YOU WILL NEED TO PURCHASE:

5 pieces of 1-1/4” thin wall metal conduit (EMT) cut to your preferred length for the rollers. (Maximum 120”)

DETERMINING YOUR ROLLER LENGTH:

Determine the width of the widest quilt you would like to make on the frame. Add min. 8” to that width for your final roller length. The extra 8” allows for extra room for your machine at the sides of the quilt. You also may want to have an open space at the end of your frame to wheel your machine out from under the quilt for maintenance.

If you would like to have 2 sets of rollers, we have a hardware package available. Please call (319) 378-0999 or visit our website at www.hinterberg.com.

OPTIONAL TEMPLATE SURFACE:

A 1/2” x 8” pine board, cut 1-1/2” longer than your roller length can be used for a template board surface.

Pre-patterned grooved template boards are available from us at an additional cost. Board length fits 10’ rollers. A 1/2” x 8” pine board is required to support the grooved template board.

STAINING & FINISHING:

Applying a stain and finish to the frame is optional. It will not harm it to leave it unfinished. If you wish to stain or finish your frame, it is easier to do before you assemble it. What stain you use depends on your own preference, but we recommend using a penetrating oil base wipe-on stain or a combination stain/polyurethane for best results. Since there are moving parts on your frame, we do not recommend any finish like varnish or shellac that build up on the surface of the wood.

Please see our website www.hinterberg.com or call (319) 378-0999 or email info@hinterberg.com with questions.

Revised 10/08
MACHINE QUILTING FRAME
### End Frame Hardware

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PART#</th>
<th>QTY.</th>
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<tbody>
<tr>
<td>Height Adjuster Assemblies</td>
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<tr>
<td>1/4” x 1-1/4” Hex Head Screws</td>
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<td>8</td>
</tr>
<tr>
<td>1/4” Metal Washers</td>
<td>3021</td>
<td>11</td>
</tr>
<tr>
<td>1/4” x 1-1/2” Hex Head Screws</td>
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</tr>
<tr>
<td>Small Plastic Washers</td>
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<td>3</td>
</tr>
<tr>
<td>Large Black Star Knobs</td>
<td>3076</td>
<td>14</td>
</tr>
<tr>
<td>3/8” x 2” Carriage Bolts</td>
<td>3054</td>
<td>4</td>
</tr>
<tr>
<td>Phillips Head Wood Screws 1 1/4”</td>
<td>3028</td>
<td>12</td>
</tr>
<tr>
<td>Lock Pins</td>
<td>3105</td>
<td>4</td>
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<tr>
<td>Teflon Tape</td>
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### Carriage Handle Hardware

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>Knobs with Short 5/8” studs</td>
<td>3112</td>
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<tr>
<td>Knob with Long 1 1/8” stud</td>
<td>3113</td>
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<tr>
<td>Machine Screws 1/4” x 3/4”</td>
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<td>3</td>
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<tr>
<td>Plastic Washer</td>
<td>3037</td>
<td>1</td>
</tr>
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</table>

### Carriage Handle Parts

- U - Shaped Handle: 2041 (1)
- T - Shaped Handle: 2042 (1)
- I - Shaped Handle: 2043 (1)
- L - Shaped Handle: 2044 (1)

### Leg Brace Hardware

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
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<th>QTY.</th>
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</thead>
<tbody>
<tr>
<td>Black Star Knob with Stud</td>
<td>3106</td>
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</tr>
<tr>
<td>3/8” Hex Nut</td>
<td>3029</td>
<td>4</td>
</tr>
<tr>
<td>J-Hook</td>
<td>3045</td>
<td>8</td>
</tr>
<tr>
<td>1/4” Metal Washer</td>
<td>3021</td>
<td>8</td>
</tr>
<tr>
<td>1/4” Wing Nut</td>
<td>3032</td>
<td>8</td>
</tr>
</tbody>
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### Roller End Hardware

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PART#</th>
<th>QTY.</th>
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</thead>
<tbody>
<tr>
<td>Barrel Nuts</td>
<td>3031</td>
<td>3</td>
</tr>
<tr>
<td>1/4” Metal Washers</td>
<td>3021</td>
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<tr>
<td>1/4” x 1 1/2” Hex Head Bolts</td>
<td>3053</td>
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<tr>
<td>Hex Head Wrench</td>
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<tr>
<td>Metal Roller Inserts w/ 3” bolts</td>
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### Center Support Hardware

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<tbody>
<tr>
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<tr>
<td>Allen Head Bolt</td>
<td>3041</td>
<td>4</td>
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<tr>
<td>3/8”x2” Carriage Bolt</td>
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</tr>
<tr>
<td>3/8” Metal Washer</td>
<td>3022</td>
<td>1</td>
</tr>
<tr>
<td>1/4” Metal Washer</td>
<td>3021</td>
<td>4</td>
</tr>
<tr>
<td>1/4” Wing Nut</td>
<td>3032</td>
<td>4</td>
</tr>
<tr>
<td>3/8” Wing Nut</td>
<td>3018</td>
<td>1</td>
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<tr>
<td>Barrel Nut</td>
<td>3031</td>
<td>4</td>
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<tr>
<td>Allen Wrench</td>
<td>3043</td>
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### Tools Required

- Phillipshead screwdriver
- Hammer

### Pointer Package Hardware

Included, see page 19
## MACHINE FRAME WOOD PARTS LIST

<table>
<thead>
<tr>
<th>A</th>
<th>Left End Frame</th>
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<tr>
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<tr>
<td>C</td>
<td>Front left roller support guide</td>
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<tr>
<td>D</td>
<td>Front right roller support guide</td>
<td>4026</td>
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</tr>
<tr>
<td>E</td>
<td>Right template support</td>
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<tr>
<td>F</td>
<td>Left template support</td>
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<tr>
<td>G</td>
<td>Angle brace 1</td>
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<tr>
<td>H</td>
<td>Angle brace 2</td>
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</tr>
<tr>
<td>I</td>
<td>Middle roller support guide</td>
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<td>J</td>
<td>Ratchet Wheels</td>
<td>4017</td>
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<td>K</td>
<td>Left rear roller support</td>
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<td>L</td>
<td>Left middle roller support</td>
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<td>M</td>
<td>Left spacer</td>
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<td>O</td>
<td>Right middle roller support</td>
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<td>S</td>
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<tr>
<td>T</td>
<td>Pawl</td>
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<tr>
<td>U</td>
<td>Upper Carriage</td>
<td>MQF UC</td>
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<tr>
<td>V</td>
<td>Lower Carriage</td>
<td>MQF LC</td>
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<td>W</td>
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<td>X</td>
<td>Top support w/ round hole</td>
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<td>Y</td>
<td>Center Support Roller Bracket</td>
<td>4076</td>
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<tr>
<td>Z</td>
<td>Center Support Upright</td>
<td>4083</td>
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</tbody>
</table>
END FRAME ASSEMBLY INSTRUCTIONS

Locate bag of hardware labeled “End Frame Hardware”

STEP 1.
Assembling Front Roller Supports
Use 1 1/4” Phillips head wood screws to attach the spacers to the front roller supports, matching slots and pre drilled holes. See Fig. 1

STEP 2.
Attaching the Pawls
The pawls are only attached to the right spacer and the right middle and right rear roller supports. Insert a hex head screw (in small bag) and metal washer through the ratchet pawl as shown in Fig. 2. The small plastic washer, goes between the pawl and the pole support to make the pawl work smoothly. Tighten the screw so the pawl swings easily. You will need to use either a 7/16” wrench or the Hex Head Wrench found in the bag labeled “Roller End Hardware”. See Fig 2a and 2b for correct placement of the pawls.
STEP 3.
Template Support
Locate the right end frame and the right template support. Both inside and outside edges of the end frames are rounded over. The template supports are only rounded over on one edge. The flat side goes against the end frame for a close fit.
Lay the end frame on a flat surface and attach the right-hand template board support with four 1 1/4" Phillips head wood screws. See Fig 3.

STEP 4.
Roller Support Guide
Locate the right front roller support guide and the right middle roller support guide and lay them on the right end frame as shown. See Fig. 4. The purpose of the rectangular guides is to keep the middle and rear roller supports aligned vertically.
As with the template support, the side of the guide without the rounded edge lies against the end frame. The large hole in the front support should line up with the hole in the end frame.
You will be attaching the guides to the end frame with (4) 1/4" x 1-1/4" hex head screws. Place a 1/4" steel washer onto the screw. Insert the hex head screw through the guide, and then screw into the end frame loosely. The screws will be tightened after attaching the roller supports. There is a wrench included in the “roller end hardware” bag, that can be used for these screws.

STEP 5.
To Prevent Roller Supports From Sticking
In the ‘End Frame Hardware bag’ you will find blue strips of Teflon tape. These are actually clear strips of Teflon tape with blue backing. Remove the blue backing and apply the strips of tape to the wooden parts before assembly. See Fig. 5
Apply 3 1/2" strip of Teflon tape to edge of template support.
Apply 5" strip of Teflon tape to both edges of middle roller support guide.
Apply 6" strip of Teflon tape to edge of front roller support guide.
This tape will allow the wooden parts to glide smoothly past each other when raising and lowering the roller supports.
STEP 6. 
**Height Adjusters**
Lay the right side end frame on a flat surface. Locate the height adjuster assemblies. Lay two height adjuster bolts into the slots in the end frame. (The hole is slightly oval to allow for minor variations in wood.) Notice the hole in the barrel nut is off center. The smaller end faces outward (towards you). See Fig 6.

![Fig. 6](image)

---

STEP 7. 
**Assembling Roller Supports**
Holding the rear roller support in your hand, flip it over and place it as shown in Fig 7. Now the height adjuster is sandwiched between the end frame and the roller support.

Tighten the screws evenly in the middle roller support guide, easing the guide toward the rear support. Repeat with middle roller support. Tighten the screws evenly in the front support guide, easing the guide toward the middle roller support.

The first time you use the height adjuster screws, you will need to turn the screws until they pull themselves all the way up into the roller support. They will be a little bit loose in the grooves. This is normal and will not affect their function.

![Fig. 7](image)
STEP 8.
Attaching Roller Supports
Insert a 2” carriage bolt through the hole in the slot in each roller support and through the corresponding hole in the end frame. The square base of the head of the bolt should sit down in the slot. Lift up the end frame slightly and screw a black knob onto this bolt from the outside of the frame to hold it in place. See Fig 8.

STEP 9.
Front Roller Support Assembly
To attach the front roller support to the middle roller support. Insert the aluminum bearing (attached to the middle roller support) into the large hole in front roller support. See Fig. 9.
Insert a lock pin as shown in Fig. 8 to hold front roller support in either the up or down position.
Fig. 8 shows the outside view of the completed right side end frame.

STEP 10.
Left Hand End Frame Assembly
The left hand roller supports and guides are attached in the same manner as the right.
Repeat steps 3 through 9 to complete the left hand end frame assembly. Fig 10 shows the completed outside view of the left end frame.
ROLLER END ASSEMBLY INSTRUCTIONS

Locate bag of hardware labeled “Roller End Hardware”

STEP 1. Inserting Metal Roller Ends
Tap the inserts into the end of the metal rollers evenly with a hammer. Don’t tap on the end of the bolt, because you may damage the threads. Tap around the edges of the silver round end. If it goes in unevenly at first, keep tapping, it should straighten itself out as it goes in. The metal edges of the insert should be seated on the ends of the roller. If the roller ends are rough, you can file them down. Repeat until all rollers have inserts on both ends. See Fig. 1 & 2

NOTE:
If, in the future you wish to make your frame longer or shorter, you can order additional metal inserts and required hardware to build additional rollers and carriage tracks. Call us at (319) 378-0999 for details
STEP 1.
Assembling Ratchet Wheels
The 3 ratchet wheels will be attached to the right end of 3 of the conduit rollers. Using the hardware found in the ‘roller end hardware’ bag, slip the 1/4” washer onto the hex head bolt and then screw the hex head bolt into the barrel nut only about 3 or 4 turns. Lay the bolt assembly into the pocket in the ratchet wheel. See Fig 1. The bolt assembly must lay flat inside the pocket or it could rub against the inside of the end frame.

FIG. 1

STEP 2.
Attaching Ratchet Wheels to Poles
Slide the ratchet wheel onto the end of the conduit. The wheel should be flush with the end of the conduit. If the edges of the conduit are a little rough you will want to file them smooth for easier assembly. Tighten the hex head bolt using the hex head wrench provided. See Fig 2. Just snug it up so the bolt assembly doesn’t fall out.

Repeat steps 1 and 2 to attach ratchet wheels loosely to the ends of 3 of the conduit rollers.

FIG. 2

STEP 3.
Tightening the Roller Ends
Tighten all three ratchet wheels onto the conduit. See Fig. 3.

FIG. 3
STEP 1.
Attaching the Carriage Tracks
Before attaching the leg braces to the end frames, you will need to attach the end frames and the carriage tracks. To do this, stand both end frames up and insert the front carriage track through the hole in each end frame. Slide the rear carriage track into the slots in the rear of the end frames. See Fig 1. Screw a black star knob onto all of the roller end bolts loosely.

FIG. 1
LEG BRACE ASSEMBLY INSTRUCTIONS

Locate bag of hardware labeled “Leg Brace Hardware”

STEP 1.  
Angle Brace Assembly
Locate the (4) angle braces. The angle braces anchor the carriage track to the end frames. This provides stability for the whole frame.

The angle brace is designed to hold the roller support with the J-hook bolts. The J-hooks are used to secure the angle braces to the front carriage support roller and the rear carriage support roller.

Place the leg brace on carriage track as shown in Fig. 1. Insert a J-hook bolt thru the hole in the angle support and secure with a small washer and a wing nut on the inside of the frame.

The other end of the angle brace attaches to the end frame. Insert a large hex nut in the slot in the end of the angle brace. Screw the black knob with post through the end frame into the nut. This will secure the angle brace to the end frame. See Fig 2 & 3.

STEP 2.  
Place Carriages on Rollers
Place the lower carriage onto the rollers. The double wheel assembly (See Fig.4) sits on the front roller.

As you can see from the picture, the J-hook bolts are designed to clear the wheel assembly. If you are having trouble with your carriage hitting the J-hook bolts, you may have your carriage on the frame backwards.

Place your upper carriage onto the lower carriage.
STEP 1.
Assembling the Rollers
Set each of the end frames so that the front roller support is in the ‘up’ position. Set each of the 3 conduit rollers into the slots in the end frame. All of the ratchet wheels should be on the right hand side of the frame.

Screw a black star knob onto all of the roller end bolts loosely.

During quilting, the pawls will catch the ratchet wheels and prevent them from turning in order to keep tension on your quilt.

See Fig 1 for roller locations.

NOTE:
Fig 1 shows strips of fabric attached to the rollers. Your quilt layers will be pinned to this fabric. You can provide your own fabric for this purpose or you can order it pre-cut and serged from us. Call us at (319) 378-0999 for details.

Step 2. Lock Pins
Two more lock pins are used to hold the front roller in its slot while it is in the down position. They are inserted thru a square hole in the front spacer Fig 2. shows the lock pin location, the pole is not pictured. Remove the lock pins before attaching the roller to the end frames.
CENTER SUPPORT INSTRUCTIONS

Locate bag of hardware labeled “Center Support Hardware”

STEP 1.
Lay the Center support upright in the pocket in the Top support w/ round hole. See Fig. 1

Lay the Top support with the square hole on top of the other two parts as shown in Fig. 2.

STEP 2.
Insert the carriage bolt through the hole. The square head of the carriage bolt should sit in the square hole in the top support. See Fig. 3. Flip the center support assembly over and secure carriage bolt with 3/8” washer and wingnut. See Fig. 4.

STEP 3.
To attach roller brackets, insert barrel nut into the holes on the side of the top support. See Fig. 5.
STEP 4.
Insert allen head bolts through roller bracket. The scoop on the roller bracket is located towards the top of the center support. See Fig. 6.

Use four barrel nuts and allen head screws to attach the roller brackets to each end of the top supports.

STEP 5.
Make sure the front and rear of the center support are oriented correctly. See completed picture below.

Attach the center support to the two carriage rollers using the J-hook screws. Secure the J-hook screws using a 1/4” washer and wing nuts. See Fig. 7

Using all 4 J-hook screws, attach both ends of the center support to both of the carriage track rollers.
CARRIAGE HANDLE INSTRUCTIONS

Locate bag of hardware labeled “Carriage Handle Hardware”

STEP 1.
Begin Handle Assembly
Use machine screws to attach L-shaped handle part to bottom of upper slide. See Fig. 1.
The slide has threaded inserts in the bottom. Insert the first screw part way, carefully engageing the threaded insert. Similarly, insert the second and third screw part way before going back and tightening all three.

STEP 2.
Assembling T-Bracket
Slide T-bracket over top of L-shape handle part. Screw knob with a short stud partway into T-shaped bracket. The knob should angle towards the back of the slide. Tighten at desired height. You can re-adjust it later when you mount the sewing machine on the carriage. See Fig. 2.

STEP 3.
Assembling Metal Handle
Slide I-horizontal handle support bar into the top of the T-bracket. Tighten in place with knob with short stud. The holes drilled thru the bar should be located on the sides of the bar. See Fig. 3.

STEP 4.
Attaching U-Handle
Insert knob with long stud through I-horizontal support, and into U-handle. See Fig 4. If you have trouble tightening this knob down all the way, insert the plastic washer in between the knob and the horizontal support.

A tip for positioning the U-Handle:
Tighten the U-handle knob until it is snug. Hold knob and turn the handle itself in a tightening direction, while tightening the knob. After a few tries alternately tightening the knob and moving the U-handle, you will end up with the handle in the position you want and it will be tight.
STEP 1.
Assembling Stylus Fastener
Thread the small black knob into the stylus fastener.
Place the U-shaped metal piece into the stylus fastener as shown in Fig 1.

STEP 2.
Attach Stylus Holder
Slide the stylus fastener (with the u-shaped piece inside) onto the T-support (See Fig. 2) and insert the stylus thru the large holes (See Fig. 3). Tighten the black knob until the stylus fastener is holding the stylus securely. The metal U-shaped piece protects the side of the wood from the end of the knob.

Parts:

<table>
<thead>
<tr>
<th>Parts</th>
<th>Part #</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Wood T-support</td>
<td>1201</td>
</tr>
<tr>
<td>B Wood gripper</td>
<td>1200</td>
</tr>
<tr>
<td>C Wood stylus holder</td>
<td>1202</td>
</tr>
<tr>
<td>D Black Bar Knob</td>
<td>3116</td>
</tr>
<tr>
<td>E Small black knob</td>
<td>3077</td>
</tr>
<tr>
<td>F Laser Pointer</td>
<td>3078</td>
</tr>
<tr>
<td>G Metal stylus fastener</td>
<td>3079</td>
</tr>
<tr>
<td>H Metal U-shape</td>
<td>3080</td>
</tr>
</tbody>
</table>
STEP 3.  
Attach Gripper to Carriage
Insert the stud on the large knob through the gripper and into the threaded hole in the T-support.
You can screw the knob into the hole a few turns and then slide it onto the end of the carriage. See Fig 4
One side of the gripper is larger than the other, make sure that you have the gripper oriented the correct way (See Figs 5 & 6). If incorrectly assembled it will tilt slightly up on one side.

STEP 4.  
Attach Laser Pointer
Set the laser pointer in the large hole in the end of the stylus holder. You may want to cut off the key ring with a wire cutter. To turn on the laser pointer, push it down so that the button is depressed. When you are done using the laser pointer, raise it back out of the hole so that it turns off again. See Fig. 7

STEP 5.  
Template Stylus
The end of the stylus has been turned down to fit inside a 1/4" template groove.
Loosen the small black knob and lower the stylus down into the groove. When not using the template stylus, you can secure it above the height of the template board so that it doesn’t interfere with your laser pointer.
You can order template boards with pre-cut patterns from our website, or you can create them yourself with a hand-router.
TIPS FOR USING TEMPLATES

- You can reverse your Machine Frame handles by removing the hand speed control and the knob at the top of the “T” part of the handles. Slide the crossbar out, reattach your handles on the rear of the frame, reattach your hand speed control and then you are comfortably seated at the rear of the frame.

- Some people find it helpful to add friction to your carriage movement for template quilting. This will slow down your carriage movement and may make it easier to follow patterns. Simply lower your rear roller support until it is rubbing on the base of your machine. You can offset, repeat, and reverse patterns to create new designs.

- Many quilt magazines are including machine quilting patterns. They are easy to photocopy and trace onto your quilt.

- The gripper attaches to both sides of the carriage, slides along the carriage edges, and the stylus fastener slides along the t-support for versatility.

- A good way to start a pattern in an exact spot on your quilt is to put the needle into the fabric at the point that you would like to begin the pattern. Then adjust your stylus location using the gripper and fastener knobs to point to the beginning point in your pattern.

- Our website has more tips on how to use your pointer package and template boards. Please go to: www.hinterberg.com/tips.aspx
END TENSIONERS

Attach sticky back Velcro to end frames. Attach spring clamps to edge of quilt. Pull edges of quilt tight and secure to end frame using attached Velcro.

Your quilt backing may be much wider than your quilt top. Attach end tensioners to edge of quilt back and use pins to secure edge of top to backing.

If you are quilting a small quilt or wall hanging on a 10’ frame, you may need to purchase some extra Velcro to make your end tensioners longer.
STEP 1. Setting Carriage on Tracks
This picture shows the correct orientation of the lower and upper slide on the carriage tracks. See Fig. 25. The upper slide sits on the lower slide, which in turn sits on the carriage tracks. The front of the frame is to the right. Note the lower slide sits with the double wheels on the front track and the single wheel on the rear track. This orientation is important. If the bottom slide is reversed, the diagonal leg braces on the rear carriage track will interfere with the double wheels and prevent the slide from moving to the end of the rollers.

STEP 2. Adding the Sewing Machine
To set the sewing machine on the frame, you will need to lift the rear roller out of its slot. See Fig. 25

Slide the roller into the neck area of the sewing machine and replace the rear roller in its slot. See Fig 26

You may need to adjust the position of your machine on the carriage in order to get the maximum quilting area.

Tighten all the knobs on the frame and get ready to start quilting!

You will need to adjust the height of the rear roller as the finished quilt gets rolled on to this roller. The quilt should just glide across the bed of the machine. The rear roller should be approximately 1/4” off the bed of the machine. See Fig. 27

If you have trouble adjusting the roller height with the height adjuster knobs, you can remove them and just slide the roller supports up and down.
DIRECTIONS FOR MAKING AND ATTACHING LEADERS (APRONS)

Your quilt layers will be basted or pinned to fabric leaders (aprons) that you must attach to the rollers first.

We offer a fabric kit, that you can purchase from us. The fabric kit includes cotton drill, 118” long, cut to the proper measurements and serged. Or you can easily make them yourself.

To make your leaders (aprons), any sturdy fabric may be used. Heavy fabrics such as canvas will be difficult to pin or baste. Do not use stretchy fabrics or knits.

1. You will need three strips of fabric, one each for the front, middle and rear roller. The length of the fabric leader is determined by measuring your roller length and subtracting two inches. (eg. 120" rollers – 2" + 118" leaders). The three leaders will be cut from this length of fabric.

2. For the Original Machine Quilting Frame, you will cut one length about 15” wide, one 10” wide and one 5” wide.

3. Zigzag or serge the long edges of the fabric to avoid raveling.

4. See next page for more photos and instructions on how to attach the leaders.

Front roller

Rear roller

Center roller

Tape aprons to rollers with cloth tape. The tape will be covered by the aprons when in use.

Front apron, 15” wide. Attach to the quilt top and batting.

Center apron, 10” wide. Attach to the quilt backing.

Rear apron, 5” wide. Attach to the quilt top, batting, and backing.
DIRECTIONS FOR ATTACHING LEADERS (APRONS)

STEP 1
Standing at the front of your frame, or so that the end of the frame with the ratchet wheels is on your right side. Tape the long edge of the fabric to the rollers using any heavy-duty tape, such as duct tape or cloth mending tape.

The 15” wide apron goes on the front roller. The 10” wide apron goes on the middle roller, and the 5” wide apron goes on the rear roller.

The aprons must be taped on straight. Start by using several small pieces of tape spaced out across the roller. See Fig. 1

You can look down the end of the roller to see if it is straight. See Fig. 3 below.

Then put one long strip of tape across the whole roller. See Fig. 2

The leaders will roll over the top of the roller toward the back of the frame. See Figs. 3 and 4

The leaders will drape off of the rollers, providing an edge to pin your quilt to. See following pages on how to attach the quilt layers.
LOADING YOUR QUILT ONTO THE FRAME

These instructions are written as though you are standing in front of your frame, or so that the end of the frame with the ratchet wheels is on your right hand side. Take your time with this process, as it is critical for satisfactory results.

Step 1.
Remove the lock pins in the middle roller support and raise the front roller, as shown in Fig. 1. Replace the lock pins to hold the roller in this position.

The backing layer is attached first. For best results:
- Trim selvages
- Cut your backing at least 8" longer than the top and at least 4" wider than your top (2" on each side). If possible, the seams in your backing should run parallel to the rollers.
- Mark the center of the backing and the center of the front, middle, and back roller aprons.

Remember when you are placing your quilt on the frame, that you will need an open space of approx. 6-8" on one end of the quilt to access the bobbin area of your machine. We recommend leaving this space on the left end of the frame because your pointer package is usually mounted on the left hand side of the carriage and will not interfere with the end frame on the left side. If you have a very large quilt, this area can be eliminated, but it makes accessing your bobbin difficult.

Step 2.
To begin, spread your backing fabric across the frame with the bottom edge closest to you. Backing fabric is wrong side up. See Fig. 1

Standing at the front of the frame, with the leader hanging, match the center of the backing fabric with the center of the leader on the middle roller.

Remember to readjust your center mark on your fabric if you are leaving a machine access area on one end of the frame. You can do this by moving the center mark on all of your aprons 8" to the right, or by moving the center marks on your backing and top fabric 8" to the left.

Pin the center of the edge of your backing fabric to the edge of the middle roller leader. The leader will roll over the roller and be pulled away from you. Proceeding from the center to the sides of your quilt, pin the edge of the backing fabric to the edge of the leader. A good method is to begin by placing a pin every foot or so, check to see that the fabric is on the frame straight and the edge of the backing fabric is parallel to the rollers. After you have made any necessary adjustments, fill in the rest of the edge with pins every inch or so. See Fig. 2
Step 3.
Gripping the middle roller with your hands, roll all but approximately 18” of the backing fabric onto the middle roller. It may help to have two people to roll this on large quilts. Make sure there are no wrinkles in the backing fabric as you roll, and make sure the fabric is not being stretched as you roll.
Now you will be looking at most of the backing fabric rolled onto the middle roller, and the other edge of the backing fabric hanging down off the roller.
Take this second edge of backing fabric and pin it to the leader on the rear roller, using the same method that you used on the first roller. (See Fig. 3) Place a few pins, make sure that the tension is even all along the length of the roller, and fill in the rest of the pins.
**Note that the leader on the rear roller should roll off of the bottom of the roller and be pulled towards you, while the middle roller leader rolls off the top and is pulled away from you.**
Now your backing fabric is attached to the frame. See Fig. 4

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Step 4.
Next you will attach your batting and quilt top. The batting and quilt top are attached at the same time.
First, spread your batting out across the frame with the edge parallel to the front roller as you did with your backing fabric. See Fig. 5
It is important at this step to make sure your batting does not have any wrinkles or is not being pulled or stretched anywhere.
Step 5. Lay your quilt top carefully on top of your batting. Spread it out evenly. (See Fig. 6) It helps if your quilt backing and batting are approx. 4" wider than your quilt top. This way, if your quilt top is not perfectly straight, you can easily trim away the extra batting and fabric after you are done quilting and the quilt is off the frame. If you are careful to prevent any wrinkles between the batting and the quilt top during this step, it will make rolling these layers onto the frame much easier.

Step 6. Following the same procedure as you did with the backing, very carefully pin BOTH the batting and quilt top to the edge of the leader on the front roller at the same time. The front leader rolls over the roller and pulls away from you. See Fig. 7. Again, roll the top and batting onto the front roller, carefully. Stop every few inches and feel for wrinkles in the batting. You can check the underside of the frame to see wrinkles in the batting. Continue rolling until the rear edge of the top and batting are even with the rear roller.

Step 7. The final step is to pin the rear edge of your quilt top and batting to the rear roller using the same method as before. You have already pinned the backing to that apron, and you will actually be pinning the top and batting to the backing fabric and not the apron. This is critical because if you are sewing near the edge of the quilt top fabric, you will not accidentally sew into the fabric of the leader. See Fig. 8.

Step 8. Remove lock pins and drop front roller to down position. Replace lock pins.

See next page for tips on beginning to quilt.
Tips for beginning to quilt on your Hinterberg Frame

- Drop your feed dogs or apply tape over them so that they are inoperable.
- Set your stitch length to 0.
- You may need to adjust your presser foot pressure and try different presser feet.
- Always bring your bobbin thread up through the quilt with each start.
- Lock your threads with tiny stitches and finish in this same manner to ensure good results.
- Any necessary height adjustments to the rollers should be made after installing your machine. Your machine should glide smoothly under the quilt, without raising the fabric as it moves from side to side.
- When machine quilting, planning your stitching patterns ahead of time will make the job easier and more rewarding. If this is your first try at machine quilting, start with a small quilt with a simple pattern, or even printed fabric. Take some time to get the feel of the machine movement on the frame. Each machine will have limitations depending on the length of the arm of your machine. Even if you have machine quilted before, the technique is different. Your quilt is stationary and you will be moving your machine. If your machine carriage does not move smoothly and easily, check all adjustments to be sure your frame is correctly assembled. It should roll easily both front to back and left to right.
- Begin quilting on the back edge of the quilt and work toward the front. The leaders on the front and middle rollers should be long enough to allow the top edge of the quilt to advance to the quilting area between the middle and rear rollers.
- Use the ratchets to keep the tension of the top and backing even. If the tension is not even on the backing and the top, when you take your quilt off the frame, you will see puckering of the fabric. You can check this from time to time by loosening up the tension on all the rollers and checking the stitch quality.
- With larger quilts, after you have stitched a large portion of the quilt, you may find that the quilting area is limited and you can no longer quilt in the manner you desire. At this point, baste the remaining part of the quilt. Once the quilt is basted, remove it from the frame, turn the quilt end to end (180 degrees) and re-mount the basted quilt using only the middle and rear rollers. In this position you can continue quilting from the area you stopped to the remaining end.
- As with any technique, your stitches will become more even with practice.
- Our website has more tips on how to use your Hinterberg frame. Please go to: www.hinterberg.com/tips.aspx

Machine Quilting Frame Disassembly

1. Unplug power source.
2. Remove the upper handle assembly from the machine carriage.
3. To remove the machine, loosen end knobs on the rear roller. Raise the left end (side without ratchet wheel) of the rear roller enough to guide the machine out from under the roller. Lift out machine. Replace roller into slot.
4. Remove machine carriage.
5. Remove template board.
6. Put front roller into up position. Remove L-shaped lock pins from front roller and loosen knobs.
7. Lift and remove quilt rollers. You can leave the quilt on the rollers if desired.
8. Remove center support brace.
9. Remove angle brace knobs. They can remain attached to the rollers, or use wrench to loosen bolts. Replace the knobs with studs into the angle braces for storage.
10. Remove black knob and rear carriage track.
11. Remove remaining carriage track.
12. Replace all knobs onto roller ends for storage.
Adjusting Roller Supports

We have provided height adjuster screws with black knobs in order to make adjusting your roller heights easier. You should adjust your rear roller so that your quilt just skims the base of your sewing machine. The front and middle roller assembly can be adjusted as well to keep your quilt surface flat.

When you initially assemble your frame, your height adjusters will need to be turned about 10-15 rotations to get the bolts raised into the proper position. You will know they are in the right position when the wooden roller supports begin to raise as you turn the screws. To raise the rollers, loosen the black knobs on the sides of the end frame holding the height adjusters. Turn the black knobs on the height adjusters. If it is difficult to adjust, try lifting the front roller with your hand to help with the weight of the quilt. This helps when raising both rollers. Also, try releasing the tension on your quilt. If it is still difficult, you may need to adjust the roller support guide. To do this, remove the rollers, loosen the 4 lag screws in the roller support guides and push the guides towards the roller supports to squeeze them and add support. It is very important to put the anti-friction tape on the sides of the roller supports so that they slide against each other more easily.

When you load a new quilt onto the frame, you will lower the rear roller so that your quilt is skimming across the bed of the sewing machine. Then lower the front roller so that your quilting surface is flat. As you progress with your quilt, the rear roller will get larger with layers of fabric and batting. You will need to raise the rear roller support so that the quilt doesn’t rub against the base of the machine. You will have to raise the rear roller every few times you advance your quilt, maybe even every time. The front roller however, should need only minor adjustments as needed to keep the quilting surface flat.

The height adjuster screws may seem loose in their slots, however this is normal and does not affect their function.