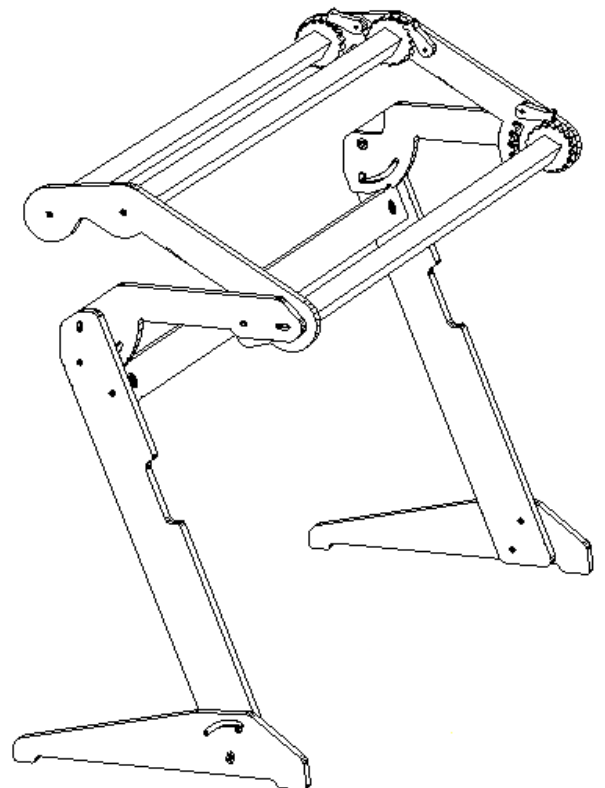


Quilting With The Grace EZ3™ Quilting Frame

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Patent Pending

Care of your EZ3™

The frame may be sealed and/or stained with an application of tung oil which will help preserve the wood and will help to prevent warping. **To add a certain color to your frame, you may use a Danish Oil finish. We recommend the Deft™ or Watco™ brands.** Test stain on an inconspicuous place. Many different finishes and/or stains may be suitable for sealing and beautifying your frame. You may want to consult your local paint retailer for finishes which will apply easily and dry hard-not oily.

Tips

- Store frame in a dry place-preferably with poles and braces in vertical position if not assembled.
- Do not carry the frame by the quilting poles.
- Do not drop the frame or let it twist out of square.

Warranty

Warranty card must be filled out and sent to: **GraceWood, Inc. EZ3™ Warranty**
P. O. Box 27823
Salt Lake City, Utah 84127

GraceWood, Inc. will replace or repair, at our choosing, any part of the Grace EZ3™ Quilting Frame, which may be shown to be defective. Warranty expires one year after the date of purchase and does not cover parts damaged through misuse, improper storage, improper assembly, loss, natural events and willful or accidental destruction. Defective parts may be returned only with a valid RMA# or Returned Merchandise Authorization Number which may be obtained by calling GraceWood, Inc. at **(801) 972-5801**. Warranty registration card must be returned within 30 days of purchase for warranty to be valid.

For correspondence concerning your EZ3™, write to:

The Grace Company
P.O. Box 27823
Salt Lake City, UT 84127

For shipping of materials to the Grace Company address package (postage prepaid) to: The Grace Company, 801 West Layton Avenue, SLC, UT 84104 Materials may be returned only with a valid RMA# or Returned Merchandise Authorization Number which may be obtained by calling GraceWood, Inc. at **(801) 972-5801**.

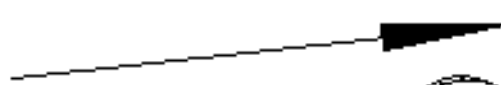
For technical support, call (801) 972-5801. All calls will be returned. Please report any errors in these instructions or make constructive comments to the following:
FAX - (801) 908-8888 - E-mail - info@graceframe.com - <http://www.graceframe.com>

About the Grace Quilting Frame

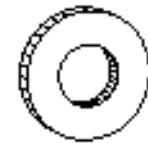
The Grace Quilting System has been developed over the past decade with several original design innovations. Due to feedback from many of the thousands of quilters who have purchased and do use the GraceFrame™, we have been able to make a frame that will really enhance the entire process of hand quilting from beginning to end. If you have any suggestions that will help us to improve our product or service, please write to The Grace Company.

Parts & Hardware

10 - 5/16" Carraige Bolt



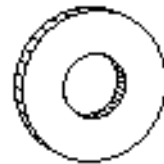
18 - 1/4" Flat Washer (Smallest)



12 - 5/16" Jamb Nut (Thinnest)



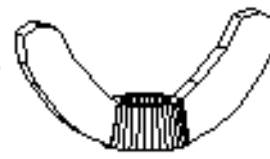
12 - 5/16" Flat Washer (Largest)



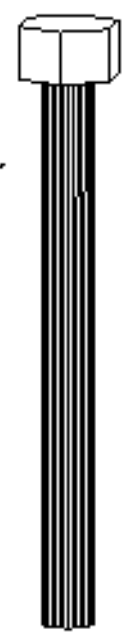
8 - 5/16" Nylon Locking Nut (Thickest)



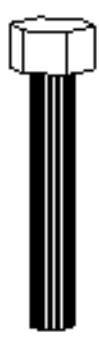
8 - 5/16" Wing Nut



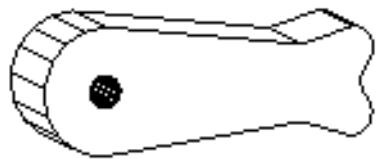
2 - 5/16" X 3" Hex Head Bolt (Longest)



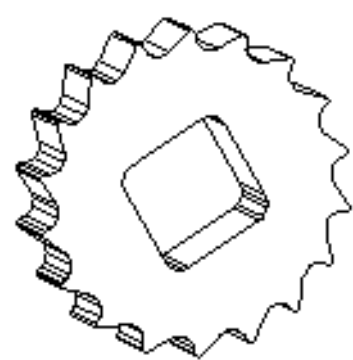
3 - 1/4" X 1-1/2" Hex Head Bolt (Shortest)

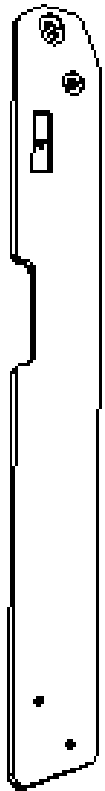


3- Wood Ratchet Stop or Pawl



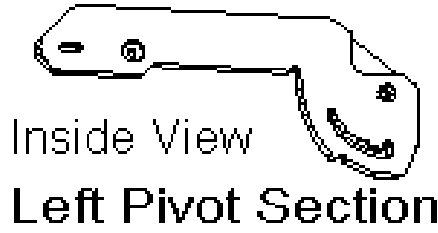
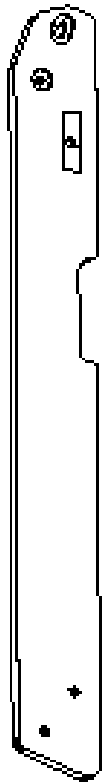
3- Wood Ratchet or Cog Wheel:





Left Diagonal Stand
Inside View

Right Diagonal Stand
Inside View



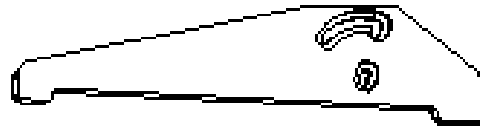
Inside View
Left Pivot Section



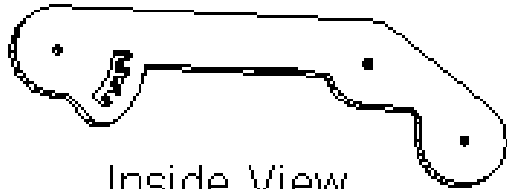
Inside View
Right Pivot Section



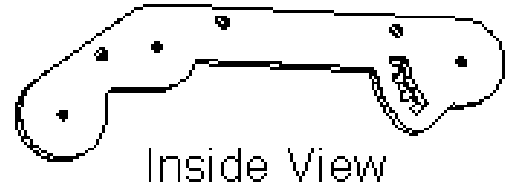
Left Base Leg
Inside View



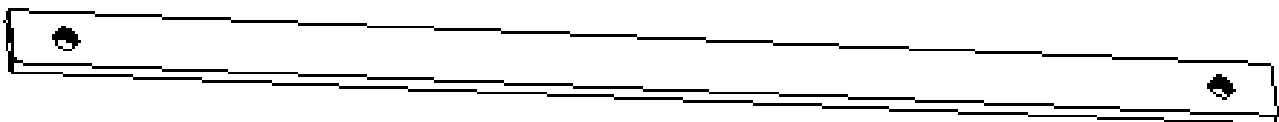
Right Base Leg
Inside View



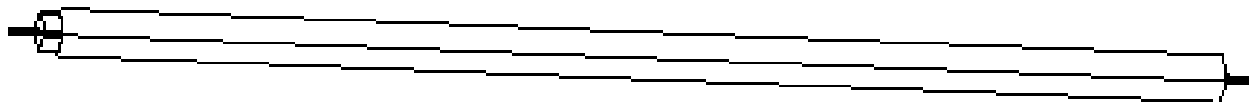
Inside View
Left Pole Mount End



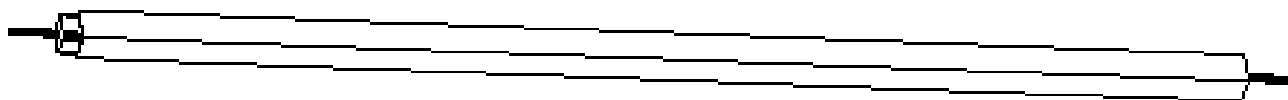
Right Pole Mount End
With Metal Threaded Inserts



100-1/2" OR 51-3/4" Brace



2- 97" OR 48-1/4" Rear Pole With Shorter End Bolts



1- 97" OR 48-1/4" Front Pole With Longer End Bolts

Assembly of Frame

Before You Begin

- < Using the parts list as a reference, take all of the parts out of the box and make sure that you have them all. (If there is something missing or broken, contact The Grace Company. We will promptly ship any needed item.)

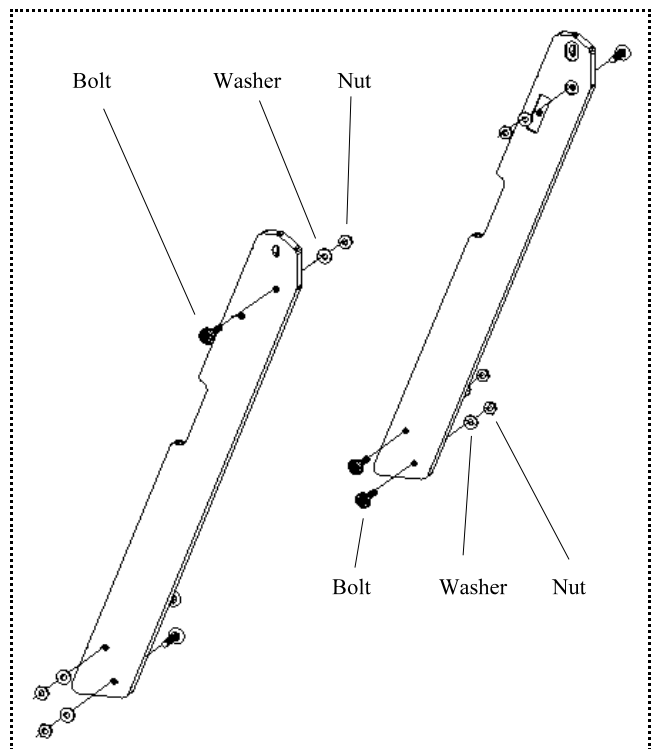
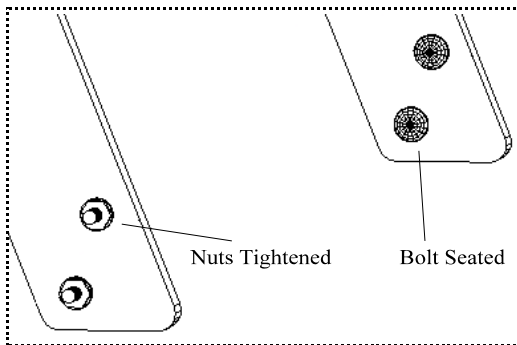
Tools Needed

- < To assemble the frame you will need a few common tools. Once the frame is assembled, no tools will be needed for the utilization of the frame.
 1. One 1/2" wrench
 2. One 7/16" wrench (A combination or socket wrench would work also.)

Step 1. Install Hardware to Diagonal Stand

- Parts needed:
- 2 Diagonal Stands (Right and Left Sides)
 - 6 5/16" X 2" Carriage Bolts
 - 6 5/16" Jamb Nuts (Thin Nuts)
 - 6 1/4" Flat Washers (Smaller)

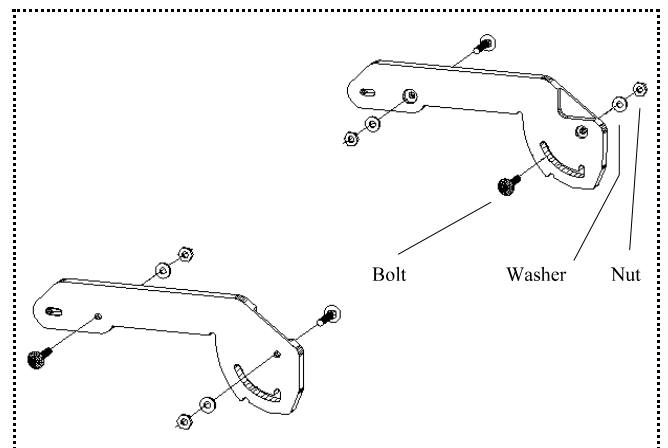
- < Note direction Carriage Bolt goes through the part.
- < Tighten nuts on Carriage Bolt to pull the square part of the bolt into the wood until the bolt is seated into the wood part.



Step 2. Install hardware to Pivot Section

- Parts needed:
- 2 Pivot sections (Right and Left Sides)
 - 4 5/16" X 2" Carriage Bolts
 - 4 5/16" Flat Washers (Smaller)
 - 4 5/16" Jamb Nuts (Thin Nuts)

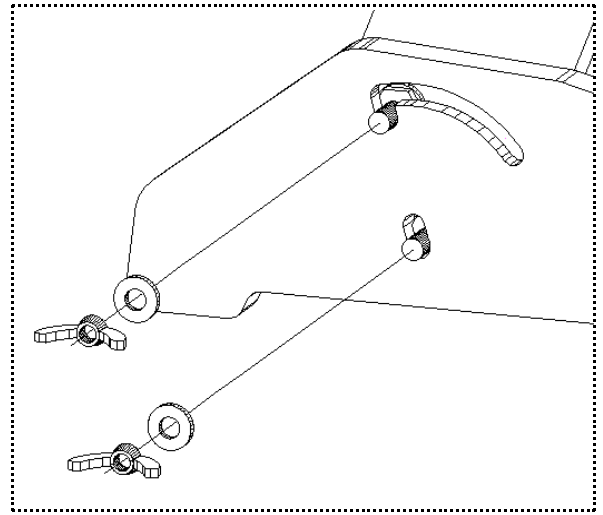
- < Note direction of Carriage bolts to Pivot Sections.
- < Position Carriage Bolts through Pivot Sections as shown in drawing. Tighten Jamb Nuts over end of Carriage Bolts until the square part of the Carriage Bolt is drawn and seated into the wood.



Step 3. Base Leg to Diagonal Stand

Parts needed: 2 Base Leg (Right and Left Sides)
2 Diagonal Stands with hardware
installed as directed in Step 1.
4 Wing Nuts
4 5/16" Flat Washers (Larger)

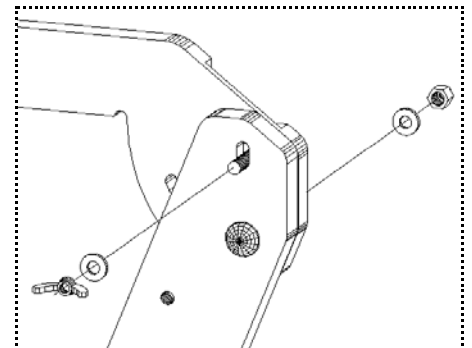
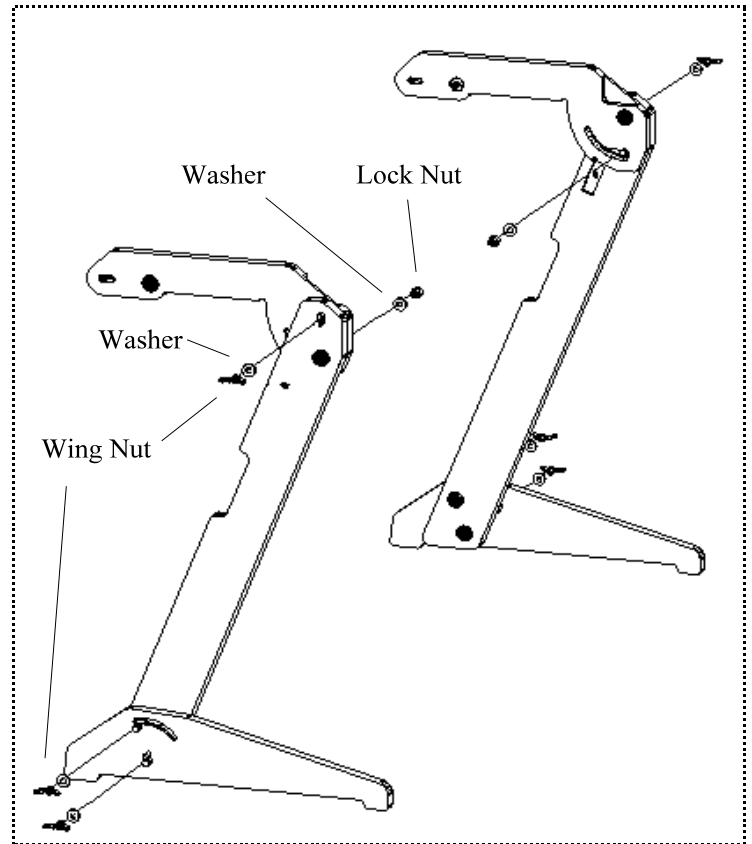
- < As shown in drawing, position Carriage Bolt ends through holes in Base Legs.
- < Thread Flat Washers and Wing Nuts onto the Carriage Bolt ends. Tighten Wing Nuts completely.



Step 4. Pivot Section to Diagonal Stand

Parts needed: 2 Pivot Sections with
Hardware installed as directed in Step 2.
2 Diagonal Stands with Base
Legs attached as directed in Step 3
2 5/16" Wing Nuts
2 5/16" Nylon Lock Nuts
4 5/16" Flat Washers (Larger)

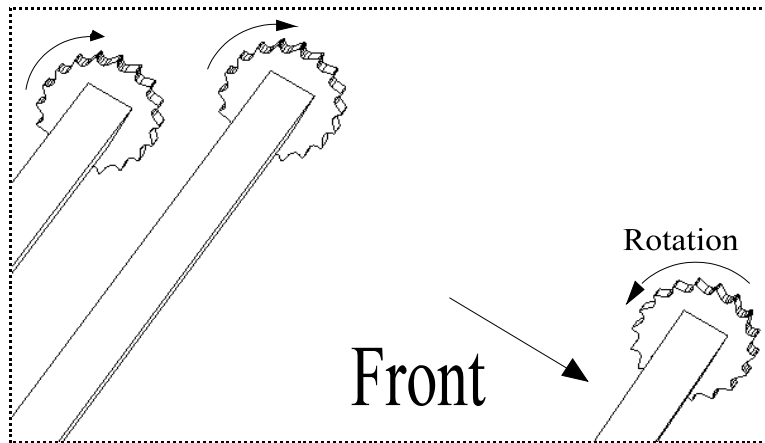
- < Align the Carriage Bolts that are already installed on the Pivot Sections and the Diagonal Stands through the holes as shown on the picture. Notice that the Flat Washer and Wing Nut are threaded onto the end of the top Carriage Bolt that is showing through the Diagonal Stands. Notice that a Washer and the Nylon Lock Nuts are loosely threaded onto the lower Carriage Bolt.
- < ***Leave all Nylon Lock Nuts loose enough to slide the joint.***
- < ***Nylon side of Nylon Lock Nuts faces out when threading onto the Bolt end.**



Step 5. Poles to Ratchet Wheels

Parts needed: 3 Ratchet Wheels
3 Quilting Poles

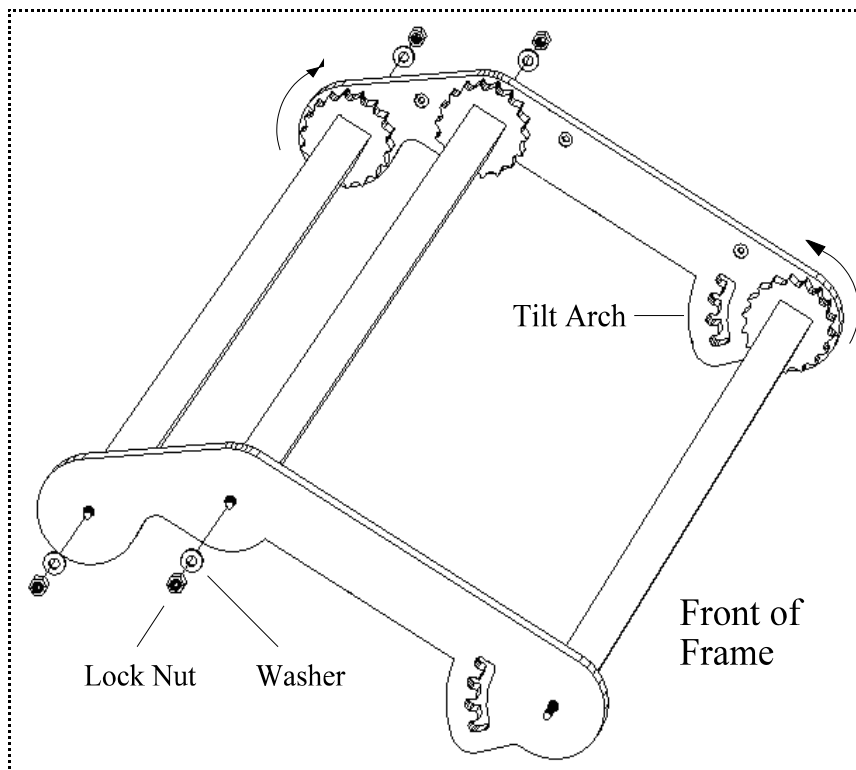
- < Position the Quilting Poles through the Ratchets as shown in the drawing.
- < Note the direction of the Ratchet Wheel teeth.
- < Note that the Front Quilting Pole will be the Pole with the longest Bolts that are seen from either end.



Step 6. Poles with Ratchets to Pole Mounting Ends

Parts Needed: 2 Rear Quilting Poles with Ratchet Wheels positioned as in Step 5
1 Front Quilting Pole with Ratchet Wheel positioned as in Step 5.
(The Front Pole is the one with the longest Bolts that extend from each end.)
2 Pole Mounting Ends
4 1/4" Flat Washer (Smaller)
4 5/16" Nylon Lock Nuts (Thickest)

- < Position all three Poles on the floor with Front Pole being the Pole with the longer Bolts extending from each end. **Make sure to place all Ratchet Wheels to the right side.**
- < Position *Ratchet Wheel End Pole Bolts of the two Rear Poles* through two rear holes of the right side Pole Mounting Ends as shown in drawing. Thread the 1/4" Flat Washers (Smaller) and the 5/16" Nylon Lock Nuts onto the ends of the bolts that are through the holes of the Right Mounting End.
- < Position Front Pole Bolt through front hole of the Right Side Mounting End as shown in drawing. ***Do not attach Washers or Nylon Lock Nuts to Front Pole at this time.**
- < Position the Pole Bolts through all the holes of the Left Side Mounting Ends as shown in the drawing. Thread the 1/4" Flat Washers (Smaller) and the 5/16" Nylon Lock Nuts onto the ends of the two Rear Bolts that are through the two Rear Holes of the Left Mounting End. ***Do not attach Washers or Nylon Lock Nuts onto the End of the Front Pole Bolt at this time.**
- < ****All Lock Nuts must be left loose enough that the poles will roll freely.**



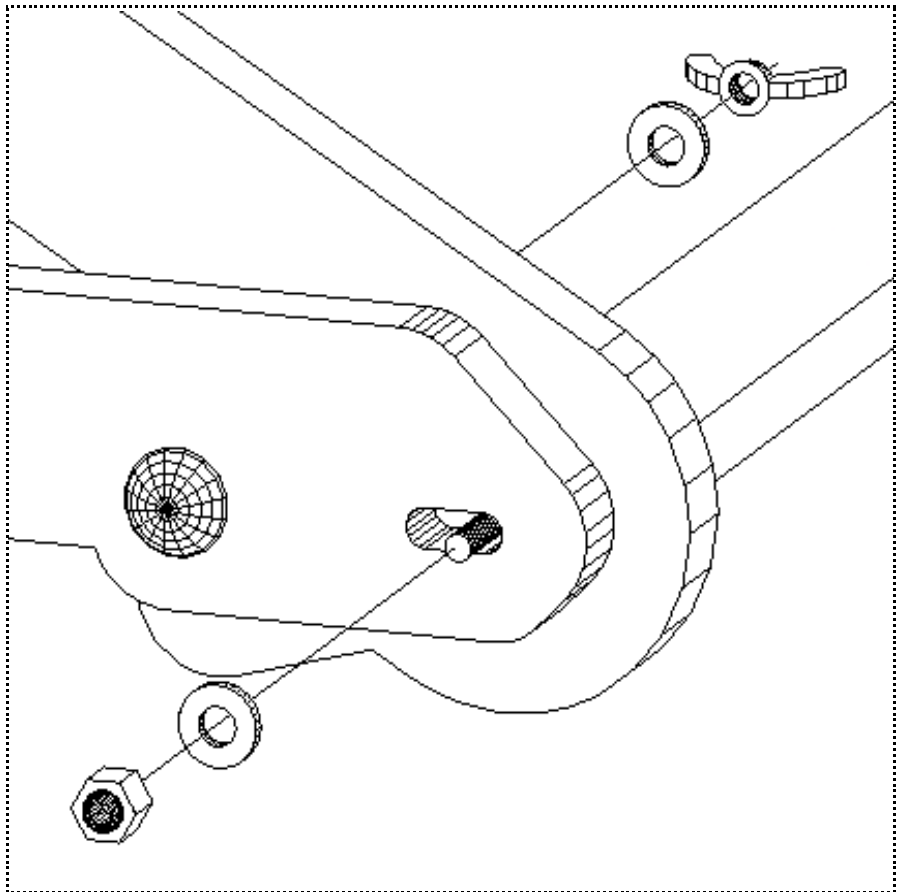
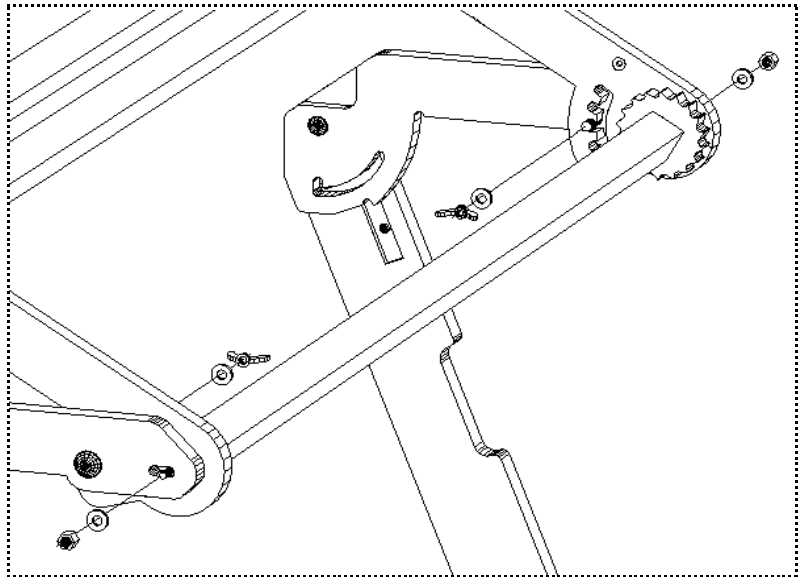
Step 7. Pole/End Assembly to Leg/Stand/Pivot Assembly

Parts Needed: 2 Pole/End Assembly
 2 Leg/Stand/Pivot Assembly
 2 5/16" Nylon Lock Nut
 4 5/16" Flat

Washer(Larger)

2 5/16" Wing Nut

- < Working on the Inside, Right, Front Position of the Pole/End Assembly, Align the Bolt that has no Nut or Washer yet into its position through the slot in the front of the Right Pivot Section.
- < While doing this, align the Carriage bolt that is from the Pivot Section through the Spaces between Teeth of the Tilt Arch located in the front of the Pole Mount. Thread the 5/16" Flat Washer (Larger) and the 5/16" Nylon Lock Nut onto the Pole Bolt. **Do not tighten this Nylon Lock Nut completely, make sure that this pole will roll smoothly.**
- < Thread a 5/16" Flat Washer (Larger) and a 5/16" Wing Nut onto the Bolt that is showing through the Tilt Arch Teeth. **Finger Tighten this Wing Nut tight enough to hold.**
- < Now on the inside Left Position of the Pole/End Assembly, align the Bolt that has no Nut or Washer yet into its position through the slot in the front of the Pivot part. While doing this, align the Carriage Bolt that is from the Pivot Section through the Tilt Arch Teeth. Thread the 5/16" Flat Washer (Larger) and the 5/16" Nylon Lock Nut onto the Pole Bolt. **Do not tighten this Nylon Lock Nut completely, make sure that this pole will roll smoothly.** Thread a 5/16" Flat Washer (Larger) and a 5/16" Wing Nut onto the Bolt that is showing through the Tilt Arch Teeth. **Finger Tighten this Wing Nut tight enough to**



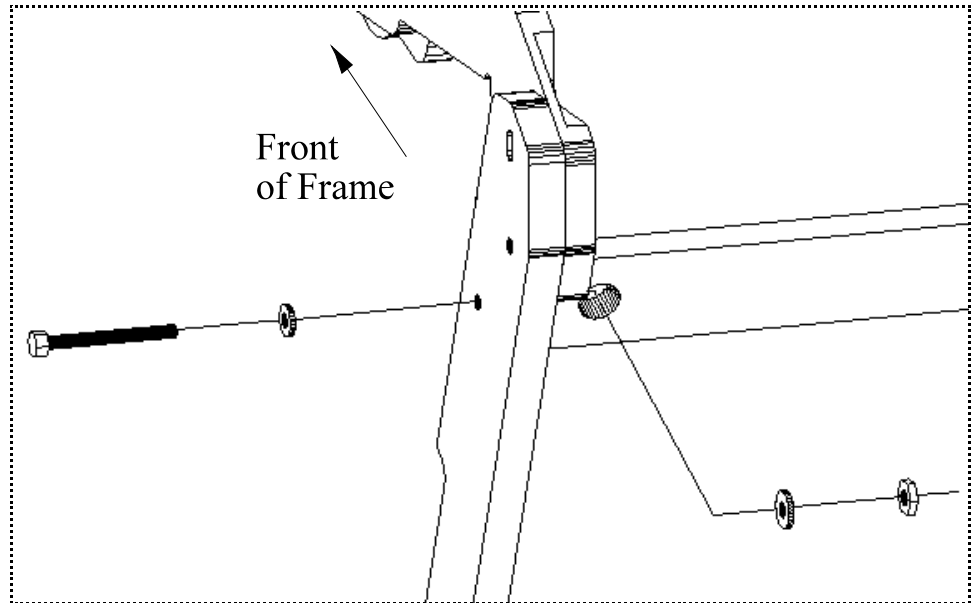
hold.

Step 8. Brace to Stand

Parts Needed: 1 Brace
2 5/16" X 3" Hex Head Bolt
4 1/4" Flat Washer (Smaller)
2 5/16" Jamb Nut

Nut

< Align the Brace with the 3/4" x 2-1/2" cutout holes inside the Stand parts as shown in picture. Insert 5/16" X 3" Hex Head Bolts through a 1/4" flat washer (smaller) and into the Stand part on both right and left sides of the frame. Then continue placing the Hex Head bolts into the Brace ends so that the end is visible in the finger hole. Thread a 1/4" Washer and 5/16" Jamb Nut onto the ends of the Hex Head Bolts that are visible in the Finger Hole.

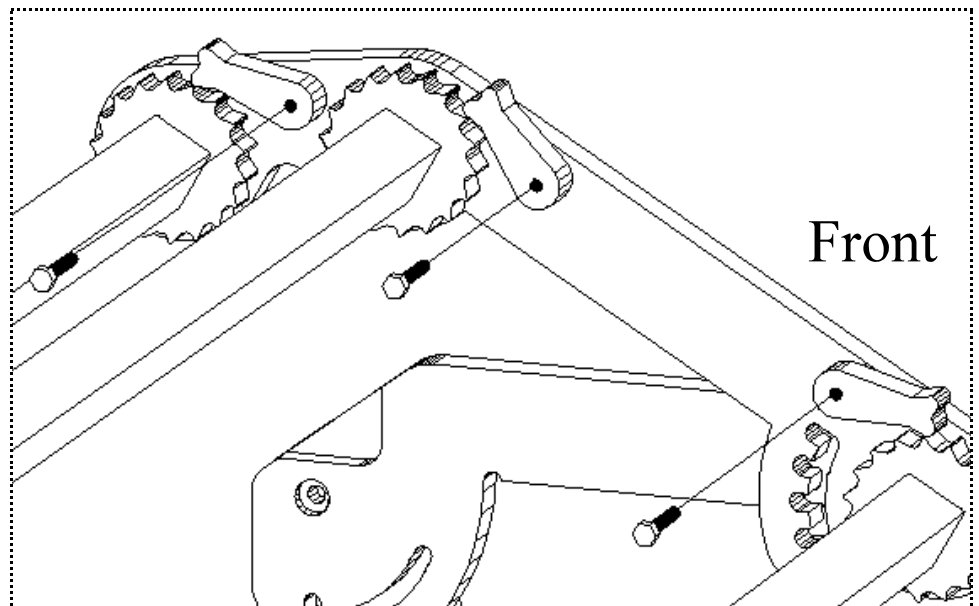


< ***The Small Flat Washer will bend as the Bolt is tightened to conform to the shape of the hole in the Brace.***

Step 9. Ratchet Wheel Stops to Right End

Parts Needed: 3 Ratchet
Wheel Stops
3 1/4" X 1 1/2" Hex Head Bolt
Hex Head Bolt

< Position the Ratchet Stops as Shown in the drawing. Using **Fingers**, not a tool, gently tighten the 1/4" X 1 1/2" Hex Head Bolts through the Ratchet Wheel Stops and into the metal inserts. Only tighten so that the Hex Bolt Head is about 1/4" away from the Ratchet Wheel Stop Part.

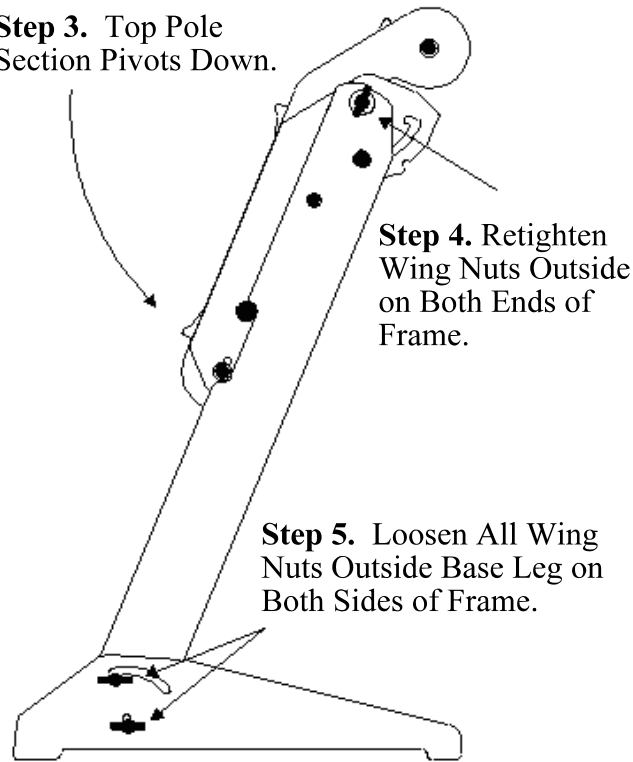


Only tighten this Bolt to this position with your Fingers!

Folding the EZ3™

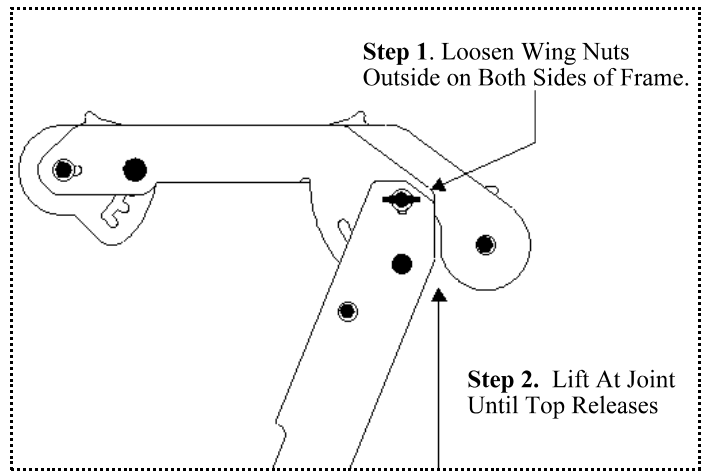
- < Frame must not be tilted when it is to be folded. (See Tilting the EZ3™ in next section.)
- < The folding feature will not affect the quilt in progress.
- < Some practice may be required to fold the quilting frame in 20 seconds.
- < Folded frame is about 6-1/2" wide.
- < **Follow the steps in order, without variation.**
- < **Reverse steps to unfold.**

Step 3. Top Pole Section Pivots Down.



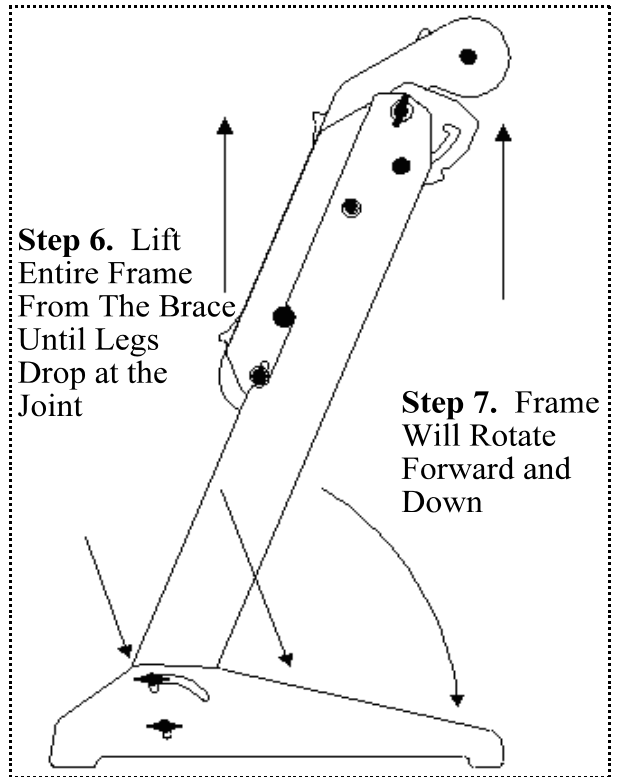
Step 4. Retighten Wing Nuts Outside on Both Ends of Frame.

Step 5. Loosen All Wing Nuts Outside Base Leg on Both Sides of Frame.



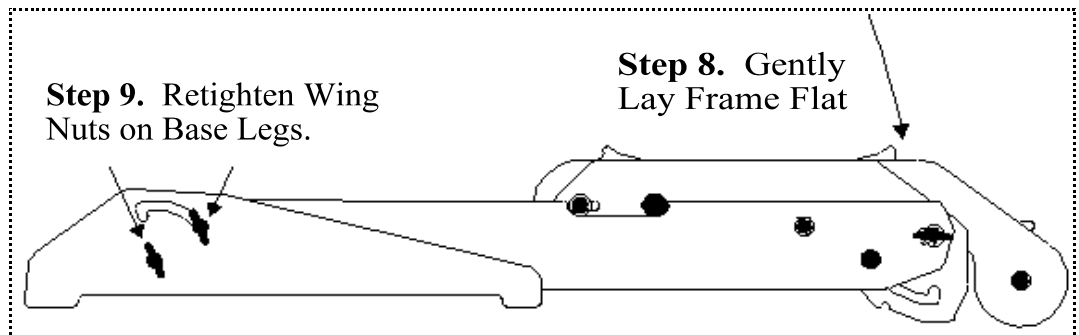
Step 6. Lift Entire Frame From The Brace Until Legs Drop at the Joint

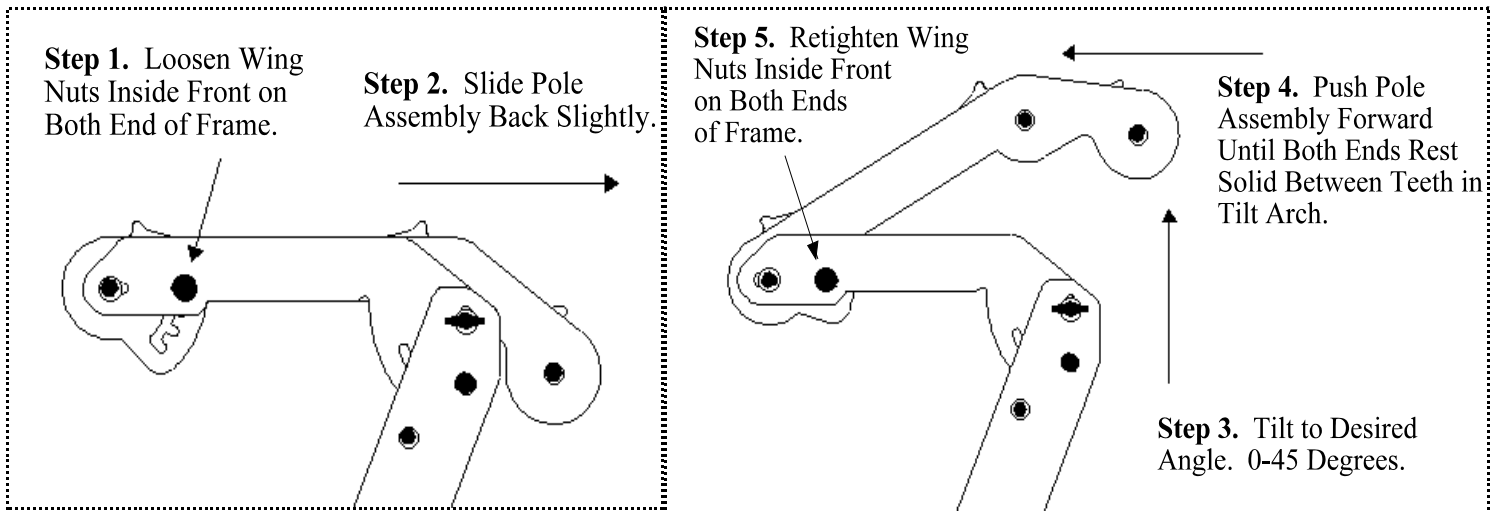
Step 7. Frame Will Rotate Forward and Down



Step 9. Retighten Wing Nuts on Base Legs.

Step 8. Gently Lay Frame Flat





Tilting the EZ3™

Quilting on the EZ3™

Preparing the Fabric Layers For Installation

- < Make sure that each layer of fabric is the correct size and has straight edges and square corners. The short time and small effort that you spend measuring and squaring will result in much time saved later in the quilting process.
- < If the lining or backing has a seam running down the middle, then be sure to cut the selvedge off at the seam and press the seam open through its entire length.
- < **Bonded batting is strongly recommended.**

Installing the Quilt Fabric Layers

1. Backing Fabric

- < The first fabric that will be applied to the quilting frame is the Backing. The Backing is also known as the lining fabric. This piece of fabric will be the under side of the finished quilt. It is recommended that this piece of fabric be larger than the top, on all four sides, especially if your top is a pieced top. (A pieced top may stretch out and become larger than the backing if you do not make this allowance). The Backing fabric can be one continuous piece of fabric or can be made by sewing fabric together.

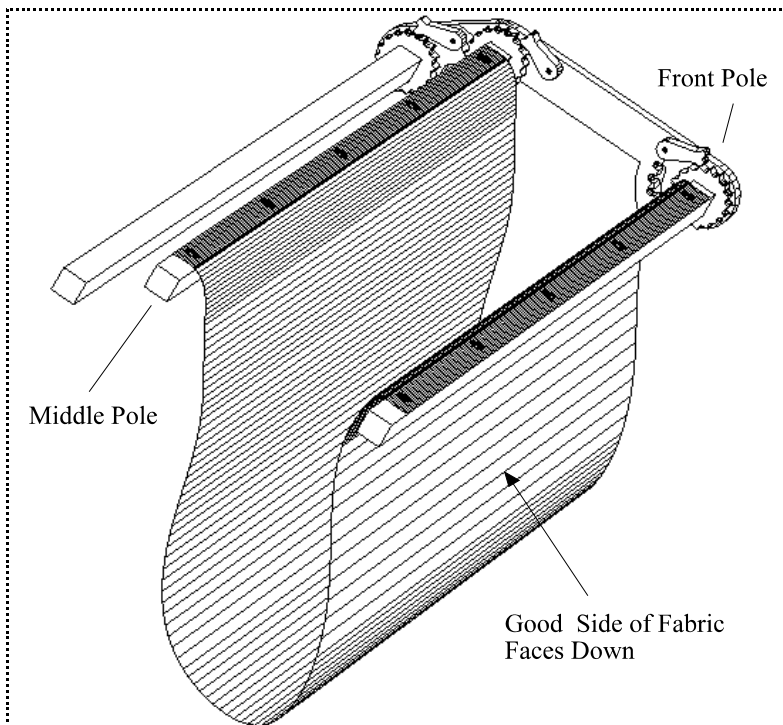
2. Piecing the Backing fabric

- < Many quilts have back fabrics that are not one continuous piece of fabric and are pieced together using two fabric pieces with a seam down the middle or three fabric pieces with two seams having been sewn. Cut the selvedge off before you piece the back fabric together. The selvedge is woven more tightly than the rest of the fabric and won't have the same "give" as the

rest of the fabric. This may cause the seam to be too tight. Use a slightly larger, looser machine stitch than normal in sewing/piecing the lengths of the back fabric together. You also can sew your back fabrics together using crosswise piecing.

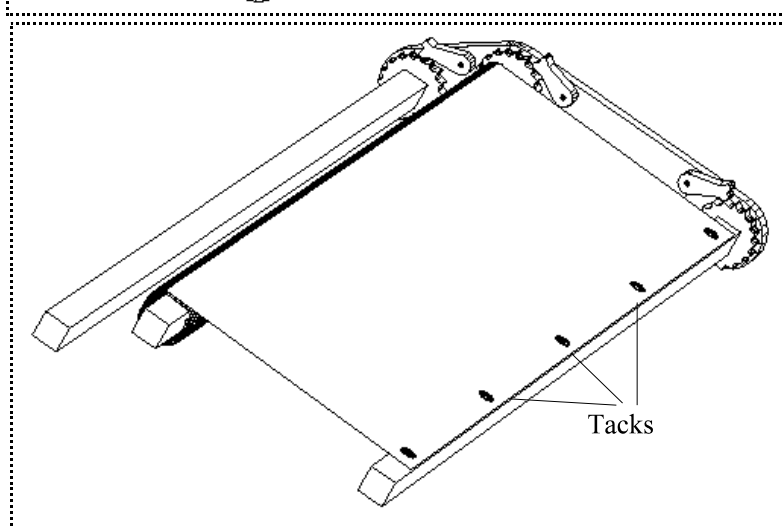
3. Front Pole- Backing fabric

- < Mark the center of Backing Fabric with a pin or pencil mark.
- < Tack the center mark to the center of the Front Pole. (The Backing Fabric is put on with the wrong side of the Fabric up and visible.)
- < Lay the Fabric naturally and evenly along the straight edge of the Pole. **Do not stretch the Fabric from side to side.** Tack the corners of the Fabric to the Pole.
- < Add a few more Tacks to hold the material on the Pole

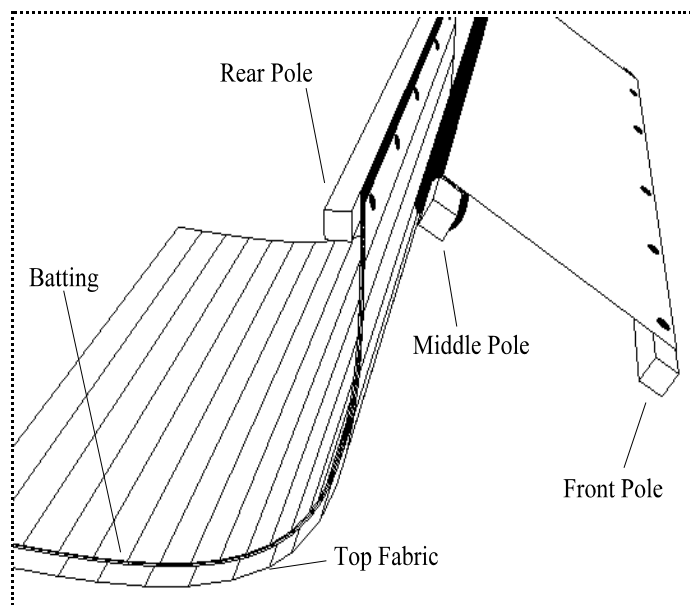


4. Middle Pole- Opposite end of Backing Fabric

- < Tack the other end of the Backing Fabric to the Middle Quilting Pole, centering with the mark as directed on the Front Pole.
- < Tack the center mark to the center of the Middle Pole. Lay the Fabric naturally and evenly along the straight edge of the Middle Pole. **Do not stretch the Fabric.** Tack the corners of the fabric to the Pole.



- < Make sure that the amount of wood showing at the edges of the Fabric to the End Boards is the same on all Poles.
- < Securely tack the Backing Fabric along the entire edge of the Middle Pole, using plenty of Tacks.
- < Roll the material onto the Middle Pole, making a smooth roll. Be sure that no wrinkles are present.
- < Smooth the Quilt from the center to the outside edges of the Pole as it is being rolled. At this point do not roll the Fabric tightly, just nicely smooth and even.
- < Roll until there is very little slack between the two Poles.



< ***Note* Fabrics should never be tight. For best results, use as little tension as possible without letting the Quilt sag.**

5. Batting and Quilt Top

< Place the Batting edge directly on Top of the Backing Fabric on the Rear Pole, centering the Batting.

< Place the front edge of the Quilt Top over the Batting on the Top Pole remembering to center it correctly.

< Tack the center of the Batting and Quilt Top to the Front Pole directly lining up these two Fabrics over the Backing Fabric which was previously applied to the Front Pole.

< Completely tack the Batting and Quilt Top moving from the center out to each corner.

< **Remember to smoothly and evenly lay the Quilt Top to the Front Pole *without stretching* from corner to corner during the tacking process.**

< Evenly drape the Batting and Quilt Top over the Middle Pole.

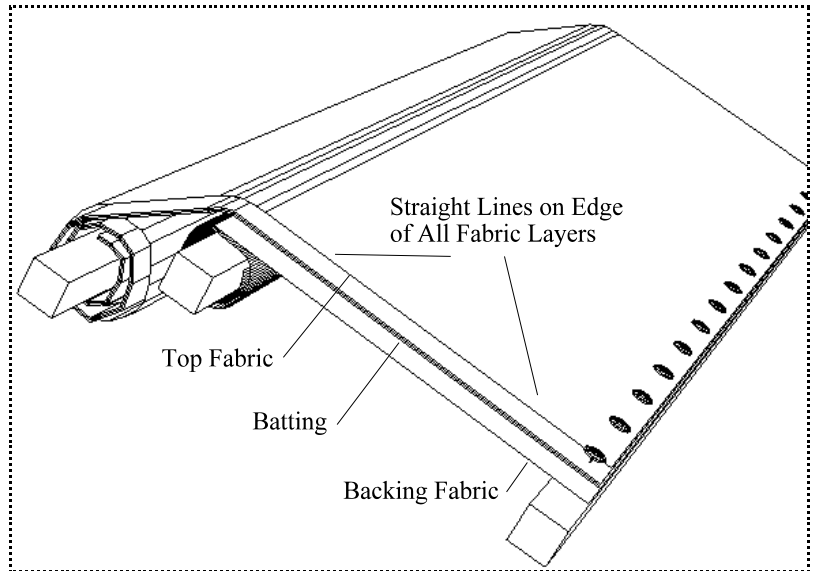
< Center the edge of both Batting and Top to the Rear Pole. Tack the centers of these Fabrics to the Rear Pole and smoothly and evenly tack from center to corners.

< Measure the wood from quilt edge to End Board. This measurement should be equal to the Quilt Top edge to End Board measurement of the Front Pole.

< Roll the Batting Quilt Top up on the Rear Pole.

< Roll until the materials are smoothly between the Poles. Do not adjust material while rolling- except to adjust any Fabric from forming into big creases.

< Adjust the tension to the Backing Fabric and Batting and Quilt Top Fabrics until you get the desired tensions. **DO NOT OVER TIGHTEN!**



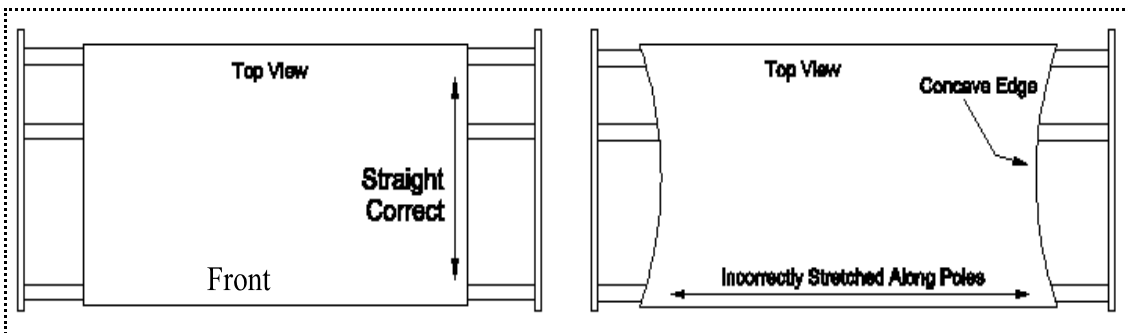
TROUBLE SHOOTING

Problem: *Fabric sags on one side or in middle.*

Solution: *Fabric may not be cut evenly straight or the grain of the cloth may not be square. Take it off and square it up or pull (gently) to square.*

Problem: *Sides of quilt have a concave edge.*

Solution: *The fabric was stretched along the pole. Take the fabric off and let it relax until it is not misshapen and then re-install, without stretching it along the edge.*



Problem: *Batting tears or separates during the tightening of the ratchet wheels.*

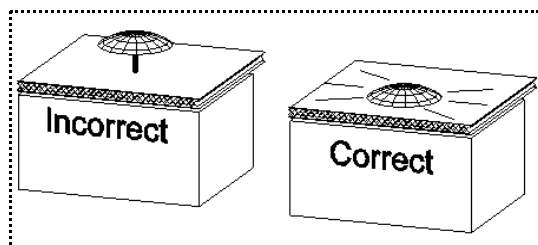
Solution: *The Batting was stretched and stressed. The Batting should be longer than the Quilt that you are making and there should be no tension applied to it. Remember to use a few extra inches of Batting and let it sag down between the two rear poles. This will stop the Batting from pulling. You may unroll the rear pole and fix the Batting at any time during the quilting process.*

Problem: *Poles are bowing in.*

Solution: *The causes may be: 1. Seam down the center of the Fabrics may be sewn too tightly and is not giving with the rest of the Fabric. If the Seam is the problem the Quilt may be attached sideways, 2. Fabric is not cut evenly. 3. Too much tension has been applied. 4. Fabric has been stretched along the Poles instead of naturally laid along the Poles then attached.*

Problem: *Fabric pulls/tears out at the Thumbtacks when tension is applied.*

Solution: *Seat the Tack all the way in. The Head of the Tack, not the post of the Tack, should hold the Fabric. Use a Tack Hammer to seat the Tacks if your hand is not strong enough.*

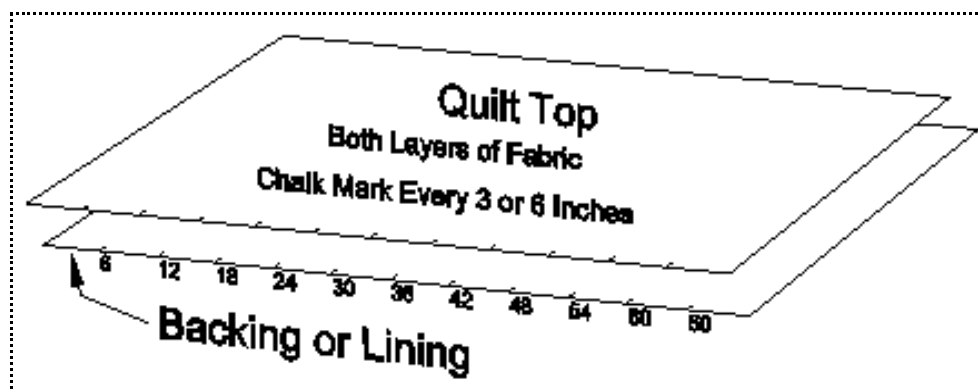


Problem: *Poles squeak as they roll or they do not roll freely.*

Solution: *The Nylon Lock Nuts are too tight. Loosen them with a 1/2" wrench about 1/2 to a full turn. If the Quilting Frame still squeaks or is difficult to roll make sure that the frame is in good square alignment and/or rub some Paraffin or Candle Wax on the Bolts in the ends of the Poles.*

Helps for Tied Quilts:

Before installing the Quilt onto the Frame, mark both the Quilt Top and Backing in a similar increments along the two side edges. (The sides that are not tacked onto the Poles.) While rolling the Quilt during the tying process watch the marks. This will help you to keep an equal tension on the Top and Backing Fabrics so you won't over tighten one or the other of your Fabrics. When rolling into a new area of tying, allow your last row of ties to remain in the new area of tying. Also, tie your knots tight. **Do Not over roll your last row of ties over the turn in the Pole.**



Making and Using Cloth Leaders

Use of cloth leaders

- < **This is only a suggestion for making one kind of cloth leaders.** There are many ways and ideas for making cloth leaders. Don't hesitate about trying your own ideas. Just remember that the widest strip of fabric should be applied to the rear pole. This allows the whole quilt to come up into the area of quilting without stopping and adjusting the quilt top to the second pole in order to finish it.
- < The best cloth selection for making cloth leaders is unbleached muslin or mattress ticking. However, the ticking is a much more expensive selection.
- < Purchase: 2-2/3 Yards of Fabric (Mattress Ticking or Canvas work best) for the EZ3-96" Frame or 1-1/3 yards of Fabric if you have the EZ3-47" Frame.

- Step 1.** Cut the fabric as shown in illustration above.
- < **Step 2.** Finish the cut edges of the leaders with either a serge stitch or with a very straight 1/2" hem allowance. **Press the leader cloth with a warm iron.**
- < **Step 3.** Draw straight, dark, solid line 1" from one edge of each of the leader cloths.
- < **Step 4.** Thumb tack the cloth leaders to the poles as shown on illustration below.
- < **Step 5.** Pin or baste your quilt fabrics to the cloth leaders. Use the dark, straight line that you marked on your leaders in Step 2 to align your quilt fabrics with.
- < **Step 6.** Roll the Cloth Leaders and Quilt Fabrics up on Poles.
- < **Step 7.** You are now ready to begin quilting.

