

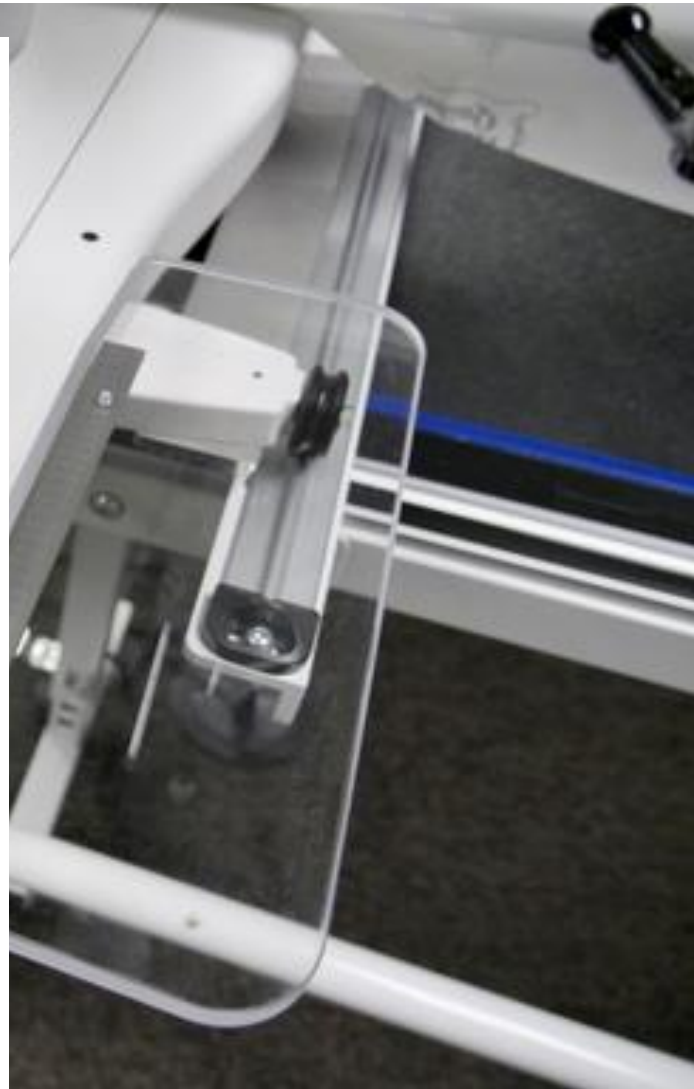
# MK Quilts Installation Guide for Owners

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# Purpose of this guide

## Providing Real-world Advice for the Installation of HQ Quilting Systems

MK Quilts attempts to maintain a higher standard of service and support than any other retailer. Since the outbreak of Covid, most installations are done by the customer. Installation charges are normally \$500 plus travel expenses as the assembly of frame and machine will normally take a minimum of 6 hours, not including added accessories and training.

The frame is the foundation for the longarm machine and can lead to many issues if not set up properly. This guide walks through an entire installation of a new Amara with Pro-Stitcher On a Studio 2 frame. We are referencing the steps in the Studio2 Frame Assembly Instructions, however the Gallery2 frame is identical except for the larger parts. You can also reference a set of installation photos that can be found on our website at <https://mkquilts.com/installationamara>. Simply click on the first picture and cycle through them as you read this guide.

## Before the system arrives

Preparing for the day.

### Suggested Tools and Equipment

New systems ship with basic tools for assembly. However, we recommend that the customer consider having a good quality **variable speed power drill** with **6-inch long metric hex (Allen) bits**. There are 64 screws/bolts on the main frame, and you will touch each one multiple times in the process. The 4 mm and 5 mm bits are used most on the frame.

## Prepare the Area

Remove as much clutter and other equipment from the general area you will be installing the system. Plan and measure the area against the stated requirements in the floor plan diagrams. We suggest that the back of the machine and frame face a wall. Leaving the required 12-16 inches minimum to get behind the table.

# When the system is delivered

## Inspect the Delivered Boxes for Damage

The Forte and Infinity with Gallery 2 frames are shipped freight on a pallet. As of 2022, the contiguous frame tracks that run the length of the front and back edges of the frame are being phased out. Shipping the separate 10-12 foot tube is no longer practical as the shippers are not accepting them or a majority of them show up damaged. Amaras with a Studio 2 frame will be shipped UPS ground and arrive in individual boxes. Inspect every box for damage including signs of dropping heavier boxes on their corners. This can lead to minor damage to a table corner that can be repaired, or damage that will require the part to be replaced.

Take pictures of any damage so that HQ can file a claim. You may accept the delivery but have them note the damage. Open the boxes if necessary. Call MK Quilts immediately at 727-935-1739, #2 to report any issues.

## Things to Consider

1. Do not hurt yourself lifting items. Some of the boxes may weigh over 100 pounds. You may want to unpack them and move individual parts.
2. If you are installing in a room with hardwood floors, lay down a sheet or blanket to protect it from scratches.
3. One to two experienced people can install a table and machine properly in 4 to 6 hours. There are a few steps that are best done with TWO able body individuals.  
**Have a second person on-call for those times.**

## Re-using a Frame

Some people may be upgrading their machine and re-using the frame they had for the old machine. In these situations, there is likely a sidearm replacement or adjustment that needs to be performed to allow utilization of the full throat depth of the new machine. Instructions with these sidearm kits are fairly straightforward.

## Setting up the Frame

UNBOX everything but the machine and Pro-Stitcher boxes. The box of bars only can be set aside for later. Create an area to layout your tools and the small parts. In the clutter of many craft rooms, it is easy to misplace items. Move empty boxes out of the room as soon as you can. Plastic covering the frame tops can be used for large garbage bags.

LOCATE THE ASSEMBLY INSTRUCTIONS and confirm that you have all the boxes and parts listed. The instructions can be followed verbatim to successfully install the table. However, this guide will cover each section and mention tips and variances that can be taken to assure the best outcome. This section is using the Studio2 assembly instructions as a reference. (See the HQ Tech site for a soft copy.)

### Step 1: Frame Side Assembly

Common Problems:

- Lifting the side legs improperly causes the supports to ratchet out.
- A single person must balance several pieces to get the initial screws started
- Not putting the Batting Bar Bracket on the outside edge. Don't mix the side legs up. On center legs, make latches go the same direction.
- Leveling feet/casters do not go in easily due to paint obstruction in threads.

Tip: Open and layout the table sections upside down on the floor where the table will be located. This will give you a good opportunity to assess the suitability of the area. Leave adequate clearances behind and around the frame.

Tip: If putting on Casters, wait until right before flipping the table up to its feet in later steps.

Tip: Assess the customer's height and set the legs appropriately. It is easier to raise the table legs than lower it. A 5' 3" person will normally want the lower most setting. Especially with casters – which adds several inches to the minimum height of the table.

Tip: Step 2 and 3 – the table assembly – can be done first.

## Step 2: Table Assembly

Prior to July 2022, the Studio2 and Gallery2 frames differed in that the Studio2 track support rails that run the length of the front and back edges of the table were shipped attached to the table pieces on the Studio2. The Gallery2 track support rails were shipped as two continuous tracks. Due to previously mentioned shipping issues, the contiguous tracks are being discontinued.

Before laying down the frame top segments, you should remove the attached tracks so as to not damage them, per step 2-1.

### Common Problems:

- Forgetting to remove track supports from the edges of the table sections.
- Damaged sections. Ensure that damage to edges does not hinder a good fit.
- Over tightening the screws. This is done in later steps. If using a drill, set torque to the lowest setting.

## Step 3: Middle Leg Assembly

### Common Problems:

- Steps 2-7 and 2-8 describe a process to tighten the screws. Loosening the screws on the frame legs will help avoid gaps between sections.
- Forgetting to put the height adjustment levers on the center legs to the rear of the table for cosmetic purposes. Remember the frame will be flipped.

Tip: An alternate method for assuring proper table section gaps and alignment is to wait until the table is stood upright. The table must be allowed to settle once upright before tightening firmly. The last screws tightened are the four on each of the center legs as they can spread the gap.

## Step 4: End Leg Assembly

If you skipped the Step 1: Frame Side Assembly, do it now.

Common Problems:

- Chance of scratching a floor.
- The frame top angle is not perpendicular to the floor making it hard to position the end leg assemblies.
- Overtightening the screws.
- Legs assembled incorrectly so that the Batting Bar support is not on the outside.
- No one to help lift the table onto its feet.
- Forgetting step 4-7: putting the screws in the backside of the table.

Tip: Prop the center legs of the table on a box so that the table is closer to perpendicular with the floor.

### Step 4-6 Rotating Frame to Standing Position

Tip: Casters – lock all wheels before rotating the frame to its feet.

Tip: At least 2 people are recommended. However, if only one is available, carefully lift from the center lower edge of the frame and pivot the frame on the back feet/casters. If there is enough room, there is no need to lift the frame.

### Step 4-8 thru 10 Sweating the little stuff

Tighten all screws as indicated in the steps to assure proper connectivity at the joints. Small bumps due to unevenness can impact the tracks and be felt by free motion quilters. Ignore the 'spirit level' and wait to level the frame after the machine and

poles are on the frame or you will waste your time. If the floor is very unlevel, you might need to adjust the feet/casters to an approximately level state to get the sections to align easily.

**Tips:** Adjust the bottom screws in the table splice braces to even out frame top sections. Lifting one end the frame can reduce gaps. Secure the side screws firmly once aligned.

**Tips:** If you tighten the screws that attach the legs to the bottom of the frame before doing the alignment of the frame sections, you may have larger gaps and have difficulty. Do the legs last.

## Step 5: Precision-Glide Track Assembly

Prior to July 2022, the Gallery2 tracks were contiguous and did not need assembly. Assemble the track segments as indicated in the instructions. Installing and positioning the track is best done with the machine on the table. Only secure the front track to the frame and let the rear track float. This is where you will start assembling the machine in parallel with assembling the frame. See the machine section that follows.

### Common Problems:

- The third table section is either a 2-foot or 4-foot section that arrives in a separate box. There are a variety of items from poles to fabric leaders. Make sure you separate and keep track of all items.
- If edges do not align perfectly, try swapping sections around until they do per the note in the instructions.
- Damaged black track. If there are bumps in the black plastic track, it may be felt by the quilter when the machine rolls over it. Inspect as you assemble.
- Shedding off small black shavings as you put the black material into the track is normal. Try to hold the black material straighter as you insert it to reduce this.
- Tightening the screws holding the tracks to the table before being told to do so will prevent proper alignment.

- Some have chosen to leave the screws on one track loose and let it float. Unfortunately, the screws will eventually vibrate out and this is not recommended.

Tip: It is our preference to align the FRONT track to the front edge of the table and securing it firmly. The formal instructions discuss using the back track. It is easier to see whether the track has moved from the front of the table than the back.

Tip: It is convenient to lay on your back and pull the machine over the screw as you are tightening the second track. This assures the track positioning as you tighten down the final track.

Tip: To cut the black material to length, use a diagonal cutter to score the black material and then bend that point at the edge of the metal track. It will snap cleanly.

## Step 6: Front Pole Bracket to Back Pole Bracket Assembly

You may want to pause to have a conversation about which end you will be advancing the quilt from. (Which end will the hand crank(s) and latches be?) If one end of the frame will be up against the wall, you may choose to reverse the bolts/screws so the nuts are on the outside. This can give a more pleasing appearance.

### Common Problems:

- The side arm assembly writing is not facing the ends of the frame. It may be easier to do Step 8 and mount the assembly to the frame before doing step 6.
- Nuts not toward the inside of the frame providing a scratch hazard.
- Failure to back-off the nuts on the two screws securing the front adjustable side arm assembly making it fixed.
- Not adjusting the sidearm to the proper throat depth for the machine.



## Step 7: Ratchet-Stop Assembly

### Common Problems:

- The Ratchet-Stop Holder will not align unless you loosen the screws around the area. They are likely too tight, or the adjoining piece is slightly out of position.
- The Ratchet-Stop Holder Nub is facing the wrong way.

## Step 8: Pole-Bracket Assembly

This could be titled, “Mounting sidearm to the table.” The bracket assembly has a lot of extra holes in it, so read the instructions carefully. This step is critical in getting the poles at the right height for the machine.

## Step 9: Pole Coupler Assembly

**TIP:** Do NOT assemble the pole sections until you have attached the Pole End Assemblies to the individual pole sections in Step 10.

Why is this tip stated as an absolute? Attaching the pole end assemblies to the poles requires strength and a good grip on the poles. It is MUCH EASIER to handle a single section of pole as you work to tighten them appropriately. You also have less chance of hitting a ceiling fan or wall as you try to maneuver the poles around.

When you are assembling the poles in this step, it is helpful to have someone help.

### Common Problems:

- The button tab may not pop out all the way. Simply use a screwdriver to align the part inside the pole. If there is too much paint, scrape it away.
- Damaged pole ends due to shipping.

## Step 10: Pole End Assembly

The instructions for assembling the pole ends are thorough. As mentioned above, we recommend putting these ends on before assembling the poles. MK Quilts often

recommends a second handwheel for the front backing bar. Many customers may choose not to assemble the batting bar as it obstructs under-the-table storage space.

#### Common Problems:

- Not getting the bolts tight enough.
- People try to use the spare washers when they are not needed.
- Scratching up the handwheel with the wrench.
- The handwheel crank is too tight, not allowing it to spin.
- Breaking the three tabs on the plug pieces by turning the handwheel while tightening the bolt.
- Not holding the end firmly to the end of the pole.

### Step 11: Pole to Frame Assembly

**PLACE Carriage and Machine on the frame before installing the polls.**

This step is simple. You may need to apply slight pressure on the sidearms to get the poles to fit in the right groove, but we have rarely seen a properly assembled pole require additional washers to lengthen them.

### Step 12: Rubber End Cap Assembly

These rubber end caps easily get knocked off. Some people add a little adhesive/glue to the inside; however, we will leave that up to the customer.

### Step 13: Optional Hook and Loop Attachment Assembly

Hook and Loop = Generic Velcro. Ignore this section completely.

### Step 14: Bungee Clamp Assembly

The bungee clamps installation is pretty obvious. However, when using the Leader Grip side grips that MK recommends, she will run the bungee through the sidearm in reverse, so the clamps hang outside. She then loops the bungee through the ribbon

and secures it back on itself with a medium document clip. Only a single bungee is used on each end.

## Step 15: Hook and Loop (generic Velcro) Strip Attachment

**Tip:** Under normal loading conditions the leaders cascade/fall to the inside of the front poles. It is best to put the strip on that side of the snap buttons on each pole. The key is keeping this as straight as possible. The back pole cascades off the back of the bar.

## Step 16: Attach Leaders

The default loading configuration results in the leaders cascading toward the inside of the two poles on the front. Some people like to float the quilt top. Other techniques may affect the loading.

## Step 17: Adjusting the Frame Height

This is the time when you can go back and worry about leveling the table. After you take into consideration the items in the instructions and raise the table accordingly, you can worry about leveling.

### Common Problems:

- Casters have made the table too high for a short quilter. < 5'3"
- The floor is so unlevel that you need additional spacers.
- Customer wants furniture movers under the feet. Do them before leveling.
- Lowering the table is more difficult and can require two people.

**Tip:** If you get under the table on all fours and lift your back up against the table, you can raise each foot on your own. (If you are tall enough.) Best to move the machine to the opposite end of the table.

**Tip:** Balancing the table can best be done by using the machine as a level. If the machine or carriage stops and starts moving in the opposite direction, you are

out of balance. Just start at one end and work the way to the other. Making sure you have enough threads exposed in the feet for adjustment.

Tip: Looking down at the floor: Clockwise = UP. Counter-clockwise = Down

## Installing the Machine with Pro-Stitcher

Allow time for a full service and timing should it be necessary.

By the condition of the boxes, it is apparent that the system takes a pretty good beating in shipping. Many of the manufacturing issues have been addressed, however past experiences are mentioned here. When deploying a new machine with Pro-Stitcher, the independent machine and PS manuals don't provide a clear sequential process. As you saw in the frame build process, there is a logical time to get the PS and machine on the table. So, the unboxing and setup of the PS and machine tend to overlap.

You will want to review the *Pro-Stitcher Forte Amara Getting Started Guide* for installation instructions. This guide supplements the instructions provided there.

### Unboxing the Pro-Stitcher

The three main things in the box are the PS carriage, the blue X-axis long track, and the Y-axis short track bracket. Make sure you have secured the front track to the table edge before placing the carriage on the table. The short y-axis track metal bracket is in the black packaging material and can be easily missed. Pull it out and set it aside to later be attached to the machine.

Tip: Unbind the blue track ahead of time so it can start to straighten out.

## Attach the Blue (X-axis) Track/Flexirack to the Table

With the front table track/rail firmly secured to the front edge of the table, place the carriage on the table. (We suggest you wait until you have the weight of the machine on the carriage to later position and secure the back track/rail to the table.)

The manual refers to the blue track as “Flexirack”. Other than in the manual, we usually hear support describe it as the ‘blue track’. The X-rack and Y-rack refer to the blue track and y-bracket accordingly.

TIP: Have something heavy to hold down the ends of the blue track as you work. Having been rolled up, it can pull up from the table.

TIP: Use the light of your smart phone to light beneath the carriage by setting it upon the carriage near the X-axis gear.

Use the big black hex wrench to raise and lower the gears down on the blue track through the front hole in the carriage. A dexterous set of fingers could alternatively reach under and rotate the stepping motor axil to engage the gears. Getting started is the trickiest part of the process. Once you move a little way from the end of the table, you can place something heavy on the track to keep it from pulling up. Viewing from the side of the carriage, you should be able to guide the track down on the table keeping the wheel centered on the track. The double-sided tape will handle being pulled back up from the table to reposition.

TIP: You will require a tool to cut the blue track to length. (This is not called out in the installation manual.) We suggest using a diagonal cutter to cut the blue track.

Installing the metal clamps is best done 2-3 inches from the end. If you do not have a drill, the screws will dig themselves into the table if you apply enough pressure. A good Phillips screwdriver is helpful.

## Unboxing the Machine – “Birthing the Baby”

We recommend making the unboxing of the new machine a special occasion. Make sure you have a camera ready. Open BOTH ends of the box and carefully collect the metal staples. From one end of the box, get on the floor and push the machine (in the pink foam) out the opposite side of the box.

REMINDE THE CUSTOMER TO KEEP BOTH THE MACHINE AND PRO-STITCHER BOXES.

Lay the machine in the pink foam on its ‘encoder side’ (left side from the front). This will allow you to install the Y-rack bracket.

## Installing the Y-Rack/Y-axis Track Bracket

With the machine still sitting in half of the pink foam, attach the bracket to bottom of the machine at wheel axis in front and back. Do not tighten the screws completely as you will need to adjust them later.

Common Problems:

- Paint would clog the threads of the hole making it difficult to impossible to get the screw in. HQ is supposed to be checking these wholes before leaving the factory.
- The bracket comes into contact with the motor on the new carriages and prevents good alignment. HQ has modified the bracket. See further explanation during alignment.
- Finding the screws. Remember that these screws come with the Pro-Stitcher and not in the machine box.

## Lifting the Machine to the Frame/Table

Warning: Never lift the machine using the needle/hopping foot bar (grey) assembly.

The Y-axis encoder on the machine can catch up in the pink foam. Have another person help if they are available. The center of gravity is at the base of the throat.

**TIP:** When lifting a machine by yourself, insert your forearm at the base of the throat on the machine. Let the machine rest on your arm as you lift and use the other hand to balance and guide the machine.

The Infinity machine is too heavy and large for one person to safely lift. Please plan on having someone available to help.

## Attaching the Handlebars

**TIP:** Check to see that the handlebar levers do not face the back of the machine. it will hit the back bar.

The handlebars are not difficult to install. There is a common problem with the tightening levers that can cause the loss of quilting space when the lever hits the top back bar. In the 'tight' position it may point to the back. If this happens, you can adjust the lever. On the Amara and Forte handlebars, it is possible to have some of the parts 'get lost inside the bar, so be careful not to unscrew it completely. It is a bit of work to get them back. You may want to take the handlebars off the machine to adjust.

Adjusting the direction of the levers requires that you only loosen the screw. It is spring loaded and can be rotated 180 degrees without removing the screw.

## Connecting the cables

The cabling issues are few, but here are a few true confessions of issues that we have run into...

- Installing the power lead into the front of the Amara and Forte requires that you remove the front plastic cover. There is a ground wire that needs to go around the screw when you reassemble the machine. It is easy to forget.
- Some people can try to put the power lead from the USB hub in the back to an audio jack instead of the power jack on the tablet.

- DO NOT pinch off the wires when reassembling the front panel. Do NOT pinch wires anytime! Especially when reassembling the shell of the machine. Front and back.
- The Pro-Stitcher cable to the back of the machine comes with a plastic clip that needs to be attached to the back of the machine. When it was first introduced, I used it on the encoder cable by mistake.
- If you use a screwdriver to tighten any of the slotted retainers on a connector, be very careful not to break the tabs.
- The Infinity still uses the thin ribbon-cable (grey) going back to the X-encoder. This is fragile and can be damaged more easily than the new wired encoders.

## Initial Power-On Inspection

These are some recommendations. Feel free to add your own.

- Check needle position and manually cycle the needle up and down.
- Take the bobbin out and run the machine in regulated mode to test the encoders before turning on the Pro-Stitcher. Doing some basic testing before threading up the machine will tell you if you have cables properly attached. (You may need to disable the thread break sensor.)
- The first boot of the Pro-Stitcher can be slow and problematic. You may need to reboot it.
- Check the Y-track position after it engages with the gear.
- Make sure you have removed the large black hex wrench from the carriage manual engage/disengage port on the front or you will get a loud grinding noise when it tries to initialize.



# Technical Service Tips

Real world experiences doing adjustments on the machine.

## Opening the Machines

### *Infinity*

This is a unique machine with the front and back plastic covers.

- Front cover: pay attention to where the screws came out and their length. Putting a long screw in the wrong place can damage the machine.
- Back cover: you must unscrew the back-power panel to separate the halves.
- Back cover: it is normal to see some black powder from the belt. Even after 90 Million stitches, MK's machine belt still looks good.

### *Forte and Amara*

These machines are identical except for the throat depth.

- Don't forget to remove the screw from the power plug in the back. The screws have been moved to the non-thread side, but the thread side of the machine still comes off.
- Don't forget to turn the large hex screw in the base of the throat area one turn to remove pressure on the baseplate or you won't get the side to come off.
- Remember to reach in and disconnect the wires going to the cover being removed. Treat this as a fragile connection.

### *Avante, Simply 16/Sweet 16 and HQ 16*

These machines are extremely similar. The primary difference in the generations of Avantes is the power supplies.

- Always start with the C-pod (on the thread side of the machine). If there is a large power supply there, you have an OLD gen 1 or 2 machine. I am not sure when the single 48v power supply was introduced.
- Taking the second power supply off requires you to remove/loosen the black hex screws on each side. When reattaching them, do not over tighten as you can pinch and strip the plastic case.
- Take a picture of the wires attached to the circuit board before removing them.

- Getting the top power wires mixed up at the top of the machine will result in beeping when you power up, but no smoke.
- Pay attention to the number and routing of the cables you remove.
- The larger rectangular connectors to the circuit board are the handlebar cables. They can be reversed without an issue.
- On most of the old machines you will need to loosen the base plate screws (on the bottom of the machine) so the machine can rock enough to get the side clear of the bottom.
- Make sure the take-up lever is in a mid-position, so you are not hitting it as you remove the cover.

## Closing a machine

- DO NOT PINCH OFF WIRES!
- Do not forget to tighten the base plate screw(s).
- Using a power drill with a clutch is a great help, but make sure you go around with the simple L-shaped hex tool and torque the screws until the tool is flexing.
- The Infinity is the only machine that can be damaged by using the wrong screw.
- DO NOT FORGET TO CONNECT THE Amara/Forte internal cable going to the thread side of the case as you reassemble the chassis.
- Make sure you get ALL wires passed through the case on the Avante machines.

## Avante Firmware Updates

Unlike the new machines that can be updated using a USB memory stick, the Avante has to have the C-Pod circuit board and the two control panels on the handlebars updated using programmer. Older Avantes cannot take advantage of all of the PSP features unless they have the update.

MK Quilts has the programmer available. It requires a laptop and a lot of explanation beyond what they provide. We will update this section as time permits.

The programmer can be shipped priority mail for about \$10. MK Quilts will charge \$25 for the first two times you use it to help cover the \$150 cost. If you want to order your own, I think you can make the request through support and we will invoice you.

## Did you know?

HQ 16 handlebar issue – The HQ 16 handlebars do not work when PS is used. Use the half and full stitch buttons in PS to get around this.

TO BE CONTINUED