

# Perfect Pantograph Patterns

## The No Math, No Measure Way

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I have been a longarm quilter since 1995. When I started, most of the longarm machine quilting was done with pantographs. But there were no instructions on HOW to stitch pantograph patterns. Even today, many years later, there are very few instructions on how to easily and efficiently stitch these patterns. Until now!

With quilting in general and in machine quilting in particular, there are several ways to do anything and achieve the same result. I know that there are many different ways to stitch a pantograph pattern. The following instructions will show you how I stitch pantograph (sometimes called "edge-to-edge") patterns. I developed this method by trial and error over the course of several years. If you have a different (or better) way to stitch pantographs, that's all right with me. As long as a well stitched, well spaced pattern is created, it really doesn't make any difference HOW it is done.

The **No Math, No Measure** method gives the look of even, all over texture on the quilt. This means that there is no "break" between the rows of the pattern on the quilt. When you look at the finished quilt, it is very hard to see where one row of the pattern ends and the next row begins. Many quilters use a technique to place the pattern which will give the look of rows or "stripes" to the quilting. While this method may be technically correct (meaning they do a lot of math and spend a lot of time placing the pattern) many people don't like the look of quilting in rows. (I'm sure you have seen this, there is a row of quilting, a large "empty" or un-quilted space and then another row of quilting. This is repeated all over the quilt top.) Many piecers don't (or won't) have their quilts machine quilted because they think all machine quilting looks like that!

### Materials needed:

Pantograph Pattern—I am using the pattern Woodcut Camellia from the Kim Darwin Collection available at [www.LongarmUniversity.com](http://www.LongarmUniversity.com)

Permanent marker

Vis-à-vis or other water soluble marker for transparencies

Pantograph Placement Guides from Longarm University OR  
Write On Transparency plastic (available at most office supply stores)

Weights, rulers, blue painter's tape, etc., to hold pattern in position

## Steps to Quilting Pantograph Patterns

- Prepare the Pattern
- Prepare the Quilt
- Prepare the Laser
- Place the Pattern
- Positioning the Pattern
- Space the Rows
- Stitch First Row of the Pattern
- Stitch the Second Row of the Pattern
- Stitch the Remaining Rows
- Stitch the Bottom of the Quilt

### Preparing the Pantograph Pattern

Before we even begin to think about quilting, the pattern must be prepared. Place your pattern on a flat surface (the table of the quilting machine works well). Line up a long ruler or other straight edge across the top of the pattern with the ruler just touching the "highest point" of the pattern. Draw a straight line across the length of the pattern connecting the high points of the pattern.

Repeat this process and draw a line connecting the "lowest points" of the pattern.

Please note: For these instructions we will be using a pattern that has no "main motif" and that has an equal amount of "pattern" on it. Later on we will discuss placement of pattern motifs and other issues.

Measure between the lines, divide this number in half and draw a line across the length of the pattern, dividing it in half lengthwise. (OK, this is math, but this is the only math you will have to do!)

Note: Some patterns may already have these lines marked on them.

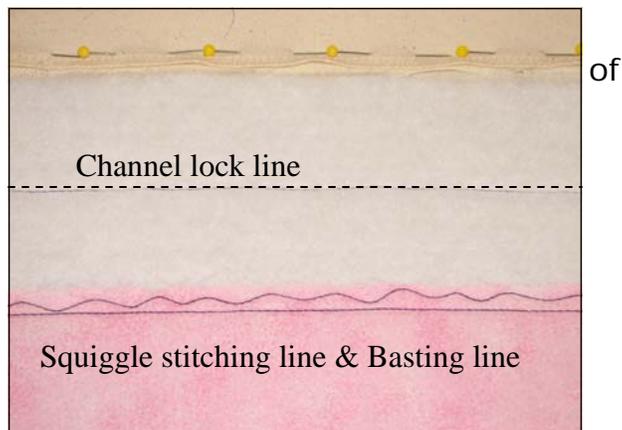
Find a spot on the pattern, preferably the "high point" of the pattern, and draw a vertical line. This line should be about 10 inches or so away from the right edge of the pattern. (This is important later on.) See the photo at the right.



### Preparing the Quilt

I prefer to “float” my quilt top when I put it on the quilting machine. Please refer to “Putting a Quilt on the Quilting Machine” for directions on how to do this.

After I baste across the quilt top (see “Putting a Quilt on the Quilting Machine”) I like to put a row “squiggle” stitching above the basting. It will hold the fabric in place and avoid “fold over” when we are stitching the pattern. If there is enough backing fabric, I’ll stitch a straight line using my channel lock about 1—3 inches ABOVE the basting line.



### Prepare the Laser

Many quilting machines have ways of adjusting the laser light to a very fine beam. Most of the time that fine beam is not fine enough. I like to take a piece of masking tape and completely cover the tip of the laser light. Then I take the point of a safety pin and pierce the making tape in the center. This will make an extremely fine pin-point hole in the tape for the laser light to shine through. I have found that the finer the beam of the laser light, the more accurate my quilting is.

### Place the Pattern

Standing at the back of the machine lay the pantograph pattern on the table, having the edges of the pattern extend past the raw edges of the quilt top. **DO NOT PUT THE PATTERN UNDER THE PLASTIC. DO NOT LINE UP THE PATTERN TO ANY LINES ON THE TABLE.** Don’t worry yet about “exact” placement of the pattern. We will work on this next. To keep the pattern flat, place a weighted object like a translucent ruler, template, etc., on the “short” edges of the pattern.

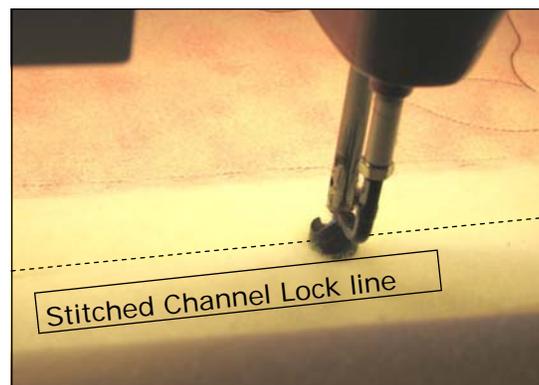
### Number 1 Rule of Pantographs

As far as I am concerned there are not many “rules” in longarm quilting except one. The one rule you **MUST** remember, especially when working with pantographs or from the back of the machine with the laser is:

WHERE THE NEEDLE IS—THE LASER IS. WHERE THE LASER IS—THE NEEDLE IS. THEY **BOTH MUST** TO BE IN THE SAME PLACE TO HAVE THE PATTERN STITCH CORRECTLY

## Positioning the Pattern

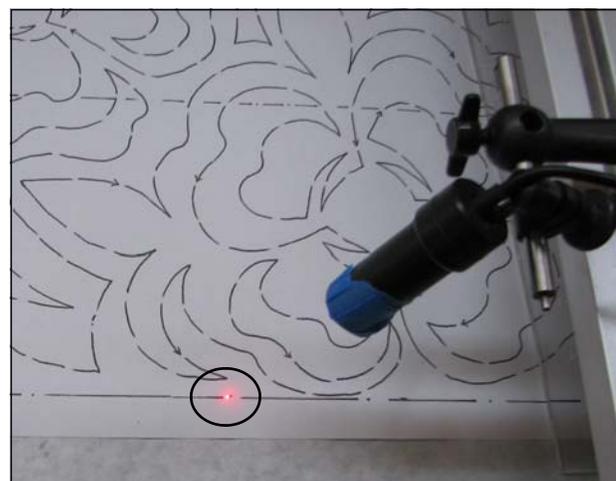
Standing at the back of the machine, move the machine head and put the needle down on the stitched channel lock line, near the right edge of the quilt top. See the photo at the right.



Leave the needle in the fabric and look at the pattern on the table. Notice where the light from the laser is located. The laser light should be on the lower horizontal registration line of the pattern. If the laser light is NOT on this line, carefully move the laser until it is on the line. See photos below.



Laser is NOT on the lower horizontal line



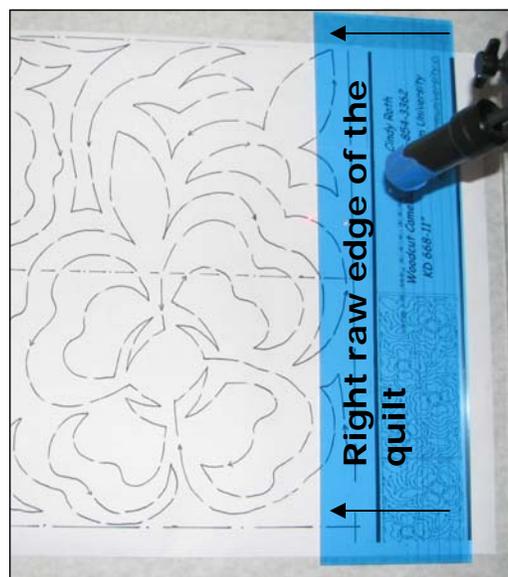
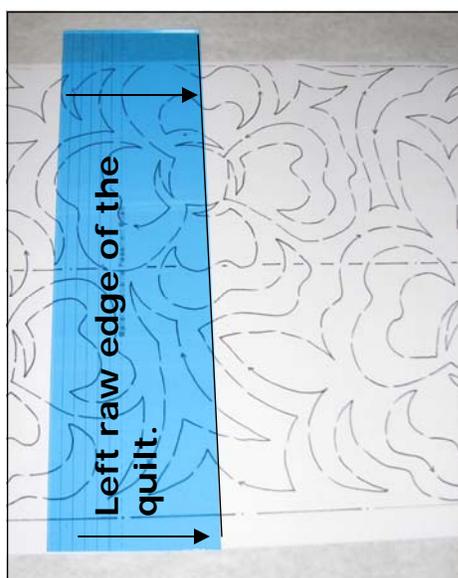
Laser is now positioned correctly on the lower horizontal line

Once the laser has been positioned **DO NOT MOVE THE LASER!!!** From this point on you will be moving the **PATTERN ONLY** to position it prior to quilting.

Lift up your needle and move the machine head to the middle of the quilt top. Put your needle down on the stitched channel lock line and look at where the laser is located on the pattern. The laser should be ON the lower horizontal registration line. If it is not, **MOVE THE PATTERN ONLY** until the laser is correctly placed.

Lift up your needle and move the machine head to the left edge of the quilt top. Put your needle down on the stitched channel lock line and look at where the laser is located on the pattern. The laser should be ON the lower horizontal registration line. If it is not, **MOVE THE PATTERN ONLY** until the laser is correctly placed. If desired, place small pieces of masking tape or "painter's" tape on the long edges of the pattern to keep it from moving.

Using a translucent ruler or template, place it where the laser indicates the left raw edge of the quilt. This will let you know when you get to the edge of the quilt when you are stitching. See the photos below.



Note: I do not to place my pattern under the plastic that is on the top of the table. I find it is hard to position the pattern under the plastic and the reflection of the laser light off the plastic hurts my eyes when I am quilting

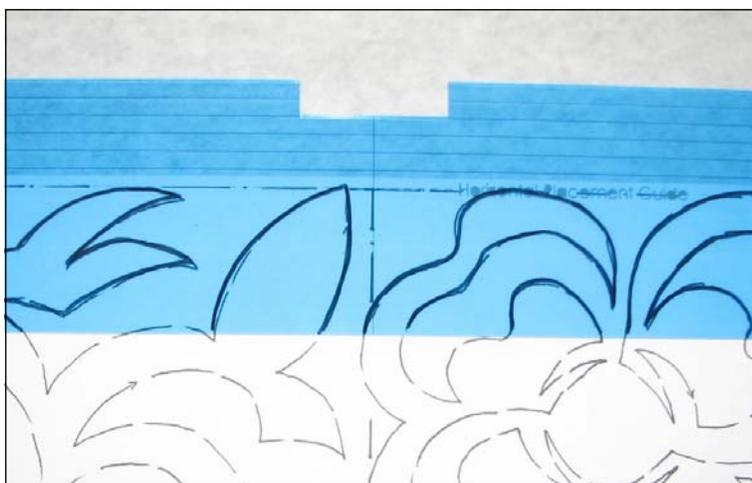
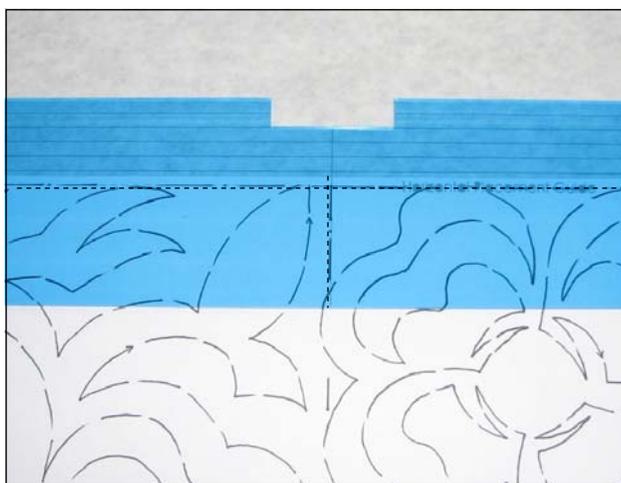
### Spacing Between the Rows of the Pattern

After each row of the pattern is quilted, the quilted section is moved “up” onto the take up roller and a new (un-quilted) work area is exposed. How the pattern is “spaced” gives your finished quilt the look of allover texture or “stripes” of quilting. Many quilters stress over having the rows of the pattern spaced “properly”. What I do is to begin my pattern at the top of the quilt, work my way down the quilt and “whatever happens at the bottom, happens!” Because I like the look of allover texture in my pantograph quilting, I don’t worry that a “whole” row of pattern is not at the bottom. If there is a partial row of the pattern at the bottom of the quilt, that’s all right.

Even though this is a “no stress” way of quilting, it does require some planning before starting the quilting.

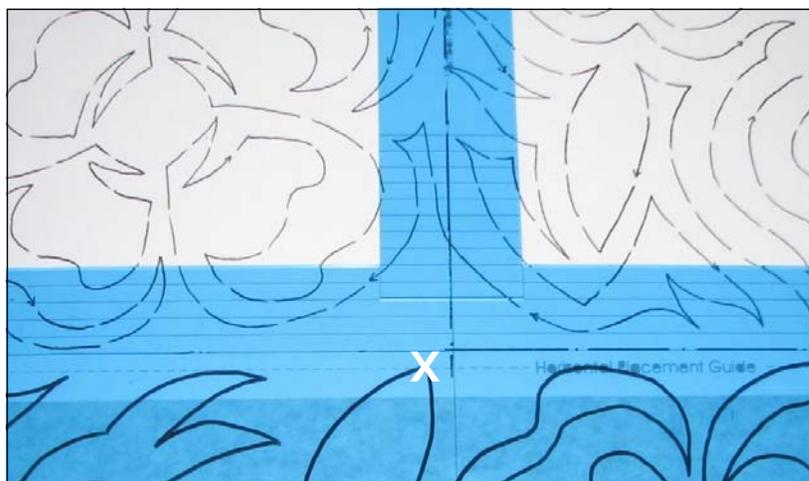
The photos below show the next step using the Longarm University® Pantograph Placement Guides available on the Longarm University website [www.LongarmUniversity.com](http://www.LongarmUniversity.com). You can also use “write on” Transparency plastic which is available at most office supply stores.

Place the horizontal and vertical placement lines of the Pantograph Placement Guide on the upper horizontal line and the vertical line of the pattern. (The etched lines of the guide are against the pattern). Using a Vis-à-vis or other water soluble marker, draw the pattern onto the plastic. See photos below.



Move the Pantograph Placement Guide to the lower edge of the pattern. Insert the Vertical plastic extension into the slot to form an upside down "T". Place the horizontal and vertical placement lines of the Guide on the lower horizontal line and the vertical line of the pattern. Look at the photo below left—the drawn pattern line at the bottom of the paper pattern is too close. If the pattern were stitched this way, the pattern would look "smooshed" together.

To change the spacing, move the Pantograph Placement Guide down (away) from the lower horizontal line on the (paper) pattern until the spacing of both the drawn pattern and the paper pattern looks good to you. (The horizontal etched lines on the Guide are in 1/4 inch intervals.) For this pattern I like to have about 1/4 inch between the two rows. See the photos below.



One more thing to decide—What is going to be your "Positioning Point" on the pattern. I like to choose a "high point" or a very distinctive point of the pattern. This is where you will be lining up the laser when "moving" from row to row on the workspace. (This gets explained later on). On this pattern, my "Positioning Point" is at the X in the photo above right.

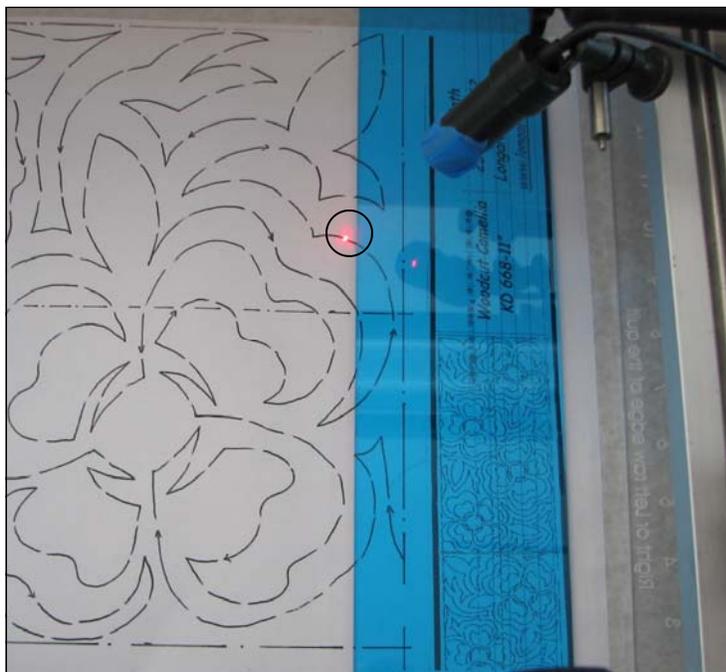
Now your pattern is ready to begin stitching.

From this point forward, the only thing you will move to position your pattern onto the quilt top is your laser! **DO NOT MOVE** the paper pattern or the Pantograph Placement Guide until you are finished quilting your quilt.

### Beginning to Stitch the Pattern

Move the machine head back to the right edge of the quilt. Place the laser on the pattern where you want to begin stitching—usually, but not always, near the lower horizontal registration line. Pull up your bobbin thread and **WHILE LOOKING AT THE PATTERN** begin stitching your pattern.

Depending on your pattern you may have to stop your stitching line at the ruler or template marking the right raw edge of the quilt. If this happens, stop stitching, lift your needle and gently move the machine to where the pattern begins again and begin stitching. Continue to move the machine as many times as necessary to complete the right edge of the pattern. See the photo at the right. Eventually you will be working on the “main” part of the pattern. Continue to follow the lines of the pattern.



At this point you are working on blind faith. You have positioned your pattern correctly and everything will work out well. Resist the urge to look up at your stitching line. If you must look at your stitching line, stop your stitching, put your needle down (to keep the machine from moving) then look at your stitching. It is looking pretty good but you still have the rest of the row to finish. See the photo at the right. Notice that the pattern is being stitched onto the batting.



Begin stitching again and work until the laser is up to the translucent ruler or template you have placed on the pattern to indicate the left raw edge of the quilt. Depending on your pattern you may have to stop your stitching line at the ruler or template marking the left raw edge of the quilt. If this happens, stop stitching, lift your needle and gently move the machine to where the pattern begins again and begin stitching. Continue to move the machine and begin stitching again as many times as necessary to complete the stitching at the left edge of the pattern. The first row of your pantograph is now completed. See the photo at the right. (Photo is taken from the front, or needle side of the machine.)



Notice that the first row of stitching went "off" the quilt at the top edge and there is stitching in the batting. That is what I wanted to happen! The extra stitching will be trimmed away later on.

Move the machine back to the right edge of the quilting machine and roll the quilt up on the take up roller to expose the next area to be quilted.

### Preparing to Quilt the Second Row of the Pattern

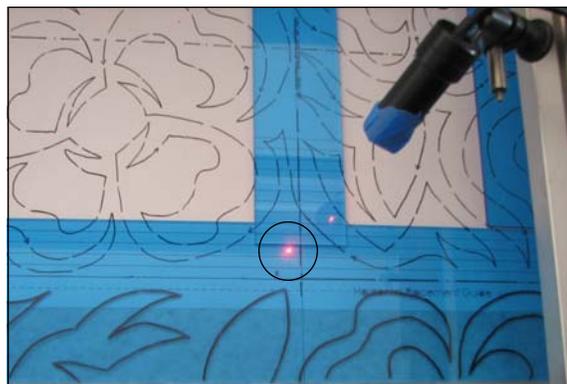
Stand at the front (needle) side of the machine. Find on the quilted pattern the "Positioning Point" of your pattern. The Positioning Point is shown in the circle in the photo at the lower left. Put your needle down at this point. See the photo below right.



Walk around to the back of the machine and look at where the laser light beam is on the (paper) pattern.

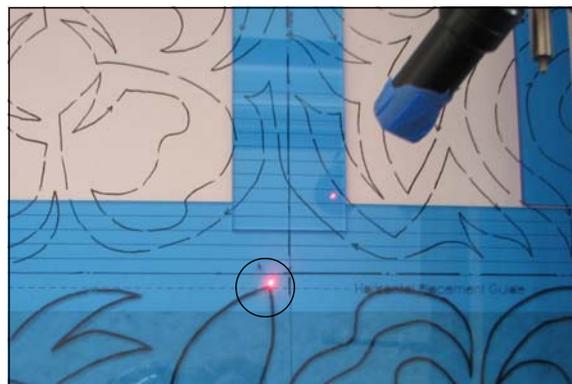
Do you remember Rule #1 of Pantograph quilting? WHERE THE NEEDLE IS—THE LASER IS. WHERE THE LASER IS—THE NEEDLE IS. THEY **BOTH** NEED TO BE IN THE SAME PLACE TO HAVE THE PATTERN STITCH CORRECTLY.

Look at the photos below. Are the laser and the needle in the SAME place? No, they are not. To get them in the same place, carefully move the laser until it is on the "Positioning Point" of the pattern.



Notice in the photo at the upper right that the laser is NOT on the Positioning Point of the pattern.

In the photo in the lower right the laser IS on the Positioning Point. Once the laser is in the correct place, you can begin stitching the second row.



Before I begin stitching, I double check the pattern placement as follows—

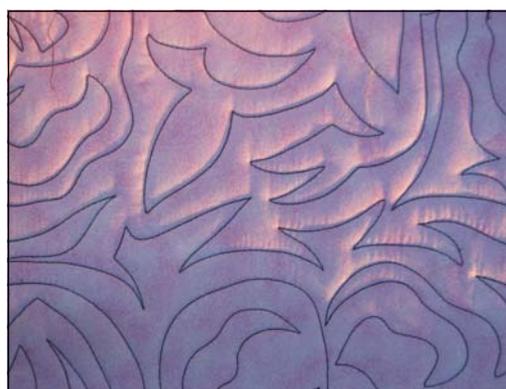
Move the machine (not the laser) until the laser light is on the "low point" of the (paper) pattern. Now look at where the needle is on the quilt top. Does it look like there is the same amount of "space" between the stitching and the needle as there is on the pattern? If so, move to the next low point of the pattern and check again. When you are satisfied with the pattern placement begin stitching the second row as the first row.



The photo at the left shows two rows of the pattern stitched on the quilt. Because the rows of the pattern have been "spaced" fairly close together you can't really see where one row of stitching ends and another row begins. That is what I want to see!

Continue rolling up the quilt onto the take up roller, placing the needle down on the "Positioning Point" of the pattern from the front, adjusting the laser so that is correctly placed on the paper pattern, checking the placement of the pattern, then quilting across the quilt top, for each row until you reach the lower edge of the quilt.

What If? What if your spacing gets "messed up" and you wind up with a larger space between the stitched rows of pattern as shown in the photo below left? Not a problem! After the row of pattern is stitched and before I roll up the quilt onto the take up roller, from the front (needle) side of the machine, I will add some free hand stitching to fill in the "open" space. See the photo at the lower right. Keep the free hand design similar to the pattern and no one will ever know that you "messed up!"

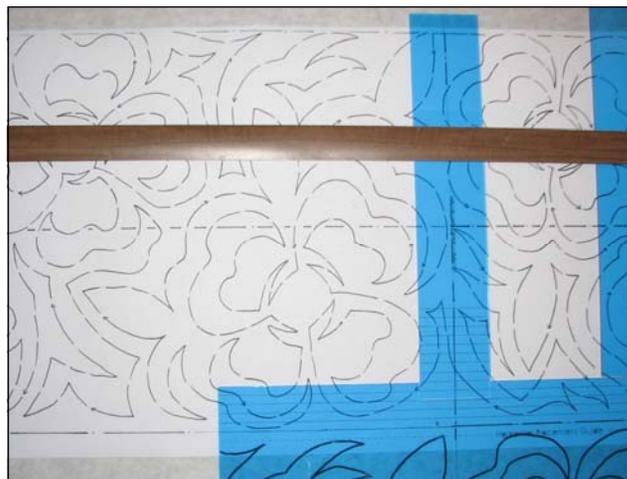


### The Bottom Edge of the Quilt

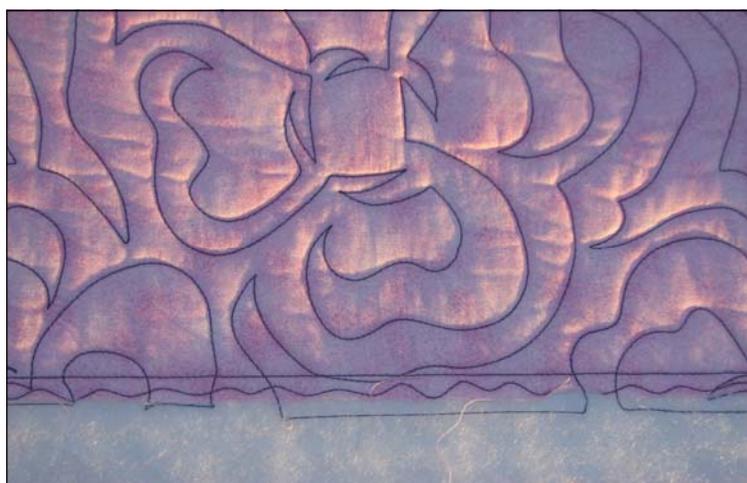
When the bottom edge of the quilt top is in your workspace, baste across the lower raw edge of the quilt top to secure the quilt top and the batting to the backing fabric. (Refer to "Putting a Quilt on the Quilting Machine" instructions).

Place your needle down on the basting line and mark this point on the (paper) pattern. I like to use a "slat" from a mini blind or you can use a yardstick or anything else to make a "physical" break on the (paper) pattern. See the photo at the right.

When you are stitching the pattern, stitch up to the slat (or whatever you are using). Lift your needle up and gently move the machine to the next area to be quilted. Continue this way across the row.



The photo at the right shows the bottom edge of the quilt. Notice how the thread has been "dragged" across to the next area to be stitched.



Here are some problems you may encounter when you are stitching pantograph patterns.

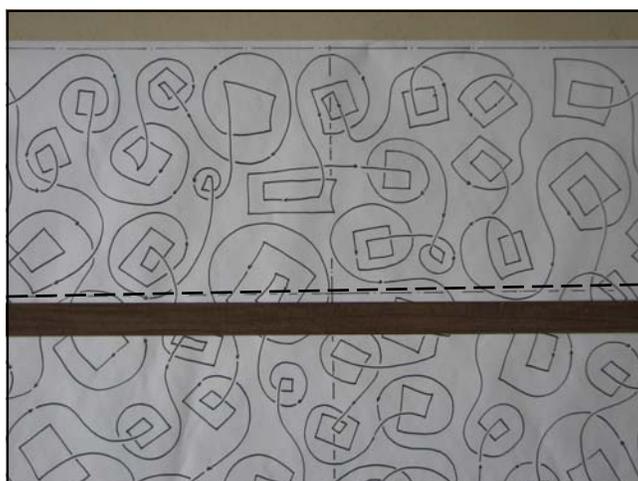
Problem #1: you may not be able to begin your pattern placement or stitching "off" the quilt into the top of the batting as shown on Page 8. The main reason for this would be if your backing is "just long enough" and you were not able to float the quilt top. Or you are not able to float the quilt top with enough space to stitch the pattern into the batting.

Problem #2: the pattern you are using has "empty" spaces (spaces that have no quilting) in the pattern. This would make the top of the quilt have un-quilted areas and the un-quilted areas won't match the density of the quilting in the rest of the quilt.

Solution to Problem #1 and #2: Remember when we divided the pattern in half lengthwise on Page 2? Use this line on the pattern to line up the top raw edge of the quilt. If necessary, use a "slat" from a mini blind or a yardstick or anything else to make a "physical" break on the (paper) pattern.

When you begin stitching the to half of the pattern, stitch up to the slat (or whatever you are using). Lift your needle up and gently move the machine to the next area to be quilted. Continue this way across the row.

The photo at the right shows the pattern Around Corners with a mini blind slat positioned slightly below the line at the middle of the pattern. The dashed line above the slat is lined up to the top raw edge of the quilt.



Problem #3: The pattern ends abruptly at the raw edge of the quilt or will look "jagged" if it is quilted exactly as it is on the pattern.

Solution: Place the Pantograph Placement Guide so that the left edge of the guide is at the raw edge of the quilt. Using a Vis-à-vis marker, redraw elements of the pattern to make it "work" for the quilt and for ease in quilting. In the photo at the right, the areas that I re-drew are in white. You can see how this would make the quilting much easier and make the edge of the quilt look neater.

I have shown this done at the left raw edge of the quilt, but it can be done on the right raw edge also.

