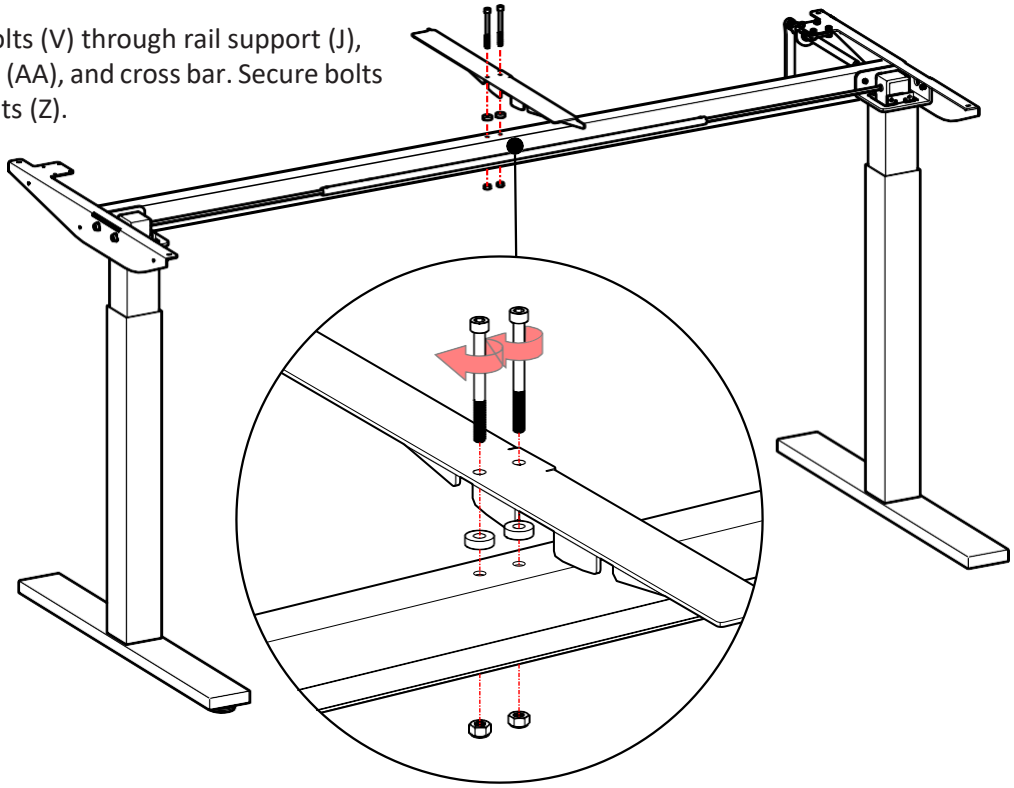


V (x2)

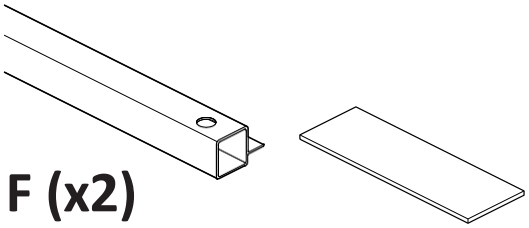


J (x1)

Slide bolts (V) through rail support (J), spacers (AA), and cross bar. Secure bolts with nuts (Z).



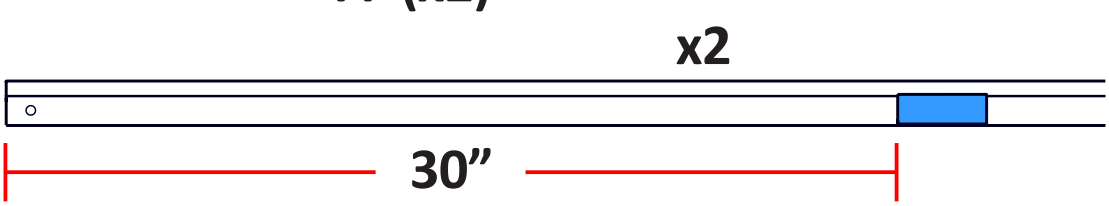
Step 6(a) – Install the Rails

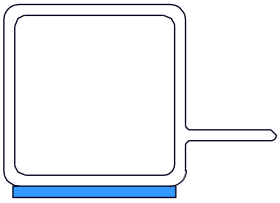


F (x2)

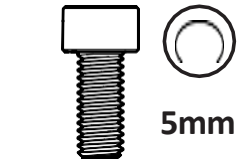
FF (x2)

Measure over 30” from one end of the table rail (F). Remove backing from the rubber strip (FF) and stick to rail. Make sure the rubber strip is placed on the correct side of the table rail (shown below). Repeat for other table rail.





Step 6(b)



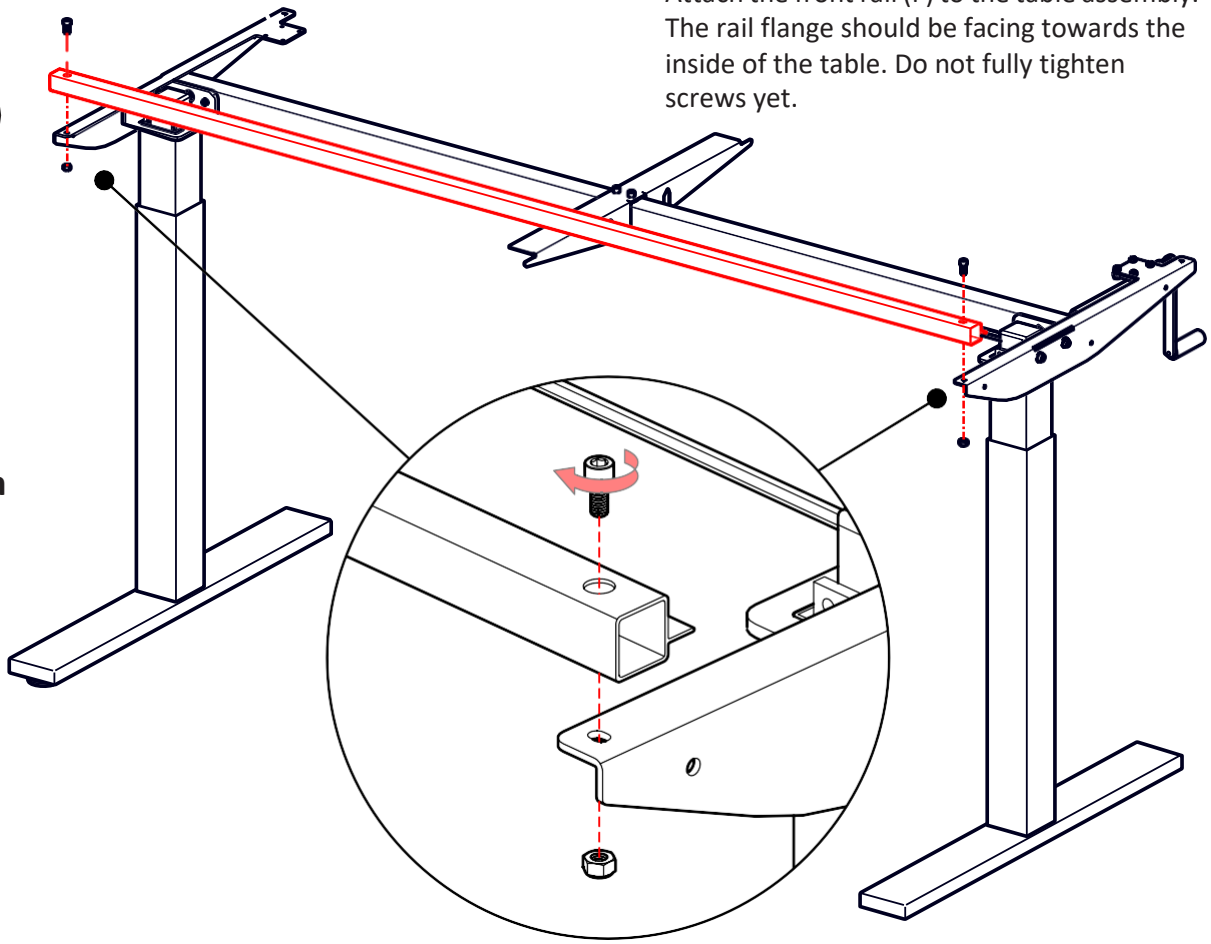
5mm

U (x2)

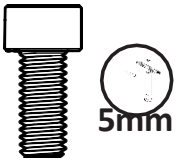
10mm

Z (x2)

Attach the front rail (F) to the table assembly. The rail flange should be facing towards the inside of the table. Do not fully tighten screws yet.



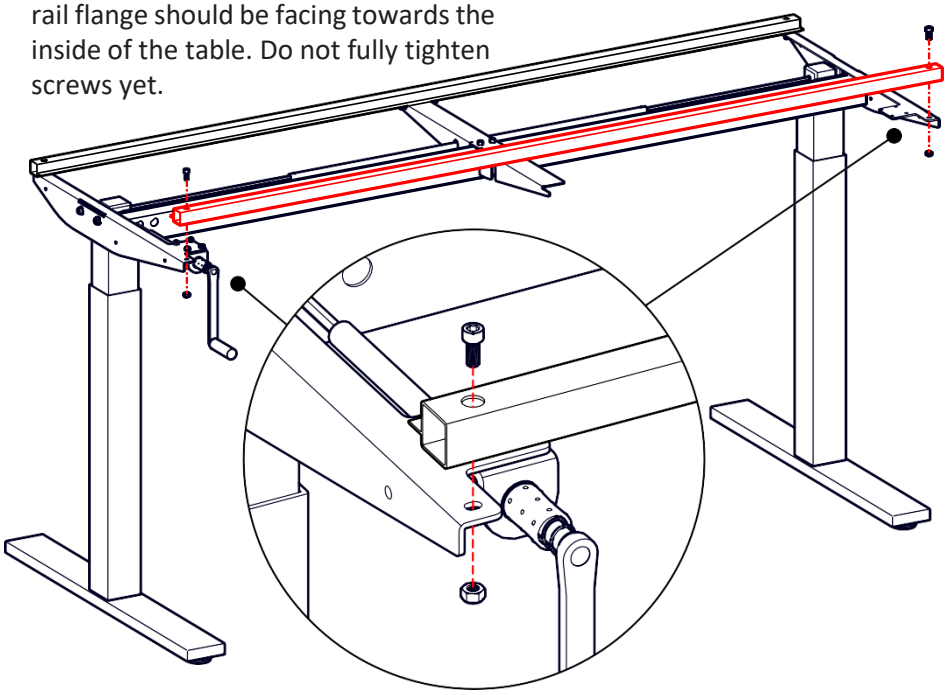
Step 6(c)



U (x2)

Z (x2)

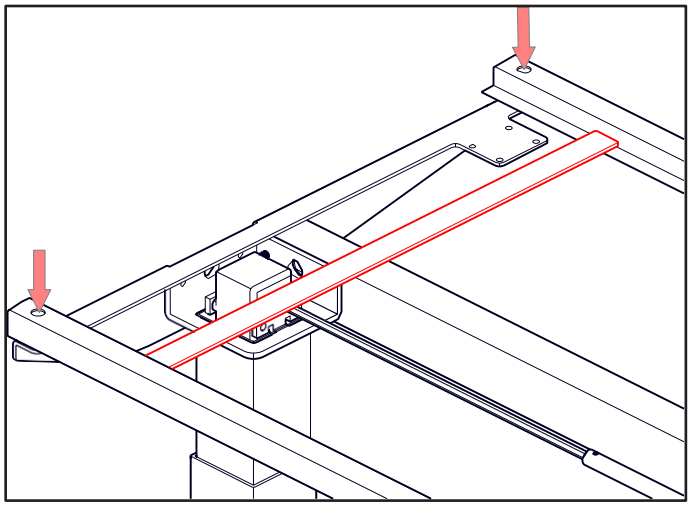
Attach the rear rail (F) to the table assembly. The rail flange should be facing towards the inside of the table. Do not fully tighten screws yet.

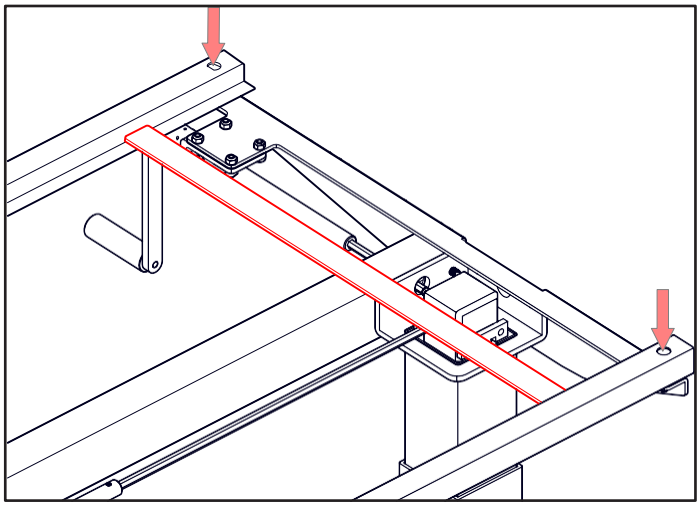


Step 6(d)

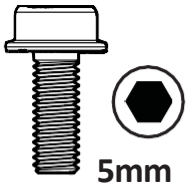
PP (x1)

Place the spacing jig (PP) between the table rails about 6” in from the left side of the table. Lightly press table rails together so they touch the jig. Tighten screws.



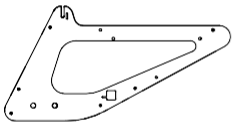


Step 7(a) – Install the Side Arms



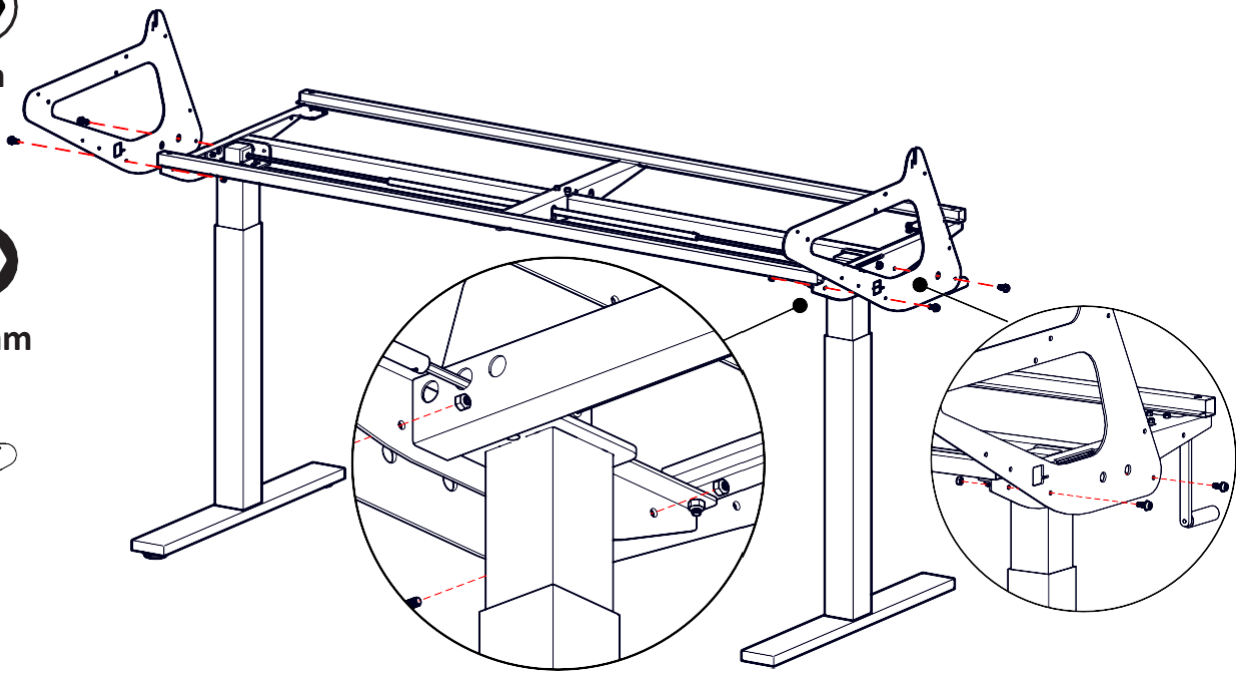
S (x4)

Z (x4)



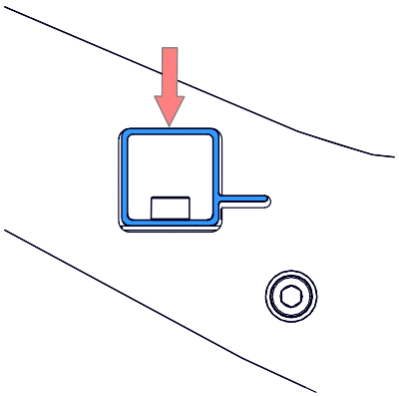
II (x2)

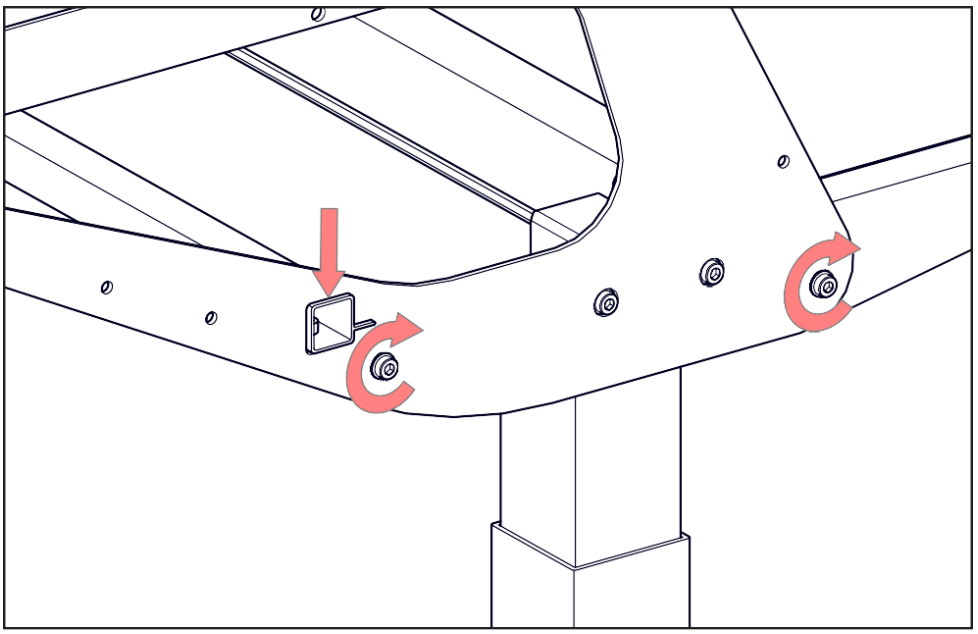
Attach the end arms (II) to each side of the table. Snug screws (S) and nuts (Z), but do not fully tighten yet.



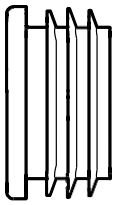
Step 7(b)

Lightly press the end arms down so they are resting on top of the front table rail. Fully tighten the screws.



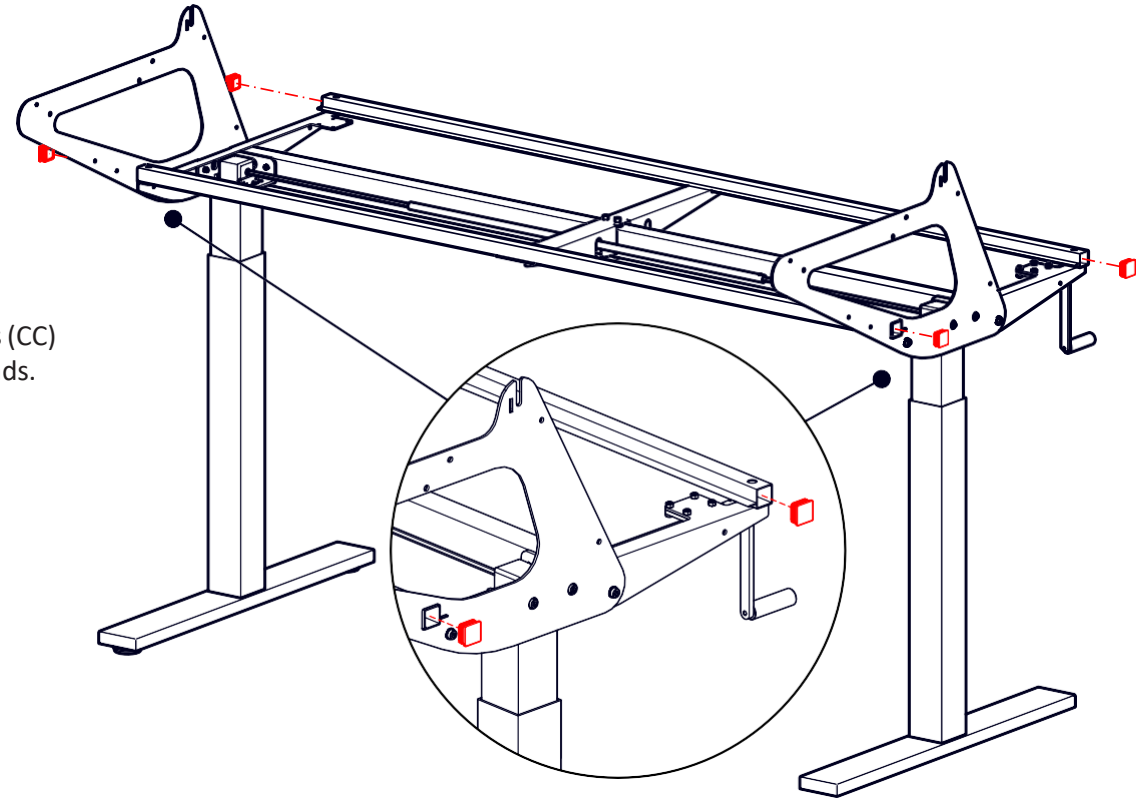


Step 7(c)

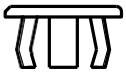


CC (x4)

Tap the square plugs (CC) into the table rail ends.

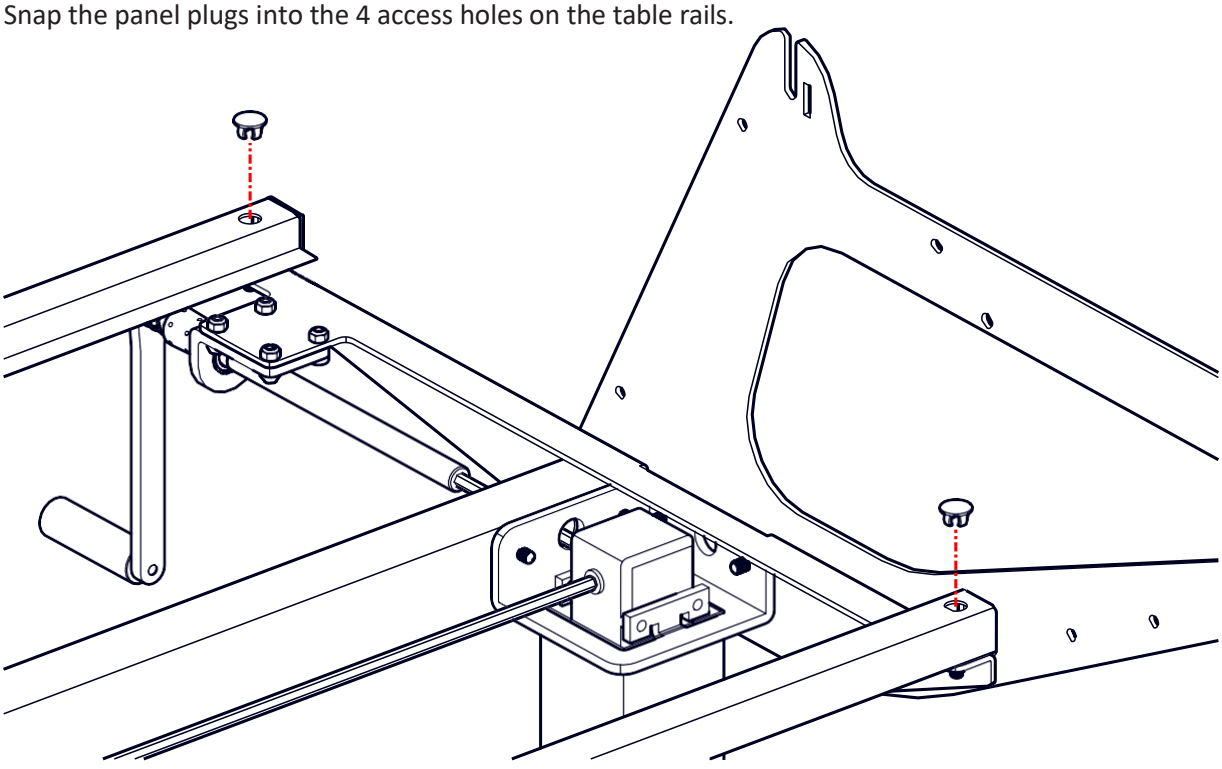


Step 7(d)

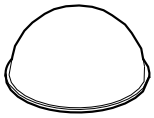


BB (x4)

Snap the panel plugs into the 4 access holes on the table rails.

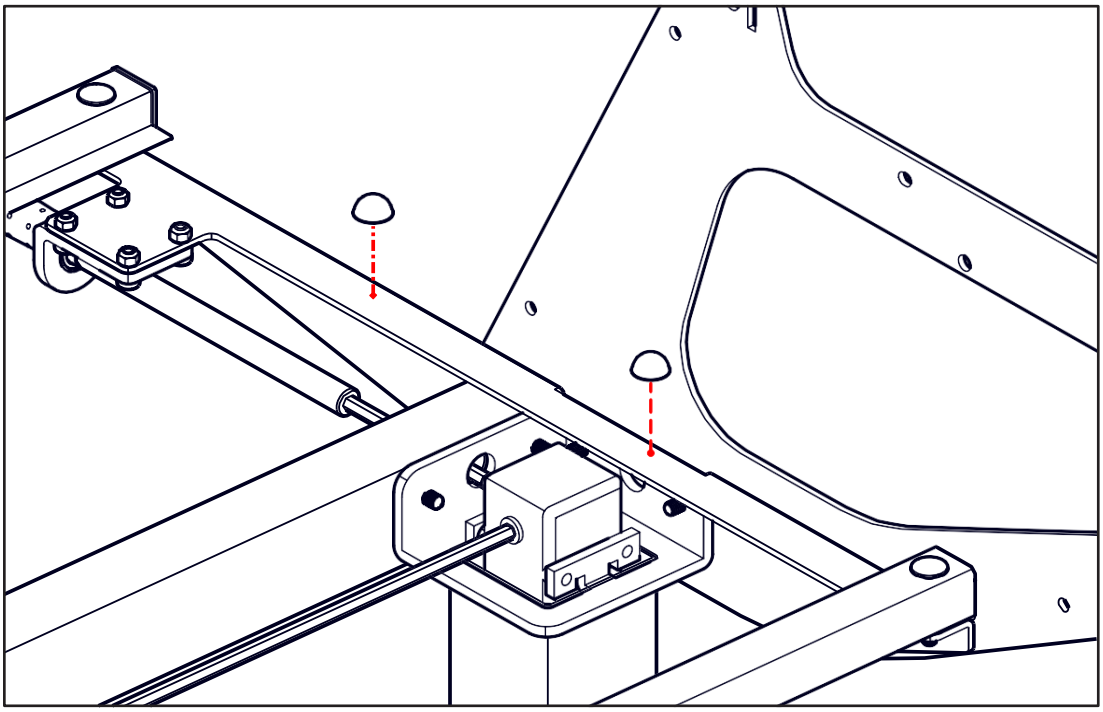


Step 8(a) – Install the Tabletop (Pantograph Kit Only)

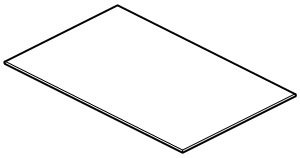


EE (x4)

Remove the backing from the adhesive bumpers (EE). Place 2 bumpers at each end of the table as shown below.

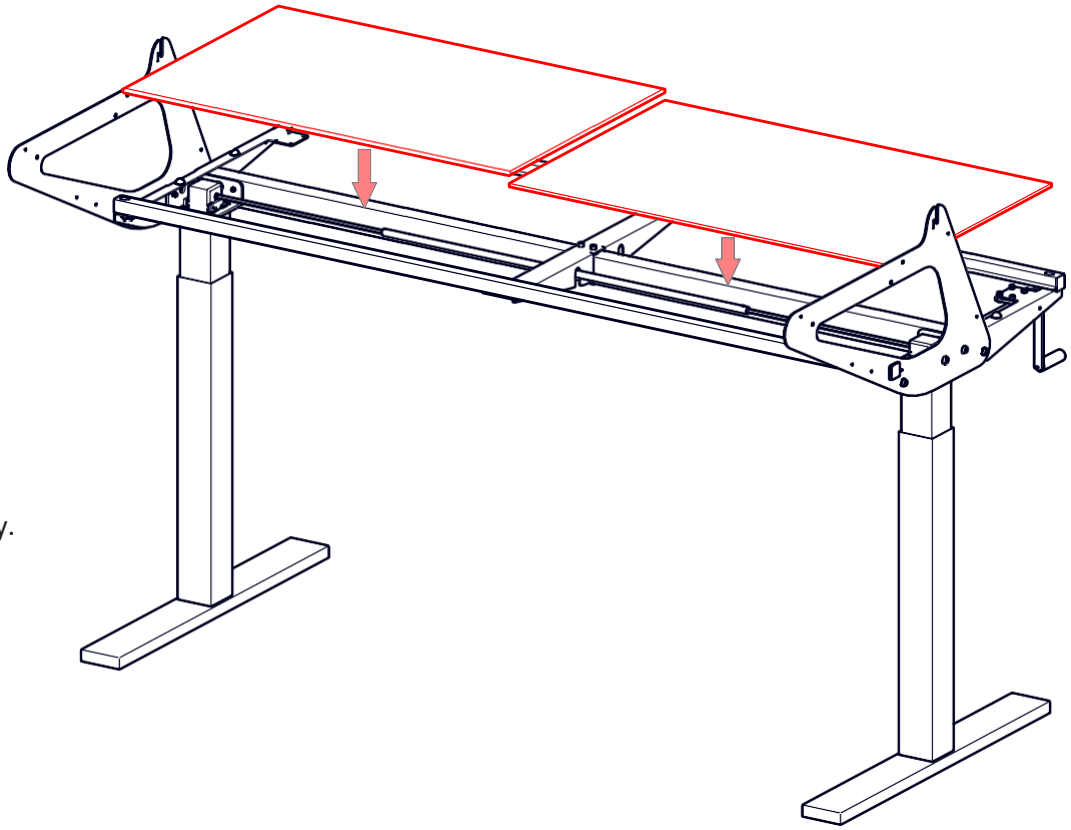


Step 8(b)



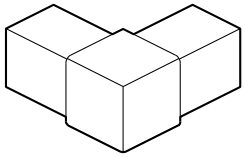
GG (x2)

If you ordered the Pantograph Kit, place the 2 tabletop (GG) pieces onto the table assembly.

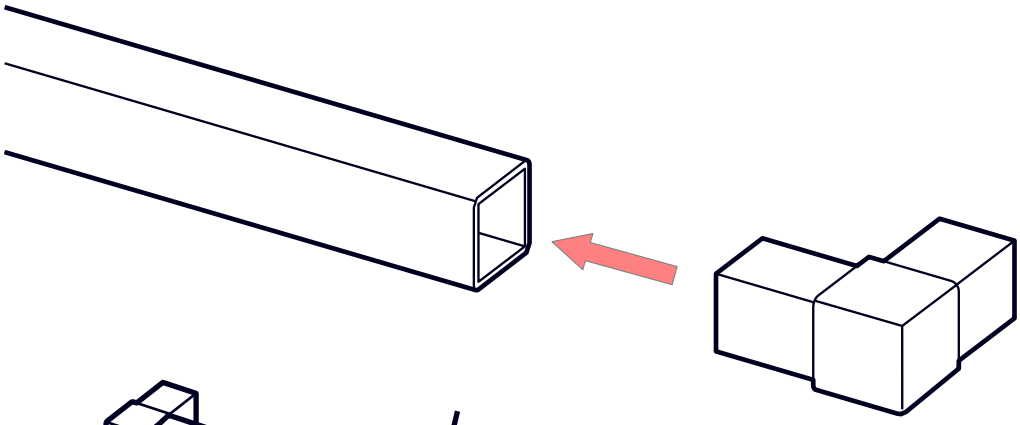


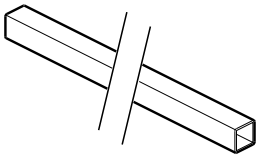
Step 9(a) – Install the Tubes

Tap in a corner connector (HH) to each end of the front tube (B) with a rubber mallet. Make sure that the corner connectors are pointing the same direction (shown below).

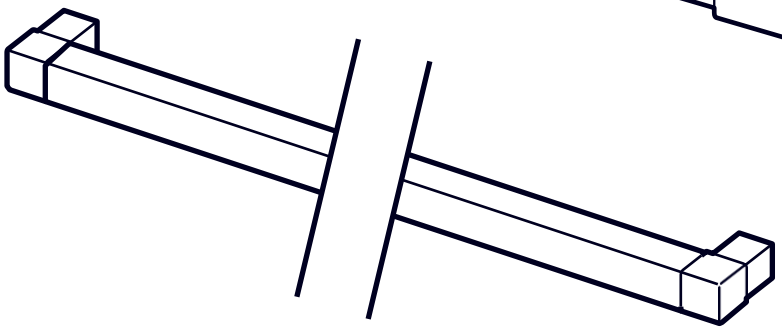


HH (x2)





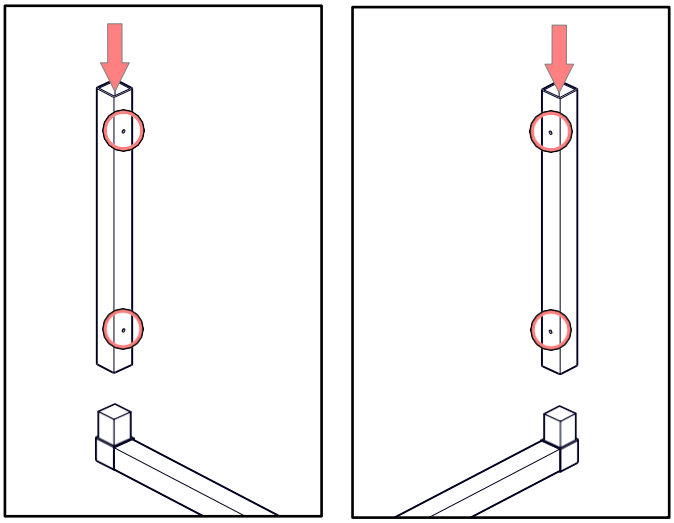
B (x1)

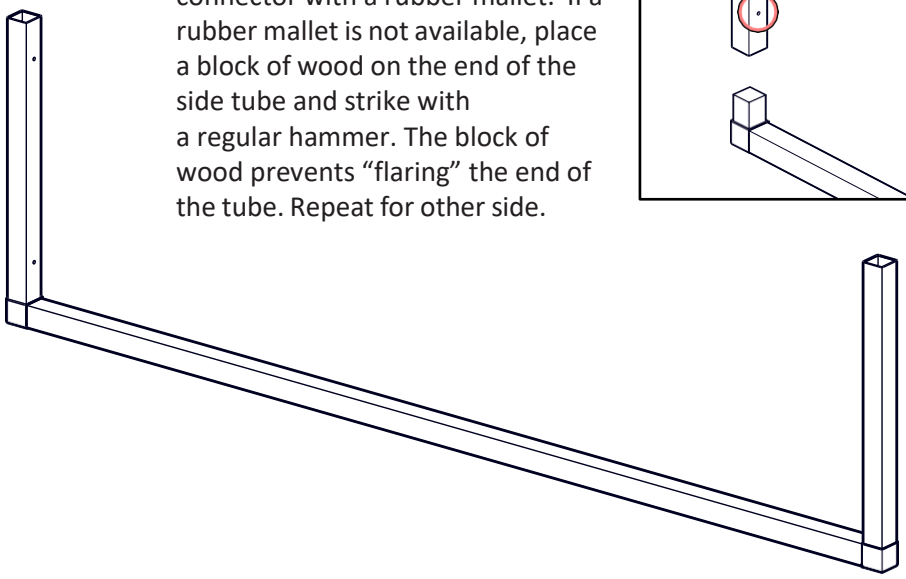


Step 9(b)

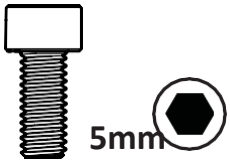
G (x2)

Rotate the front tube so the corner connectors are facing up. Place a side tube (G) onto a corner connector. Make sure the holes in the side tube are facing the center of the tube assembly. Tap the side tube onto the corner connector with a rubber mallet. If a rubber mallet is not available, place a block of wood on the end of the side tube and strike with a regular hammer. The block of wood prevents "flaring" the end of the tube. Repeat for other side.



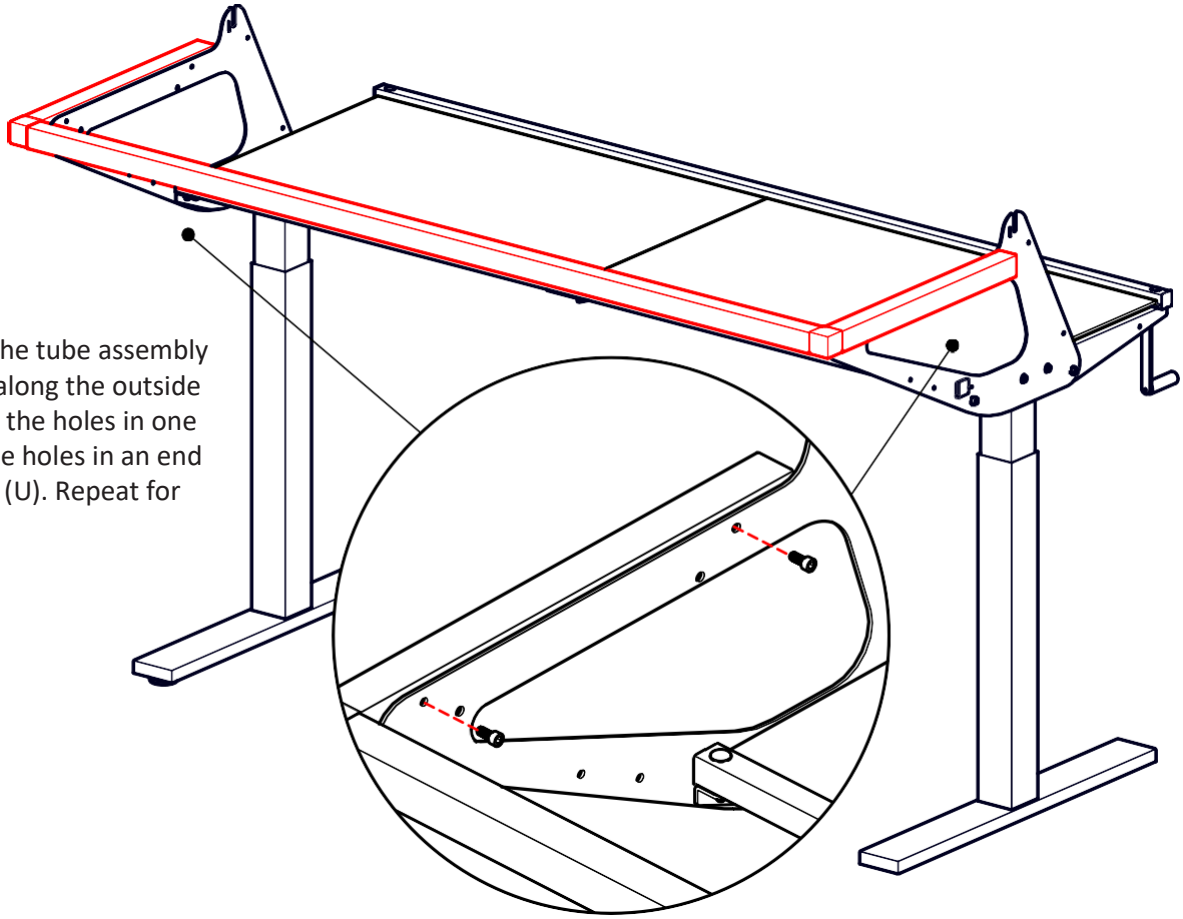


Step 9(c)

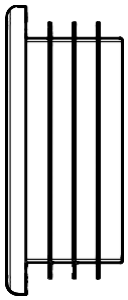


U (x4)

With 2 people, hold up the tube assembly and slide the side tubes along the outside of the end arms. Line up the holes in one of the side tubes with the holes in an end arm. Attach with screws (U). Repeat for other side.

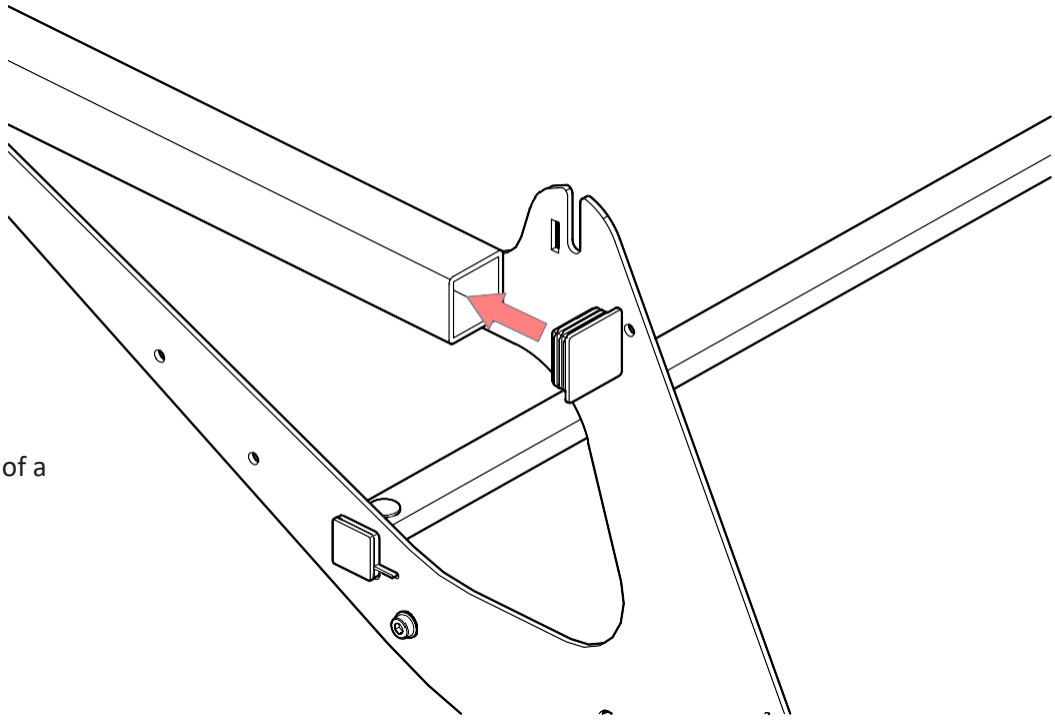


Step 9(d)



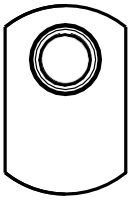
DD (x2)

Tap a square plug (DD) into the end of a side tube. Repeat for other side.

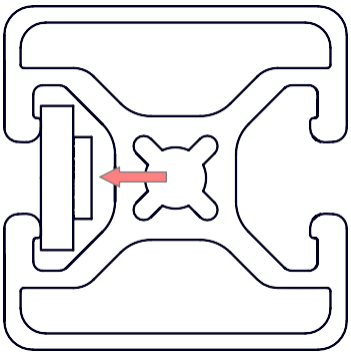


Step 10(a) – Prep Take-Up Tube

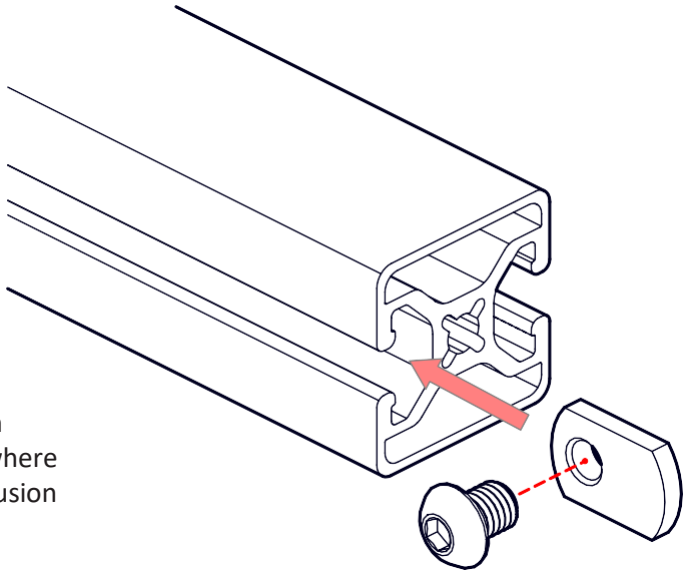
W (x2)



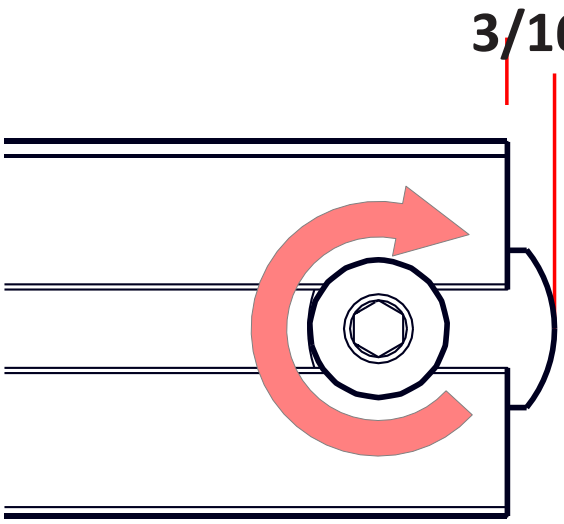
E (x2)



The T-nuts (E) are asymmetrical in both directions. There is a small protrusion where the screw inserts. Make sure this protrusion is towards the INSIDE of the tube.

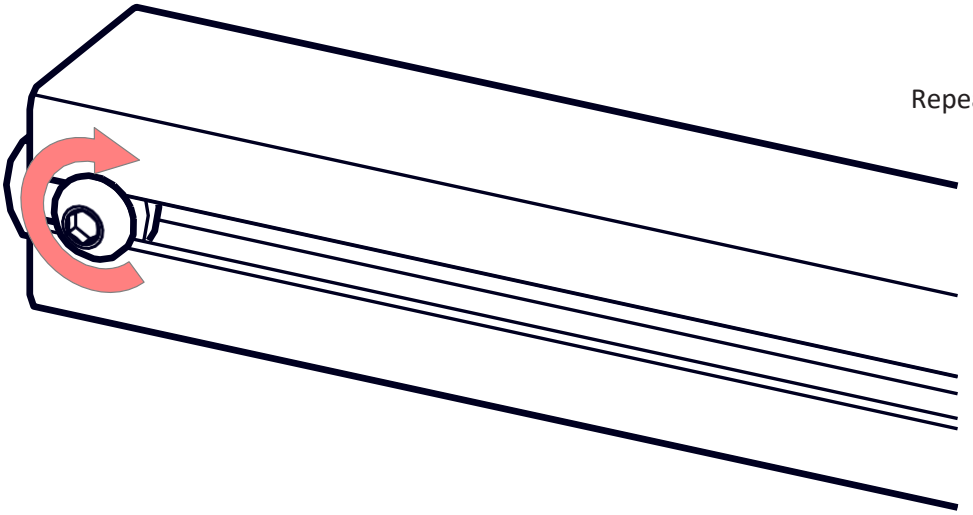


A (x1)



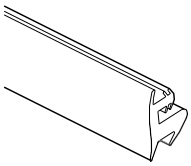
Partially thread the screw (W) into the T-nut (E). Slide the screw and T-nut a channel on the take-up tube (A).

Move the T-nut so the curved edge is positioned 3/16” from the edge of the tube. Tighten the screw.



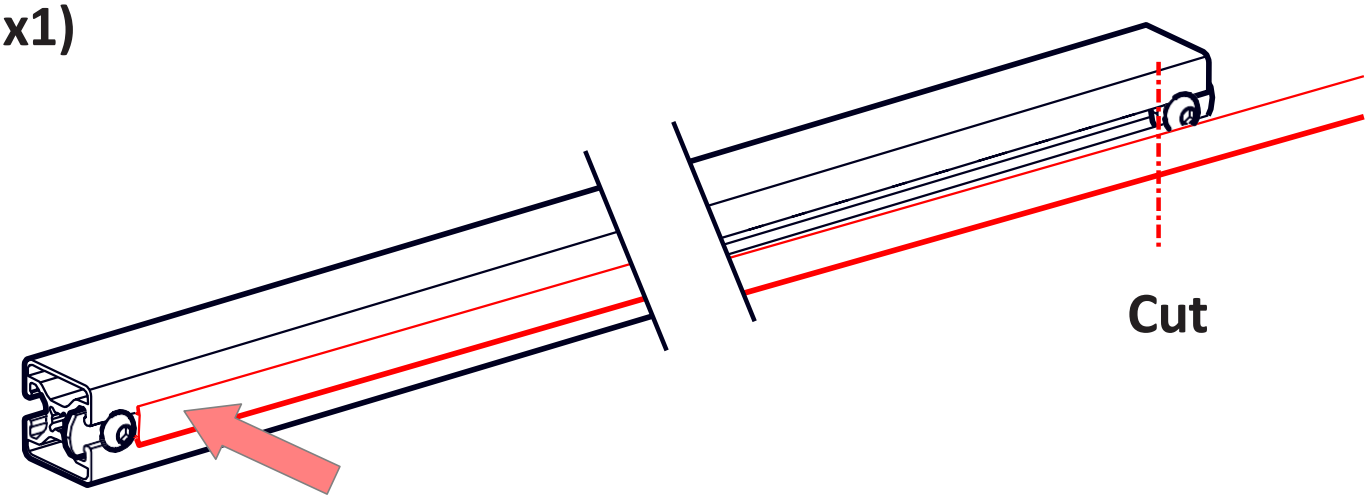
Repeat at the other end of tube.

Step 10(b)



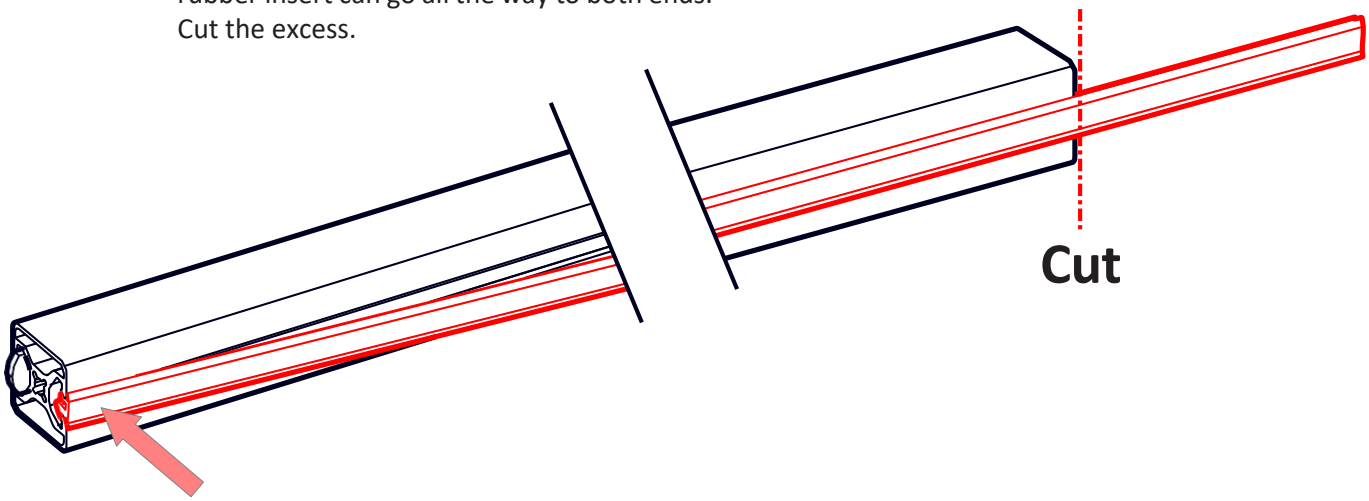
D (x1)

Starting from one end of the T-slot, press the rubber insert (D) into the T-slot. Cut the rubber insert to length slightly before it touches the T-nut on the opposite side.

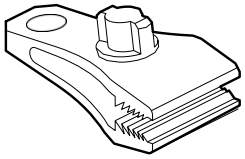


Step 10(c)

Flip the tube over and use the remaining rubber insert for the other side. This time the rubber insert can go all the way to both ends. Cut the excess.

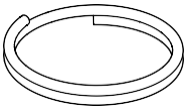


Step 11 – Install the Fabric Clamps

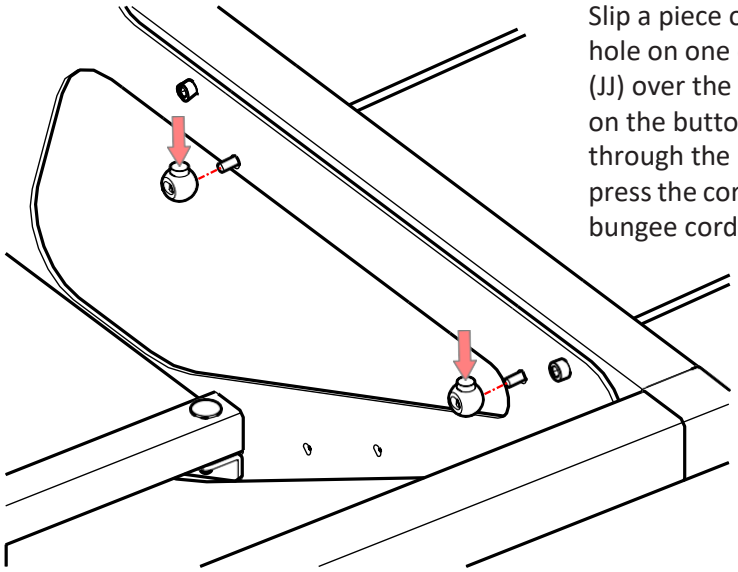


KK (x4)

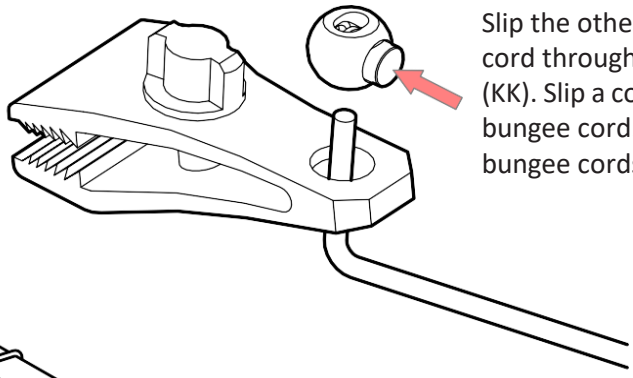
JJ (x8)



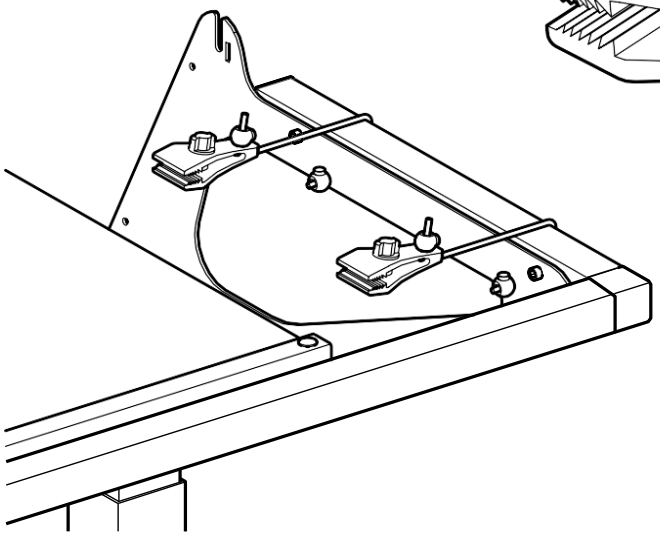
MM (x4)

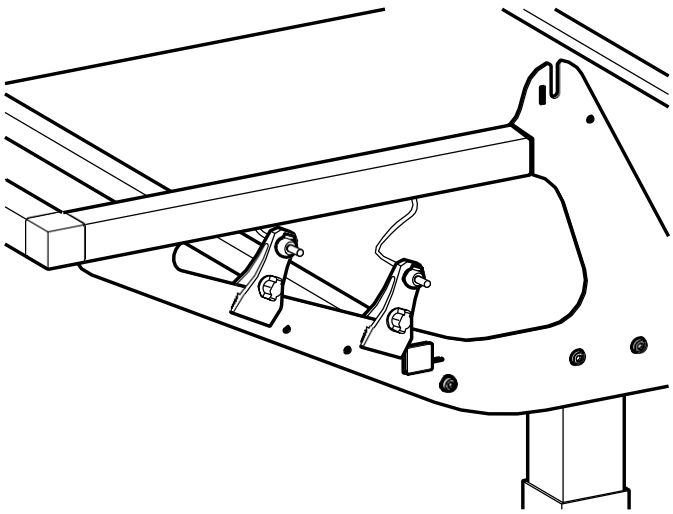


Slip a piece of bungee cord (MM) through a hole on one of the end arms. Slip a cord lock (JJ) over the bungee cord by pressing down on the button. If the cord is difficult to slip through the cord lock, pliers can be used to press the cord lock button. Repeat for 3 other bungee cord locations.



Slip the other end of the bungee cord through the fabric clamp (KK). Slip a cord lock (JJ) onto the bungee cord. Repeat for 3 other bungee cords.

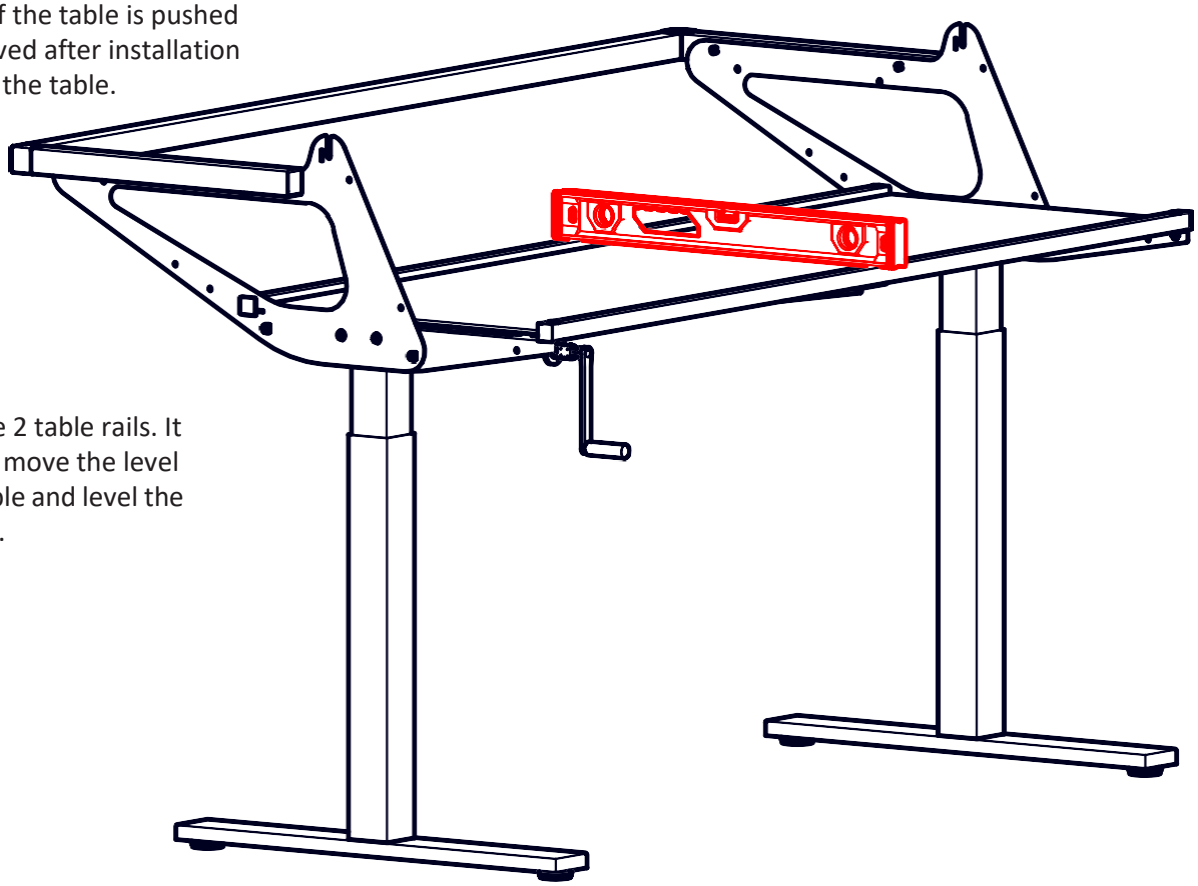




When in use the fabric clamps are wrapped up around the outside tube and along the top to tension the fabric (shown above). When the fabric clamps are not in use, they can be stored on the end arms (shown right).

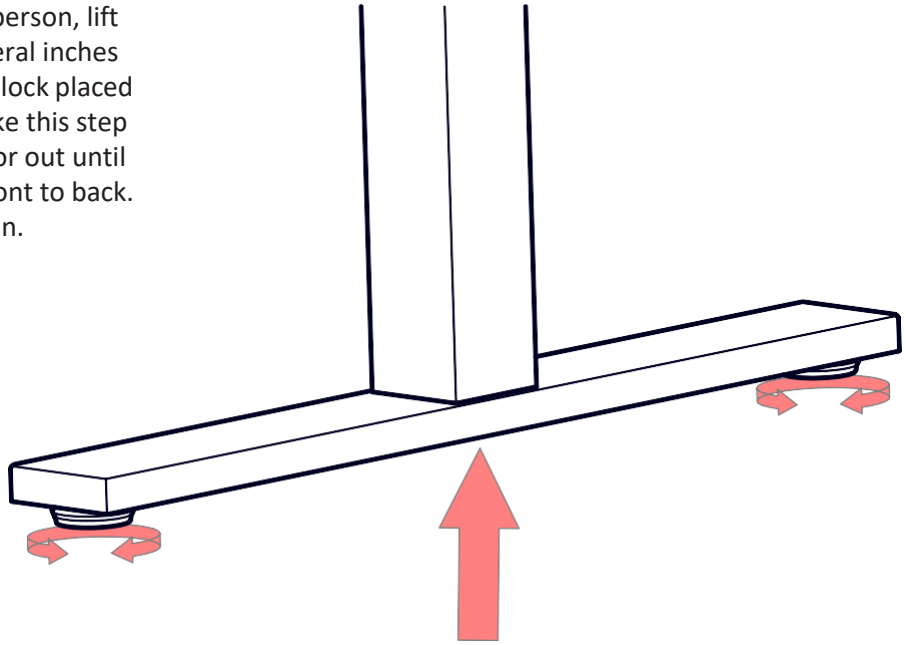
Step 12(a) – Level the Table

Leave at least 3 feet of space behind the table so the quilting head can be installed in the next section. If the table is pushed against a wall or moved after installation of the head, re-level the table.

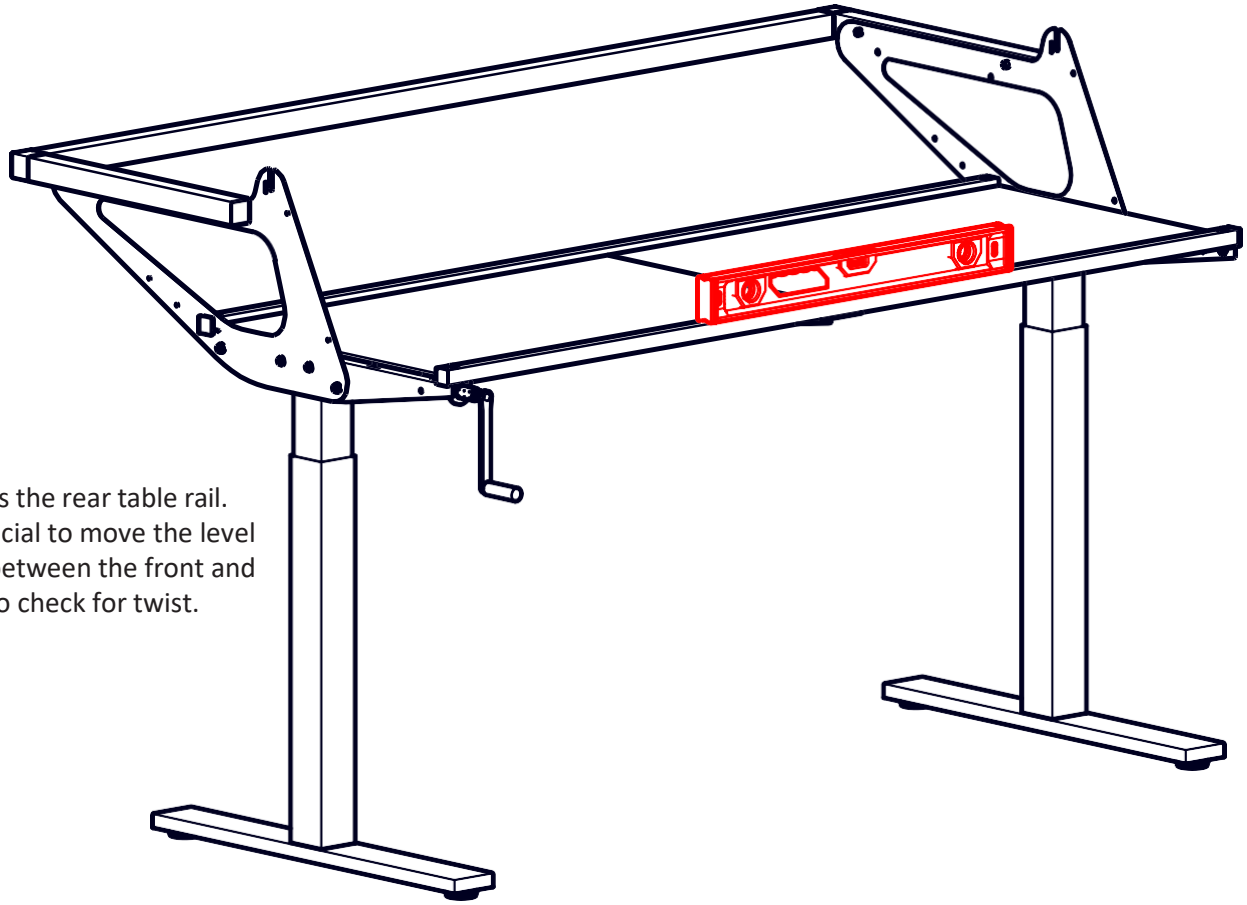


Lay a level across the 2 table rails. It may be beneficial to move the level to one end of the table and level the columns individually.

With the help of a second person, lift one of the columns up several inches off of the floor (a wooden block placed under the column may make this step easier). Thread the feet in or out until the table is reading level front to back. Repeat for the other column.

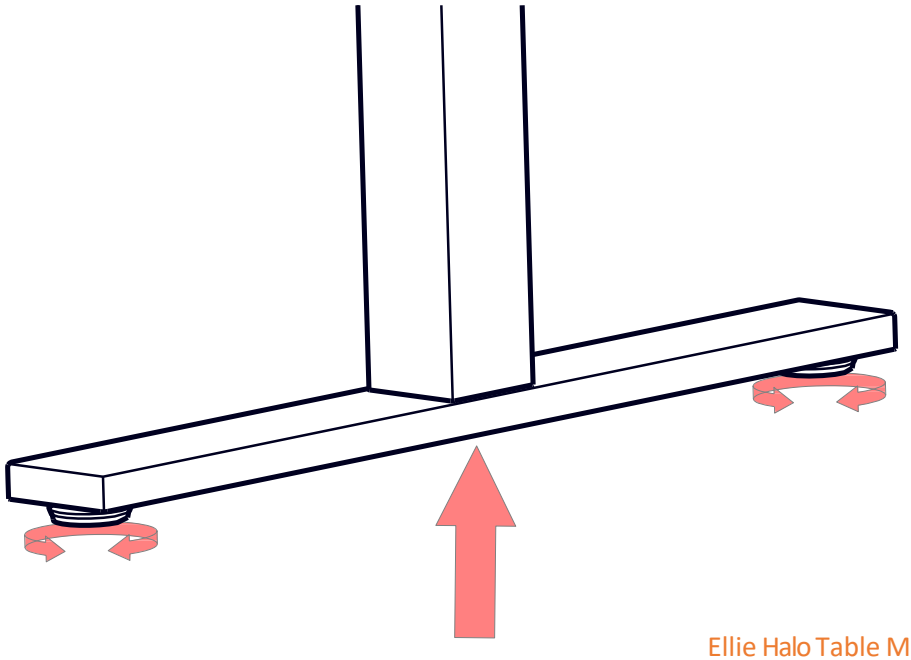


Step 12(b)



Lay a level across the rear table rail. It may be beneficial to move the level back and forth between the front and rear table rails to check for twist.

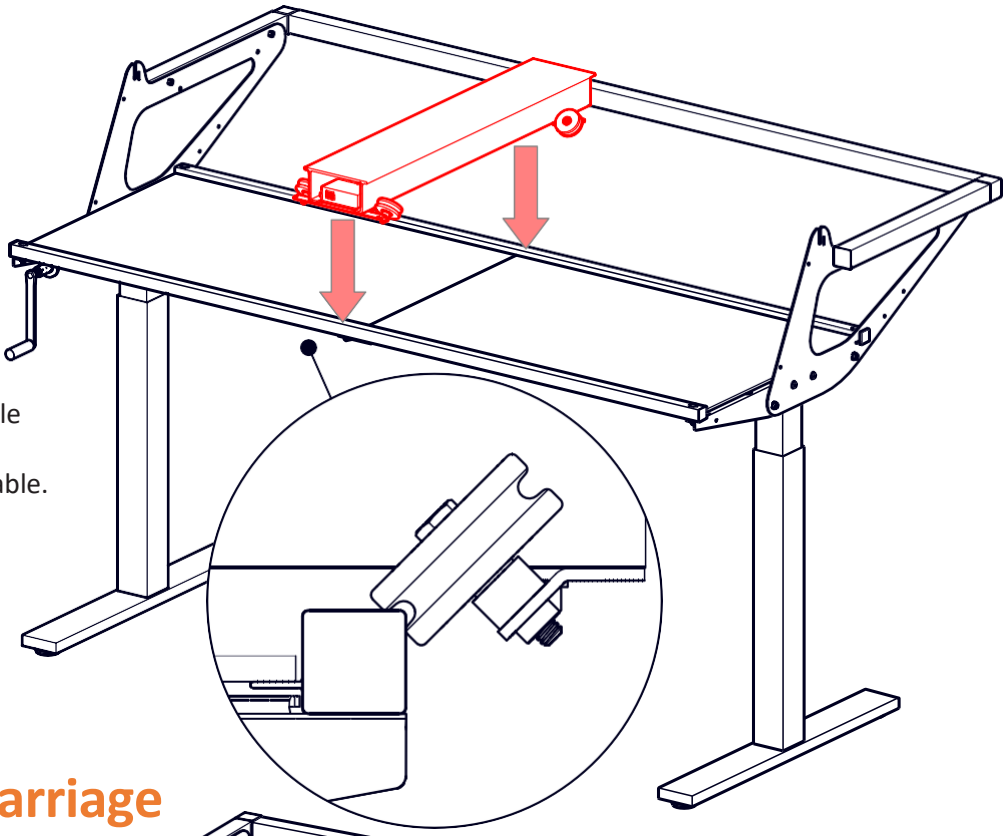
With the help of a second person, lift one of the columns up several inches off of the floor (a wooden block placed under the column may make this step easier). Thread the feet in or out until the table is reading level side to side.



Head Installation

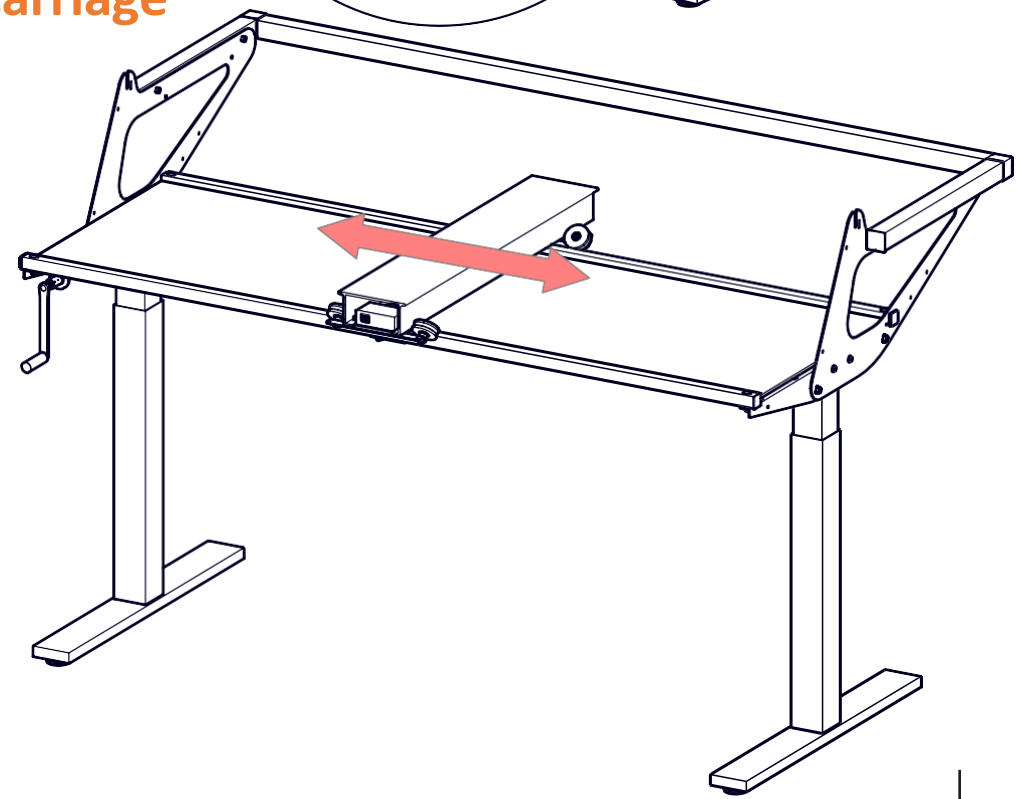
Step 1 – Install the Carriage

VV (x1)



Place the carriage (VV) onto the table rails. Make sure the side with the encoder is towards the rear of the table.

Step 2a – Adjust Carriage



Slide the carriage back and forth along the entirety of the table. Make sure the carriage moves freely and does not bind or become too loose.

Step 2b

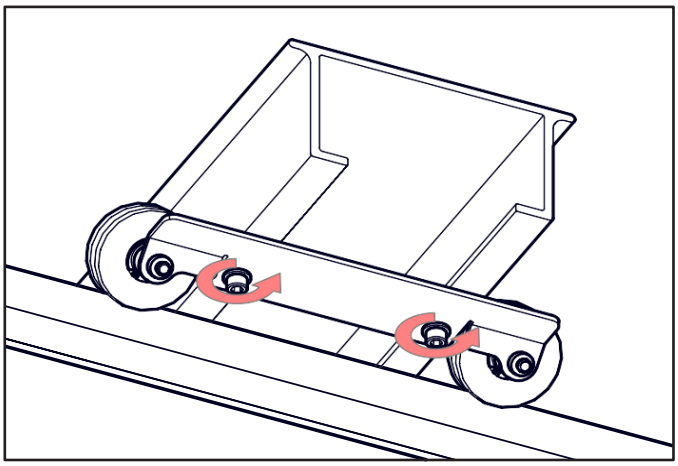
3/16”

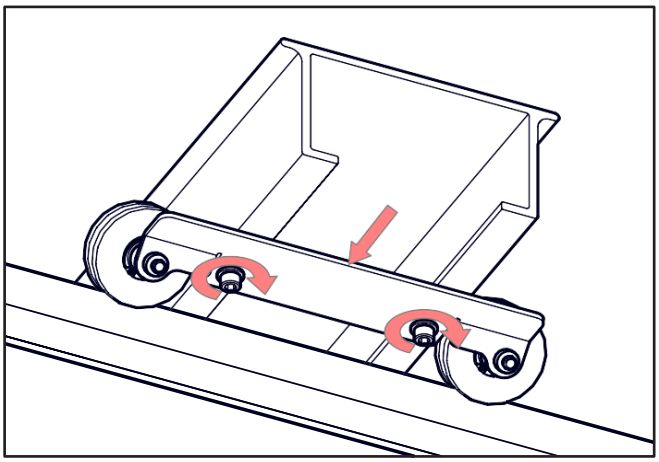
The carriage is set at the factory, but due to manufacturing tolerances and assembly conditions, some minor adjustments may need to be made.

If the carriage is tighter at one end of the table and looser at the other, return to Step 16 of the Table Assembly Instructions and re-align the rails.

If the carriage is tight or loose along the entirety of the table, loosen the front axle screws with the allen wrench.

Have a helper hold the back of the carriage tight to the rear table rail. Push the front axle in and tighten the screws.

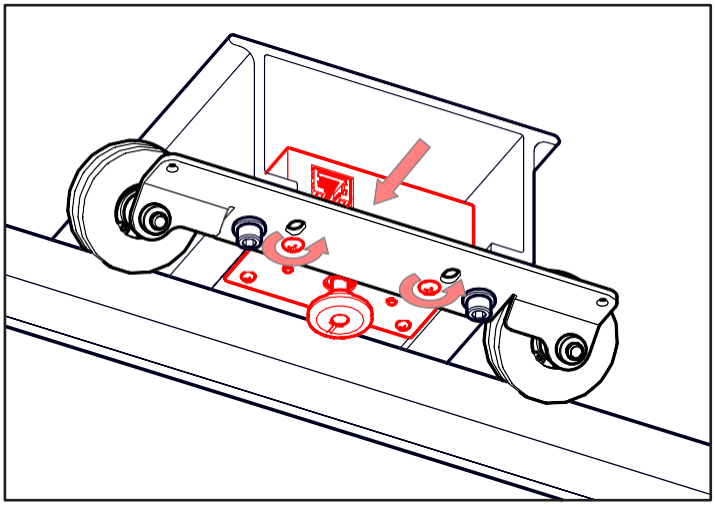


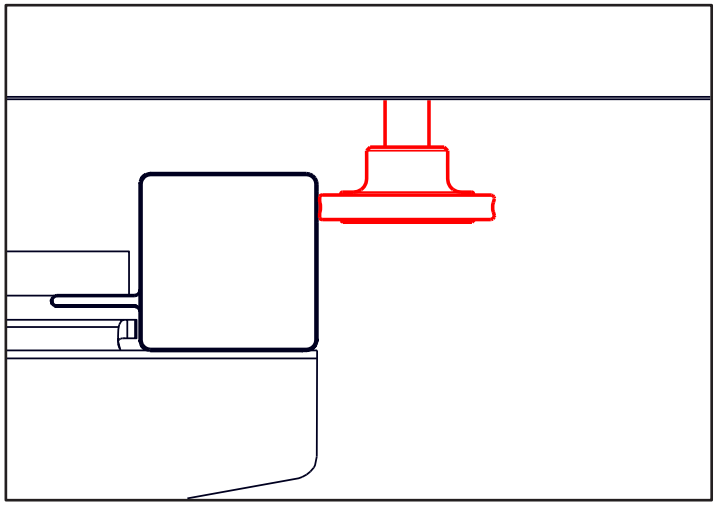


Step 2c

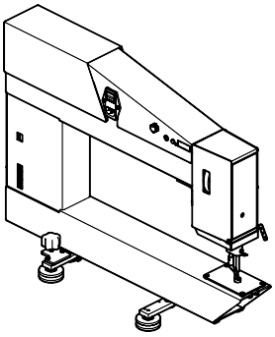
If the carriage encoder is not turning while moving the carriage, loosen the phillips head screws and slide the encoder assembly inwards. Re-tighten the screws.

Be sure the encoder wheel engages with the table rail along the entire length of the table.

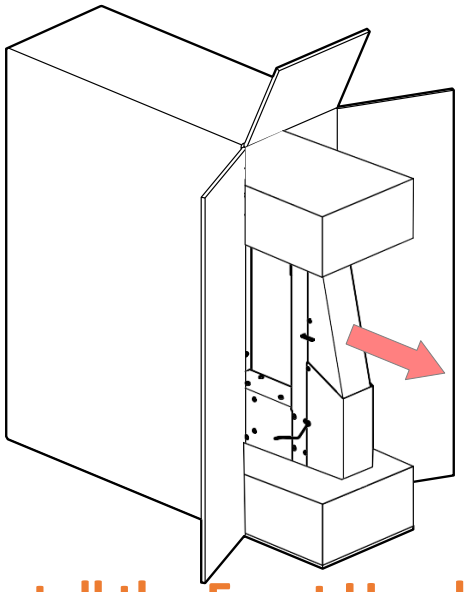




Step 3 – Unbox the Head

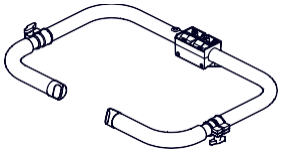


UU (x1)

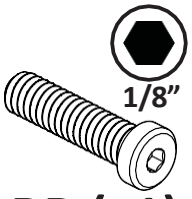


Rotate the head box so the head (UU) is laying on its back. Carefully slide the head out of the box.

Step 4(a) – Install the Front Handles

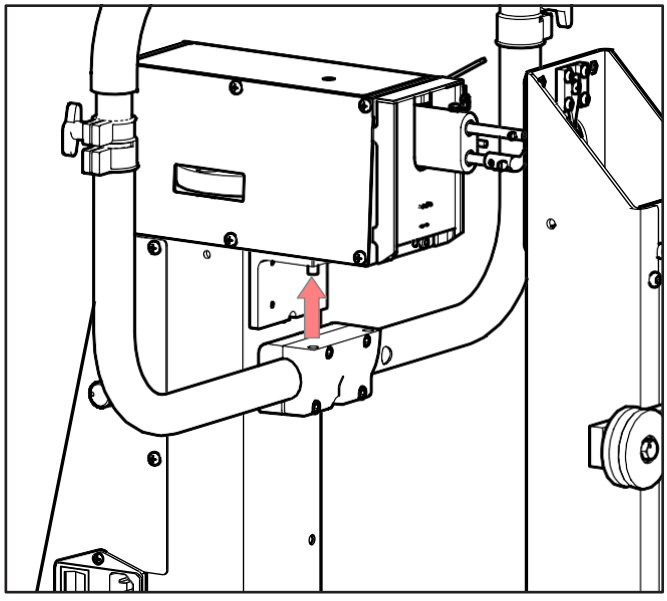


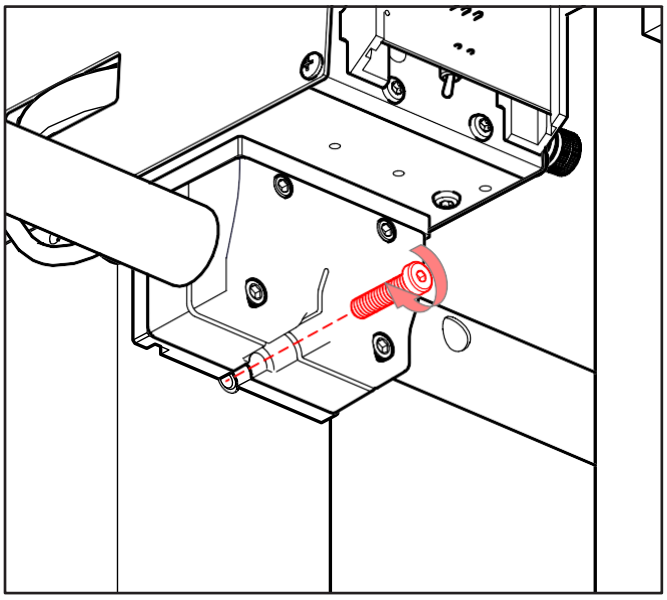
WW (x1)



BBB (x1)

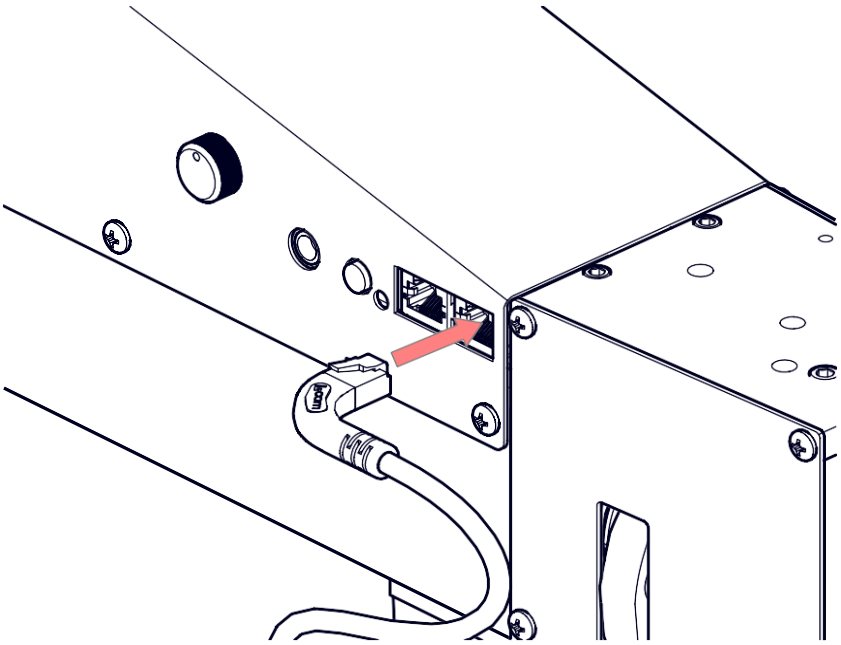
Slide the handles (WW) onto the handle mount. The 2 holes on the handle should align with the 2 pins on the handle mount. Secure in place with screw (BBB).



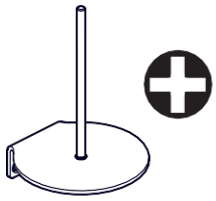


Step 4(b)

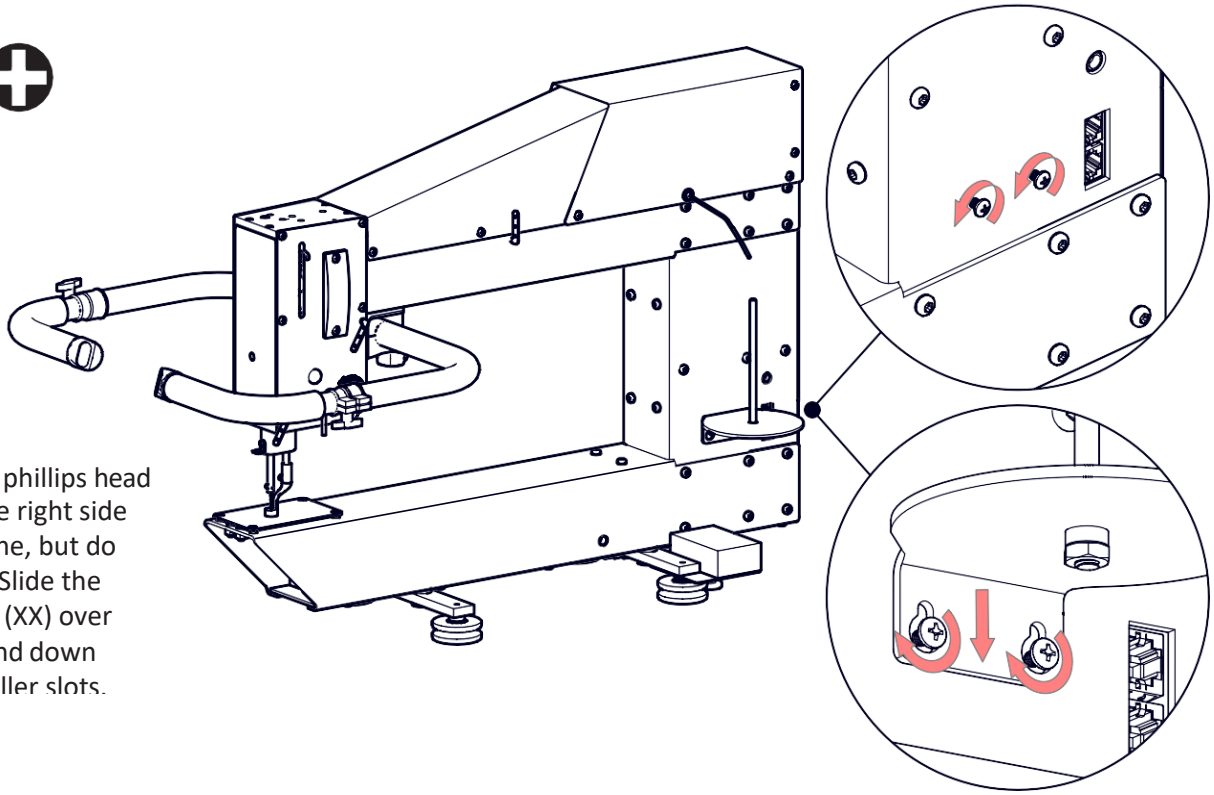
Rotate the quilting head so it is right side up. Plug the handle cable into the front-most jack on the top cover.



Step 5 – Install the Thread Stand



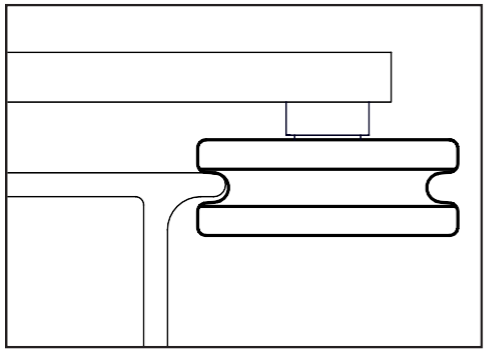
XX

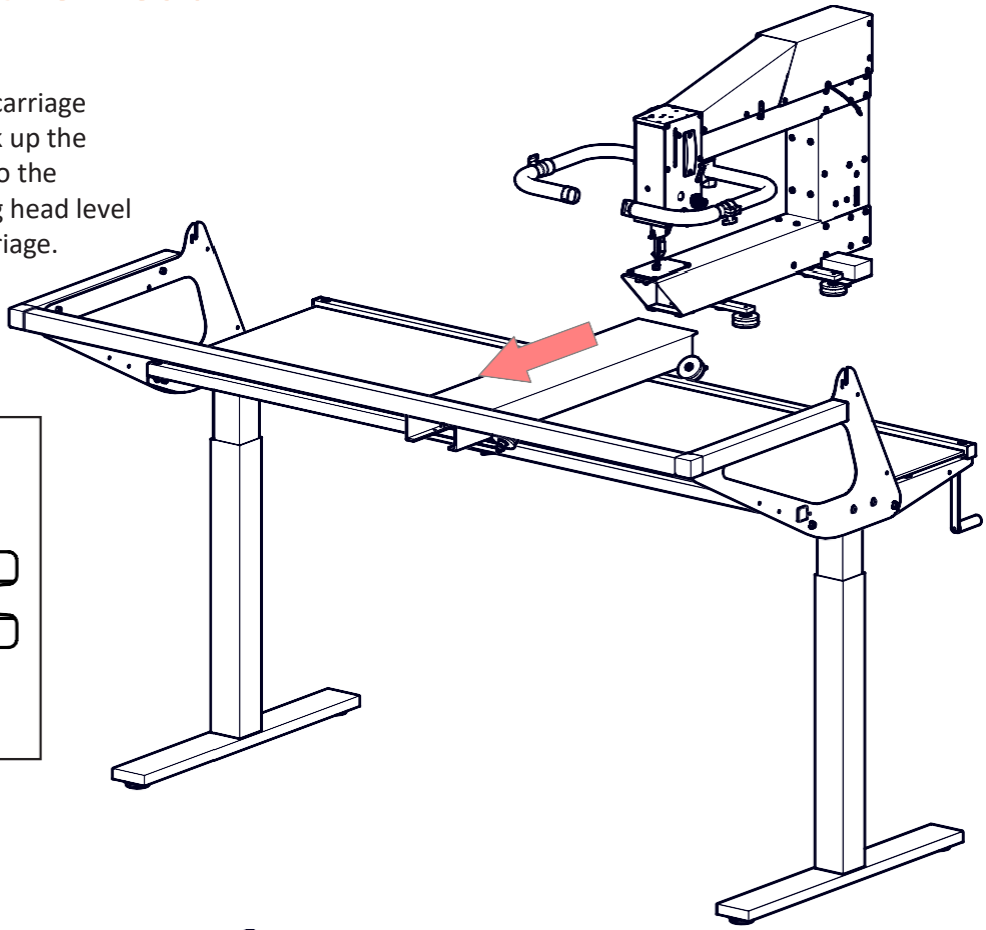


Loosen the 2 phillips head screws on the right side of the machine, but do not remove. Slide the thread stand (XX) over the screws and down onto the smaller slots.

Step 6(a) – Install the Head

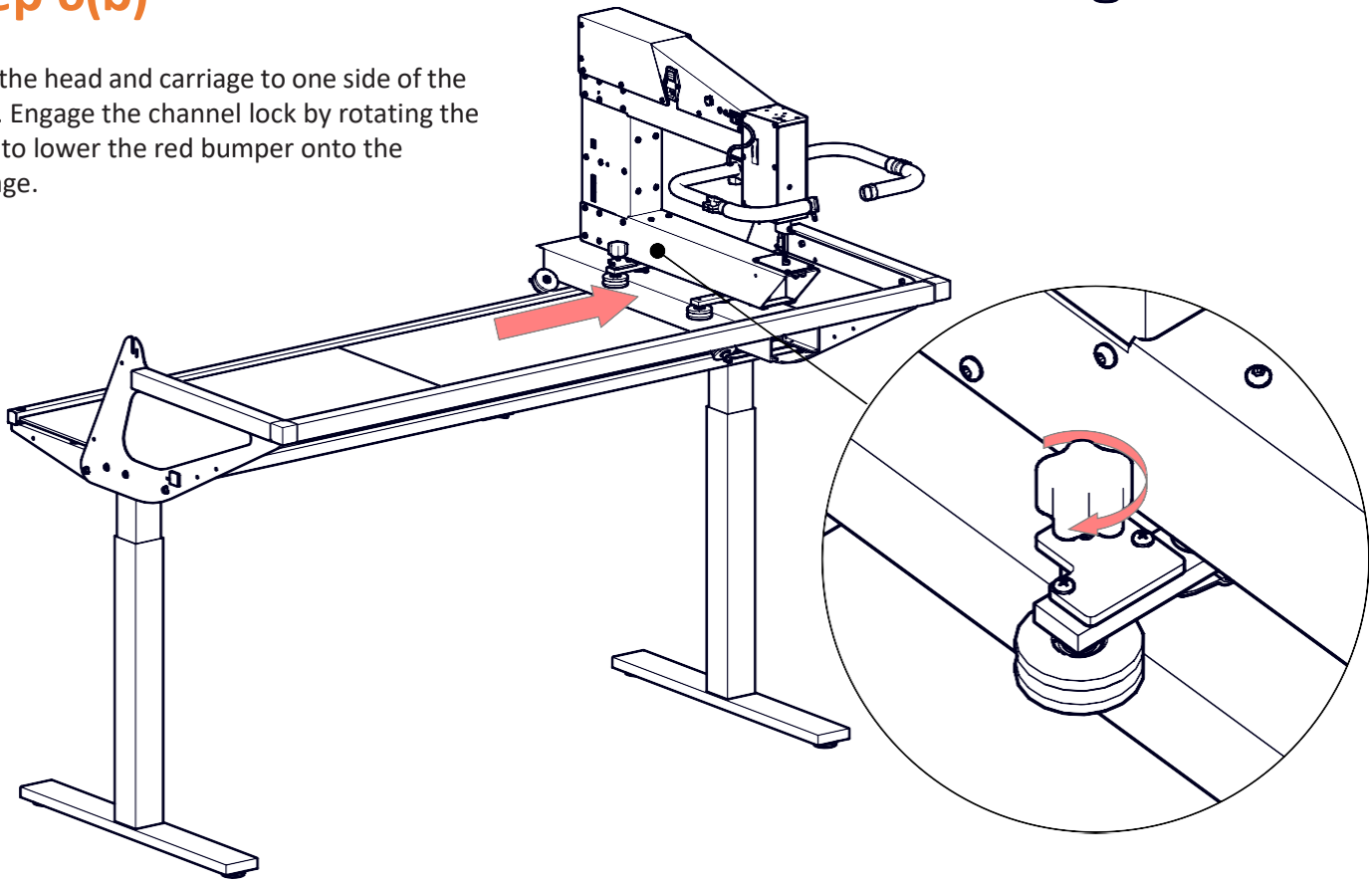
Have a helper hold the front of the carriage so it does not move left to right. Pick up the quilting head and slide the head onto the carriage. Be sure to keep the quilting head level as you align the wheels with the carriage.



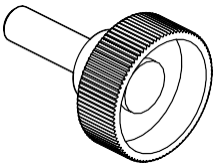


Step 6(b)

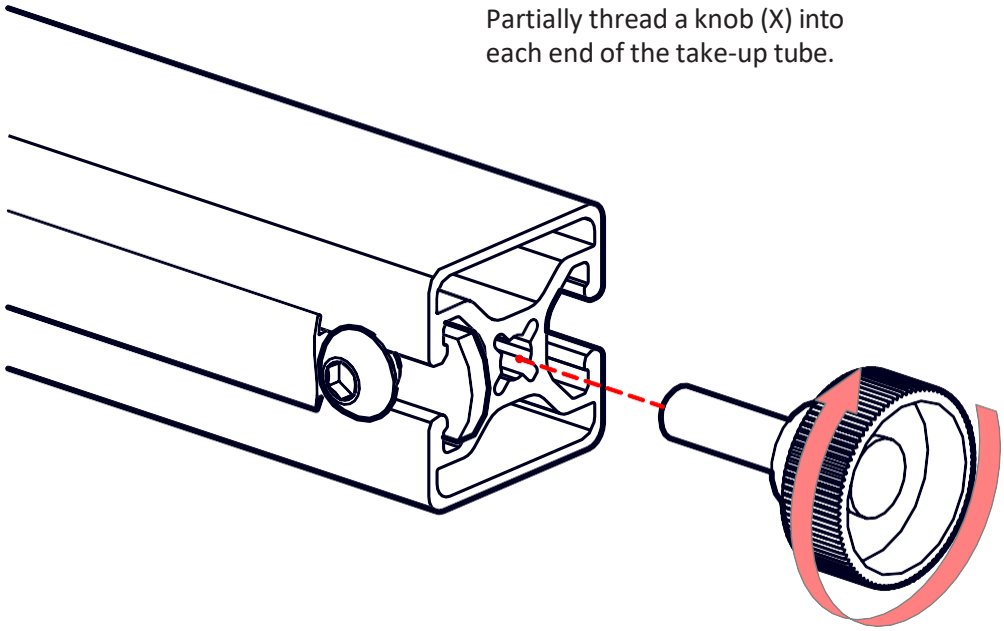
Slide the head and carriage to one side of the table. Engage the channel lock by rotating the knob to lower the red bumper onto the carriage.



Step 7(a) – Install the Take-Up Tube

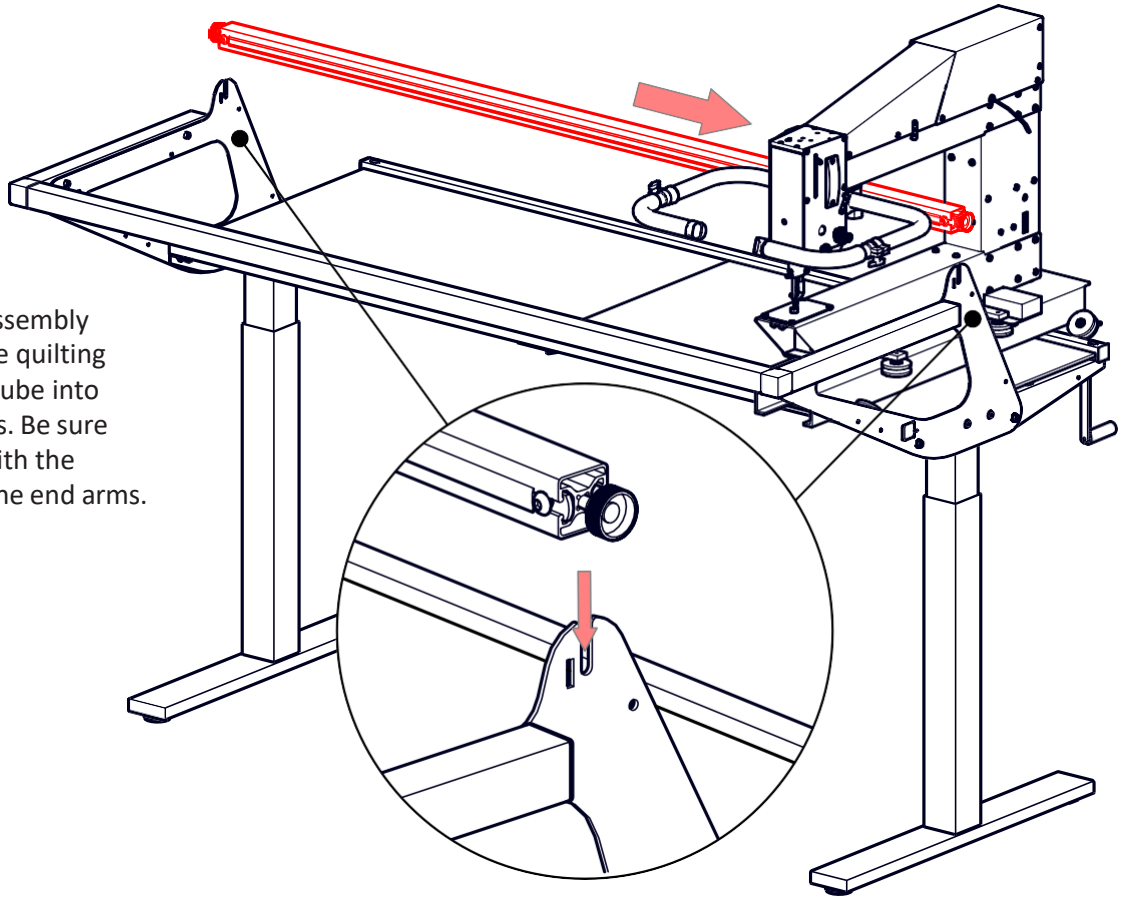


X (x2)



Partially thread a knob (X) into each end of the take-up tube.

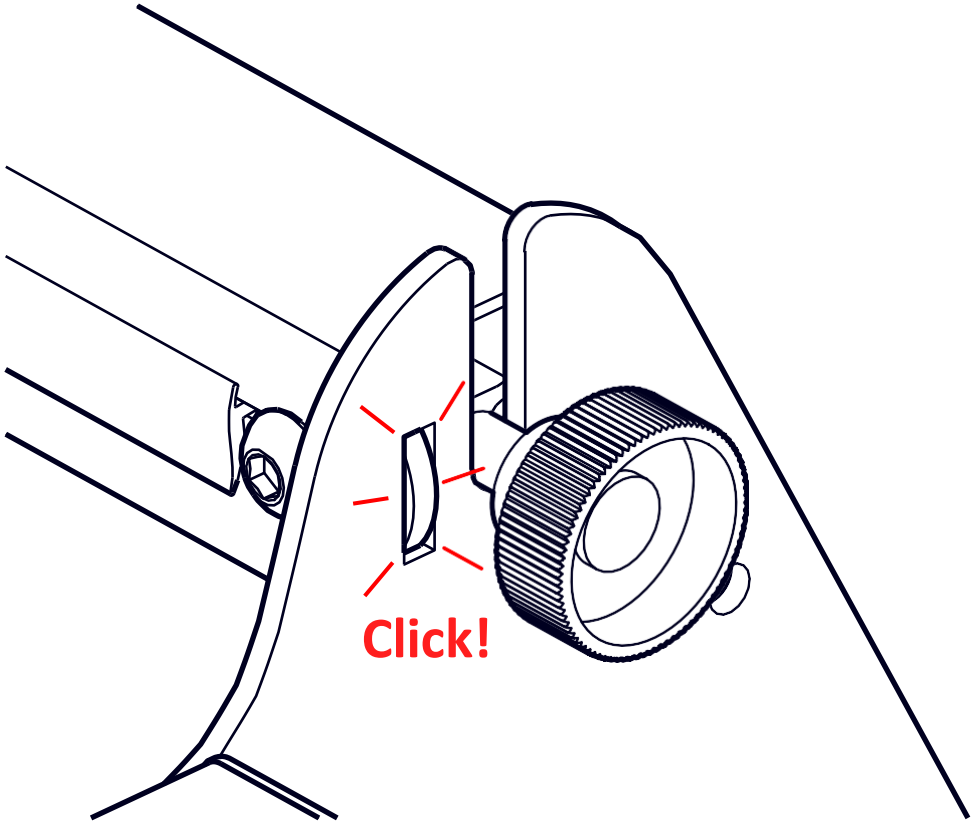
Step 7(b)



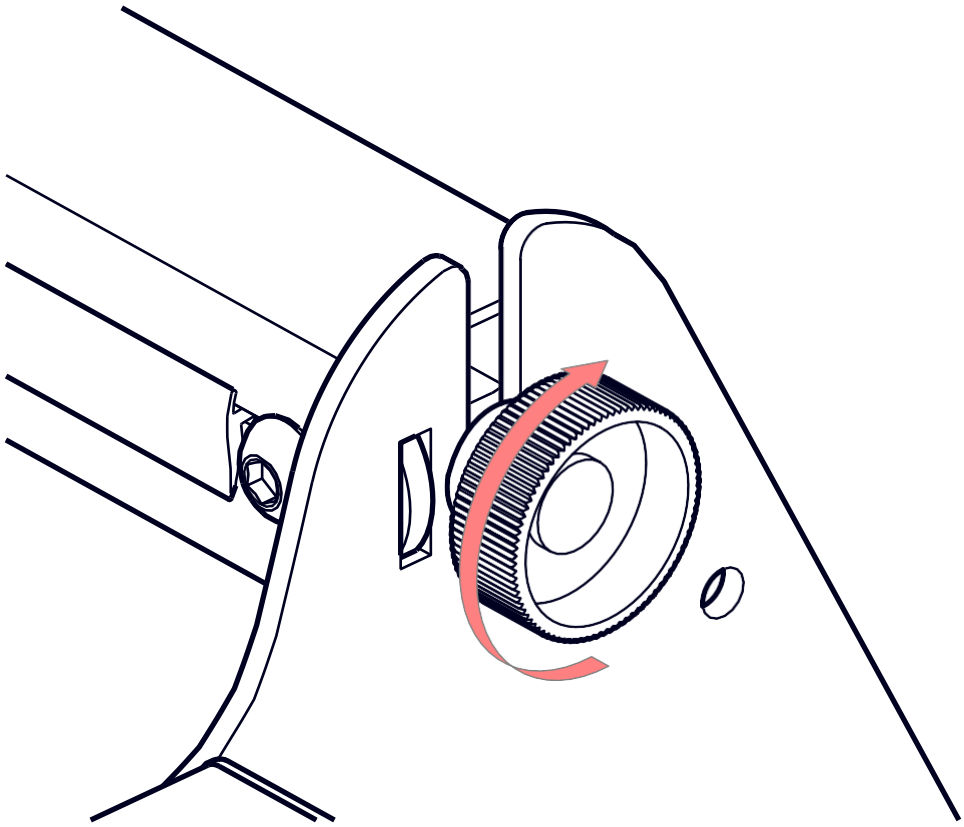
Slide the take-up tube assembly through the throat of the quilting head. Slide the take-up tube into the slots on the end arms. Be sure the T-nuts are aligned with the rectangular cutouts on the end arms.

Step 7(c)

The T-nuts should “click” into the locking tabs when aligned correctly.

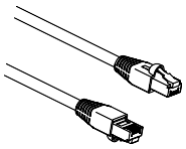


Tighten both knobs on the take-up tube.



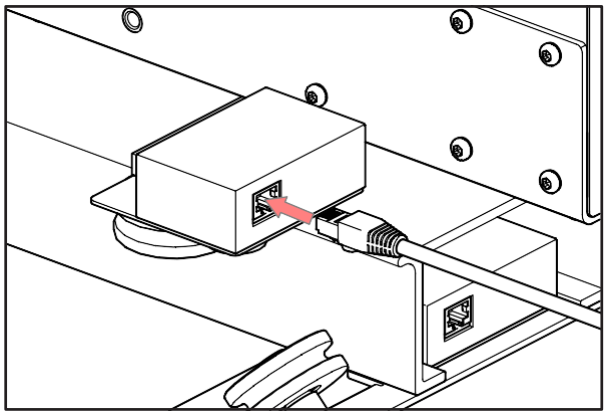
Step 8 – Encoder Connections

8(a) – Head Encoder

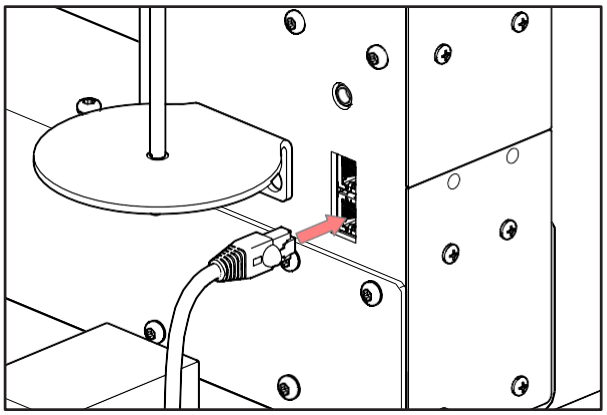


YY (x1)

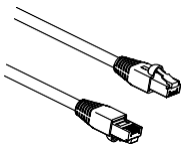
Plug the 1ft. cat5 cable (YY) into the head encoder.



Plug the other end of the 1ft. cat5 cable into the head encoder port.

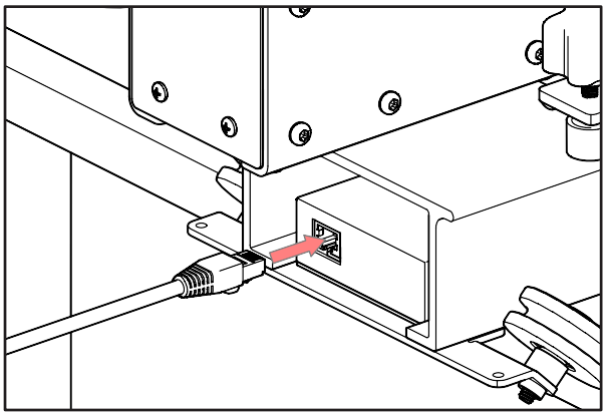


8(b) – Carriage Encoder

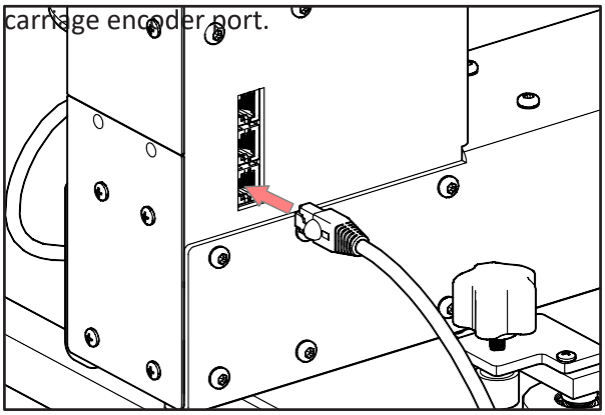


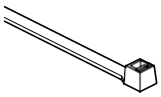
ZZ (x1)

Plug the 2ft. cat5 cable (ZZ) into the carriage encoder.



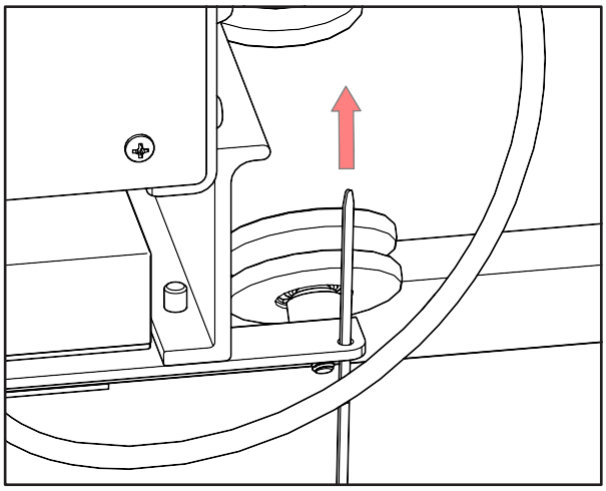
Plug the other end of the 2ft. cat5 cable into the carriage encoder port.



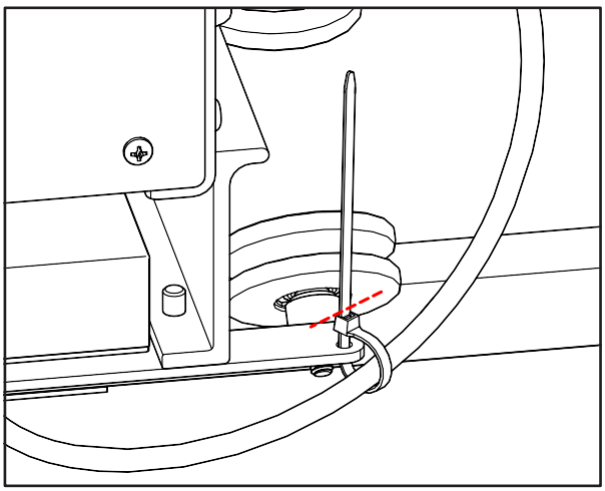


QQ (x1)

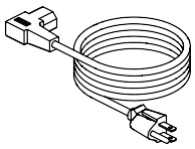
Slide a zip tie (QQ) through the hole on the right side of the rear axle (viewed from the back).



Loop the zip tie around the carriage encoder cable as shown below. Leave a small amount of slack in the zip tie so as to not pinch the encoder cable. The cable should still be able to slide back and forth. Cut the zip tie excess.

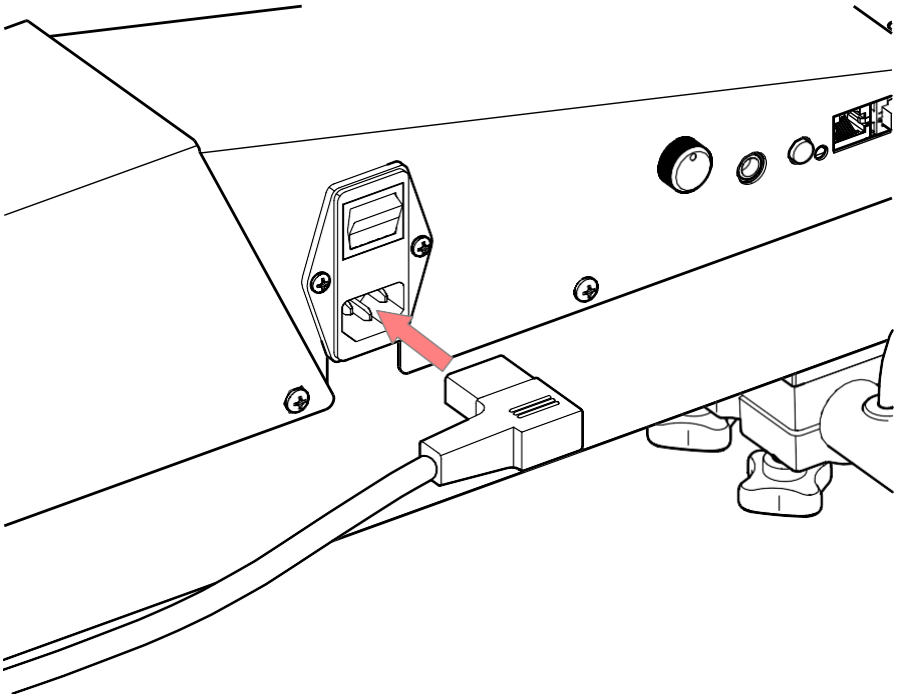


Step 9(a) – Connect Power Cord



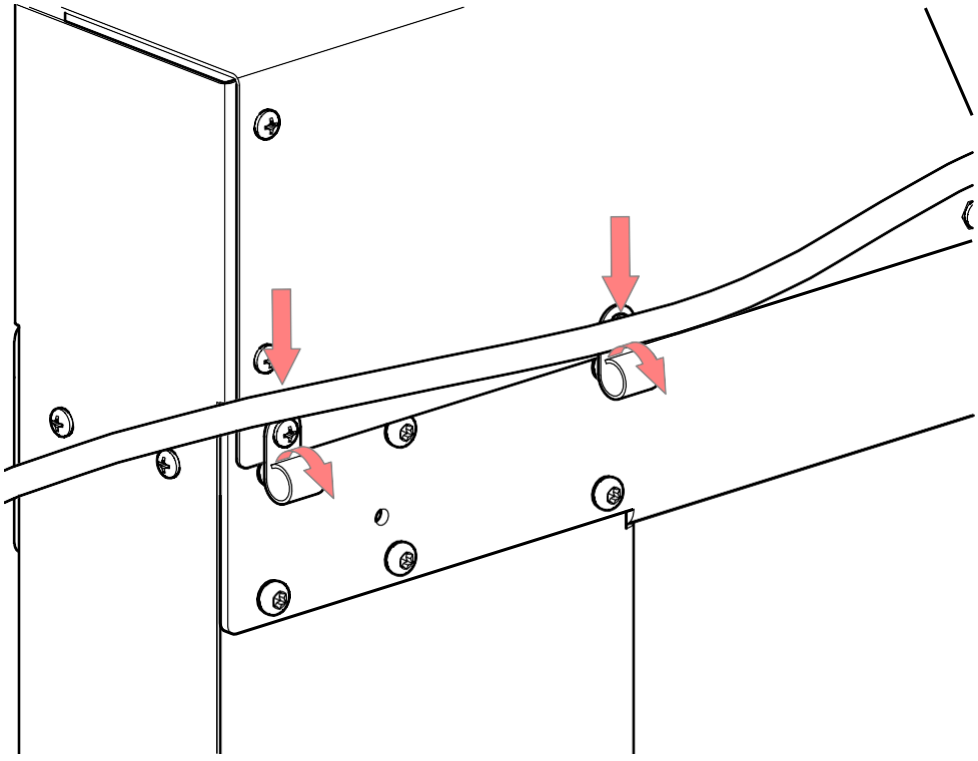
AAA (x1)

Plug the power cord (AAA) into the jack on the top cover of the quilting head.



Step 9(b)

Lightly pull the clips open on the side of the quilting head. Slide the power cord into the clips.



Machine Operation of Ellie

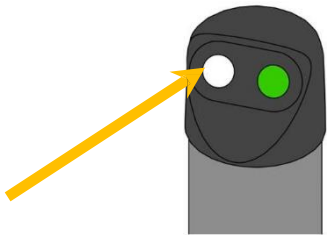
Turning Machine On/Off

The on/off switch for the quilting machine is located in the center of the machine right above where the power cord plugs into the machine. The switch has two markings on it – when the half of the switch with the 'O' is pushed down flat against the machine, the machine is off. If the switch that has the 'I' is flat against the machine, the machine is on.

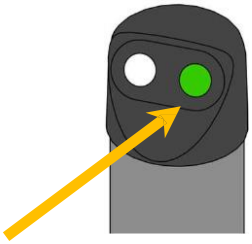
HINT: It may be helpful to remember this by thinking about how the power gets to the machine. If the 'I' is pushed down, the power gets straight thru the power cord to the machine. If the 'O' is down, the power gets 'turned around' and doesn't get to the machine.

Switch in 'Off' Position

Handle Switches



1. To change the Needle Position (up or down) using any handle and/or perform a single stitch, press the WHITE button on any handle for needle to move up or down.
    a. If you start sewing with the needle in the "UP" position, as you stop sewing, the needle will stop in the "UP" position. The needle will stop in the same position as you start (if you start sewing with the needle in the "DOWN" position, when you stop sewing the needle will be in the "DOWN" position.



2. To START SEWING or to STOP/PAUSE SEWING, press the **GREEN** button on any handle.

Single Stitch Tips and Securing Your Threads

1. Move the quilting machine to the location you want to start stitching.

2. Bring your bobbin thread to the top of your quilt sandwich by first holding onto your top thread tail.
    - Press any handle's WHITE button to bring your needle to the down position, press the WHITE button again to bring your needle to the up position. Move the machine head slightly away from the needle hole and gently pull the top thread tail, this will bring your bobbin thread to the top of your quilt's surface.

3. With each pressing of the WHITE button, the machine will make a "half stitch." You may continue pressing the WHITE button to place precise stitches where you want them.
    - You can also keep the WHITE button pressed which will make the machine cycle through a complete "UP-DOWN" sequence so that you can make full stitches. Place these stitches close together to secure your stitches. Place at least 8–10 stitches right next to each other for a firm, secure start.
    - When you release the WHITE button, the machine will cycle the needle into the up or down position.

4. To end your stitches and secure your top and bobbin thread, stop sewing about ¼-inch away from your actual intended stopping point. Use the "Needle Up/Down" WHITE button again to place very close stitches for securing the thread.

Stitching Modes

Stitch Regulated vs. Manual Stitching Modes

- When you turn off the main power on your machine, it will return to the sewing mode it was in when the machine was powered off.
- Stitch Regulator Mode – The Stitch Regulator monitors the speed at which you are moving the machine, and it will adjust the motor to match it so you get perfect stitches every time. Every stitch is the same length every time the head is moved giving you the pre-determined stitch length that you have set on your machine.
    - *In Stitch Regulated mode the needle will not begin moving until you move the machine.*
- Manual Mode – The stitch length is controlled by how fast or slow you move the machine on the table. If you move the machine over the fabric slowly, the stitches get very small. If you move the machine over the table faster, your stitches will become much larger. In order to keep all the stitches the same length when operating a longarm machine in manual mode, the quilter must move the machine at a continuous rate of speed – without slowing down or speeding up.
    - *In Manual mode, the machine will start stitching immediately after you press the **GREEN** button.*

Stitch Regulated Mode

1. The Stitch Regulator is active when the blue LED light next to the Stitch Regulator On/Off switch IS illuminated.

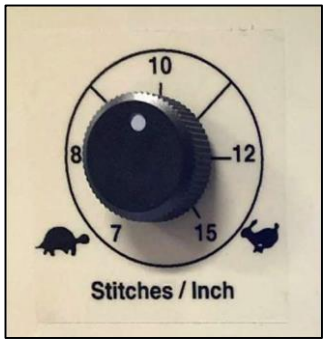
2. The numbers around the dial correspond to “stitches per inch” when using the Stitch Regulated sewing mode. For example, in the photo above the dial is pointing near the number 10, indicating the machine will sew approximately 10 stitches every inch.
3. When the Stitch Regulator is active, you may select a stitch length from 7–15 stitches per inch by turning the dial to the desired length. Most quilters find stitches between 10–11 stitches per inch to be the most pleasing, but you can select a length that suits you.
4. If you stop moving the machine in Stitch Regulated Mode, but do not tap the **GREEN** button, the machine is still active but will not stitch until you move it again. Your machine head will BEEP every few seconds to remind you that your machine motor is still ON. Tap the **GREEN** button on any handle to stop the sewing motor completely.

NOTE: *You can change this setting as you sew; you will not have to stop the sewing motor to adjust your stitch length.*

Manual Mode

1. The Manual mode is active when the blue LED light next to the Stitch Regulator On/Off switch is NOT illuminated.

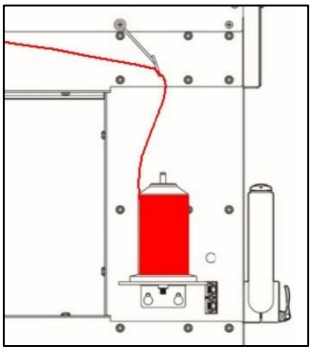
2. The "TURTLE" and "RABBIT" icons on the dial correspond to "sewing motor speed" when using the manual sewing mode. The setting on this dial will determine how fast the sewing motor will stitch.
3. In manual mode, the machine's needle moves at a constant speed, and it will not stop unless you press one of the WHITE buttons on the handle to deactivate the sewing motor.
4. Once you press your **GREEN** button from any handle, your machine will begin stitching immediately once the switch has been pressed.



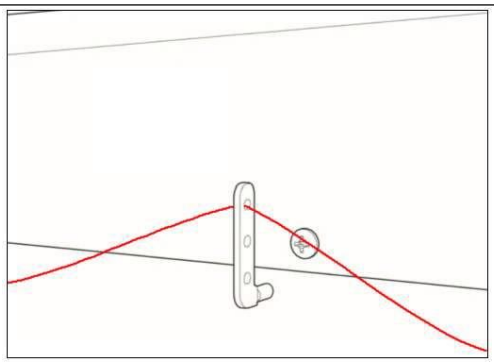
5. The sewing motor speed can be set anywhere from "very slow" (pointing the dial to the "turtle") to maximum sewing speed (pointing the dial to the "rabbit"). As you move the dial clockwise, the machine will sew faster. Turning the dial counterclockwise will cause the machine to sew slower.
6. *You can change this setting at any time as you are sewing, even if you have not stopped the sewing motor by tapping the WHITE button on any handle.*

NOTE: <u>If the dial is as far to the left as it can go, (pointing toward the turtle) the motor will not sew</u>, even if you have depressed and released the **GREEN** button to start the sewing motor. Sometimes quilters will think there is a problem when nothing happens after pressing the **GREEN** button to start the sewing motor. Turn the rotary dial clockwise to a setting above the turtle. Set the approximate manual motor speed you desire BEFORE starting the sewing motor to avoid confusion.

Threading Your Machine



1. Place your thread cone on the thread stand, pull thread tail through the large wire thread guide (this guide should be centered directly over the thread cone).
2. Place a small piece of batting in your wire thread guide. Place thread under the batting (not through it) to prevent the thread from jumping off the spool or puddling on the bottom of the spool holder.

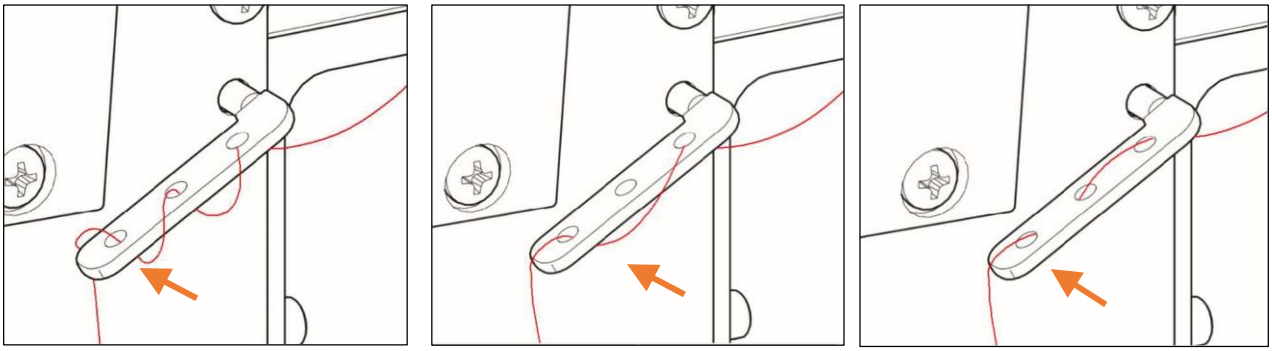


3. At the 3-hole thread guide in the center of the machine, place thread in any hole to pass through once.

4. Three-hole guide near the Tension Assembly

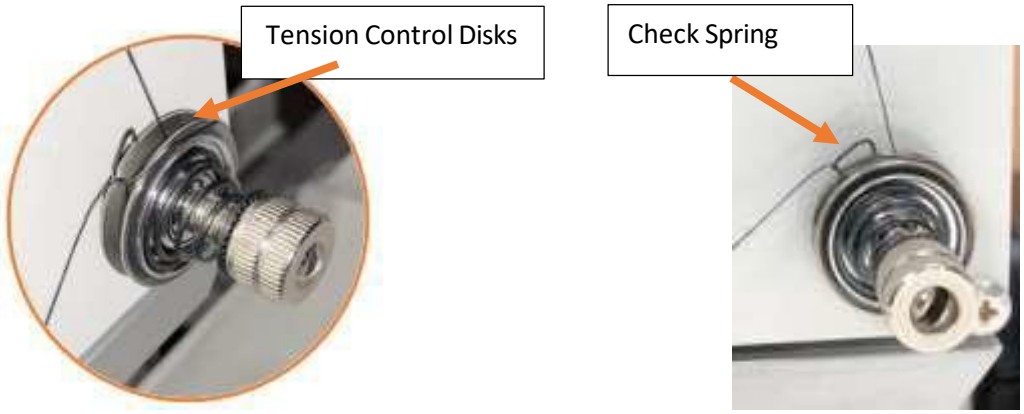
The three-hole thread guide near the tension assembly provides pre-tension to your thread and also helps manage “thread twist” before your thread enters the tension disks on the tensioner.

Occasionally you should check the three-hole guide’s angle. It should point down to “8:00” if you imagine the lower hole as the hands on a clock. This position also helps ensure the thread travels through the tension disks correctly.



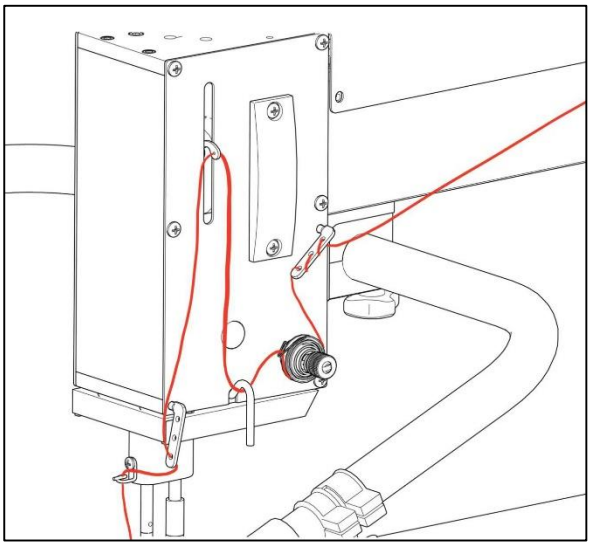
It’s okay to experiment with the thread path next to the tension assembly if your thread requires more pre-tension, or if the thread appears to twist too much, causing tangling or looping around the needle. Images above show some optional thread paths through the three-hole guide next to the tension assembly.

Be sure to use the bottom-most hole in the guide (illustrated with arrows above). This last hole ensures that your thread stays deeply between the tension disks and does not slide in and out as you sew.

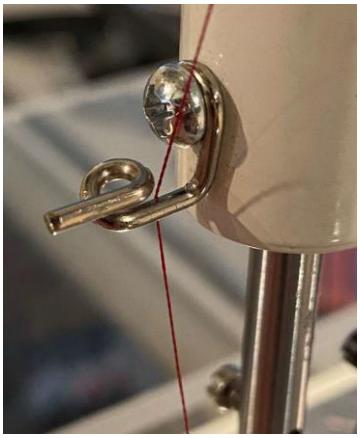
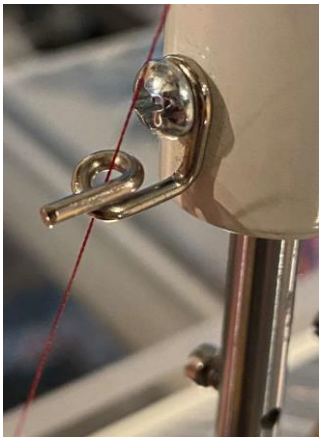


5. Pull the thread between the tension control disks and over the check spring as shown. Hold on to the thread just before it enters the tension disks and pull on the remaining tail firmly to be sure the thread is seated completely between the tension disks.

   If your stitch quality appears to have changed, such as loops of thread on the quilt surface, this is one of the first places to check. The thread must be completely seated between the two tension disks for proper operation.



6. From the check spring on the tension disks, feed the thread down and under the L-shaped guide (shepherd's hook), up through the take-up lever and down through the additional three-hole guide where the thread should pass through the last hole before going down through the pigtail guide above the needle as illustrated.

7. To insert the thread into the pigtail guides, take the thread behind the guide on its rounded side, as shown in the center photo. Next, grab the portion of thread that is coming down from the top and pull it forward past the sharp edge of the pigtail guide, from the right. This will slip the thread inside the guide without having to poke it down into the guide.
8. The first pigtail guide is on the right side of your machine's head and the next two photos show the pigtail guide that is directly above your needle.

9. Make sure the needle is inserted correctly. You can either pass the thread inside and under the hopping foot at this point, or you can wait until your quilt is loaded and you take your first stitch.

Change Thread Spools & Re-Thread

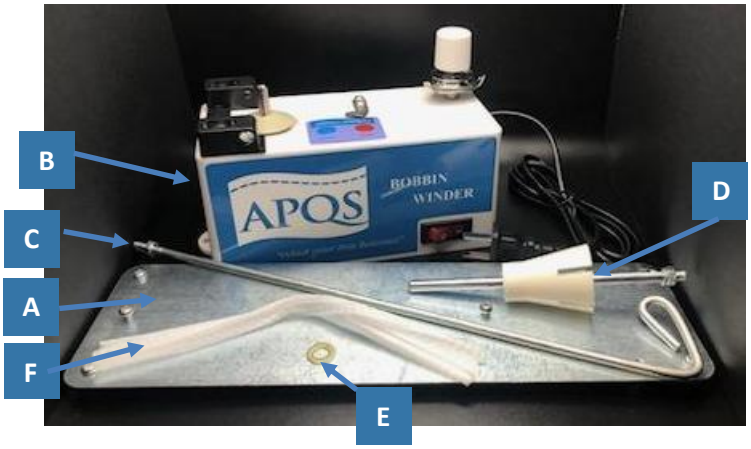
To quickly change thread colors, cut the thread currently being used just above the spool on the back of your longarm.

1. Remove the spool and replace it with a new color.
2. Tie the new thread to the old thread with an overhand knot.
3. Pull on the old thread while at the needle side of your longarm.
4. Continue pulling the thread through the thread guides (including the Top Thread Break Sensor Wheel if equipped).
5. Depending on the thread thickness, you may be able to pull the knot through the needle. If the knot will not pass through the needle hole, cut the knot off the thread and re-thread the needle.

NOTE: Take a moment to double check that the thread passed correctly through all thread guides, is correctly wrapped clockwise around 1 and up to 3 times (if needed for thinner/slick threads) around the Top Thread Break Sensor (if your machine is equipped) and is firmly pulled between the tension disks before sewing.

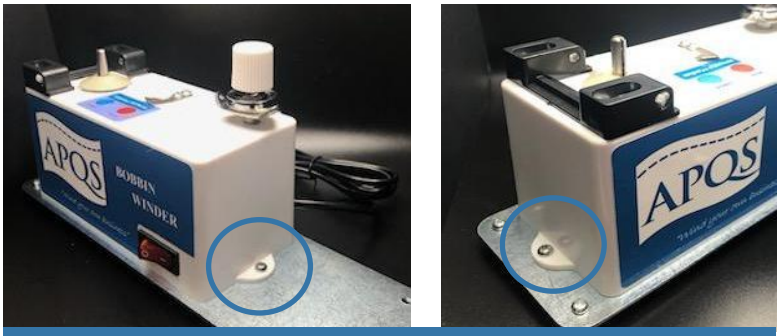
APQS Bobbin Winder Setup

Contents:
A – Bottom Plate with Mounting Screws
B – Winder Assembly
C – Thread Stand
D – Spool Pin
E – Thin Spacing Washer
F – Thread Net



Assembly Process:

Use a Phillips screwdriver and the two Phillips screws provided to mount motor assembly on bottom plate as shown.



Use Phillips screwdriver to mount winder on bottom plate using included screws

Install tall thread stand and spool pin into holes on bottom plate. The position of the short pin and the tall stand are interchangeable. Install the posts by threading them into the metal plate until you can see them coming through to the back. Do not thread in too far, as it will not allow the winder assembly to sit flat on a surface. If posts are hard to start threading into the plate, use a pair of pliers to help get them started.

Thread post into bottom plate until it just protrudes thru bottom plate, using pliers if posts are hard to install

Position tall thread stand loop over thread spool pin

Align the tall thread stand so the loop is directly over the top of the spool pin. Use a #8 metric wrench or a pair of pliers to tighten the bottom nut on the post tightly against the bottom plate, holding the posts in position.

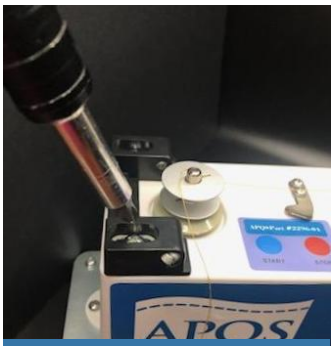
Align tall thread stand loop directly over spool pin, tighten nut

Setting Bobbin Fill Level

The APQS Bobbin Winder can be set for either L or M size bobbins and will need to be set up prior to the first bobbin fill. Add one thin washer to the pin where the bobbin is mounted before adding the empty bobbin if you have an L bobbin but leave the washer out if you have an M bobbin. The winder uses an optical sensor to 'see' how full the bobbin is. This sensor is adjusted by loosening the two mounting screws on the sensor housing with a Phillips screwdriver.

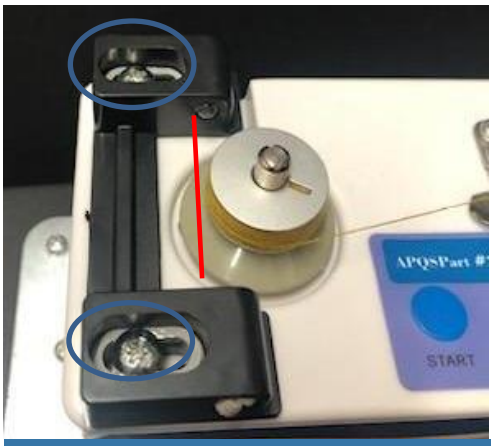
Add 1 thin washer to bobbin post if you have an L bobbin ONLY! M bobbins will not need the washer

Bobbin Fill Level Sensors 'read' across outer edge of thread on bobbin

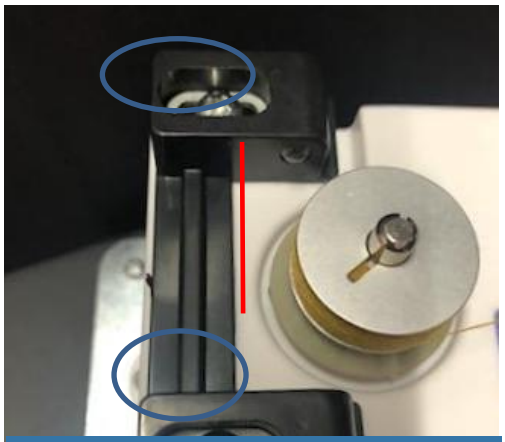


Sensor adjustment screws - one on each side of sensor housing

A ‘preliminary setting’ would be similar to what is shown below, depending on bobbin size. The line is a visual representation of where the sensor is ‘seeing’ the thread level on each bobbin size. For the L size, the mounting screws are positioned just to the left of center in the opening for the screw…. the M size is slightly to the right of center, as shown below.

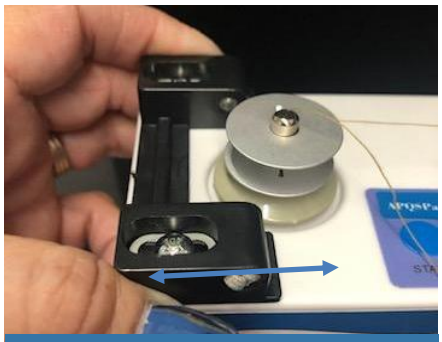


Preliminary setting for L size bobbins



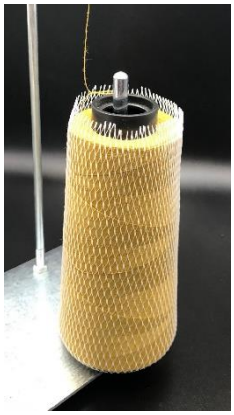
Preliminary setting for M size bobbins

Once the screws have been loosened (about 2 full turns counterclockwise is enough), move the sensor housing so it is positioned similarly to the pictures on the previous page. A final adjustment may be necessary once a bobbin has been wound, but this is a good starting point.



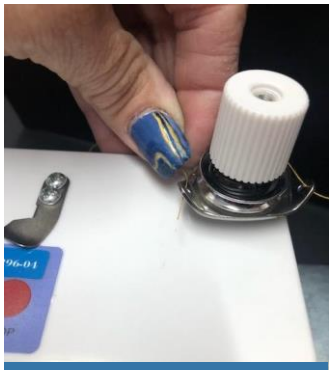
Adjusting sensor position to set for bobbin size

Threading the Winder and Winding a Bobbin

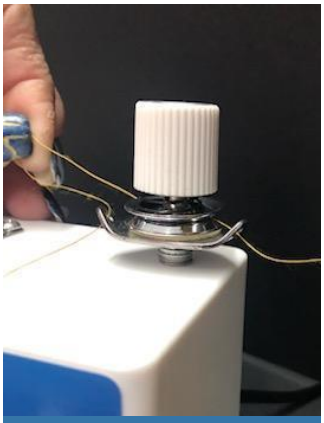


Using a thread net on the cone is advised due to the speed that the thread will come off the cone. Once the net is on the cone, pull the thread up through the tall stand, going from right to left as shown below, and then down to the tension control. Start at the thread guide closest to the cone, and then wrap the thread around the tension discs counterclockwise and through the thread guide closest to the bobbin. Once the thread is through the tension discs, pull on both sides to make sure the thread is seated between the tension discs. Then, if your bobbin has slots in the center, run the thread through the slot towards the center and out the top of the bobbin. If your bobbin does not have slots, leave the bobbin on the post, and wrap the thread around the bobbin counterclockwise 4-5 revolutions to get the winding process started.

Up over thread stand loop from right to left



Through first guide, around discs counter-clockwise and through second guide

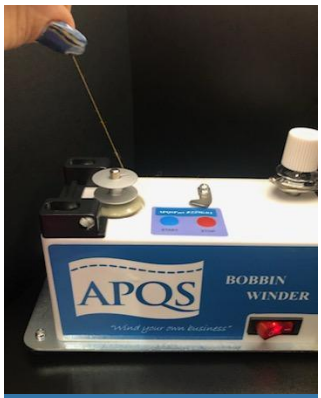


Pull on thread to seat between tension discs

Feed thread through bobbin slot or wrap around bobbin 4-5 times counterclockwise

Turn the power on to the bobbin winder by pushing the switch towards the 'I' side – the red light in the switch should come on at that point. Hold onto the thread tail gently with a little bit of tension and push the blue button down. The winder motor should start turning the bobbin and start the winding process. Once the winding process has started, you can either give the thread tail a quick 'tug' to break the thread, or touch with the blade of a scissors to cut close to the bobbin. You can also push blue button again to shut motor off to cut the thread tail close to the bobbin.

Push switch towards 'I' to turn power on – switch will glow red

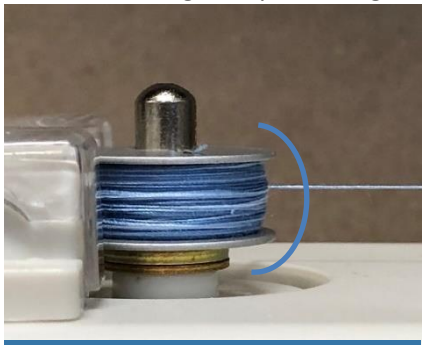


Gently hold onto thread tail with slight tension

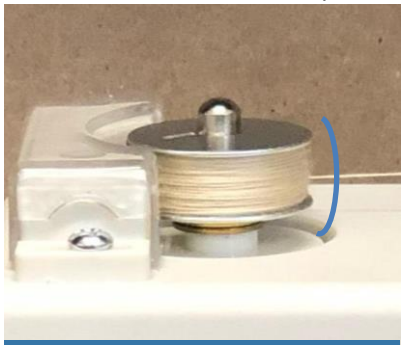
Push blue button down to start motor and winding process

Touch tail with scissors to trim while winding

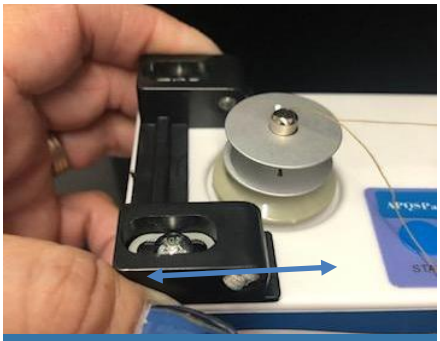
The motor should shut off once the bobbin is filled. Since the thread will move up and down on the bobbin on its own, assisting the filling towards the top and bottom of the bobbin will ensure more thread is wound on the bobbin. The first photo shows a bobbin filled without assistance during the winding process. The second photo was done with minimal assistance with a finger or pencil to guide the thread towards the top and bottom of the bobbin as it filled.



Bobbin filled without any assistance during winding



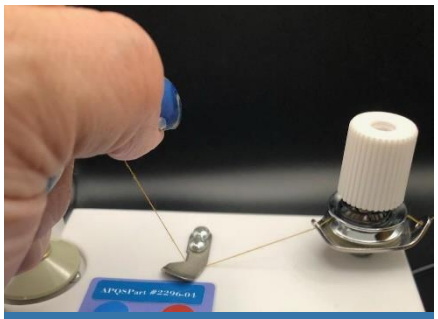
Bobbin filled with minimal assistance during winding



Adjusting sensor position as needed to set for bobbin fill

Tension adjustments can be made using the knob on the tension control. The end goal is to wind the thread with enough tension to ensure that when you push on the thread with your fingernail, it should feel firm. If it feels 'spongy', tighten the tension on the thread as it is winding on the bobbin. A thread cutter blade has been included on the winder for your use – just wrap the thread under the cutter arm and the sharp blade will cut the thread for you.

Thread should feel firm, not spongy on bobbin



Thread cutter included on bobbin winder housing

APQS Bobbin Winder Maintenance

Your APQS Bobbin Winder requires very little maintenance! Cleaning the sensor ‘eyes’ with a cotton swab and removing dust between the tension discs is all it will need to run in top shape!

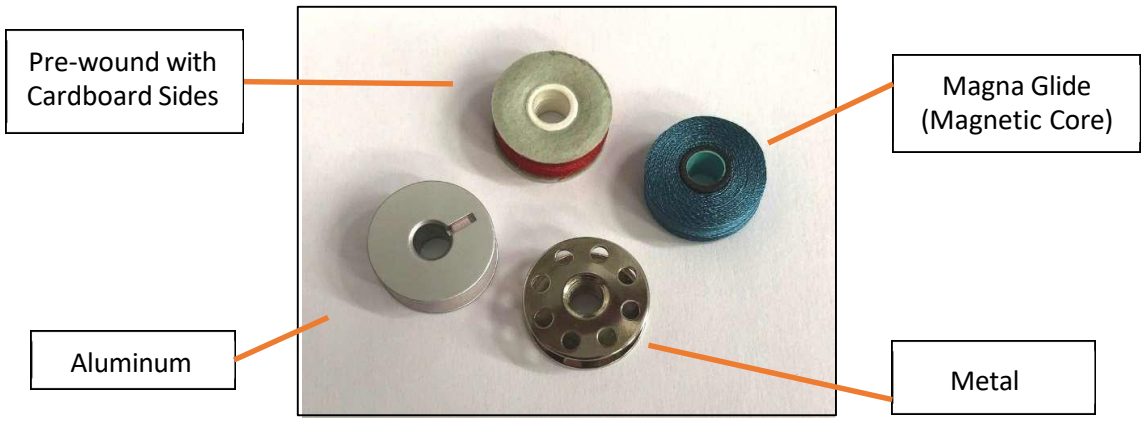
Basic maintenance includes cleaning sensors with cotton swab to remove dust and int and using compressed air to remove lint between tension discs

If you have any questions, please contact the Service Team at 800-426-7233, or via e-mail at service@apqs.com Monday thru Friday, 8 a.m. to 4 p.m.

Bobbin & Bobbin Case Info

Style “L” Smart Bobbins

NOTE: You may use metal, aluminum, magnetic core bobbins and even pre-wound bobbins with your machine, as long as they are this style. Refer to the photo below for examples of Style “L” bobbins.



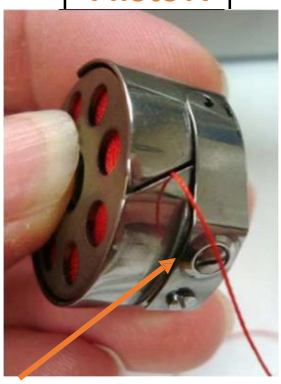
Metal bobbins will normally require looser bobbin tension to compensate for their weight. Aluminum and pre-wound bobbins are similar in weight. Some pre-wound bobbins have cardboard sides; others have no sides and contain a magnet on the core that substitutes for the bobbin brake or check spring (see photos below for more information about the brake spring).

Inserting “L” Bobbin into Bobbin Case
Place the bobbin into the bobbin case so that the bobbin rotates clockwise when it is inside of the bobbin case.

Guide the thread tail through the slot on the bobbin case (Photo A), and then under the flat tension finger on the outside of the case (Photo B).

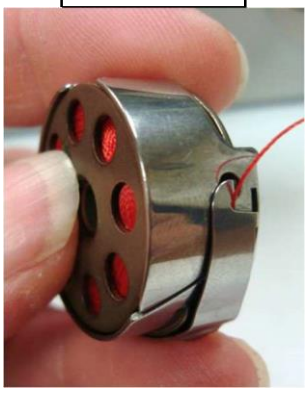
If you need to adjust the bobbin tension, use a small screwdriver to rotate the larger screw (Photo A – tension adjustment screw) in small 5-minute increments. Turn the screw to the right to increase bobbin tension and to the left to decrease tension.

Photo A



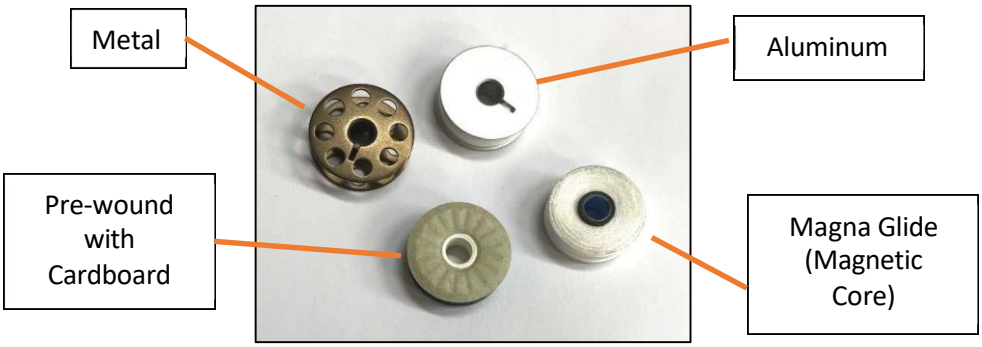
Tension Adjustment Screw

Photo B



Style “M” Big Bobbins

NOTE: You may use metal, aluminum, magnetic core bobbins and even pre-wound bobbins with your machine, as long as they are this style. Refer to the photo below for examples of Style “M” bobbins.

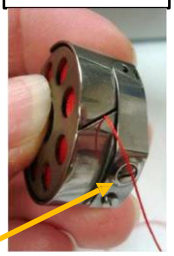


The photos below describe how to insert the thread into the guide (be sure to place your bobbin into the case so that it rotates clockwise when you pull the thread through the exit hole).

When inserting a bobbin into the case, the thread should exit the bobbin in a clockwise manner.

Guide the tail through the slot on the case (Photo C below), and then under the flat tension finger on the outside of the case (Photo D below). If you need to adjust the bobbin tension, use a small screwdriver to rotate the larger screw in small increments (5-minute turns, turning left to loosen and right to tighten tension).

Photo C



Tension Adjustment Screw

Photo D

Threading the Pigtail Guide on an "M" Big Bobbin Case

'M' Bobbin cases will have a pigtail thread guide in the center of the opening. This helps keep the bobbin thread in line with the needle on larger bobbins, producing a better stitch. You can choose to bypass the pigtail thread guide on the case if you find it exerts too much pressure for some threads

1. Hold the thread close to the bobbin and pull it behind the pigtail guide, then around toward the outside of the pigtail guide in a spiral motion.

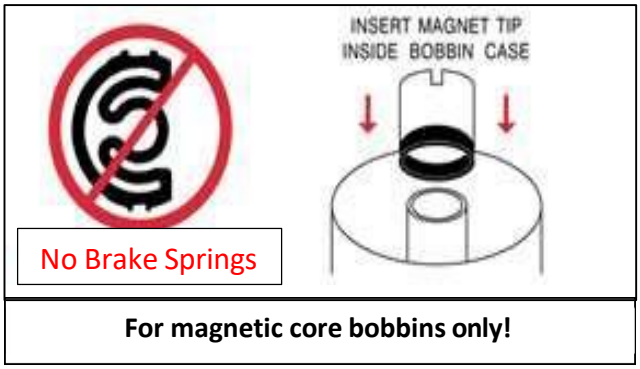
2. Pull the thread tail up, which will wrap the thread into the first loop of the pigtail guide. Repeat process to wrap thread through the second loop of the pigtail guide.

3. The thread should pass through the pigtail guide as you see in the photo above. When you turn the bobbin case around so that you can see the entire bobbin, verify that the bobbin is spinning clockwise before inserting the bobbin case in the machine.

Adjusting Bobbin Case Tension

Your Beginner Longarm Quilting Class instruction manual includes details about setting your bobbin tension for different thread combinations in the top and bottom. It is always a good idea to test your tension on fabric and batting similar to your quilting project so that you can make adjustments before you begin quilting on a quilt top. Bobbins are available in several different materials, including aluminum, metal, pre-wound versions and magnetic core.

Bobbin Case Brake Spring



For magnetic core bobbins only!

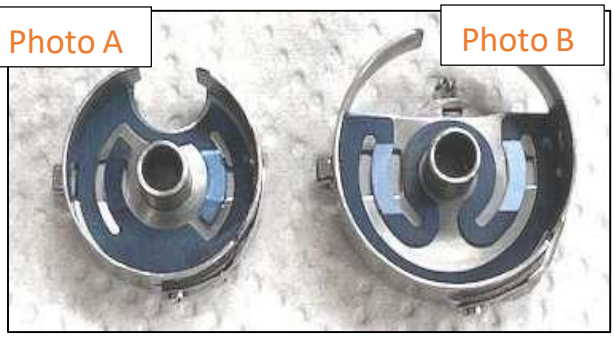
Bobbin Case Brake Spring Removal

To use magnetic bobbins, you must remove the bobbin brake spring from your bobbin case. Use a small screwdriver or other flat tool to gently pry the brake spring out of the case. Put the spring in a safe place and reinsert it when you switch to any other bobbin style (it's a good idea to purchase a second bobbin case if you like the magnetic core bobbins so that you can leave the brake spring out of the case permanently on one of them).

Bobbin Case Brake Spring Replacement

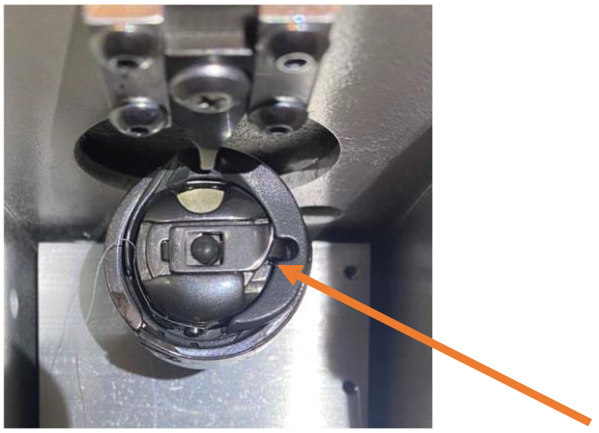
To reinsert the brake spring into the bobbin case, position it so that the small "fingers" point out. These will be slightly raised compared to the rest of the brake spring. In the photos that follow, the Smart Bobbin case (Photo A below) has a brake spring that has two straight pieces of metal that look like fingers bending slightly up from the bottom of the case. The Big Bobbin case in Photo B has U-shaped fingers that also bend up slightly. These "fingers" apply pressure on the bobbin once it is inserted into the bobbin case; it will stop the bobbin from over-spinning when you stop sewing or change directions.

Align the shorter "cut out" edge or rounded edge of the brake spring with the cut-out opening in the bobbin case as shown below, making sure the brake "fingers" point out away from the case. Use a small screwdriver to force the outermost "pins" on the spring back into the slots that are on the outer rim of the bobbin case. The brake spring should snap firmly in place with the small brake fingers facing outward.



Depending on the size of bobbin case you have, your bobbin case brake spring will look like either example above. The one on the left is from a Style "L" bobbin case and the one on the right is for a Style "M" bobbin case.

Inserting Bobbin into your Longarm (“L” or “M” Bobbin)



1. To insert the bobbin into the machine, hold the case so that the bobbin removing latch is parallel to the floor and the bobbin opening faces the ceiling as shown.
2. Position the case over the bobbin post in the hook assembly, leaving the removing latch ***closed***. Press the bobbin case firmly into the assembly until you ***hear it clearly click into place***.
3. Avoid opening the lever to insert the bobbin (unlike some home sewing machines, it is not necessary to open the latch to insert the bobbin). If you do use the latch, there is a greater chance that the bobbin case will not get properly seated into the assembly. When the machine is running, the bobbin case could fall out and cause damage to the hook assembly. Using the lever to insert the bobbin case can also allow the bobbin thread to get caught under the lever and cause tension problems.

Quilting Basics

To learn more about your APQS longarm and quilting, please contact your closest APQS Dealer for your Free Beginner Longarm Quilting Class.

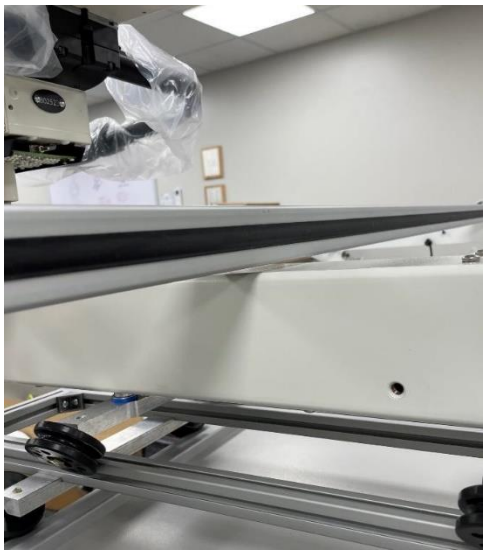
The class is free for students who purchase a quilting machine from APQS, or tuition is $200 for anyone wanting to learn more about longarm quilting.

With the beginner class offered at APQS, our goal is to teach you the skills you will need to accomplish a typical quilting project on your new longarm machine. Whether you intend to start a business or just want to get your quilts done faster, you will learn valuable techniques to accomplish your projects creatively and efficiently.

We will also review basic APQS machine maintenance. This class is mostly “demonstration” so we can squeeze in as much information as possible.

A summary on how to begin your longarm quilting journey is on the next page.

Basic Quilting Instructions for Halo Table



1. Note that the clearance between the bottom of the Take-up Tube and the top of the lower tube on the sewing head is very narrow. Make sure when handling the fabric that the quilt stays on top and in front of the Take-up Tube. If not, the quilt will interfere with the proper movement of the sewing head over the quilt.

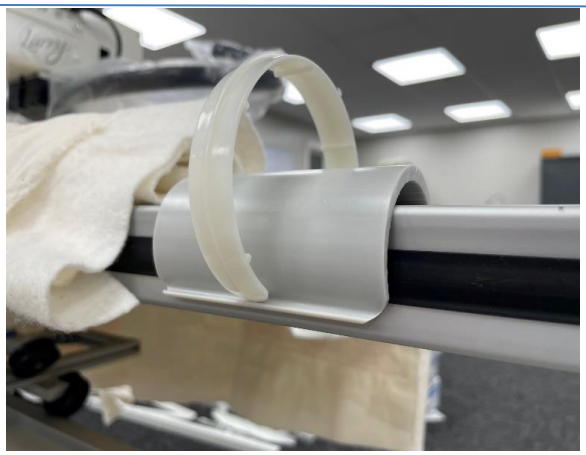
2. Note the orientation of the fabric clamps. On the front and side tubes the clamps are pressed on from the **outside** of the tubes. With the Take-up Tube the clamps are pressed on from the **top**. As the quilt grows in size roll it up as tight as possible and use the large gray 3” quilt clips to keep the quilt rolled up. Let the roll set just forward of the Take-up Tube.

Again, note the fabric clamp orientation: Front and side tubes the clamps press on from **the front or outside.** The Take-up Tube clamps press on **from the top**. This clamping method ensures that the quilt top is at the proper height for the sewing head. When installing the fabric clamps it is helpful to start at the front. Put several clamps in place then install some clamps on the Take-up Tube. When installing the clamps on the Take-up Tube you will notice that it will begin to add tension to the fabric. Continue adding clamps where needed. Be generous with the clamp placements. We provide 20.

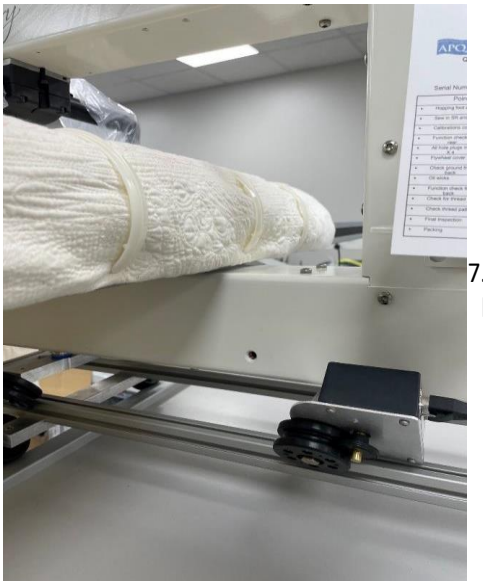
3. This shows the proper handling of the finished quilt roll using the quilt clips to retain it.

4. Installing the quilt clips correctly is key to managing the finished quilt roll correctly and preventing any interference between the fabric and the sewing head movement. (The fabric is pulled up so you can see the fabric clamp underneath.) Make sure the quilt clips are positioned directly over the fabric clamps.

5. This is a back view of the Take-up Tube and the proper position for the quilt clips. Notice that the edge of the quilt clip sets on the lip of the fabric clamp (not visible). See next photo. Note: the fabric is held away from the lower tube of the sewing head so as not to restrict movement.



6. This is a raw view of the quilt clip orientation on the fabric clamp (without the fabric in place).



7. The quilt clip installation is important in order to keep the fabric above the lower tube on the sewing head.

8. It is helpful to mark your movement limits before quilting. Move the sewing head forward as far as possible without allowing the quilt roll to drag on the throat of the sewing head. Mark the position of the needle in this position with painter's tape so you have a visual reference of your forward limit.

Mark your side-to-side limits in the same way. Move the machine to each side of the table and mark your movement limits.

9. Use the adjustable side clamps to hold the fabric sandwich if you run out of room to use the regular quilt clips.

Notes from APQS

Halo Quilting is a new concept for APQS, but not a new concept in quilting. One of our beta testers has sent us some notes that may be helpful with your new system.

"With Halo quilting you need extra backing and batting to account for the space used by the Halo rear bar. You may need 6-8 inches extra beyond your quilt top (all sides) or you can use "leaders". These may be purchased, or you may want to make your own.

You can spray baste the quilt sandwich layers. Follow the instructions given by the manufacturer. If you don't like sprays, there is also a basting powder which is heat set by iron. For smaller quilts that won't require multiple hoopings, you may be able to "float" your quilt top. Again, make sure your backing and batting extend beyond your quilt top.

When loading your quilt, make sure you allow for space that the machine occupies. This would include left to right, and back to front rail. Once set, double check by moving the sewing machine around the table. At first, it may help you to remember where these stopping points are by placing a piece of painter's tape at the edges of where you need to stop sewing to "rehoop".

Once placed and clamped you may want to large stitch baste 1/8"from the bottom left side up, across the top, and depending on your quilt size, down the right-hand side. This will help prevent accidentally catching the edge of the foot between the layers if you run off the quilt top. The basting stitch is easily removed if needed.

When you need to move and reclip your quilt you can stop needle down, remove your clips, and move the machine and the quilt to the left at the same time. Reclamp. With larger quilts, use the larger clips and try to "stack" the quilt on top of the back rail. Again, you may want to large stitch baste before you continue quilting, and replace your blue painters tape if using it."

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