Larry Standard Table Installation Manual

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 Larry Quilting System.

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.

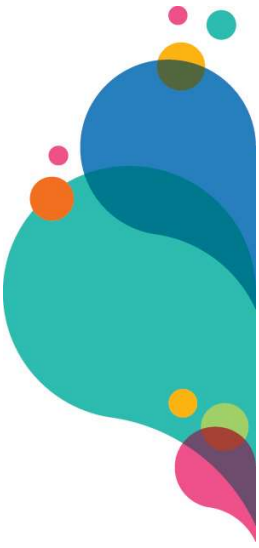
Even if you are not assembling the machine yourself, please read the assembly instructions and familiarize yourself with their contents. You'll learn the different part names and will better understand your setup should you ever need to call us for service.

Every machine purchased directly from APQS includes a free, 6-hour beginner class. Visit our Event 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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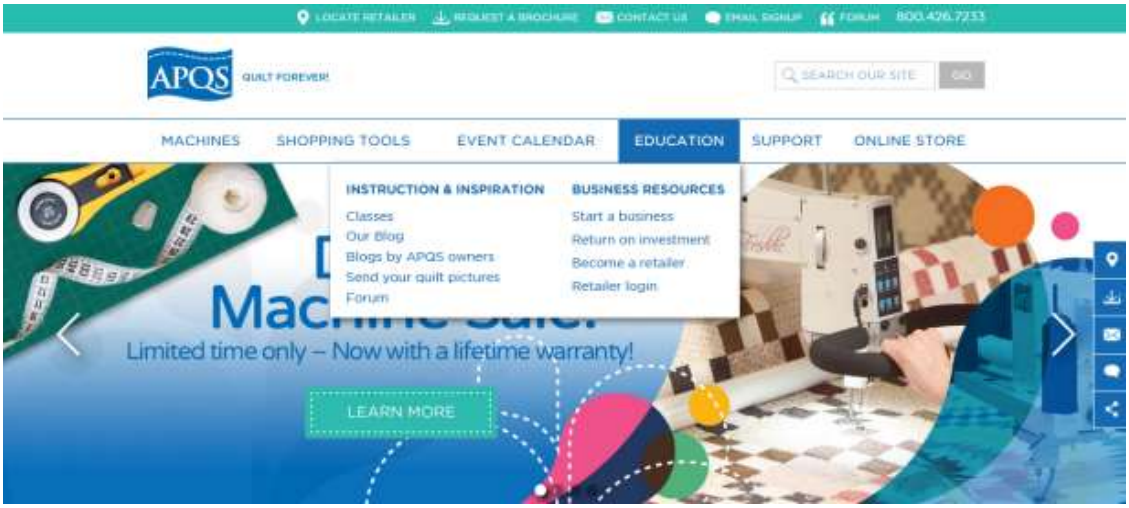
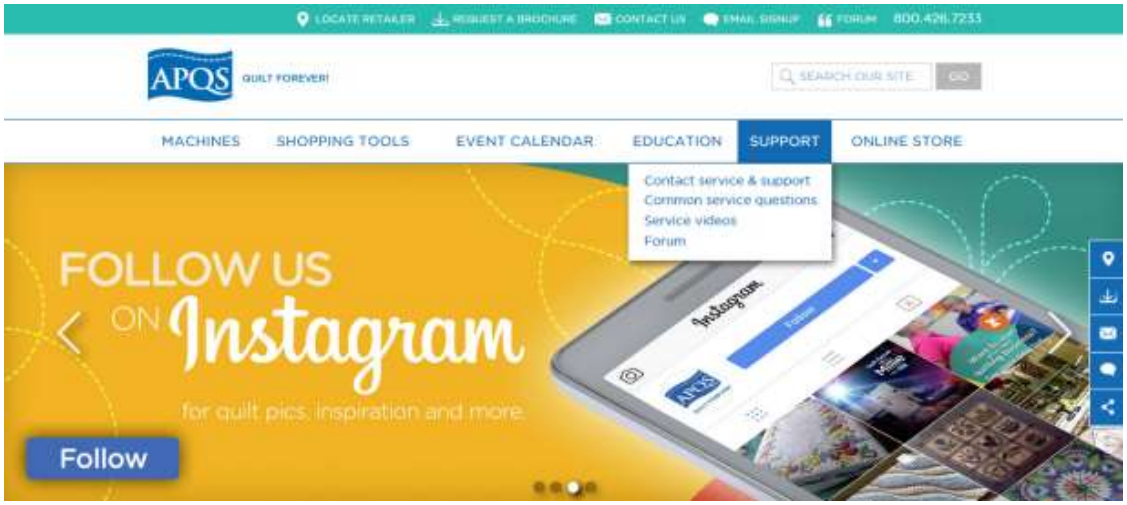
Learn more about your APQS Machine

- Click on the Education Tab on our website for information about Beginner Classes in your area, starting a business, inspiration, blogs and more.



- Need help? Click on our Support Tab for FAQs, service information and helpful how-to videos.



- Ready to quilt? Want some design ideas? Subscribe to the APQS Quilting Channel on YouTube to see hundreds of APQS videos that show you everything from loading the machine to quilting feathers!

- Join us on the APQS Forum for fun conversation, information sharing and everyday tips and hints. Everyone is welcome; we'd love to see photos of your projects, hear about your successes, and even welcome your questions and suggestions on improving our machine and company. To join, visit the APQS website at www.apqs.com. Select the "Education" tab on the home page and click on "Forum" in the drop-down menu. Or, "like" us on Facebook at "We Love APQS".

Need More Help?

APQS Customer Service & Support

We want you to have the best possible quilting experience. We take pride in leading the industry with our superior customer service and support, and we can't help you if we don't hear from you.

Monday–Friday, 8 a.m. – 5 p.m. CST
800-426-7233

service@apqs.com

APQS Online Store

Visit our Online Store for needles, bobbins, thread, oil, replacement parts and accessories for your APQS Longarm machine.

APQS Certified Technicians

In addition to factory-direct support, APQS has trained several APQS Dealers with advanced troubleshooting and support skills. These APQS Certified Technicians work closely with the factory team to solve problems and help you get back to quilting as quickly as possible. Look for the Certified Technician symbol on the APQS Retailer listings to see if one is near you.

Warranty Information

New APQS Machines sold directly through APQS include a Limited Lifetime Warranty to the original owner. Demo machines and Certified Used machines carry different warranties. For information about your warranty coverage or how to make a warranty claim, consult the warranty document included with your machine, visit our Lifetime Warranty Page, or contact APQS Customer Service at 800-426-7233.

Assembly Preparation Tips

Even if you are not assembling the machine yourself, please read through the assembly instructions thoroughly to better understand your machine.

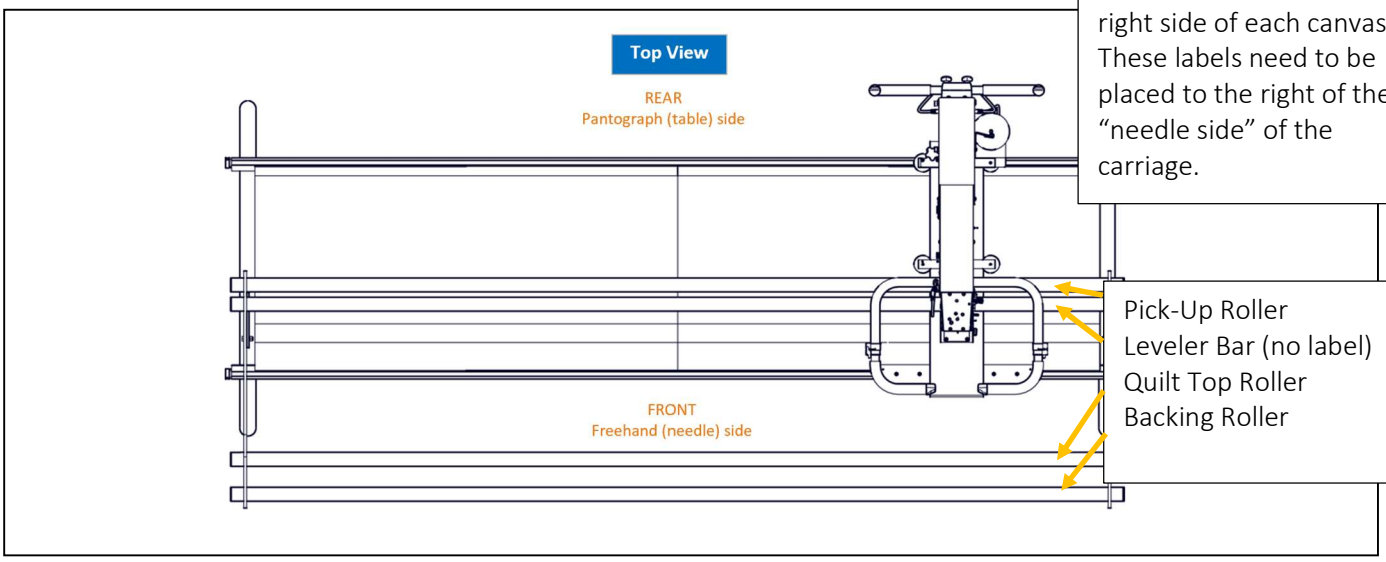
Before assembling your machine, answer these questions:

Where will the machine be located, and how will it be oriented in the room?

It is important before you move the shipping boxes into your sewing room to identify where your longarm will be placed. Consider where you want the "needle side" of your machine placed in relation to your space. When facing the "needle side" of the machine, the left or right side of the table can rest next to a wall giving you more space on the opposite side.

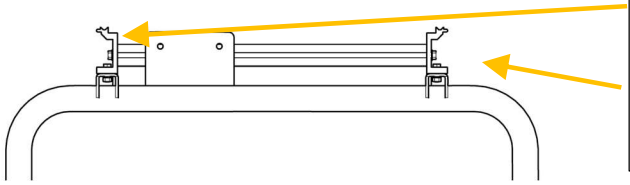
Before bringing in the long roller/rail boxes (shipping boxes 1 & 2), these boxes are heavy, and it is easiest to open the boxes and move the rollers and rails separately (see page 10). The three rollers with canvas are labeled on the right side of the roller, the left side of each roller has a threaded end. The roller with no canvas is the Leveler Bar and is not labeled, be sure the threaded end of this bar is brought into your sewing space with the threaded end going toward the left of your "needle side" of the table.

Be aware of your chosen orientation and which way the rollers need to be carried into your sewing space (you may need to flip the rollers around in your room if they were brought in incorrectly and if you don't have room to flip them, you may need to take them to a space where they can be flipped around).



Rollers are labeled on the right side of each canvas. These labels need to be placed to the right of the "needle side" of the carriage.

Pick-Up Roller
Leveler Bar (no label)
Quilt Top Roller
Backing Roller



The carriage rails are also directional in that the flat side of both rails should face each other when bringing them into your sewing space. In other words, the C shape of the rails should face outward.

Do you have easy access to electrical outlets?

Your quilting machine draws no more power than a normal household appliance. However, a surge protector can reduce the damage risk from electrical spikes. If you need to use an extension cord to reach an outlet, use a standard “heavy duty” 14-gauge extension cord. It should be a three-prong grounded cord. Do not bypass the grounding feature by using a two-prong adapter for your outlet. To protect yourself and your machine, have a certified electrician re-wire your outlet if it is not properly grounded. Even with a surge protector, consider unplugging your machine from the outlet during severe electrical storms to prevent a surge from damaging the electronics.

Are you adding the Quilt Path computerized system?

See Quilt Path Installation Manual. We strongly encourage you to invest in a Dual-Conversion, Pure Sine Wave Uninterruptible Power Supply (UPS). This auxiliary unit protects your machine and computer from power drops and surges, but also provides clean power to the system if your power fails, allowing you enough time to properly save your work and shut down the system. The UPS MUST be a Pure Sine Wave model to work correctly with your machine. Here are two models recommended by APQS Engineers:

Opti-UPS Durable Series DS1500B 1500VA
Tripp Lite SU1000XLA

Are you adding the optional hydraulic lift to your table?

See Hydraulic Lift Installation Manual. These instructions will tell you when it will be best to add those parts and are referenced so you can go to the appropriate Installation Manuals. Full instructions for accessory installations are included ONLINE and are in your shipping material.

What flooring material is in your room?

Wood or parquet floors may be easily scratched if you try to move the machine after putting it together. Consider cutting a small square of tightly woven carpet to act as a “coaster” for each leg, then placing the carpet face down under each leg as you put the table together. If your room has plush carpet and padding, the table’s weight may eventually break down the pad under the legs. You may want to place additional padding under the legs, just as you might under a heavy sofa.

If you park your machine at one end of your table routinely, heavy carpet pad could eventually break down on that end, throwing your machine out of level. Re-check the table if you have difficulty moving the machine. In addition, machines on hard concrete or tile floors benefit from padding under the legs to reduce residual vibration reflected back up the legs from the hard flooring.

General Assembly Order

Your new quilting machine is not difficult to assemble. It can usually be accomplished in just a few hours. While the basic assembly is possible alone, extra hands are very helpful throughout the process.

Assembly Process Overview

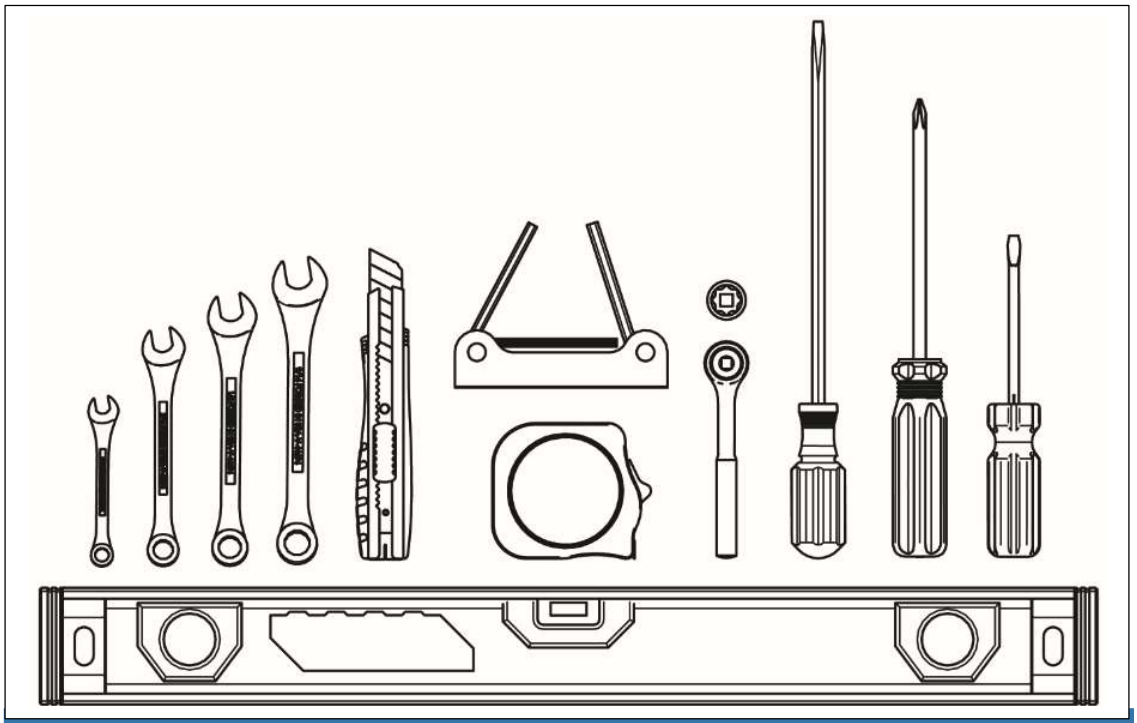
1. Add the rear Aluminum Table Rail to the two Table Legs
   If installing optional casters, put them on before this step.
2. Install the Rail Cross Tubes
3. Add the front Aluminum Table Rail to the two Table Legs
   If installing optional Quilt Path or a Hydraulic Lift, add those BEFORE installing the Table Top.
4. Install the optional Tabletop pads and bumpers, then add the optional Table Top
5. Assemble and mount the Carriage
6. Assemble and install the Sewing Head
7. Install the Pick-Up Roller and Leveler Bar
8. Bliss or Standard Table
9. Standard Table – install one Roller Brake
10. Install the Quilt Top and Quilt Backing Rollers
11. Add the Roller Brake to these two Rollers
12. Complete the electrical connections

Assembly Tools

Required Tools	Table Style		Optional Accessories		
	Bliss	Non-Bliss	Quilt Path	Hydraulic Lift	Pantograph Kit
1/2" Box & Open-End Wrench	x	x	x		
1/2" Socket Wrench (extension is helpful)	x	x	x		
3/4" Box & Open-End Wrench	x	x	x		
Long #2 Phillips Screwdriver	x	x	x	x	
Utility Knife	x	x			
Tape Measure	x	x			
Level	x	x			
Small Flate Blade Screwdriver	x	x			
Leg Wrench (included)	x	x			
9/64" Allen Wrench (included)	x	x			
Pliers or Crescent Wrench			x		
9/16" Box & Open-End Wrench		x		x	
7/16" Box & Open-End Wrench		x	x		
5/32" Allen Wrench (included)					
1/8" Allen Wrench (included)					
9/64" Allen Wrench (included w/Optional Pantograph kit)					x

Helpful but not required

Wire Cutter to cut zip ties
Power Screwdriver with #2 Bit



Assembly Tools (includes tools for optional accessories)

Shipping Box Content

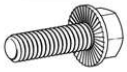
Box ID	Contents
1	(2) Aluminum Rails
2	(3) Fabric Rollers, (1) Leveler Bar
3	Optional Lexan Table Top
4	Carriage, Table Assembly Hardware, Cross Tubes, Optional Accessories (e.g. Auto Quilt Advance)
5	Table Leg
6	Table Leg
7	Sewing Head (Handles, Thread Stand, Power Cord, Optional Bliss Carriage Axle, Optional Accessories)
8, 9	(optional accessories not shown) – Hydraulic Lift and Quilt Path *(Quilt Path will be labeled as the highest number in the shipment. For example, if you do not order the Hydraulic Lift and you order the Quilt Path, "Box 8" will be your Quilt Path unit.*

IMPORTANT: Please keep the sewing head box ⑦ plus all foam inserts and all packing boxes/materials that were inside the head box. These are necessary to protect your machine for moving or to safely ship the head to your APQS Certified Technician or back to APQS for factory service.

All other packing boxes can be recycled or discarded.

Standard Table Step 1: Assemble the Rails & Legs

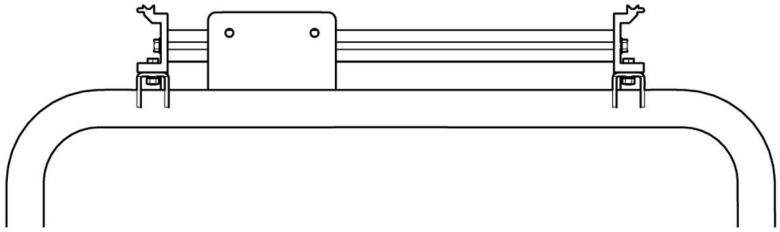
Tools Required:
- Utility Knife
- Wire Cutter or Scissors
- Phillips Screwdriver
- ½-inch Box-End Wrench
- ½-inch Socket Wrench
- 3/4-inch Box-End Wrench or Crescent Wrench

Parts Required				
Section	Item	Description	Image	Qty
Rails & Legs	B	5/16" x 1" Bolt		8
Rails & Legs	C	Lock Washer		8
Rails & Legs	D	5/16" Nut		8
Rails & Legs	K	5/16" x 1" Serrated Bolt		10
Rails & Legs	L	5/16" x 9/32" Spacer		10
Rails & Legs	A	Aluminum Rail		2
Rails & Legs	H-1	Table Leg (Standard)		2
Rails & Legs	H-2	Table Leg End Arm (Standard)		2
Rails & Legs	I	Cross Tube		5

Rails Box (Box 1)

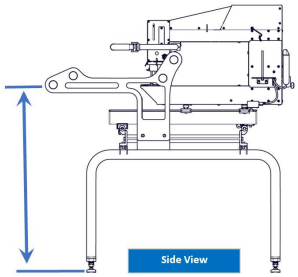
THE RAILS BOX DOES NOT NEED TO BE MOVED TO YOUR SEWING AREA IMMEDIATELY; it is a heavy box and can be opened before moving.

1. Remove two Phillips-head screws from each side of the top cover of box.
2. Using utility knife, cut packing tape on box.
3. Once open, cut zip ties from rails using wire cutters or scissors.
4. Locate all hardware. (Attached to rails under a zip tie, packed in plastic. Do not throw this away.)
5. MOVE rails to sewing area individually; be aware of sewing table orientation before moving the rollers and rails. Each roller is stamped for the use of each: “Backing,” “Pick-Up,” “Quilt Top.” The stamped portion of the roller will be installed to the right or needle side of the frame. The rails will be installed with the flat side of each rail facing each other.



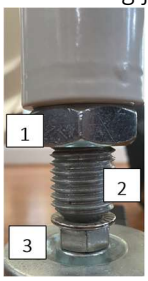
Leg Box (Boxes 5 & 6)

1. Tilt each box on its side to make it easier to pull each leg out of the box (opening box so "up" stamped on box is horizontal). Discard any packing sleeves on the base of each leg.
2. Adjust Leg Height
    a. Measure the distance between the front roller support to your naval or as your arm bends straight across your body. Each of the four leg adjusting rods should be moved to this height. Once the table is assembled completely, you can make minor adjustments if needed.



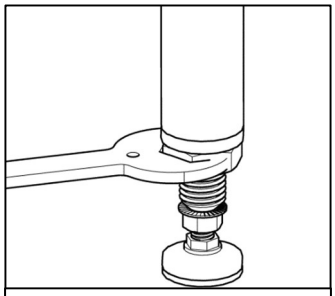
Measure from the floor to your naval as your arm crosses your mid-section across your body. This is the height your table legs should be set to on the first roller (Backing Roller).

b. Loosen the leg jam nut with the leg wrench; the leg wrench is included in shipping contents.

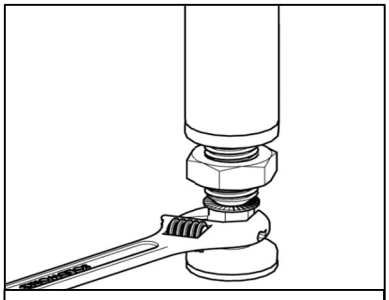


1. Leg Jam Nut
    a. Use the large black leg wrench that is included in your shipping boxes
2. Threaded Leg
3. ¾'' Nut

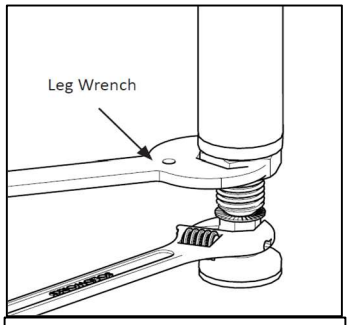
c. Once you have loosened the leg jam nut with the leg wrench, you can turn the threaded leg counterclockwise to extend the leg to the correct distance. Re-tighten the jam nut when you are at your desired height. Repeat the process for each leg.



3. To adjust the leg levelers, loosen the leg jam nut directly underneath the leg with the leg wrench.



4. Place a ¾'' open-end wrench (or crescent wrench) on the foot pad nut. Turn the nut clockwise to lower the leg; counterclockwise will raise the leg.



5. When the table is level in all directions, tighten the jam nut against the top of the leg with the leg wrench.

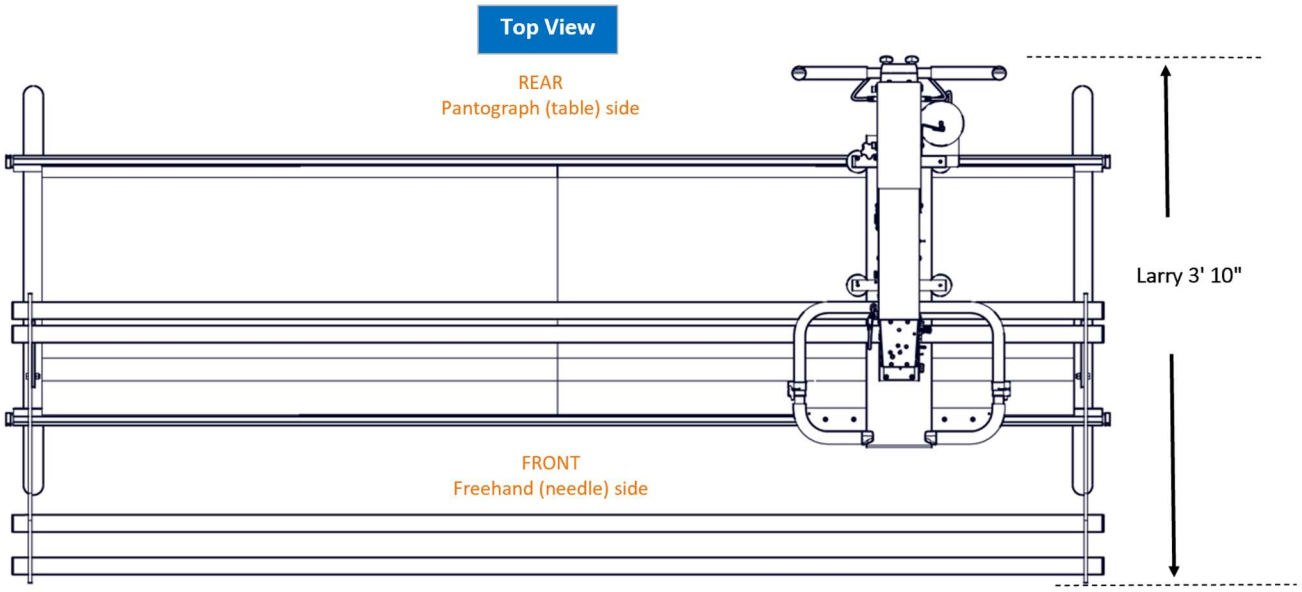
Standard Table – Step 2: Determine Table Orientation & Attach Legs to Rails

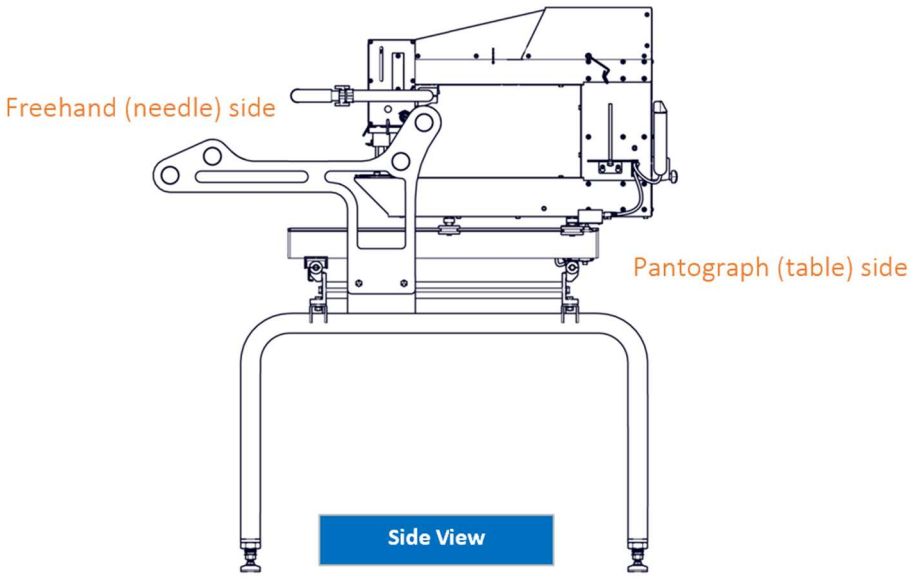
Table Orientation

The two standard table legs are identical. However, the table's orientation in your room will determine which becomes the "right" and "left" leg and which way the machine faces (as reviewed in "how will your table be oriented"). 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 Standard table footprint for Larry is 3'10" deep with the head pushed as far back as possible toward the rear (Pantograph side). Standard table lengths for Larry are 8', or 10' (12' can be purchased at an additional cost).

With the machine oriented as shown below, the left side 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.



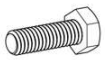

Freehand (needle) side
Pantograph (table) side
Side View

Attach Legs to Rails

Tools Required: ½ - inch Box-End Wrench
½ - inch Socket Wrench

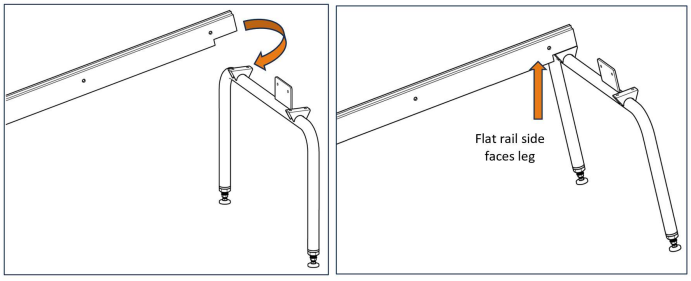
Parts Required: 2 Rails
2 Leg Ends

Hardware Required:

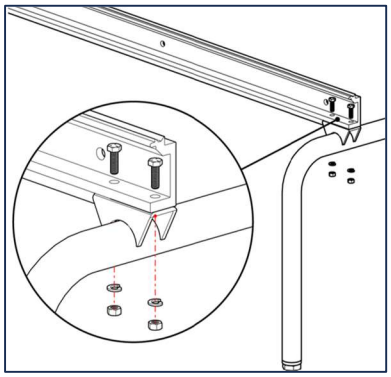
Parts Required				
Section	**Item**	**Description**	**Image**	**Qty**
Rails & Legs	B	5/16" x 1" Bolt		8
Rails & Legs	C	Lock Washer		8
Rails & Legs	D	5/16" Nut		8

Install the Rear Rail to the Table Legs

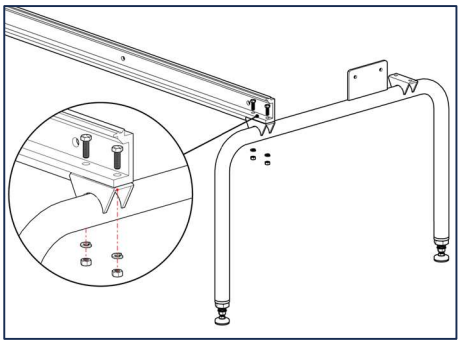
1. Images below show adding the rear rail to the right leg first, based on the orientation described above. However, you could start with the left leg if it is more convenient, but keep in mind the photo orientation.



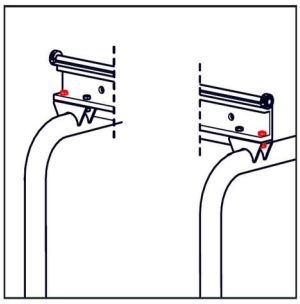
1. The flat rail side faces the leg's center. Lift the rail end on to the leg's rear mounting bracket. Tilt the leg toward the rail so that the rail is flush with the mounting bracket on the leg.



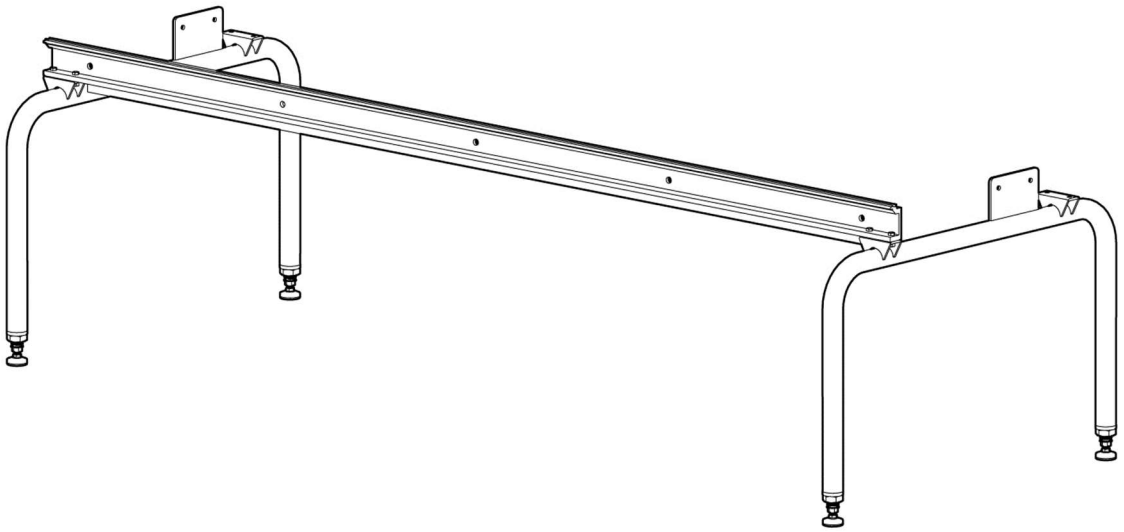
2. Insert two bolts (B) through the rail and leg mounting bracket. Add lock washers (C) and nut (D). HAND TIGHTEN FOR NOW.



3. Move to the opposite table leg and attach the rail to the other back leg using two of the bolts through the rail leg mounting bracket along with the lock washers and nuts.



4. Using a 1/2-inch socket wrench and a ½-inch open-end wrench, temporarily snug up the **outermost bolts** on each end of the rear rail. This will keep the rail and legs solid as you install the cross tubes in the next step.

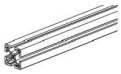
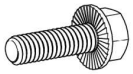


5. Table with rear rail installed.

Install the Cross Tubes

Tools Required: ½ - inch Open-End Wrench
½ - inch Socket Wrench

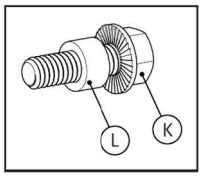
Cross Tube Box Contents:

Parts Required				
Section	**Item**	**Description**	**Image**	**Qty**
Cross Tube	I	Cross Tube		5
Cross Tube	K	5/16" x 1" Serrated Bolt		10
Cross Tube	L	5/16" x 9/32" Spacer		10

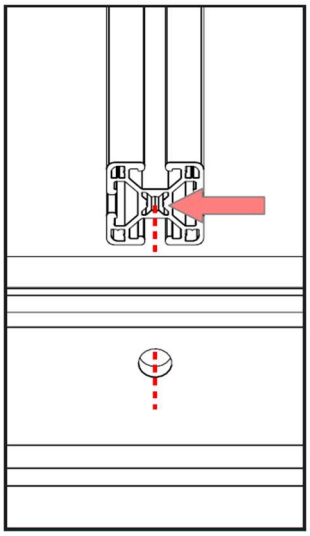
Open the Carriage Box 4 and unpack the Cross Tube Box and Hardware. You will need the cross tubes, serrated bolts and spacers for this step. You will only need 10 bolts and spacers – we have included an extra bolt and spacer. For the Optional Table Top, set the felt dots and bumpers aside for now.

NOTE: Ignore the labels on the cross tubes; our vendor uses that information to package the tubes for APQS.

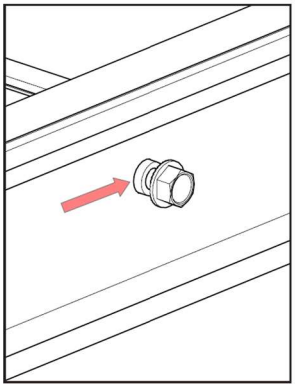
The 5 cross tubes keep the rails parallel and support the optional pantograph table top. Install the cross tubes to the rear table rail as shown in the next steps.



1. Slip one spacer (L) onto one serrated bolt (K).

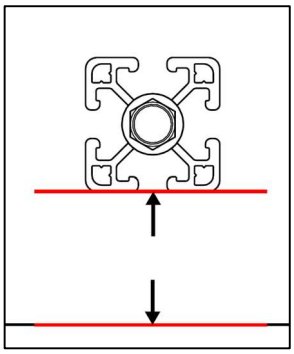


2. The cross tube has a threaded center hole. Align this with the rail mounting hole.



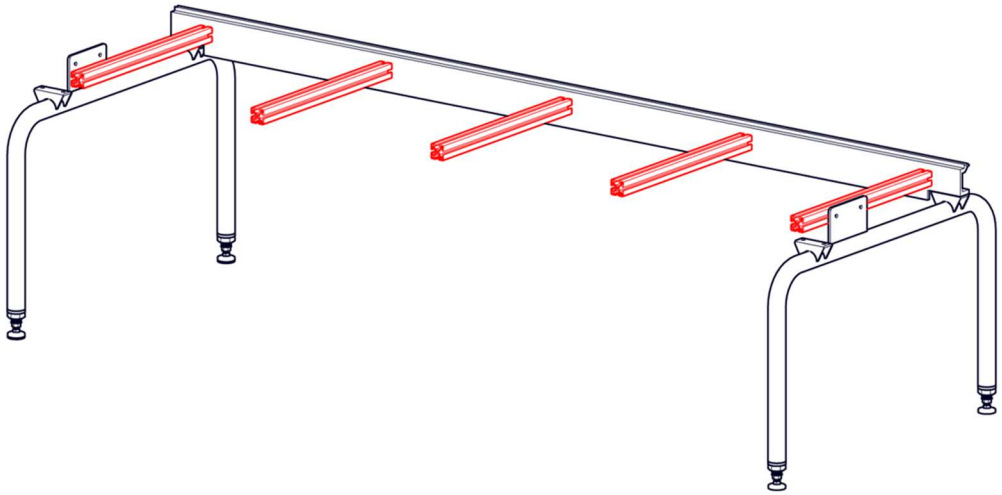
3. Hold the cross tube on the inside of the rail and start the bolt into the threaded mounting hole.

   After you start the bolt, slip the spacer into the rail hole.



4. Keep the cross tubes "square" or parallel with the top and bottom of the rail. Hold the cross tube in place as you HAND TIGHTEN the serrated bolt.

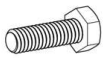
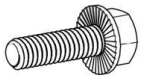
   After you start the bolt, slip the spacer into the rail hole.

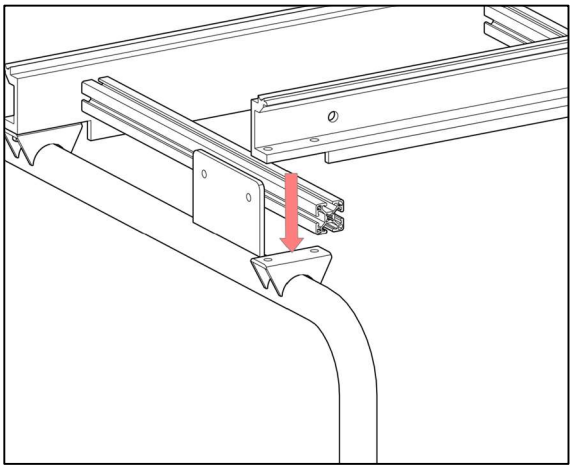


5. Repeat steps 1- 4 for the remaining cross tubes along the rear rail. Be sure that the spacers remain inside the rail holes as you hand tighten each serrated bolt.

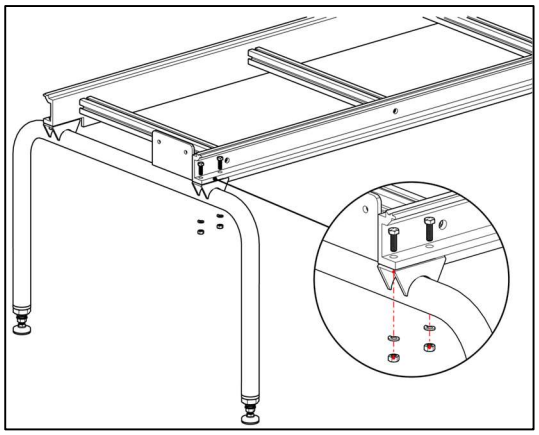
Install the Front Rail

Tools ½ - inch Open-End Wrench
½ - inch Socket Wrench

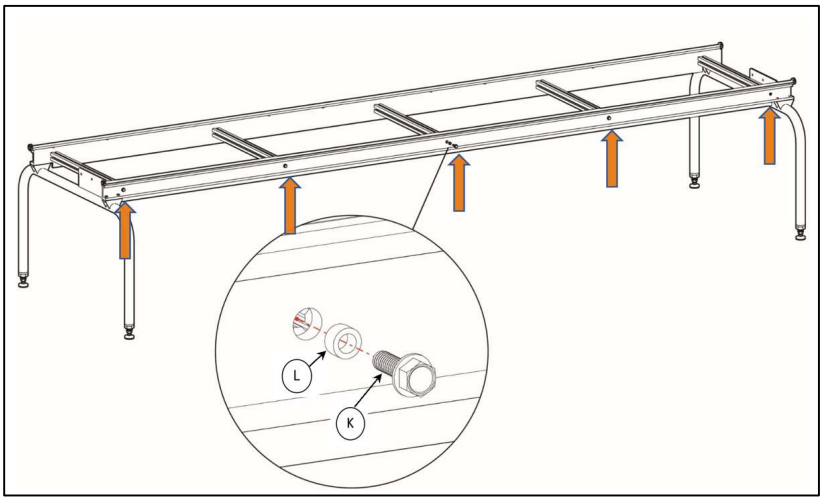
Parts Required				
Section	Item	Description	Image	Qty
Front Rail	A	Aluminum Rail		1
Front Rail	B	5/16" x 1" Bolt		4
Front Rail	C	Lock Washer		4
Front Rail	D	5/16" Nut		4
Front Rail	K	5/16" x 1" Serrated Bolt		5
Front Rail	L	5/16" x 9/32" Spacer		5



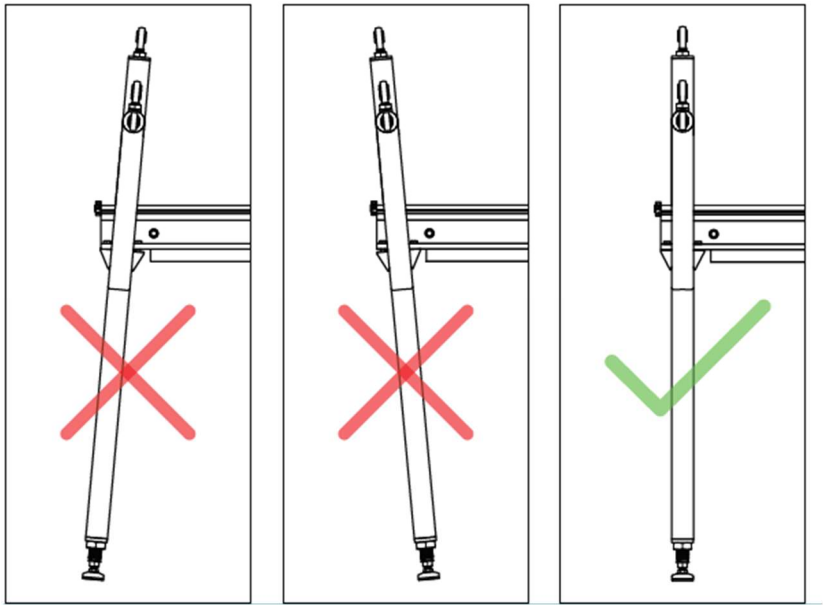
1. Lift the front rail in place with the flat side toward the cross tubes. Slide one end into one leg opening; center rail between both legs.



2. Align the rail mounting holes with each leg bracket. Move the leg slightly left or right if necessary. Slip a 5/16'' x 1'' bolt (B) into the mounting holes on both rail ends. Add the lock washer (C) and nut (D) to each rail mounting bolt, HAND TIGHTEN ONLY at this point.



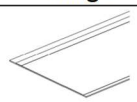
1. Slip a 5/16'' x 9/32'' spacer (L) on a 5/16'' x 1'' serrated bolt (K). Insert the bolt and spacer through the front rail and into the center cross tube. Push the rail toward the cross tube if necessary.
2. Screw the bolt into the cross tube just far enough to keep the spacer in place.
3. Insert the 4 remaining spacers and serrated bolts through the rail and into the corresponding cross tubes. Double-check that each cross tube is square with the rail.
4. Use a ½'' open-end wrench to tighten the 5 serrated bolts for both the front and rear rails.



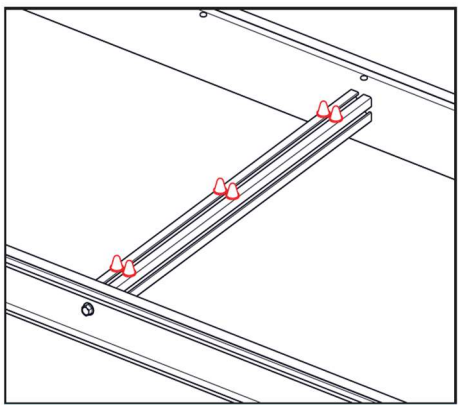
5. Check that the table legs are straight vertically.

Standard Table – Step 3: Install the *Optional* Table Top

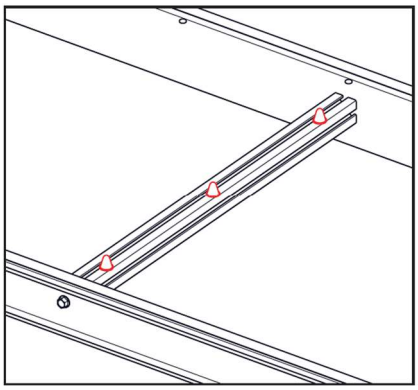
NOTE: If you are installing Quilt Path computerized system or Hydraulic Lift, go to those manuals before going forward.

Parts Required				
Section	**Item**	**Description**	**Image**	**Qty**
Table Top	G	Table Top (Box 3)		2 sections
Table Top	O	Table Top Bumpers		18
Table Top	P	Felt Dots		26

Peel the paper backing off the table top bumpers (O). Press firmly into position as instructed in the next steps.

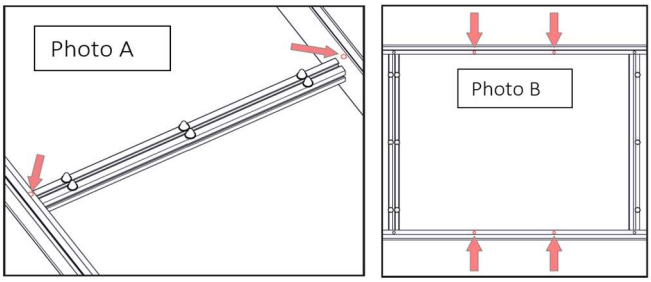


1. Position 6 bumpers on the center cross tube straddling the cross tube's center channel. The table top sections will meet at the center cross tube.

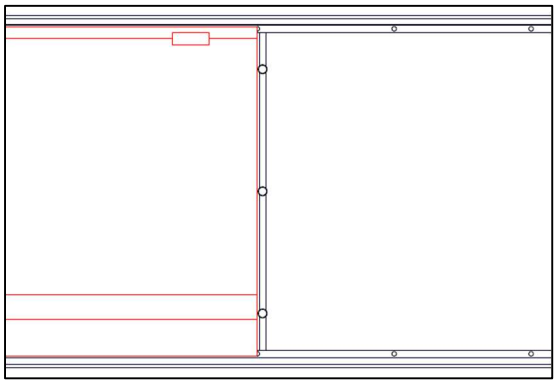


2. Stick 3 bumpers on each of the 4 remaining cross tubes. Put them on one side of the cross tube's center channel or the other. Press into place.

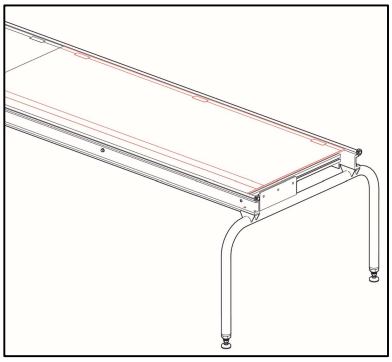
Position the Table Top



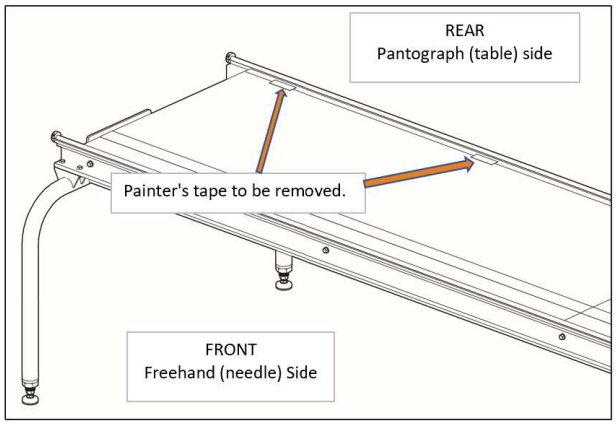
1. Place an adhesive felt dot on top of the rail directly in line with each cross tube (Photo A). Place two more felt dots on each rail equally spaced between the dots that are in line with the cross tubes (Photo B).



2. Carefully open Box 3 and remove the table top sections.
3. Place one table top section on the table, taking care to place the center sections over one set of bumpers on the center cross tube.



4. Place the painter's tape side of the plastic pantograph cover facing the rear (pantograph) side of the table.
5. Make sure the sections meet in the center with each half supported on the center cross tube bumpers.



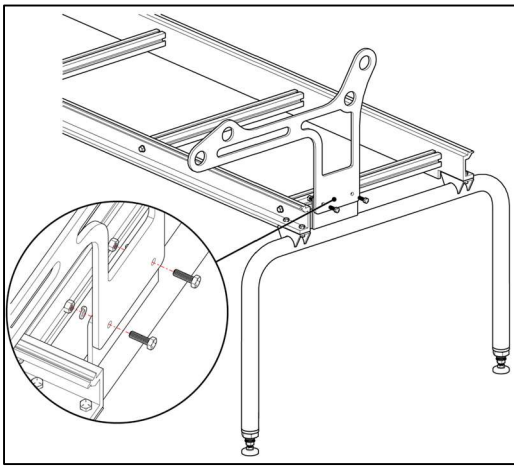
5. Remove the painter's tape from the plastic pantograph cover. (Paper patterns will be placed under the plastic cover when quilting from the pantograph side of the frame.)

Standard Table – Step 4: Install the Roller End Arms

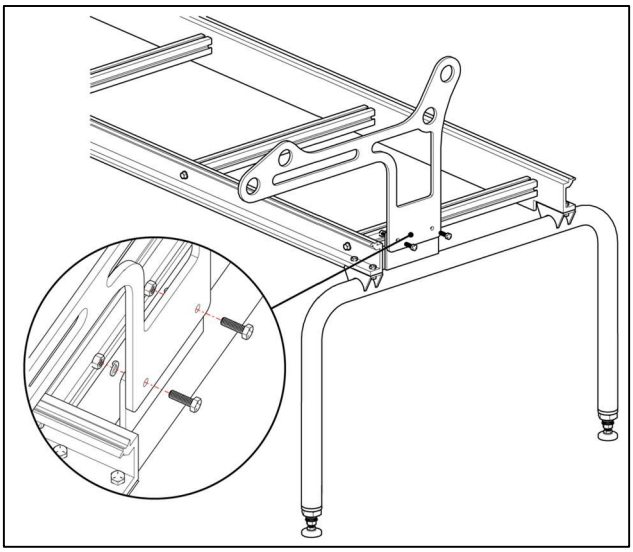
Tools Required: ½ - inch Open-End Wrench
or Crescent Wrench
½ - inch Socket Wrench

The end arm's long nose will point toward the needle end of the quilting machine.

Parts Required				
Section	Item	Description	Image	Qty
Roller End Arms - Standard	B	5/16" x 1" Bolt		4
Roller End Arms - Standard	C	Lock Washer		4
Roller End Arms - Standard	D	5/16" Nut		4
Roller End Arms - Standard	H-2	Table Leg End Arm (Standard)		2



1. Note the placement of the End Arm Mounting Holes.



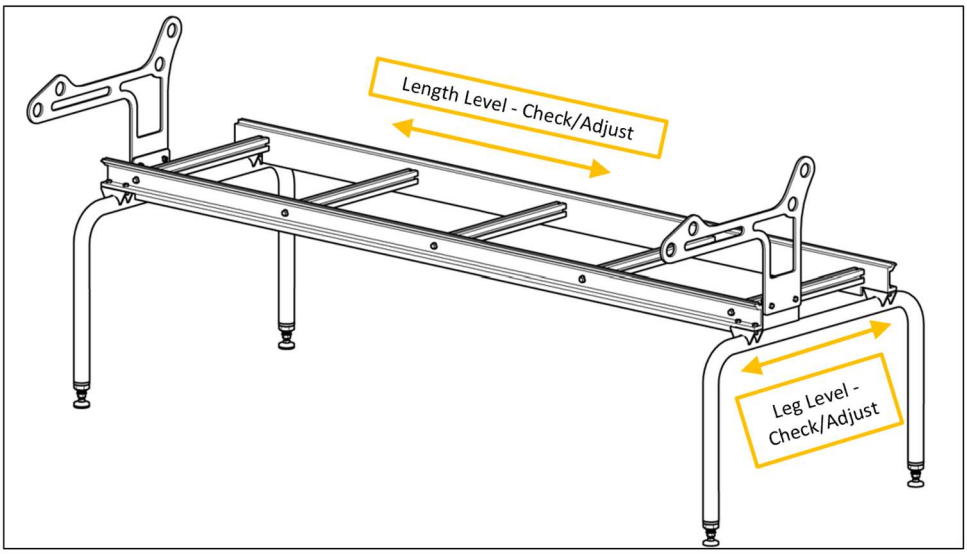
2. Above is shown above, install the bolt, washer and nut.

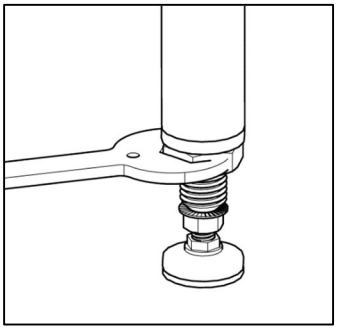
Step 5: Level the Table

Tools Required: Leg Wrench
¾-inch Open-End Wrench or Crescent Wrench
Long Level

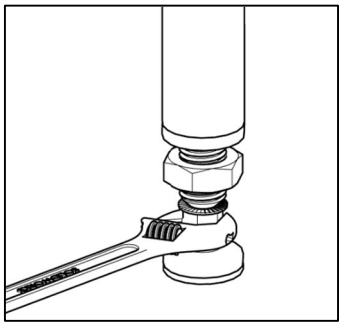
For optimum movement, the table should be level both left-to-right and front-to-back. *(Bliss Table Owners—see the special note at the end of this section.)* You can adjust each leg independently to get the table as close to level as possible. While this section describes the leveling process, you can also use it to adjust the table's working height. The leg extensions allow 9 inches of upward adjustment.

1. Move the table close to its final location.
2. Place a level across the two rails near the end of the table (parallel to the leg). Adjust legs as described below.

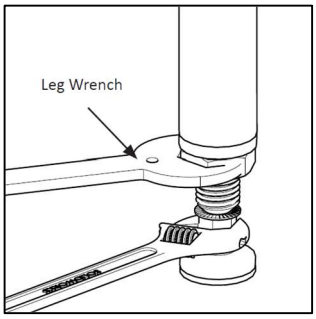




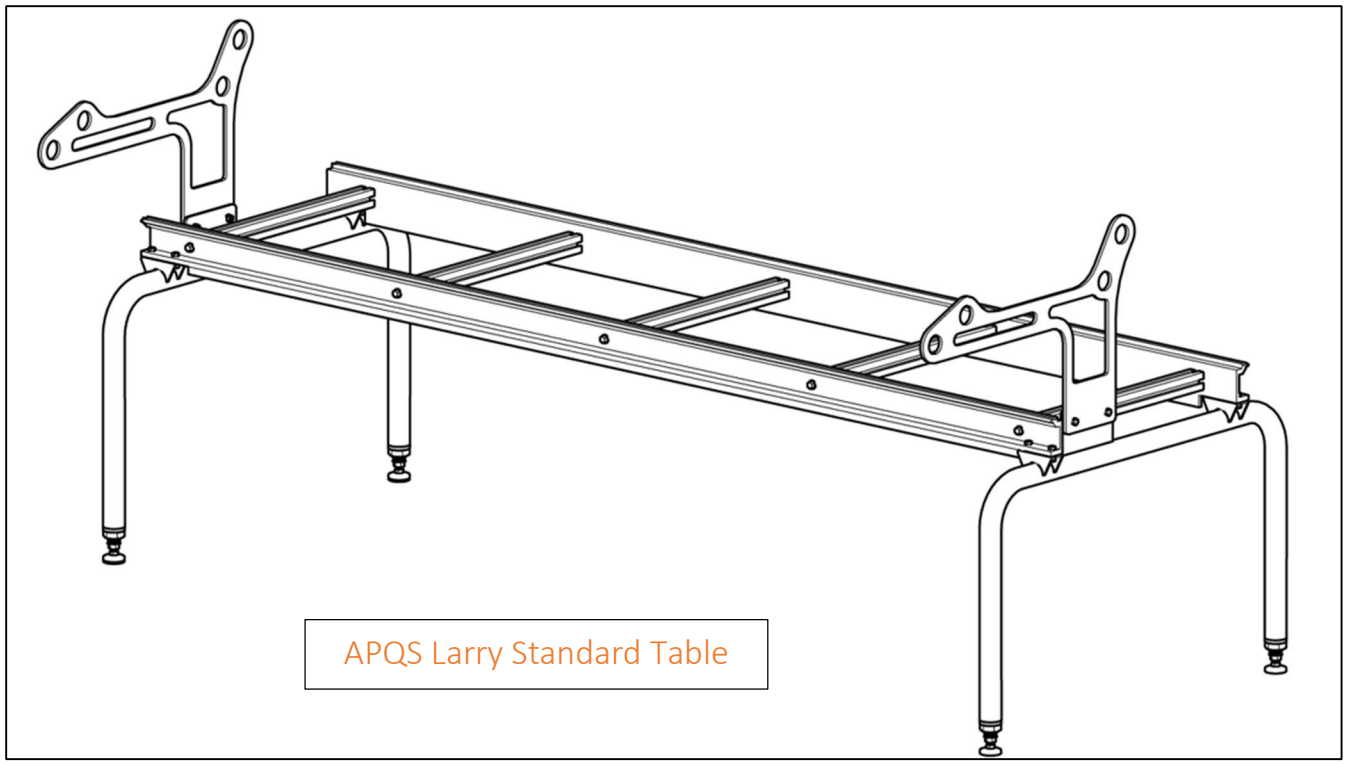
1. To adjust the leg levelers, loosen the leg jam nut directly underneath the leg with the leg wrench.



2. Place a ¾ - inch open-end wrench (or crescent wrench) on the foot pad nut. Turn the nut clockwise to lower the leg; counterclockwise will raise the leg.



3. When the table is level in all directions, tighten the jam nut against the top of the leg with the leg wrench.



APQS Larry Standard Table

BLISS TABLE NOTE:

On Bliss tables, the machine carriage is extremely sensitive. Even the gentle tug of the power cord dragging on the floor can make the machine drift. A small amount of drift is normal. However, if your machine is moving more than a few inches, you'll need to actually "un-level" the table slightly to prevent it. *Make the adjustments described below after your system is fully assembled.*

Since the Bliss carriage rides on *top* of the rails, you will not notice the difference as you quilt. In this case, the goal is to put a slight "twist" in the table so that the carriage cannot coast on its own. Try slightly raising or lowering just ONE leg on one end of the table to stop the drift. If necessary, move to the opposite leg and adjust the individual legs until the machine holds its position as consistently as possible.

YES, I have a Bliss Carriage – Install the carriage following the instructions in Step 6 (a) on the next page.

NO, I do not have a Bliss Carriage – Follow the instructions in Step 6 (b) on page 27 to install the carriage.

Step 6 (a): Install the Carriage (Bliss Track)

Tools Required: 3/16'' Allen Wrench
Pliers

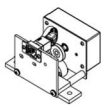
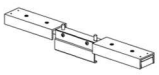
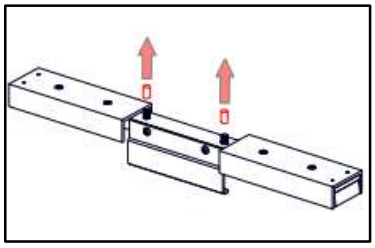
Parts Required				
Section	Item	Description	Image	Qty
Bliss Track Carriage	AA	Bliss Rear Carriage Axle*		1
Bliss Track Carriage	BB	Bliss Front Carriage Axle		1
Bliss Track Carriage	J	Carriage		1

Image C

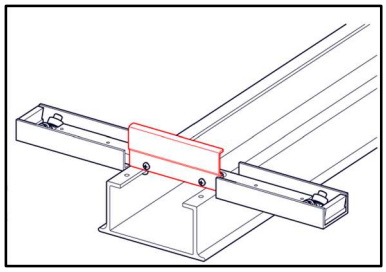
Install the Bliss Carriage Axles

To protect your table top and carriage, you can leave the carriage inside the foam packaging until you have installed the axles.

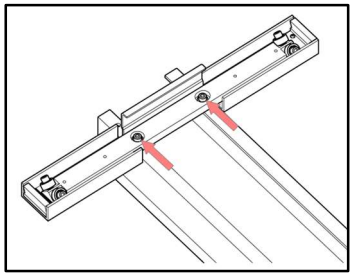
Note: The needle side of the carriage has two sets of axle mounting holes. Install the Bliss front axle in the second "inner" set of holes as indicated in the image above (Image C).



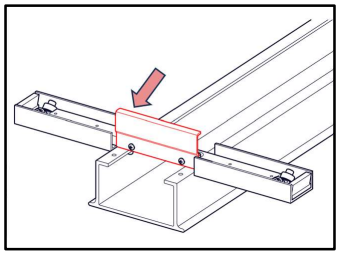
1. Remove the rubber packing sleeves from the axle bolts.



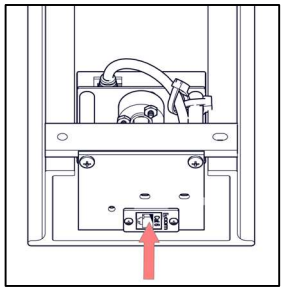
2. At the rear of the carriage, locate the two “inner” set of holes and start bolts by hand.



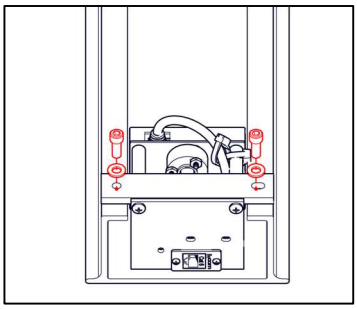
3. Tighten the mounting screws securely with a 3/16" Allen wrench.



4. Double check that the “rail guard” on the axle faces the carriage front.



5. Place the Bliss rear carriage axle over the rear mounting holes. Make sure the jack faces the rear of the carriage.



6. Tighten the mounting screws securely with a 3/16’’ Allen wrench.

Step 6 (b): Install the Carriage (Non-Bliss Track)

Tools Required: 7/16'' Open-End Wrench
9/16'' Open-End Wrench
Pliers

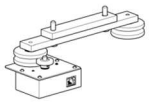
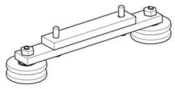
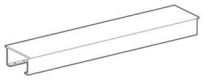
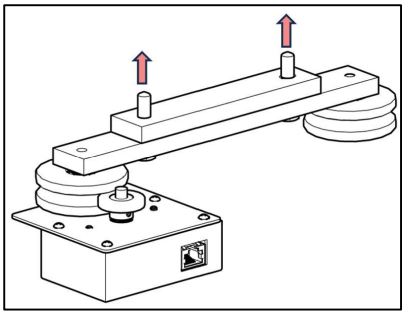
Parts Required				
Section	Item	Description	Image	Qty
Non-Bliss Track Carriage	CC	Rear Carriage Axle (Non-Bliss)		1
Non-Bliss Track Carriage	DD	Front Carriage Axle (Non-Bliss)		1
Non-Bliss Track Carriage	J	Carriage		1

Image D

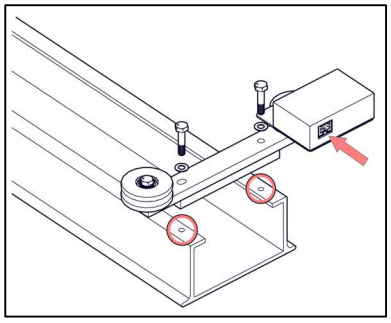
The Non-Bliss Carriage Axles are packed in a box inside of the head box. Carefully remove the hardware box that is placed next to the sewing head to access the carriage axles.

To protect your table top and carriage, you can leave the carriage inside the foam packaging until you have installed the axles.

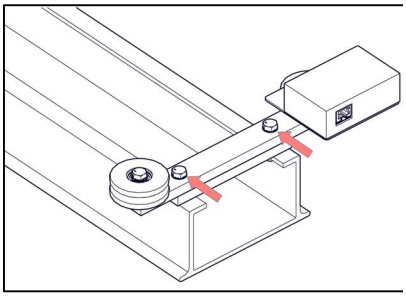
Orient the rear axle using the photos below.



1. Remove the rubber packing sleeves from the axle bolts.



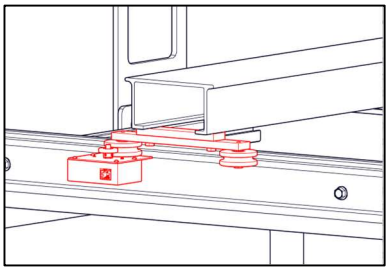
2. Locate the two holes at the rear of the carriage.



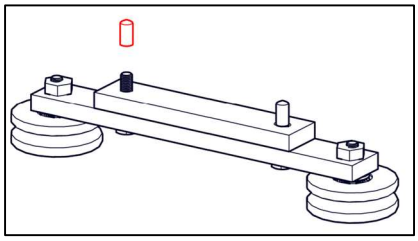
3. Tighten the mounting screws securely with a 7/16'' Allen wrench.

Install the Carriage and Front Carriage Axle

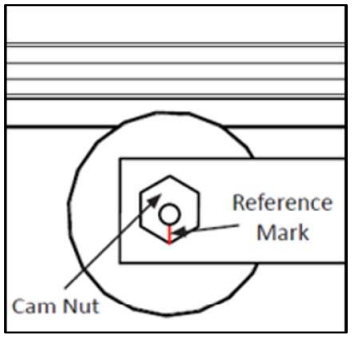
An extra set of hands is very helpful for this step. Align the rear axle wheels to the rear rail lip as showin in Step 1. Be sure the rail stays in the wheel grooves as you install the front axle. Have a helper ready to hold the rear axle in place while you install the front axle as directed below.



1. Place the carriage on the table in the correct orientation. Align the rear axle wheels to the rear rail lip.

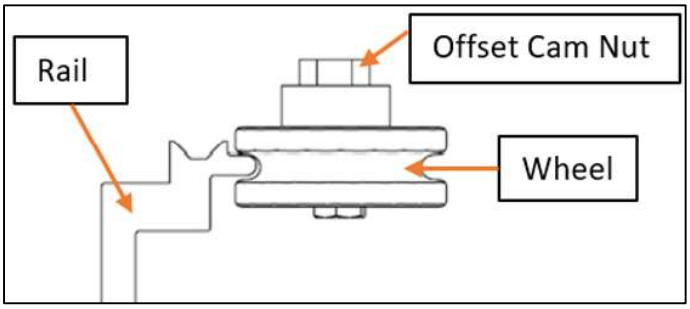


2. Remove the rubber packing sleeve and tape from just one axle bolt.



NOTE: For axle installation, the cam reference marks should point directly away from the rails to their loosest setting.

Front Axle Installation

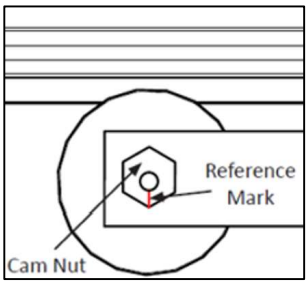


1. The front wheel grooves fit over the front rail lip as shown above. These front wheels are adjustable for a custom table fit and feel. The “offset cam nut” holds each wheel to the axle.

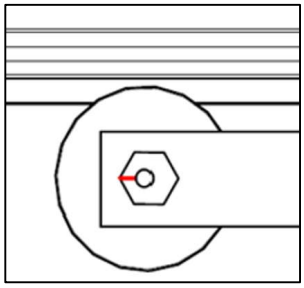
Rotating the cam nut makes the wheel move closer or farther away from the rail. Note the reference mark on the cam nut shown below.

When the reference mark points directly away from the table rail, the wheels are as loose as possible (Step 2). As you turn the cam nut and move the reference mark closer to the rail, the wheel gets tighter. When the mark points directly at the rail, the wheel is as tight as possible (Step 4).

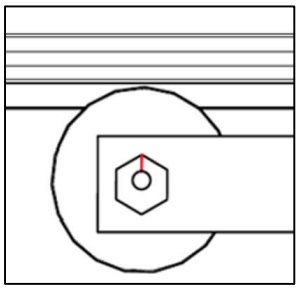
NOTE: Always set the left and right wheel cams to the same position.



2. Wheel is as loose as possible.



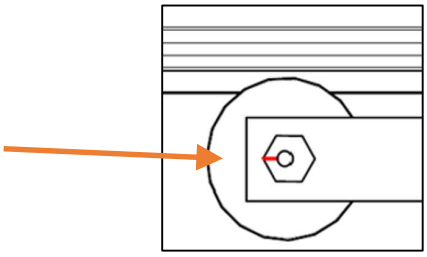
3. Wheel is set to medium grip on the rail.



4. Wheel is as tight as possible.

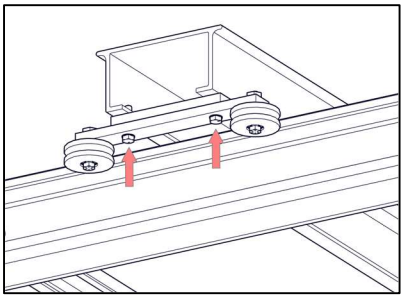
Adjust the Front Axle Cam Nuts

Once the front axle mounting bolts are tight, use a 9/16’’box or open-end wrench to adjust both the left and right cam nuts so the reference marks are set at the “medium grip” setting as shown in Step 3 in the previous section (not as loose as possible nor as tight as possible).



If the cam nut is too difficult to turn, use a 7/16’’ wrench to loosen the bolt’s head (underneath the wheel). Turn the cam nut to the medium grip setting and hold it in place with a 9/16’’ wrench while you tighten the bolt head with the 7/16’’ wrench.

Once you have installed the machine head on the carriage, you can fine-tune the carriage movement by adjusting these cams slightly tighter or looser. The cam reference marks should point the same way for each cam.

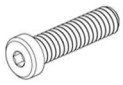
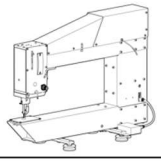
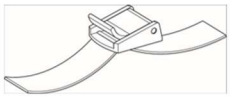
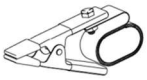


Tighten the axle mounting bolts with a 7/16’’ wrench.

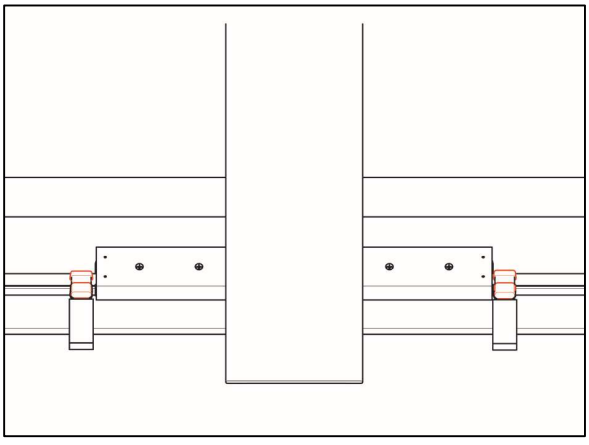
Make sure that the bottom bolt is tight after adjusting the cams.

Step 7: Install the Sewing Head

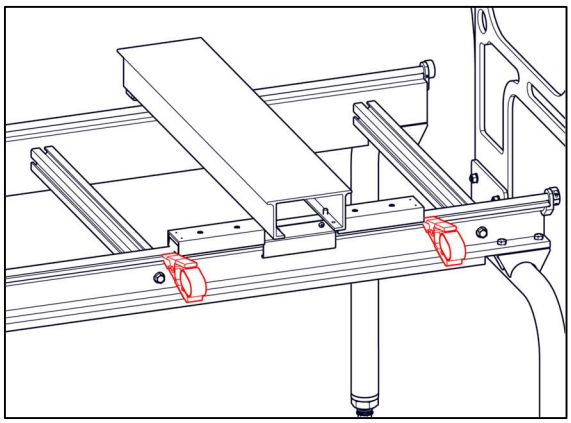
Tools Required: Phillips Screwdriver

Parts Required				
Section	**Item**	**Description**	**Image**	**Qty**
Sewing Head	GG	¼-20 x 1" screw		1
Sewing Head	Y	Sewing Head		1
Fabric Clamps	JJ	Hook & Loop Fastener		4
Clamps & Sewing Head	W	Pony Clamps w/Elastic		4

Secure Carriage on Table



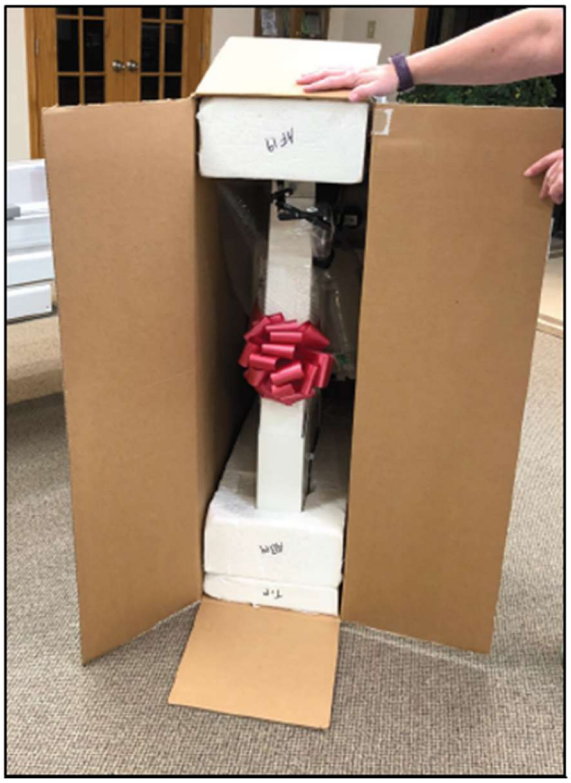
Use the Pony Clamps (W) to secure your sewing head to the table rail.



Use a Pony Clamp for each side of the carriage's front axle to keep the sewing head from rolling as you mount the sewing head onto the carriage.

Unpacking the Sewing Head Box

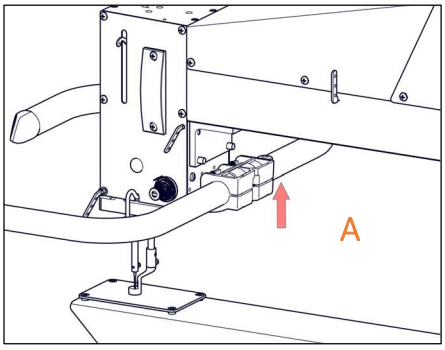
1. Carefully open the sewing head box. The head box includes custom foam inserts to protect the machine during shipping. Sometimes the box's handle holds get stuck in the foam molds, making it difficult to remove the head from the box. If this happens, just slide a flat head screwdriver between the foam insert and the box's side to force the cardboard flap out of the foam insert.
2. Remove all accessories and supplies from the head box.

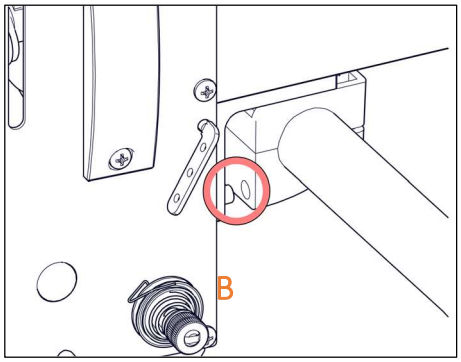


3. Tip the box so that the machine's back side rests on the floor. Pull the machine carefully out of the box leaving the machine head to sit in the foam that is on the back side of the machine.

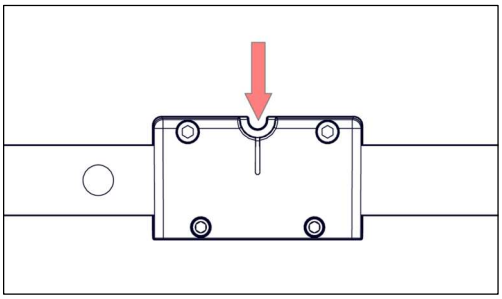
Keep the sewing head box and packing material for any future factory or service needs.

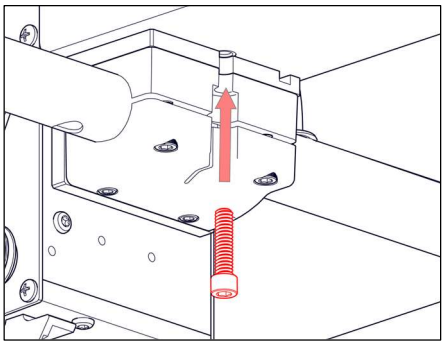
Install the Front Handles



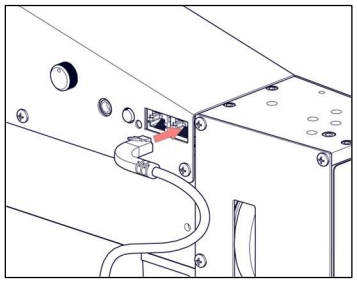


1. Locate the front handles inside of the sewing head box.
2. Carefully remove any packing foam and plastic from the handles.
3. Remove the foam from the front of the machine (top side as machine comes out of box).
4. Place the handle (FF) behind the crank housing as shown above in Image A.
5. There are two holes on the mounting face of the clamps. Position these over the matching studs on the brace. Slide into place as shown in Image B.



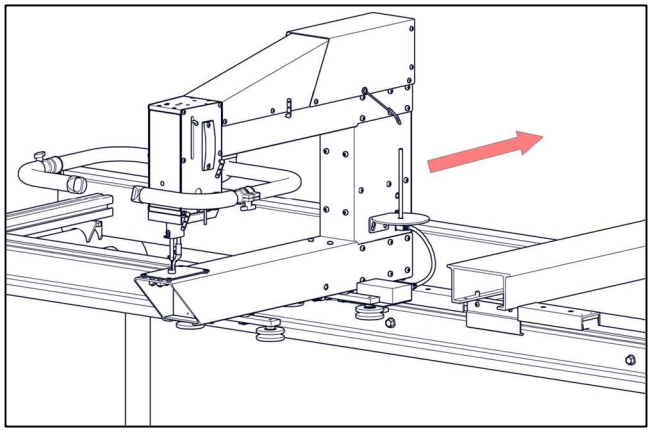


6. The cutout in the handle clamp lines up with the threads on the underside of the top tube. Screw the ¼-20 bolt into the threads and tighten with a 1/8’’Allen wrench.
7. You can adjust the handles to a more comfortable level by loosening the two rear bolts with a 5/32” Allen wrench, making the adjustment then re-tightening the two rear bolts to hold the handles in a fixed position.

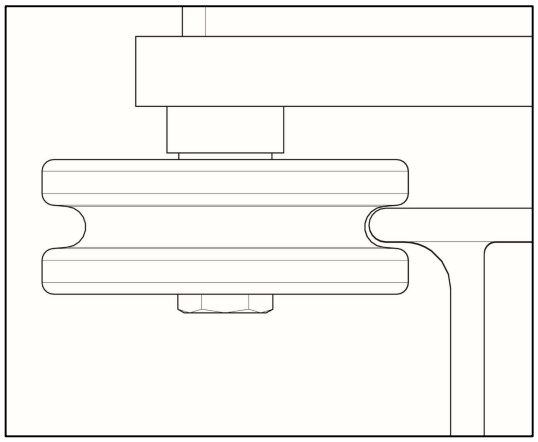


8. Plug the cable into the jack on the left side of the top cover (front jack as shown above).

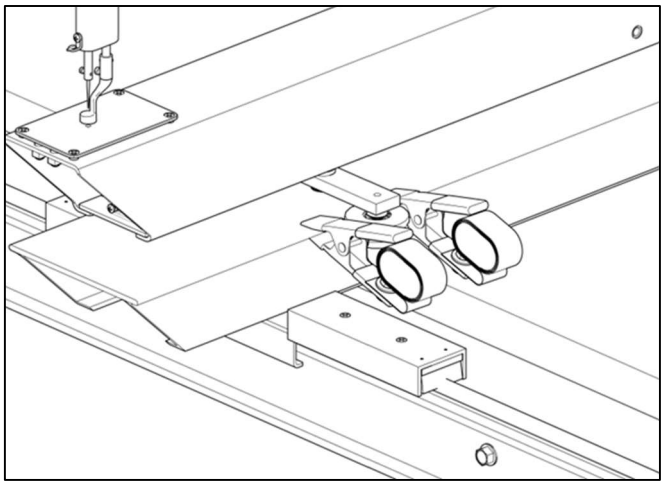
Place the Quilting Head on the Carriage



1. From either the front or back of your table, lift the quilting head and guide the axle wheels onto the carriage.



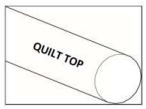
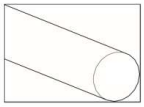
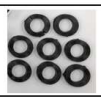
2. Be sure to keep the sewing head level as you align the wheels with the carriage.



3. To keep the head from rolling off the carriage, use the clamps by placing one clamp on each side of the sewing head's front axle wheel as shown above.

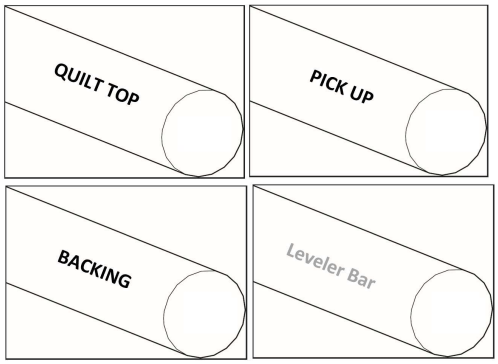
Standard Table – Step 8: Install the Rollers

Tools Required: 5/32'' Allen® Wrench
Phillips Screwdriver
Utility Knife

Parts Required				
Section	**Item**	**Description**	**Image**	**Qty**
Rollers	Y	Fabric Rollers (each is stamped Backing, Pick Up and Quilt Top)		3
Rollers	FF	Leveler Bar (no canvas)		1
Rollers		Split Roller Collars		8

Unpacking Box 2 – Roller Tubes

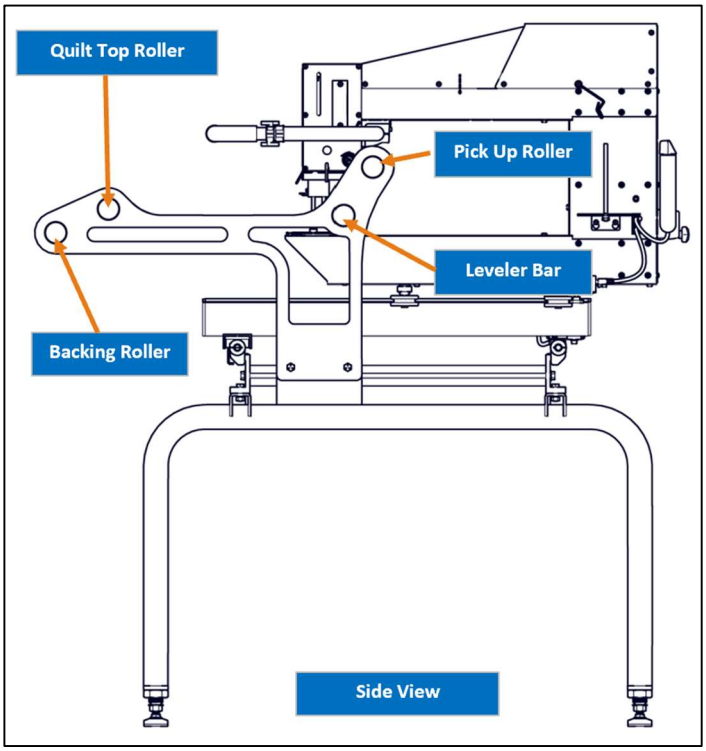
1. Open Box 2 as you did the Rail Box (Box 1), removing two screws from each end and cutting the strapping tape. Locate the roller labeled "Pick-Up" (Each of the fabric rollers have stamped labels of "Pick-Up," "Backing" and "Quilt Top." The Leveler Bar has no canvas attached and is not labeled.)



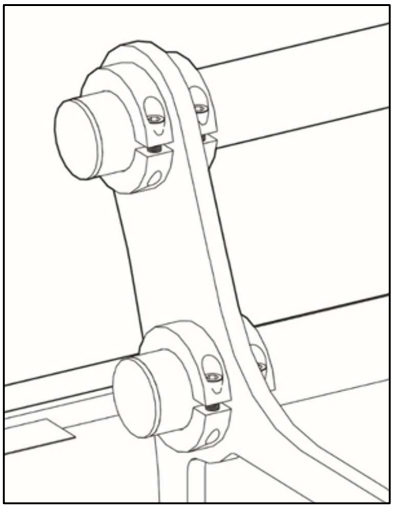
The labeled end of the three rollers will fit into the RIGHT table leg (when viewed from the needle side of the machine). Sample shown above.

Loosen the screws on each of the Split Roller Collars using a 5/32'' Allen Wrench.

2. Rollers will be placed in the following positions of the table legs.

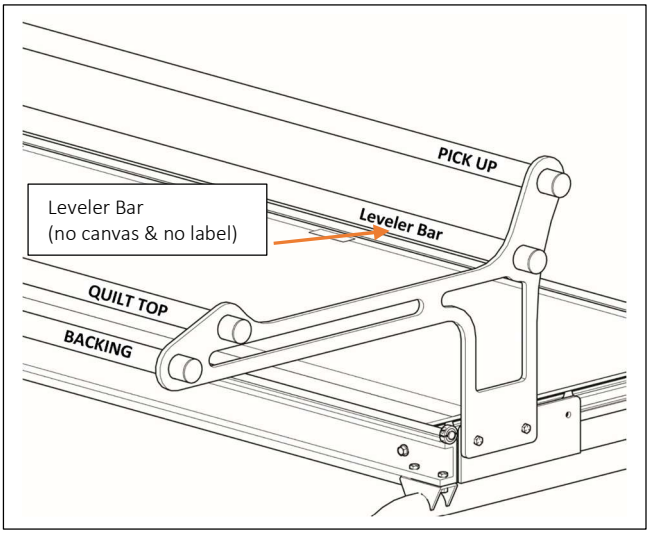


3. The labeled end of each roller mounts to the right table leg (the Leveler Bar does not have a specific direction for installing). Place all of the Split Roller Collars near the LEFT side of the table (these are only installed on each roller on the left side of the table).
4. With the machine head on the left side of the table, insert the Pick-Up Roller's non-labeled side into the machine's throat and rest the roller on the machine's throat if necessary while you begin to install the shaft end. Move the machine head toward the left table leg.
5. Slide one Split Roller Collar onto the roller's LEFT end.
6. Move to the right side of your table and insert the Pick-Up Roller's labeled end into the uppermost hole on the End Arm.
7. "Center" the rollers between the two end arms, allowing about the same amount to extend past each arm.
8. Slide a Split Roller Collar onto the roller's end. Leave a small amount of space between one collar and the end arm as shown to the right to leave room for the roller to rotate without binding.
9. Tighten the 4 Collar Screws with a 5/32'' Allen Wrench.



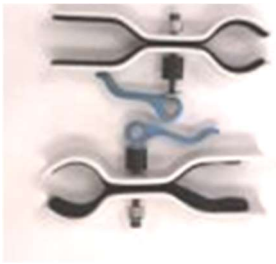
Install the Leveler Bar

1. As you did with the Pick-Up Roller, with the machine head on the left side of the table, insert the Leveler Bar (roller with no canvas) into the machine's throat (left side of the table) and rest the roller on the machine's throat if necessary while you begin to install the shaft end.
2. Add the Split Roller Collar to the left side of the Leveler Bar as you did with the Pick-Up Roller.
3. Move to the right side of your table and insert the Leveler Bar into the End Arm (Note: Lucey End Arm setup is shown below.)
4. Repeat these steps to install the remaining rollers.



Standard Table – Step 9: Install the Roller Hardware

Tools Required: 3/16'' Allen Wrench
5/32'' Allen Wrench

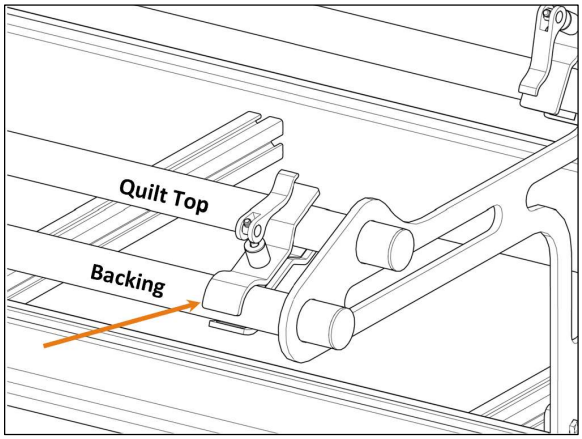


Parts Required: 2 Roller Brakes

Install the Quilt Top Backing Brake

1. Hold the blue handle; turn the brake bolt counterclockwise to loosen it using a 3/16'' Allen wrench.

2. Loosen the brake bolt enough to slip the brake over the Quilt Top and Quilt Backing Rollers.



3. Place the curved end of the two brake plates over the Quilt Backing Roller as shown above.

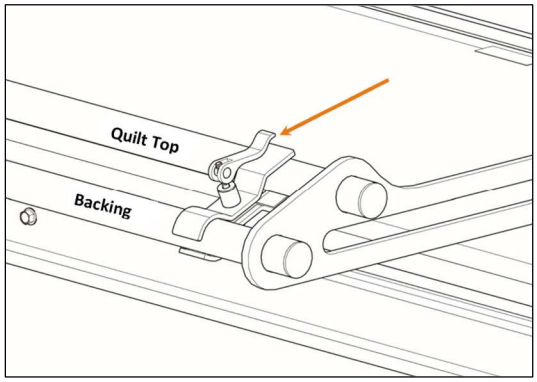
Adjusting the Brake

1. Insert a 3/16’’ Allen wrench into the long bolt under the brake.
2. Hold the screw steady with the Allen wrench.
3. Lift the blue handle from its locked position, then rotate the handle clockwise to tighten the brake or counterclockwise to loosen the brake.
4. Test the brake pressure by engaging the handle; repeat the process if more pressure is needed. The handle is engaged when its tip points down toward the brake.

Roller Brake Operation

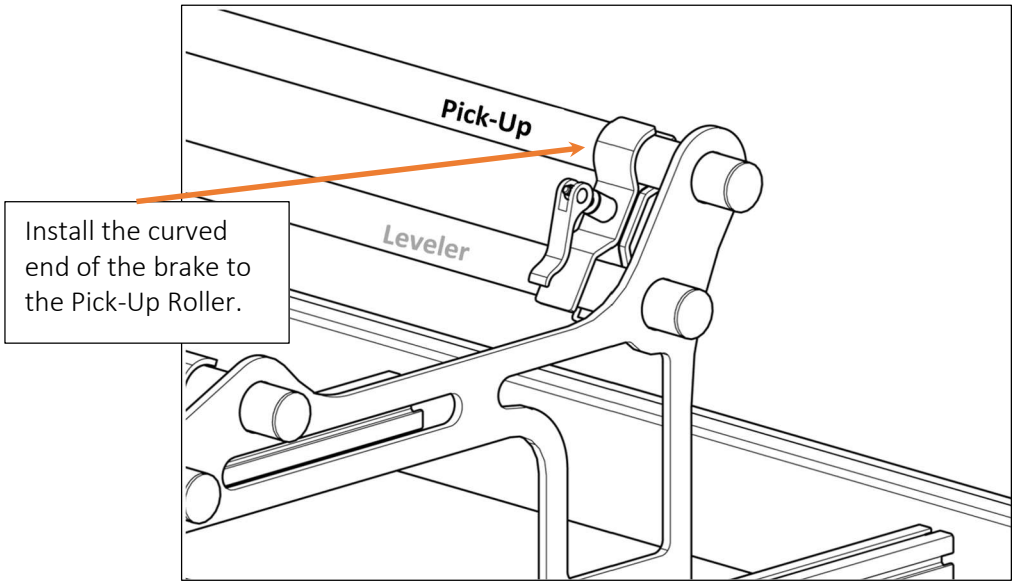
Blue handle outward rounded (convex) side engages the brake.

The blue handle can swing around 360 degrees; therefore, your brake can be locked with the handle pointing toward the top part of the brake OR the bottom part.

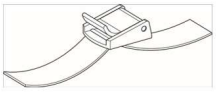


Install the Pick-Up/Leveler Bar Brake

Follow the same process to install the second brake to the Leveler Bar and Pick-Up Roller.



Install the Fabric Clamps

Parts Required				
Section	**Item**	**Description**	**Image**	**Qty**
Fabric Clamps	II	Clamps with Elastic		4
Fabric Clamps	JJ	Velcro Straps		4

1. Attach each Velcro strap with buckle (JJ) to the loop tape that is pre-installed on each leg.

2. The buckle should be on the outside of the leg; the lever should open “up.”

3. Unroll clamp with elastic (II). Hold the clamp so the side with the elastic attached is facing the floor.

4. Raise the buckle lever and slide the elastic end into it as shown above.

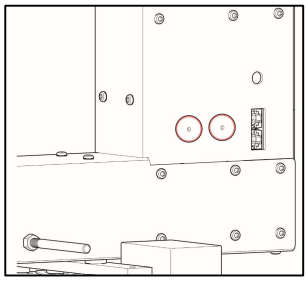
5. Pull the elastic through to the desired length for your quilt.

6. Push the lever down to hold the elastic in position.

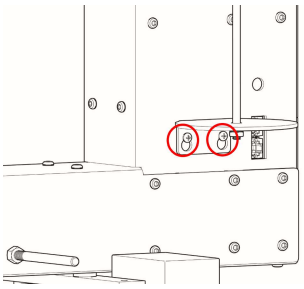
Step 10: Install the Thread Stand & *Optional* Laser Light Bolt

Thread Stand
Tools Required: Phillips Screwdriver

Parts Required				
Section	**Item**	**Description**	**Image**	**Qty**
Thread Stand	KK	Thread Stand		1
Thread Stand	LL	Foam Disc		1
Laser Bolt	MM	Laser Bolt		1



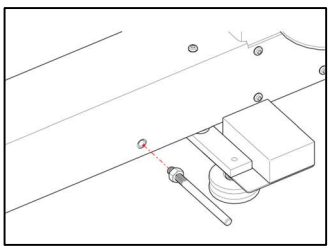
1. The thread stand mounts on the thread path side of the machine. Loosen these two mounting screws.



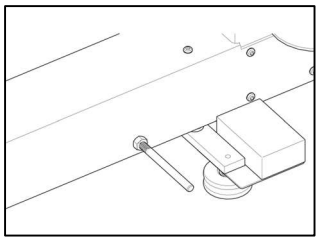
2. Slip the thread stand over the mounting screws; slide the stand down so the screw slots engage, tighten securely.

3. Place the thread stand foam disc on the thread stand.

Optional Laser Light Bolt
Tools Required: ½'' Open-End Wrench



1. Thread the laser light bolt into the mounting hole on the thread path side of the machine.



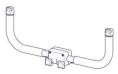
2. Tighten the nut against the machine with a ½'' open-end wrench.

Step 11: Install *Optional* Rear Handles

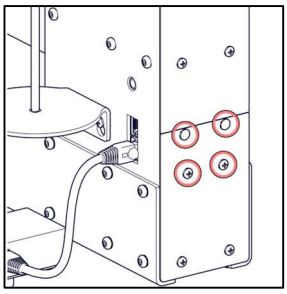
Tools Required:

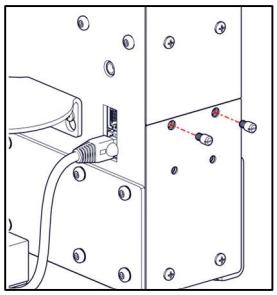
9/64'' Allen Wrench

Flathead Screwdriver

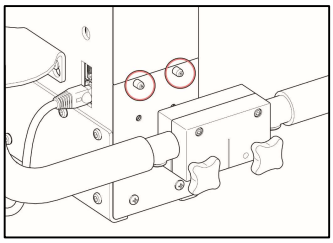
Parts Required				
Section	Item	Description	Image	Qty
Rear Handles	NN	Larry Rear Handles		1
Rear Handles	OO	Larry Handle Pin		2

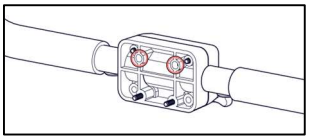
Larry Rear Handles



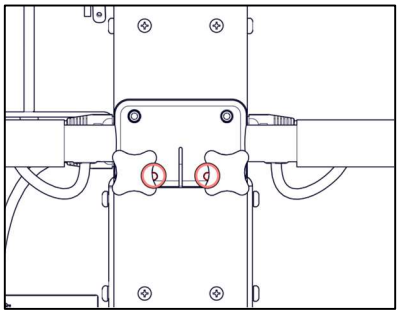


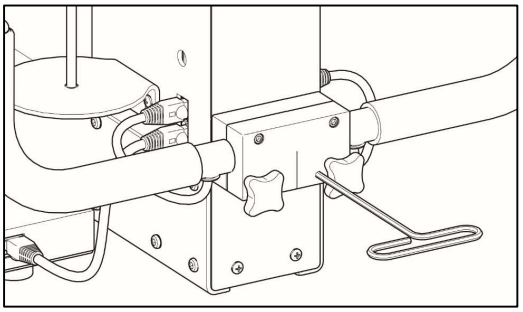
1. There are two plugs and two 8-32 screws that need removed before installing the rear handle pins (using a flathead screwdriver).



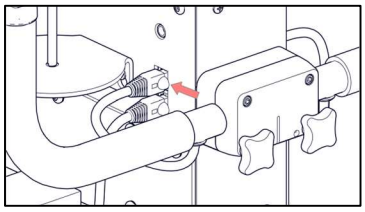


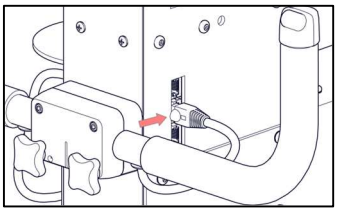
2. Align the handle mounting bracket with the silver guide posts on the machine.
3. Push the mounting bracket on to the guide posts until the bracket is flush with the machine.





3. Insert the included 9/64'' Allen wrench into the lower hole on the mounting bracket. The wrench will align with the bolt sealed inside the bracket. Tighten the screw securely.
4. Repeat with the second mounting screw.
5. To adjust a handle, loosen the corresponding knob and position it where you like, then tighten the knob again to lock it in place.





5. Plug the left handle's blue cable into the "Left Handle" jack on the machine and the right handle's blue cable into the "Right Handle" jack.

Step 12: Connect Cables and Power (Non-Quilt Path)

Tools Needed: Phillips Screwdriver
Scissors

Parts Required: Sewing Head CAT-5 Cable (1’ cable)
Carriage Encoder CAT-5 Cable (3’ cable)
Power Cord
Zip Ties
Cushion Clamp & Mounting Screw

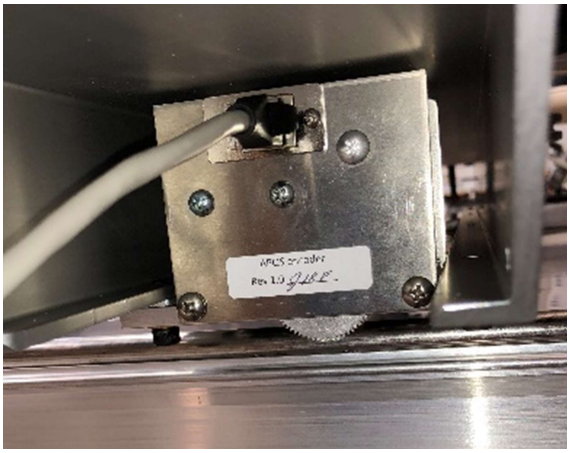
1. Plug one end of the 3-foot CAT-5 cable into the CARRIAGE ENCODER jack.

2. Locate the Sewing Head CAT-5 cable taped to the machine’s throat. It will connect the head encoder pictured above to the side of the machine.

3. Plug one end into the encoder jack and the other end into the Head Encoder jack on the machine.

If you are installing Quilt Path, skip this step and move to the Quilt Path Manual to complete your setup.

Bliss Track Carriage Connection



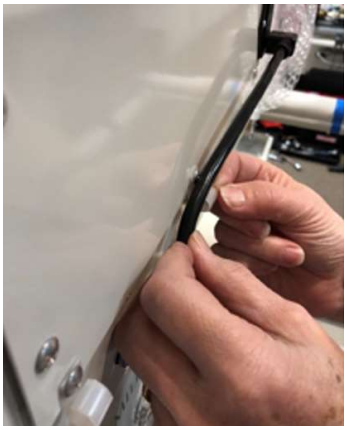
1. (a) Plug the other end of the CAT-5 cable into the jack inside the carriage.

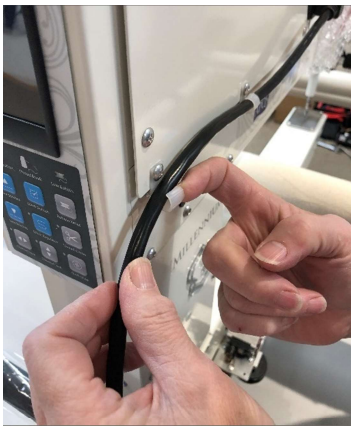
Non-Bliss Carriage Connection

2. (b) Plug the other end of the 3-foot CAT-5 cable into the encoder on the carriage's rear axle.

Cord Management (Bliss or Non-Bliss)

1. Plug the power cord into the machine.





2. Feed the power cord into the plastic cord supports.

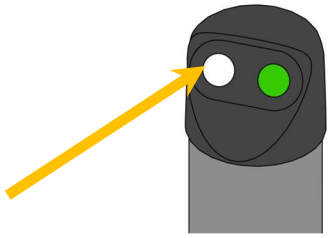
3. Use the two Velcro strips attached to the right handle to support the power cord and CAT-5 Carriage Encoder Cable.

4. Slip the cushion clamp over the power cord. Insert the mounting screw into the mounting hole. Just get it started for now.

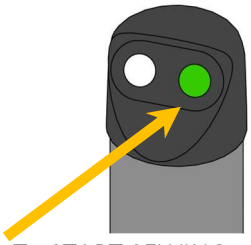
5. Push the machine all the way forward to check the cord travel. Adjust the cushion clamp on the carriage to allow free movement without binding the cords or having them rub on the table. Tighten the cushion clamp. Use zip ties to hold the carriage encoder cable and main power cable together. Trim zip tie ends.

Machine Operation of Larry

Handle Switches on Larry



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.

Stitch Regulated vs. Manual Sewing 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 you are moving the machine and it will adjust the motor to match it so you get perfect stitches every time. Every stitch has 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 toggle button.*

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.

Stitch Regulated & Manual Stitching Modes

Stitch Regulated

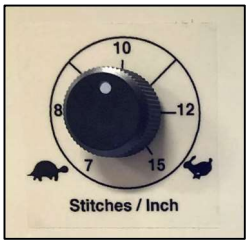
1. The Stitch Regulator is active when the blue LED light next to the Stitch Regulator On/Off switch IS illuminated.

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 sewing motor toggle switch, 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 toggle switch on any handle away from the white dot to stop the sewing motor completely.

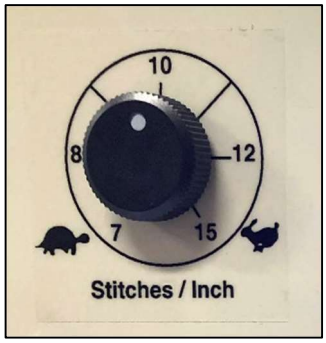
NOTE: *You can change this setting as you sew; you will not have to stop the sewing motor to adjust your stitch length.*

Manual Mode

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



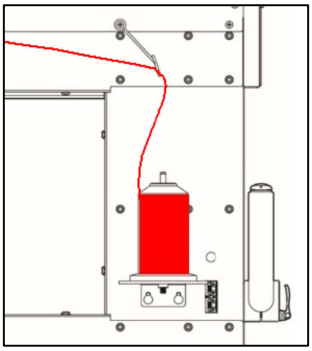
2. The "TURTLE" and "RABBIT" icons on the dial correspond to "sewing motor speed" when using the manual sewing mode. The setting on this dial will determine how fast the sewing motor will stitch.
3. In manual mode, the machine's needle moves at a constant speed and it will not stop unless you press one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



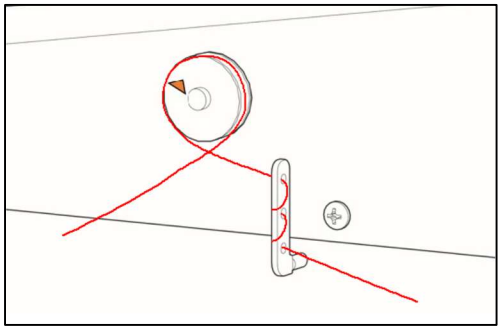
5. The sewing motor speed can be set anywhere from "very slow" (pointing the dial to the "turtle") to maximum sewing speed (pointing the dial to the "rabbit"). As you move the dial clockwise, the machine will sew faster. Turning the dial counterclockwise will cause the machine to sew slower.
6. *You can change this setting at any time as you are sewing, even if you have not stopped the sewing motor by tapping the toggle switch away from the white dot 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 toggle switch to start the sewing motor. Sometimes quilters will think there is a problem when nothing happens after pressing the toggle switch 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.

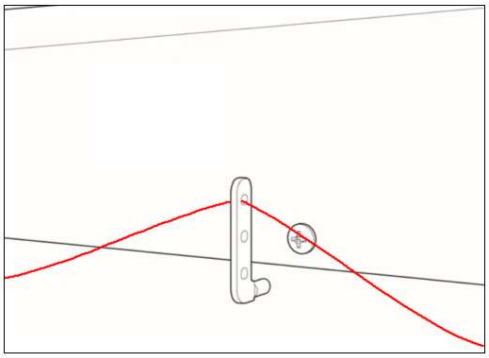
Threading Your Machine



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. IF you have a Thread Break Sensor, thread the three-hole thread guide directly below the Thread Break Sensor Wheel, spiraling around the vertical three-hole thread guide.

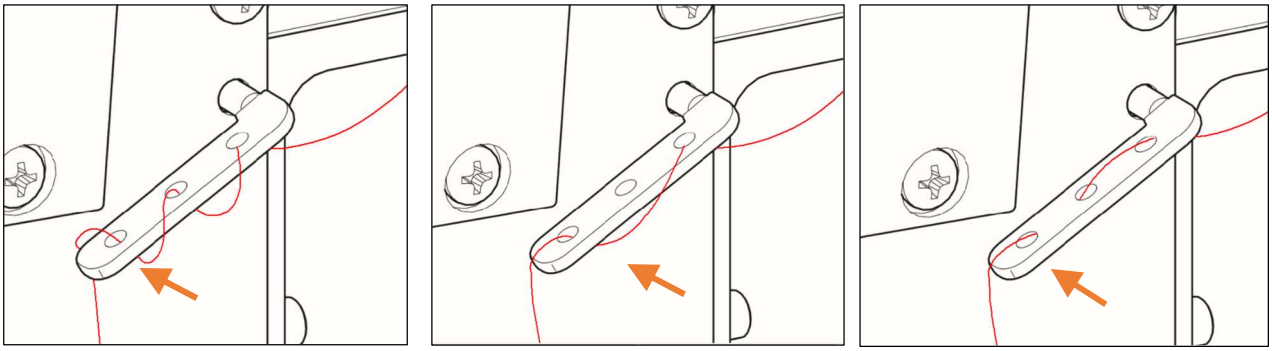


4. IF you DO NOT have a Thread Break Sensor, place thread in any hole to pass through once.

5. Three-hole guide near the Tension Assembly

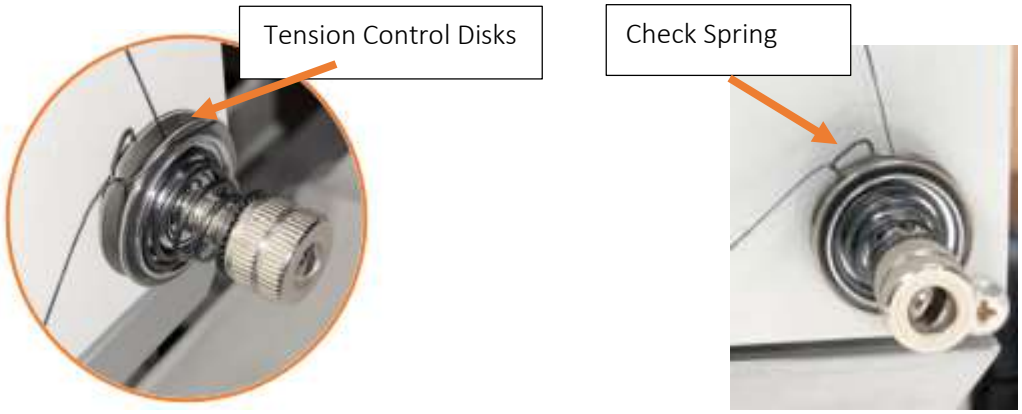
The three-hole thread guide near the tension assembly provides pre-tension to your thread and also helps manage “thread twist” before your thread enters the tension disks on the tensioner.

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.



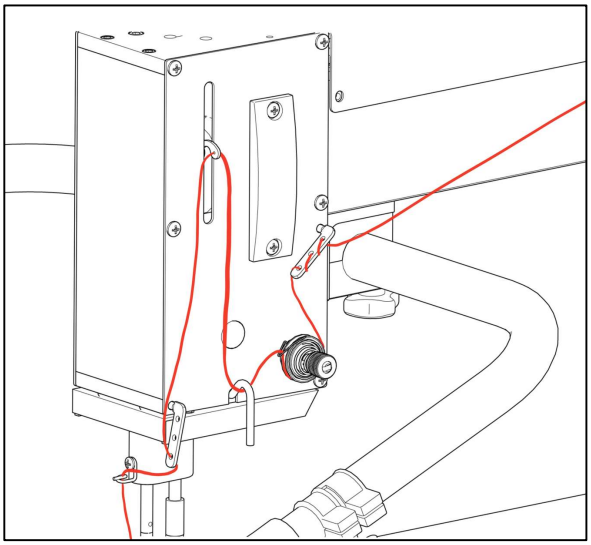
It’s okay to experiment with the thread path next to the tension assembly if your thread requires more pre-tension, or if the thread appears to twist too much, causing tangling or looping around the needle. Images above show some optional thread paths through the three-hole guide next to the tension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

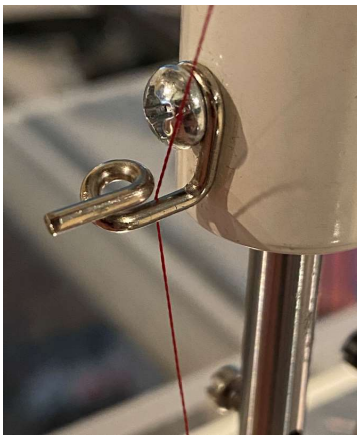
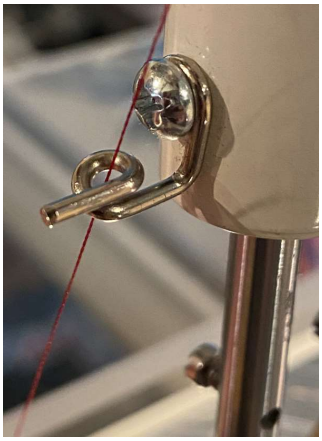


6. Pull the thread between the tension control disks and <u>over</u> the check spring as shown. Hold on to the thread just before it enters the tension disks and pull on the remaining tail firmly to be sure the thread is seated completely between the tension disks.

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.



7. 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.

8. 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.
9. 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.

10. 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

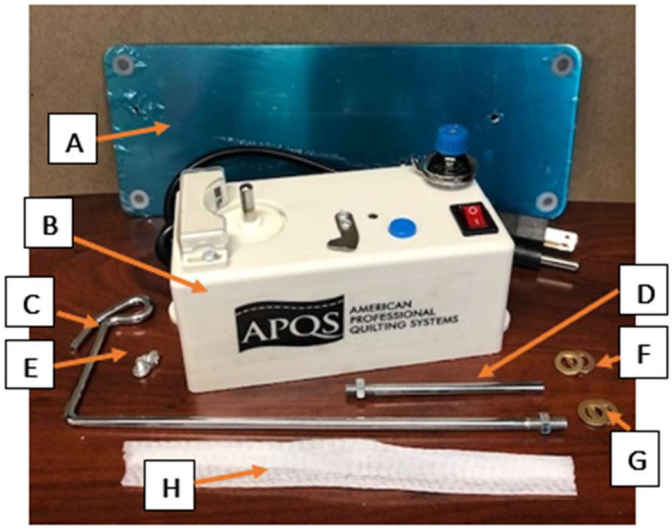
To quickly change thread colors, cut the thread currently being used just above the spool on the back of your longarm.

1. Remove the spool and replace it with the 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 & Maintenance

Contents:
A – Bottom Plate
B – Winder Assembly
C – Thread Stand
D – Spool Pin
E – Mounting Screws x 2
F – Thick Spacing Washers x 2
G – Thin Spacing Washers x 2
H – Thread Net

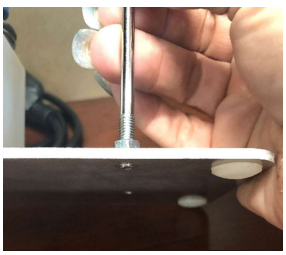


Assembly Process:

Begin assembly by removing blue protective sheet on the bottom plate. Use a Phillips screwdriver and the two Phillips screws provided to mount motor assembly on bottom plate as shown.

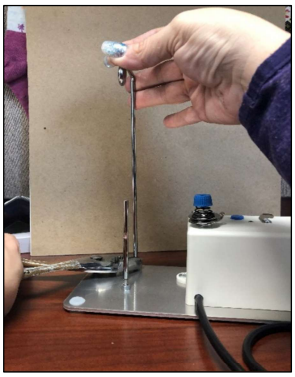
1. Use a Phillips screwdriver to mount the winder on the bottom plate using screws included.

Install tall thread stand and spool pin into holes on bottom plate. The short pin is installed towards the center of the bottom plate, and the tall stand is installed close to the front edge (opposite from power cord). 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 some pliers to help get them started.



2. Thread the post into the bottom plate until it just protrudes through the bottom plate, using pliers if the posts are hard to install.
3. Position the tall thread stand loop over the thread spool pin (photo on right).

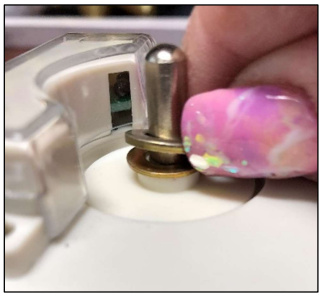
Align the tall thread stand so the loop is directly over the top of the spool pin. Use a #8 metric wrench or a pair of pliers to tighten the bottom nut on the post tightly against the bottom plate, holding the post in position.




4. Align the tall thread stand loop directly over the spool.

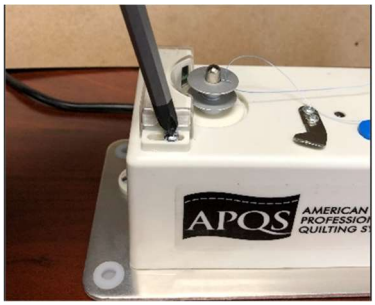
Setting Bobbin Fill Level

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. To help the bobbins wind more evenly, add one thick and one thin washer to the pin where the bobbin is mounted before adding the empty 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.



5. Add 1 thick and 1 thin washer to the bobbin post.

6. Bobbin Fill Level Sensors "read" across outer edge of thread on the bobbin.



7. Sensor adjustment screws – one on each side of the 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 just to the right, as shown below.

8. Preliminary setting for "L" size bobbins.

9. 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.

10. 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.

1. Pull thread up and over the thread stand from the right to the left.

2. Place thread through the first guide, around the tension discs counter-clockwise and through the second guide.

3. Pull on thread to seat between tension discs.

4. Adjusting sensor position to set for bobbin size.

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.

5. Push switch towards "I" to turn power on – switch will glow red.

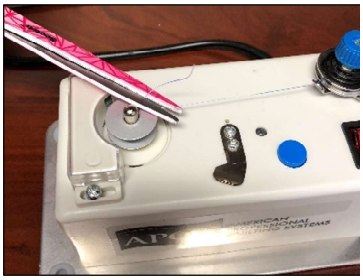
6. Gently hold onto the thread tail with slight tension.

7. Push the blue button to start the motor and winding process.

The green light will be on when the motor is running. 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 the blue button again to shut off motor and cut the thread tail close to the bobbin.

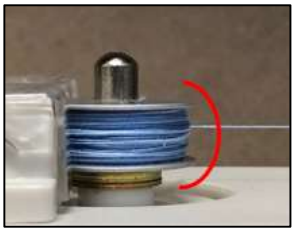
8. Green light = motor on.

9. Touch tail with scissors to trim while winding.

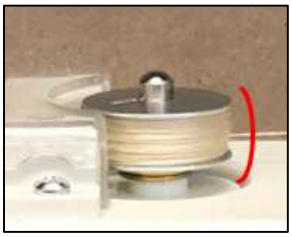


10. Motor stopped to allow thread to be trimmed.

The motor will shut off once the bobbin is filled. The first photo below shows the bobbin filled without any assistance while winding – since the thread will move up and down on the bobbin of its own accord, assisting the filling towards the top and bottom of the bobbin will ensure more thread is wound on the bobbin. The second photo below 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.

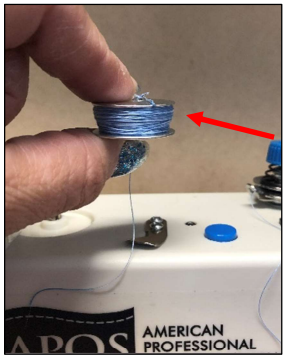


11. Bobbin filled without any assistance during winding.

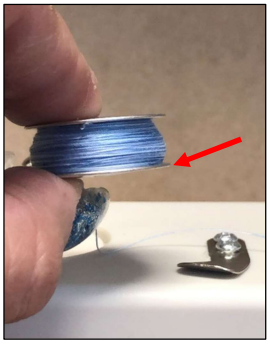


12. Bobbin filled with minimal assistance during winding.

If the bobbin is winding almost completely towards the top or the bottom of the bobbin, the spacing washers may need to be adjusted to help position the bobbin better. If it fills towards the top of the bobbin, try adding another thin washer under the bobbin to space it up higher on the post. If it is filling towards the bottom, try removing a thin washer. One thick washer is the same thickness as two thin washers.



13. Filling towards top? Add one thin washer.



14. Filling towards bottom? Remove one thin washer.

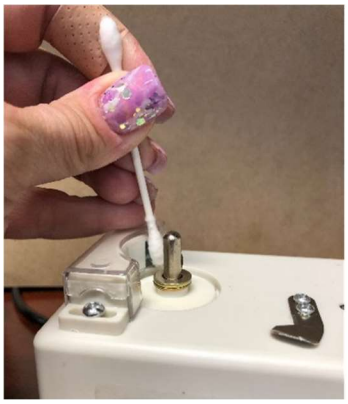
Tension adjustments can be made using the knob on the tension control. The end goal is to wind the thread with enough tension to ensure that when you push on the thread with your fingernail, it should feel firm. If it feels "spongy," tighten the tension on the thread as it is winding on the bobbin. A 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.

15. Thread should feel firm, not spongy on the bottom.

16. A thread cutter IS included on the bobbin winder housing.

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.

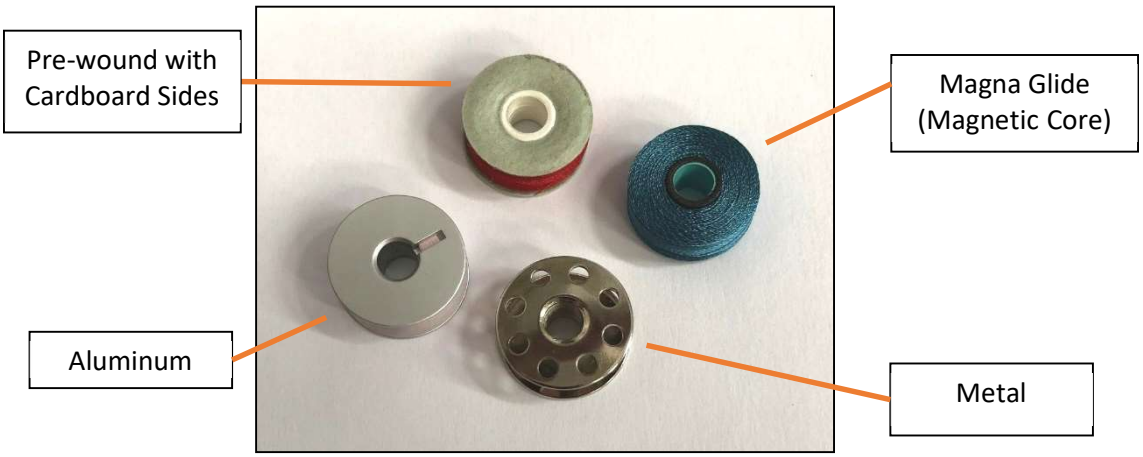


1. Basic maintenance includes cleaning sensors with a cotton swab to remove dust and lint; and using compressed air to remove lint between the tension discs.

If you have any questions, please contact the Service Team at 800-426-7233, or via email at service@apqs.com Monday thru Friday, 8 a.m. to 5 p.m.

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.



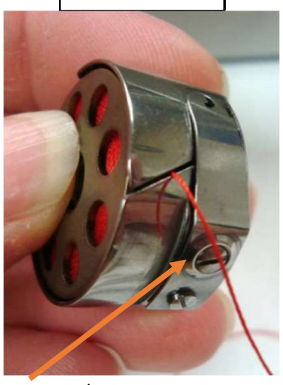
Metal bobbins will normally require looser bobbin tension to compensate for their weight. Aluminum and pre-wound bobbins are similar in weight. Some pre-wound bobbins have cardboard sides; others have no sides and contain a magnet on the core that substitutes for the bobbin brake or check spring (see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

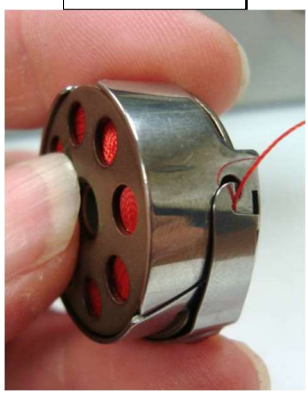
Guide the thread tail through the slot on the bobbin case (Photo A), and then under the flat tension finger on the outside of the case (Photo B).

Photo C



Tension Adjustment Screw

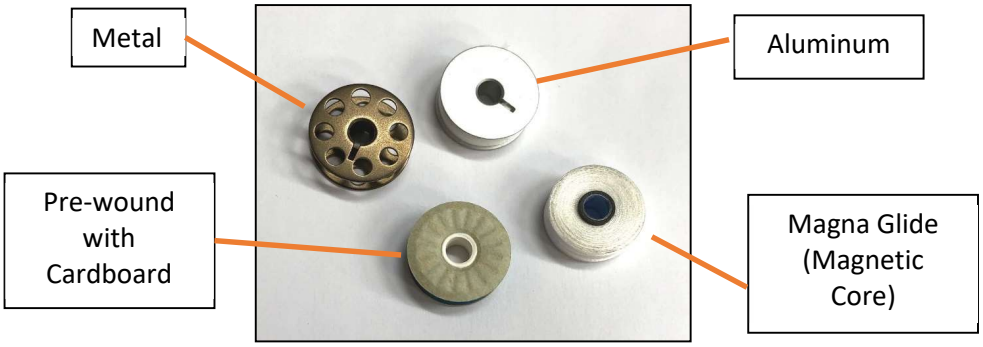
Photo D



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.

Style “M” Big Bobbins in Your Machine

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.

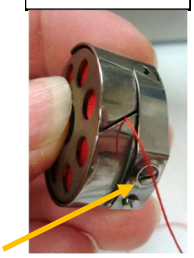


The photos below describe how to insert the thread into the guide (be sure to place your bobbin into the case so that it rotates clockwise when you pull the thread through the exit hole).

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

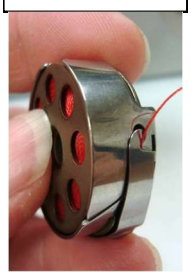
Guide the tail through the slot on the case (Photo C below), and then under the flat tension finger on the outside of the case (Photo D below). If you need to adjust the bobbin tension, use a small screwdriver to rotate the larger screw in small increments (5-minute turns, turning left to loosen and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

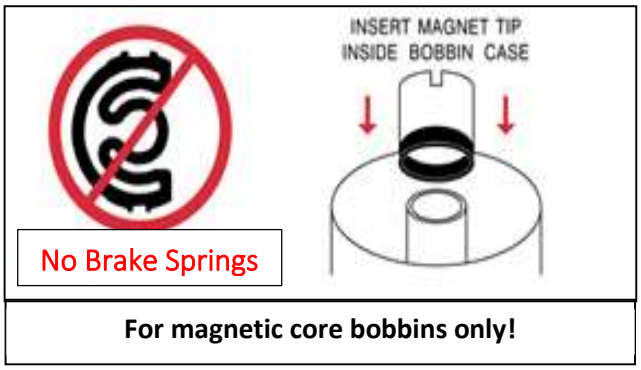
Adjusting Bobbin Tension for “L” or “M” Bobbin

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

- 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).



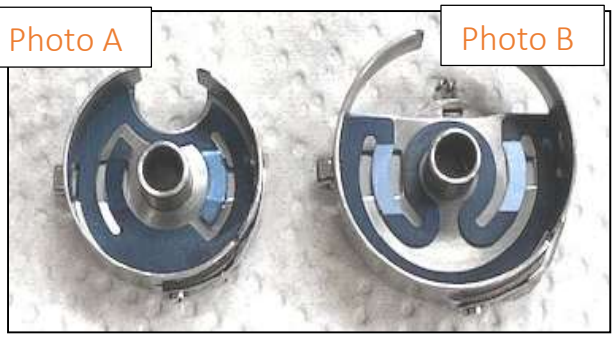
For magnetic core bobbins only!

- 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.

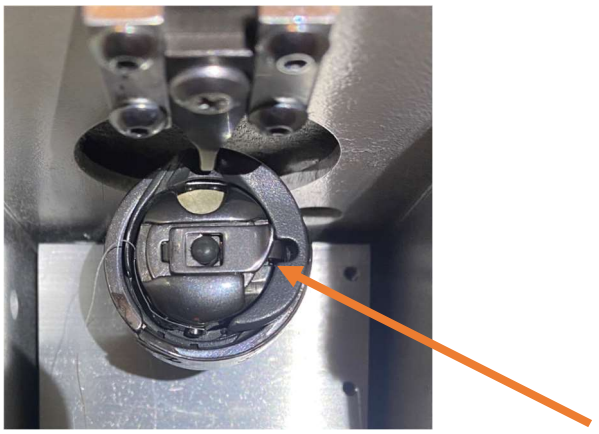
Align the shorter "cut out" edge or rounded edge of the brake spring with the cut-out opening in the bobbin case as shown below, making sure the brake "fingers" point out away from the case. Use a small screwdriver to force the outermost "pins" on the spring back into the slots that are on the outer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

Photo A Photo B



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.

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.

Below is a summary on how to begin your longarm quilting journey.

Loading a Quilt

As you gain experience with your new APQS quilting machine, you'll discover that there are really several ways to load a quilt top, including pinning, floating and even using zippers (discussed in a bit more detail below). We'll demonstrate the two most common types of loading here, but don't be afraid to experiment until the method feels ***right to you***.

We recommend that you first load "practice" fabric and batting such as muslin, old sheets, etc. Spend time and practice, practice, practice. If you want to develop your skills quickly, plan on at least an hour a day with your machine. The more you practice, the more "second nature" things will become. Once you develop muscle memory, you will find that quilting is sometimes easier than drawing designs.

Loading styles can be divided into three broad types: "partial float," "full float" and "full attachment." When a quilt "floats" as part of the loading process, it means that one or more sides of the quilt simply rest (or "float") on top of the batting and backing. It may be held to the batting or backing fabric with pins or basting, but it is not attached directly to the frame or canvas. When discussing quilt loading method with your friends, make sure your terminology matches theirs, so you are comparing accurately. If a person says she "floats" her quilt top, she may use a "partial float" or a "full float."

Method #1: Partial Float

Quilters who "partially float" their quilt tops attach one edge of their quilt to the frame, but not the opposite end. These quilters attach one edge of their quilt to the Quilt Top Roller so that they can wind it up and control the top during the quilting process. However, the opposite end of the top is not attached to the Pick-Up Roller. Instead, it rests on the batting and backing, and may be held down with basting stitches or pins.

The "partial float" method is most common for pantograph quilters because it allows you to quilt off the edge of the quilt without running on to the frame's canvas. When you reach the bottom of the quilt, you remove the quilt from the quilt top roller and then smooth it out on the backing and batting so that you can quilt off the bottom of the quilt just as you did on the top edge. To prevent shifting, the bottom edge may also be pinned, or machine basted in place on the backing and batting.

Method #2: Full Float

By contrast, when a person uses the "full float" method to load a quilt, no part of the quilt is ever attached to the frame. The quilt drapes over the batting and backing but hangs to the floor. This method is fastest for loading a quilt since only the backing fabric is attached to the frame. Some quilters who prefer this method completely remove their Quilt Top Roller from the frame, and use an optional accessory for APQS machines called a "Texas Hold 'em Bracket" (available for both standard and deluxe tables; check it out on our Online Store). However, this method does not provide a lot of control over the quilt top and it could shift quite a bit unless you use other clamping methods to hold it securely on the Quilt Back Roller.

Method #3: Full Attachment

The "full attachment" method involves pinning the quilt top to the Pick-Up Roller in addition to the backing fabric. This allows the top and backing fabric to be adjusted independently from each other and affords great control over the three layers – it is easier to ease the quilt edges if necessary, with fewer preparatory steps. However, you should not use this method if you're doing a pantograph that must travel past the quilt's raw edge. Otherwise you'll be stitching on the canvas itself. This is a popular method for custom quilters who want ultimate control over the quilt top.

As you can see, each method has positive and negative aspects. It's good to know how to use all of them so that you can choose the method that makes sense for any given project. For example, it may be easier to use a common backing fabric and quilt four placemats side by side using the full floating method. But it might make sense to use the pinning method when your borders have too much fabric compared to the rest of the quilt. You can "ease in" the top as you pin it to the rollers, and then allow your quilting to help absorb the extra fabric. (Thicker batting and a dense quilting design also help.)

Remember that none of these methods is the one "right" way to load your quilt. Explore all of them to determine which one makes sense for your project, your style of quilting and your patience level!

Attaching Fabric to the Frame

No matter which loading method you choose – "full float," "partial float" or "full attachment" – you'll even discover several different methods for holding the fabric to your frame. These include pins of all types, zippers, VELCRO®, staples, even magnets.

Gadgets that work similar to the closure on a Ziploc® bag are also popular (Leader Grips and Red Snappers are two brands.) With those products, a plastic rod slips into a hem or pocket you create on each canvas. Your fabric lies across this rod. You then press another piece of curved plastic down over the fabric and the rod (like closing the Ziploc bag), securing it in place. Each attachment method also includes advantages and disadvantages.

Step-by-Step Quilt Loading Guide

Over time, you will try several different products and methods before you settle on one method that's right for you. However, since it would be a rare quilter who didn't have ANY pins in her studio, we show you how to get started with straight pins. Visit our YouTube quilting channel for videos showing how to partially float your quilt top (the most common method for loading a quilt).

Step 1: Prepare Your Quilt Layers

- Press the top and backing fabric.
- Trim stray threads.
- Check for loose or open seams.
- Make sure the batting is 4 inches larger than your quilt on all sides.
- Make sure the backing is at least 4 inches larger than your quilt on all sides (you'll need 4–6 inches more than that if you use Red Snappers or Leader Grips).
- Mark the top of the quilt with a safety pin.
- Mark the top of the backing with a safety pin.

Step 2: Choose Your Loading Method

While all three methods are options with advantages and disadvantages as earlier described, we'll concentrate on the most popular method to get you started – which is partially floating your quilt top.

Step 3: Choose Your Loading Device

Every loading device can present its own unique challenges as well as advantages. We encourage you to start out with pins since they're often already in your sewing room, but also so that you can get the process down and understand what you like and don't like about the loading process before investing in other loading gadgets.

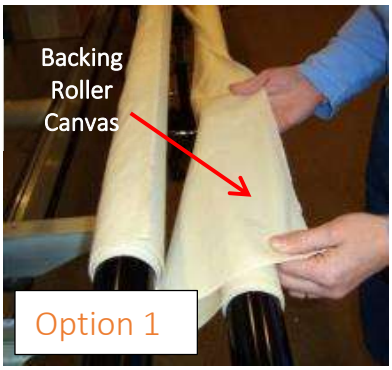
The pin type you choose is often dictated by what is readily available to you, as well as by whatever type or brand your longarm instructor personally favors. Experiment, and don't feel that you have to use a specific brand or type of pin. The Clover Flower Head Pins are handy because you may find yourself turning a lot of your quilts and re-mounting them to your frame. These pins help make that process easy and quick since you can leave them in the quilt as you go and not worry about them bending or snagging your quilt.

Step 4: Prepare the Backing Fabric for Loading

- Measure the backing fabric – is it large enough for the entire quilt?
- Trim two parallel sides which will mount to the frame (should be the same sides to match the way your top will be pinned, e.g., if mounting the quilt sideways, then the backing sides need to be trimmed parallel to each other).
- Find the center of the backing fabric; mark with a pin or make a tiny snip to mark each parallel edge.
- Check the seam allowances of the seam – have selvedges been removed? If not, snip the selvedge every four inches or so to allow stretch. *Note: selvedges along the outer edges of the backing do not necessarily need to be removed, but loading may be easier if the selvedges are cut off.*
- Press out heavy wrinkles, especially any bolt creases or fold lines.
- Determine which side is the "right side" and which is the "wrong side" of the backing fabric.
- Place a safety pin on the edge that represents the "top" of your backing, even if you're going to mount it sideways on your frame. You'll also put a safety pin in the "top" of your quilt. When it's time to load the layers on your frame, make sure the safety pins end up on the same side of the frame.

No matter what loading method or attachment device you use, the backing fabric must always be loaded to the Quilt Back Roller and the Pick-Up Roller. While your backing does not need to be completely "square," it DOES need to have two straight, parallel edges – the ones you decided to attach to the rollers as described in the previous paragraph. Find the center of each of those edges and mark them.

Step 5: Partially Attach the Backing Fabric



Option 1: Loosen your front brake and unroll about 8 inches of canvas leader fabric from the Backing Roller. Reach down between the rollers and grab the canvas edge, then flip the canvas back upon itself, resting it upon the roller. This makes pinning easier, since both the Quilt Top Roller and the PickUp Roller act as "smoothers" for the backing as you wind it on the roller. Re-engage the brake.

Option 2: Loosen the brake. Unroll several inches of canvas from the Backing Roller, then pass the backing canvas UNDER the Quilt Top Roller and around it, so that the backing canvas edge rests on the Backing Roller (photos above).

Re-engage the brake. With this method, the backing fabric will eventually drape under the Quilt Top Roller, once you start winding the backing fabric on to the Backing Roller. It doesn't provide quite the same amount of "smoothing" as the first option but works fine.

Check that the backing orientation will match the way you intend to pin on the quilt top (match directional backing fabric to the top's direction).

Stand at the needle side of your machine. Hold your backing fabric *wrong side up*. Align one of the straight edges so that it's parallel to your Quilt Backing Roller. Place the excess backing across the frame and over the Pick-Up Roller on the back of the table. This will help smooth it as you wind it on the Backing Roller and will keep it off your floor.

Align the center mark you made on the backing fabric with the center mark on your Backing Roller. Begin in the center and align the raw edge of the backing with the raw edge of your canvas.

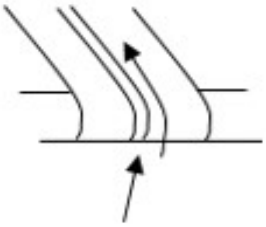
Start in the center of your backing fabric and pin it to the canvas center mark on your Backing Roller, keeping the pins close but not overlapping. Position the pins about ¼-inch in from the raw edge with pins going in the same direction. Work from the center to one end, then return to the center and pin to the other end of the fabric.

For Both Methods

Engage the brake after positioning the backing canvas in preparation for loading, then lift the brake handle slightly so that you can turn the roller, but you still want to feel resistance from the brake. If you have not yet engaged the brake, now engage it to apply some pressure to the roller.

Turn the Backing Roller one complete revolution until your pins are covered. This puts the pins under the canvas so you can't get poked. Use your hands to smooth the canvas and pins flat, and then smooth the backing fabric from the center out to the edges.

If you completely squared your backing and had all four sides parallel, the edges of the backing fabric should line up as you roll. However, if you only cut two straight edges, don't be alarmed if the backing fabric edges do not line up as you roll the backing on to the Backing Roller.



Seam Twist on Backing

Continue rolling the fabric on to the Quilt Backing Roller, smoothing the fabric as you wind, working from the center out toward each edge.

If you have backing seams that wrap around the roller, grasp each seam and twist it tightly on the roller. Since three layers of fabric build up on this seam as it encircles the roller, the backing may distort in this area. ***You want to smash the seam as tightly as possible on the roller to keep the backing smooth.*** When you tighten this seam on the roller it helps compress the layers there, reducing the chance for puckers and tucks on the back.

Continue smoothing and rolling until the backing fabric drops off your Pick-Up Roller.

If you used "Option 1" to load the backing fabric by flipping the Backing Roller canvas back upon itself, take the backing fabric ***over*** the Quilt Top Roller and drop it down between the two rollers.

If you used "Option 2," then your quilt backing will already be between the Quilt Top Roller and the Backing Roller. You may now move on to the quilt top preparation and loading.

NOTE: *New quilters often over-tighten the backing on the side of the roller corresponding to their dominant hand. One way to check is to roll the backing fabric back off the Backing Roller until it just meets your floor. Assuming your floor is straight, the backing fabric should also be straight and parallel to the floor. If not, begin rolling it on again, striving for consistent pressure from both hands as you wrap it on the roller.*

Step 6: Prepare and Mount the Quilt Top

- Press the quilt if necessary and trim any threads that might "shadow through" to the quilt's surface. Check for holes or seams that are not secure and repair if needed.
- Remember that if you're mounting your quilt sideways to conserve quilting time, you'll need to find the center of the *sides* of your quilt, not the top and bottom edges.
- Make sure that the safety pin you added to the side of your quilt that represents its "top" edge is on the same side of the frame as the pin you used to mark the "top" edge of the backing. If you're loading the quilt sideways these safety pins will either be on the left or right side of the quilt.
- Locate the "true center" of the quilt, ***not*** the center of the border, and mark this center with a straight or safety pin on the edges of the quilt that you have chosen to mount to the frame.
    - Rather than folding the quilt top in half, use one of the following methods to find the "true center" of the quilt (illustration on the next page):
        - Follow a center piecing seam out to the edges of the quilt.
        - Split an on-point block in half and follow the imaginary line to the edge of the quilt.
        - Match inner corners of patchwork instead of outer borders if there is no distinguishable center seam .
- If you will be turning the quilt to do side borders, repeat the process to find the center of the sides and mark with a safety pin.

- Stand at the needle side of the frame and hold the quilt top ***right side up***. Find the safety pin you added to the backing fabric which designated its "top" edge. Hold your quilt so that the safety pin you added to it is located in the same position. For example, if you loaded your quilt sideways and the safety pin in your backing is on the left side of the frame, hold the quilt top so its safety pin is also on the left side.

Place the excess body of the quilt top across the frame and over the Pick-Up Roller. Then align the straight edge with the Quilt Top Roller's canvas edge, matching your center mark from the quilt top with the center mark on the canvas.

If the quilt is square and wavy borders are not a concern, pin as you did the backing fabric, working from the center out. You should come out to the same numbers on the left and right along your canvas leader, if you have marked your canvases.

Roll the Quilt Top on the Roller

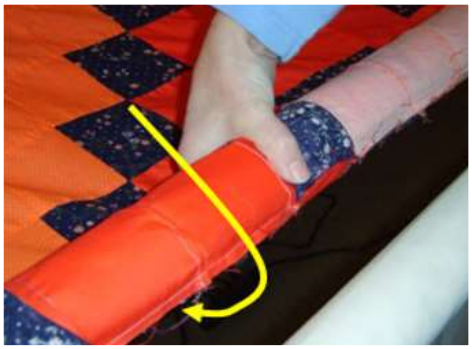
Once your quilt top is attached to the quilt top roller, begin winding the quilt on to the roller using the following checks and balances:

- Check that the quilt's sides are winding evenly and are staying in line with each other. (If your quilt was not "square" to start, then the quilt's left and right edges may not align.)

- Use horizontal seams in the quilt to check that it is rolling straight – the seams should stay parallel to the roller. If not, twist the seams that are wrapping *around* the roller to tighten them, until the horizontal seam stays parallel with the roller.

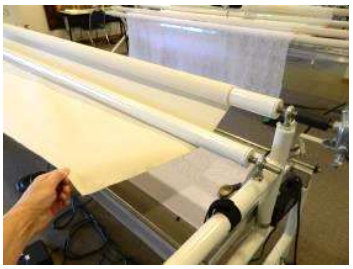
- With each seam that wraps around the roller, twist the seam as if to "tighten" it onto the roller. This allows the quilt to stay flat and prevents sagging side borders. Work the seams as shown below until the horizontal seams again align parallel to the roller. The larger the quilt, the more important this critical step becomes.

Horizontal seams should not twist. Photo above is showing twisting.



Step 7: Finish Attaching the Backing Fabric

- Your APQS quilting machine uses a leveler bar to keep your quilt sandwich level as you work, and to keep your quilting space consistent from beginning to end. You will need to make sure your backing fabric passes ***under*** this bar before mounting it to the Pick-Up Roller.



- To make this easier to do, unwind enough of the canvas from the Pick-Up Roller so that you can pass it under the leveler bar toward the Quilt Top and Quilt Backing Rollers.

- Then bring it up *over* the leveler bar and back over the top of the Pick-Up Roller, wrapping the leveler bar inside the Pick-Up Roller canvas. The leveler bar will be hiding inside the wrap-over of the Pick-Up Roller canvas.

- Now bring your quilt backing across the table and over the top of the Pick-Up Roller.

- Line up the backing's straight edge with the edge of the Pick-Up Roller canvas, again matching the center marks. Pin it in place just as you did on the Quilt Backing Roller.

- Once you have it completely pinned in place, wind the excess backing on to the Quilt Back Roller once more, smoothing as you go. The edge you attached to the Pick-Up Roller will drop down off that roller and will automatically be underneath the leveler bar for you. Wind up the backing until the edge attached to the Pick-Up Roller is just inside your quilting space, next to the leveler bar.

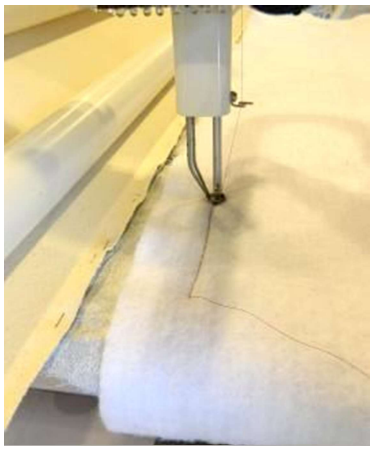
Step 8: Position the Batting

- Pay attention to batting grain line, based on how the quilt will be used.
- Remove any excess batting on left and right sides of the quilt until only about 3–4 inches remain past the raw edges of the quilt.
- Find the right side of the batting and hold it with the right side face up. Slide it between the Quilt Backing Roller and Quilt Top Roller toward the throat of the machine. If it binds on the backing, unwind the backing slightly to reduce friction.

- Align the batting raw edge near the edge of the Pick-Up Roller and the opposite end of the backing, close to where it is attached to the Pick-Up Roller canvas. Adjust the batting and backing until they are smooth. Allow the excess batting to drape on the floor under the frame.

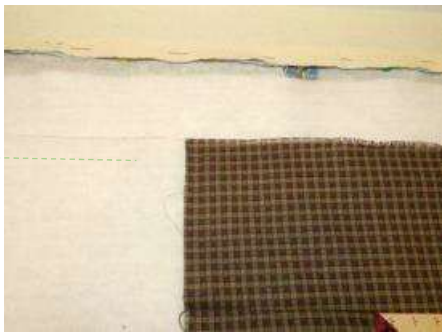
Step 9: Align the Quilt Top and Secure it to the Batting

Remember, partially floating a top means that it is NOT attached to the Pick-Up Roller Canvas — it will rest on the backing and batting instead. However, you'll want to keep the quilt straight, and if you're going to stitch off the quilt and back on again, you'll need the edges to be secure.



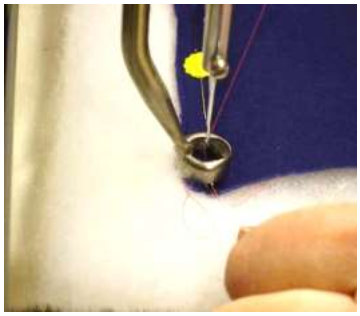
- Stand on the needle side of your machine. Move your machine's needle until it is on the left side of your backing and batting, about two inches below the pins holding the backing fabric to your Pick-Up Roller. **Engage your horizontal channel lock and stitch a straight line all the way across the backing and batting.** This will give you a straight reference line for your quilt top.

- Unwind the quilt top and bring it across the batting and backing until it's aligned with your referenced sewn line in the batting. Be sure to place the quilt's center mark in line with the center line on the Pick-Up Roller canvas (extend that center mark down to your reference line in your mind's eye or use a ruler to mark it). Now you can secure the quilt along this reference line.



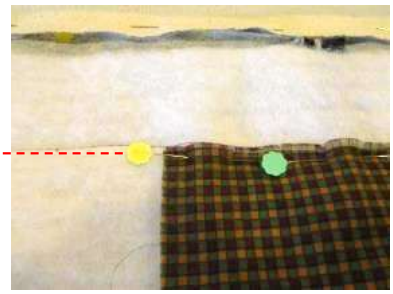
    - If you need to "ease in" this side of the quilt, measure out from your center mark along your stitched reference line. Since you don't have marks along this line, use a ruler and pin the outer edges of the quilt top to the "eased size." Continue adding pins in between, easing the top as you go but pinning about ½-inch away from the quilt's edge. Then you can use the machine's needle up/down button to place close tacking stitches that hold this top border to its new width.

- Disengage your channel lock and move the sewing head over the quilt top, just inside the ¼-inch seam allowance, then re-engage the channel lock. If you'll quilt off the edge with a pantograph, baste the top of the quilt in place using a long stitch setting, taking care not to stretch the fabric. (You might wish to start in the center and baste out to the left and right if your batting is puffy, to keep the quilt from creeping to the right as you baste.)



- If your quilting will stay on the quilt top (such as a border design that stays inside the border) you can use pins along the reference line instead.

- For the most control, use your needle up/down button to place single stitches about one inch apart along the quilt top edge. (This allows you to "ease in" the quilt top if it's necessary to square it up.) However, unless you are using the optional "scoop foot" you'll need to be careful when stitching off the quilt top and then back on again as the foot might catch on the longer basting stitches.



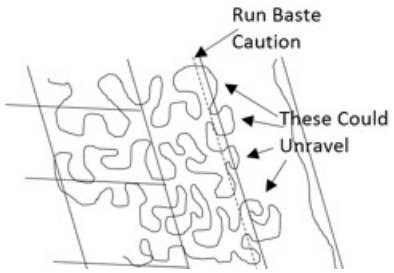
Step 10: Stabilize the Quilt's Left and Right Edges

Stabilize the quilt's edges before you add the clamps to the quilt backing. This step is important whether you are doing a pantograph design, all-over freehand design or custom work.

NOTE: If you choose to quilt "off the edge" of your quilt and back on again, be sure that you've left enough backing and batting to do so, and that the quilt edges won't get flipped over as you move on and off. (An optional "scoop foot" is ideal for this quilting type as its rounded bottom prevents it from catching on the quilt's edge or tacking baste stitches, or when using a zigzag basting stitch on the edge as described in Option 1 on the next page.)

- **Option 1:** Use a tighter stitch to attach the binding. There is a greater risk that those stitches will work loose from under the binding and begin to unravel.

- **Option 2:** Quilt into the ¼'' seam allowance and back on to the quilt's main surface, rather than to quilt completely off the quilt and back on to the top again, if you are concerned about the quilting stitches coming undone.



Attach the Side Clamps

After you've secured the quilt edges using one of the methods described in "Stabilizing the Quilt's Left and Right Edges," place your side clamps on to the backing fabric. Adjust their pressure so that they don't distort your backing fabric; they should keep your backing smooth.

If you find that the machine runs into the clamps, one easy trick is to reverse them. Use a straight pin and attach the loose elastic ends to the backing fabric, then lift the clamp buckle and tighten up the elastic. The clamp itself will hang free.

Method 1 – Machine Basting the Quilt Edges

Use the quilting machine to run a basting stitch along the outer edges of the quilt, just as you did for the quilt's top edge. If you choose this method, begin by securing your thread in the seam allowance of the quilt's outer border, along one side edge. Carefully stitch along the edge, trying to stay inside the seam allowance for the binding.

To help keep the side edges from scooting as you work down the quilt, try stitching the left edge of the quilt from "top to bottom" (move from the leveler bar toward the quilt top roller), and then stitch the right border from "bottom to top" (from the quilt top roller to the leveler bar).

A word of caution – the straight basting stitch method locks the quilt edges in place at a taut, stretched-out stage, and allows for no shrinkage from quilting on the quilt top's interior. When the quilt is removed from the machine, the result can be a wavy border edge. If your side borders are generous, then consider using the "tacking baste" method where you put one stitch every inch or so instead of sewing down the edge. This still allows fabric movement as you quilt. (You'll still need to use pins to re-mount the quilt if you decide to turn it on the frame to do the sides.)

Method 2 – Pin Basting the Quilt Edges

This method is quick and has less impact on the quilt's edges once the binding is attached, since the outer raw edges can relax once the quilt's off the frame. Place pins inside the ¼-inch seam allowance, keeping them tip to head.

Pinning isn't practical if you plan to do an edge-to-edge design that will spill off the quilt's outer edges as you will run into the pins. Pinning is used more for custom quilting where you can watch the needle. Pinning is also helpful if you are going to turn the quilt and re-mount it to do the side borders.

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