

Jacob's Ladder Variation

There are instructions for 3 different sizes of this quilt. A lap size (62" X 62"), a Queen Size (99" X 87"), and an oversized Queen (109" X 87"). Since Queen size batting is 108" X 90" this top will be just too large for pre-cut Queen batting. If your ¼" seam allowance runs a little bit wide, your finished top might be small enough to fit. My ¼" seam runs a little bit thin, so my finished top came out a little bit bigger. I bought batting off a roll, so I have plenty for this top. I am listing the fabric requirements for the diamond border separately because you may want to eliminate it from the quilt.

Here are the fabric requirements for each size:

Lap Size:

(160) 2 ½" X 2 ½" multi-colored squares
(160) 2 ½" X 2 ½" white squares (¾ yard)
(32) 5" X 5" multi-colored squares
(32) 5" X 5" white squares (5/8 yard)
1 1/8 yard dark fabric for dark border and binding
1 1/3 yard white fabric for diamond border
(82) 2 ½" X 2 ½" multi colored squares for diamond border
3 ¾ yards backing fabric

Queen Size:

(420) 2 ½" X 2 ½" multi-colored squares
(420) 2 ½" X 2 ½" white squares (2 yards)
(84) 5" X 5" multi-colored squares
(84) 5" X 5" white squares (1 5/8 yards)
1 1/2 yard dark fabric for dark border and binding
1 3/4 yard white fabric for diamond border
(124) 2 ½" X 2 ½" multi colored squares for diamond border
7 5/8 yards backing fabric

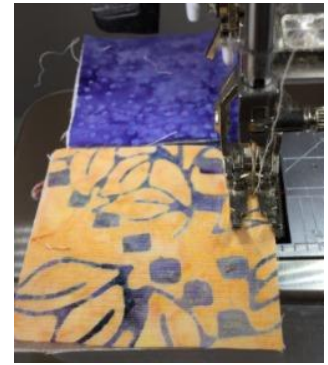
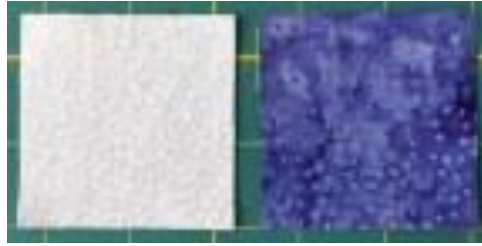
Queen Plus:

(480) 2 ½" X 2 ½" multi-colored squares
(480) 2 ½" X 2 ½" white squares (2 1/8 yards)
(96) 5" X 5" multi-colored squares
(96) 5" X 5" white squares (1 ¾ yards)
1 1/2 yard dark fabric for dark border and binding
1 7/8 yard white fabric for diamond border
(132) 2 ½" X 2 ½" multi colored squares for diamond border
7 5/8 yards backing fabric



Step 1:

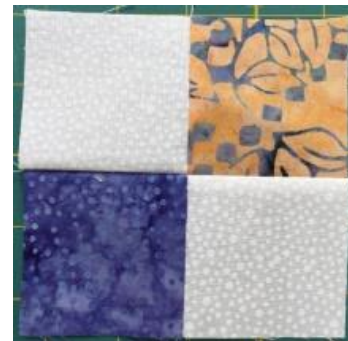
Take the first set of 2 ½" colored and 2 ½" white squares (160 lap, 240 queen, 280 queen+) and chain piece them together (like an assembly line shown right).



You will end up with a very long string of blocks.

Step 2:

Cut the string of pieces apart. Take two pieces and arrange them like a checker board. Nest the seams, pin and sew them together to make a basic 4 patch. It is not necessary to press before sewing them together.



. You will end up with (80, 210 or 240) patches.

Step 3:

Take the 5" colored and 5" white squares. Place a white square on top of a colored square and draw a line down the diagonal.

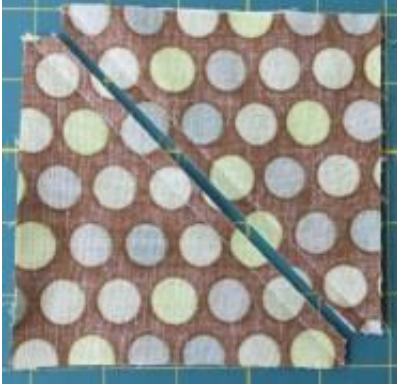
Sew ¼" to the left of the line. When you have done this with all (32, 84, 96) pieces, turn the fabric around and sew ¼" on the other side of the line.



Step 4:

Cut these blocks in half between the sewn lines (along the line that you drew). Press open. Trim to 4 ½”.

You now have (64, 168, 192) Half Square Triangles.



Note: You should trim these because the actual size square to make a 4 ½” Half Square Triangles is 4 7/8”. I believe that it is better to make it a tiny bit large and trim down so that you end up with perfectly square blocks. This makes things easier when assembling into the final block.

Step 5:

Take (48, 126, 144) 4-patch blocs and the same number of Half Square Triangles. Sew them together as shown below. It is important to keep this orientation. The colored small squares must be in the upper left/lower right and the colored triangle must be on the upper right.



Step 6:

Take (32, 84, 96) of these assemblies and add a 4-patch to the right side as shown below.



Again, the layout is critically important. Please make sure that the colored pieces of the right most 4-patch is in the upper right/lower left. This is reversed from its orientation on the left.

Note: This differs from a normal Jacob's ladder here. In a normal Jacob's ladder, the 4-patch on the right would have the colored block in the upper left, just like the 4-patch on the left.

Step 7:

Take the rest of the assemblies from Step 5 (16, 42, 48) and add a Half Square Triangle to the left as shown below. Make sure that the colored part of the triangle is in the lower left. Notice how this makes a white border around the 4-patch in the middle.



Step 8:

Take $\frac{1}{2}$ the assemblies from step 6 and join them to the assemblies in Step 7, as shown right.

You can start to see the pattern emerge. The diamonds are forming a line from the top left to the lower right with a white border separating them from the Half Square Triangles.



Step 9:

Take the remaining assemblies from step 6 (16, 42, 48) and rotate them 180 degrees. The left 4-patch will have colored pieces in the upper right/lower left and the right 4-patch will have the colored piece in the upper left/lower right. Sew them to bottom of the assembly from Step 7. Please make sure they look like the picture to the right.



Step 10:

For the lap size and queen plus quilts. Rotate $\frac{1}{2}$ the blocks 90 degrees into the pattern shown at the left. The lap size quilt will have 4 large blocks assemble into 2 rows of 2 each.

The queen + will have 12 large blocks assemble into 4 rows of 3 blocks each.

For the Queen size quilt make 9 of these large blocks, Sew them into 3 rows of 3 large blocks each. The remaining 6 smaller blocks from step 8 are sewn into a row to go across the bottom.



Step 11:

Cut 2 ½" inch strips (width of fabric) of the darker border fabric.

For the lap quilt you will need 1 1/4 strips for each side. (total 5 strips)

For the Queen size you will need 2 strips for each side if you use a straight seam to join the strips, if you use diagonal seams to join the strips you will need 2 ½ strips for each of the long sides and 2 strips for each of the short sides. (total 9 strips).

For the Queen +, you will need 2 ½ strips for each of the long sides and 2 strips for each of the short sides. (total 9 strips).

Sew the strips down the two long sides then across the two short sides.

The Diamond Border.

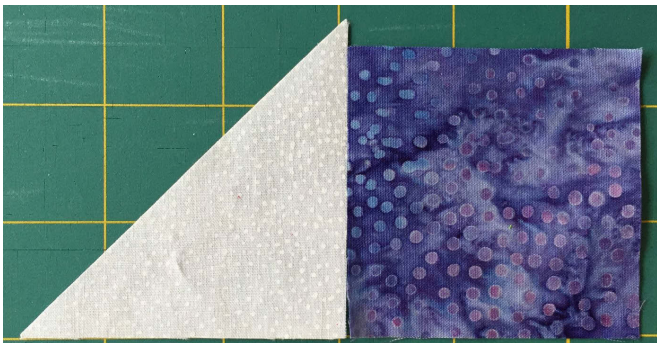
Because nobody makes exactly ¼" seam allowance, the exact size of your quilt and diamond border will be different. In order to make the diamond border look good, we will make some calculations near the end based on your actual quilt.

Step 12:

Cut (84, 124, 132) 2 ¾" white blocks. Cut these in half on the diagonal.

Step 13:

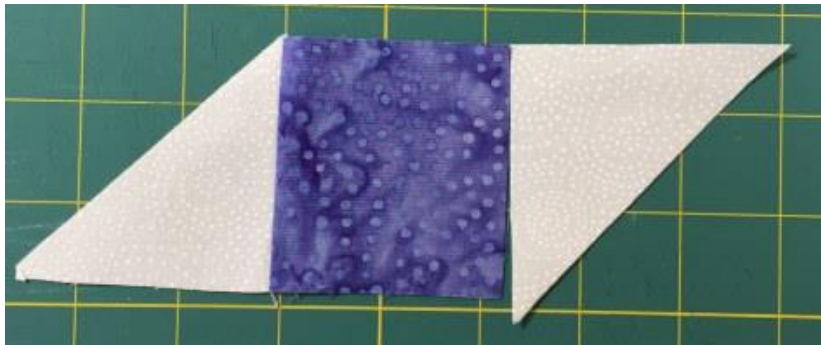
Take (80, 122, 130) 2 ½" colored blocks and sew the one triangle on the left side of the 2 1/2" square. See the image below.



Once all the blocks have one side sewn, press the seam to the dark side (I will use starch/best press here).

Step 14:

Add another triangle to the right size of the 2 ½" colored square.



Again, press the seam to the dark side and starch if desired. This creates 1 diamond.

Note: I like to starch (I use Mary Ellen's Best Press) this unit because of the bias edge.

Step 15:

Once all of the individual diamonds are complete start sewing them together.

Nest the seams to make the corners of the colored pieces line up correctly.



Step 16:

Continue to sew the diamond units together to create 4 diamond strips.



For the Lap size quilt, you should make 4 diamond strips of 19 diamonds each.

For the queen size quilt, you should make 2 strips of 27 diamonds each and 2 strips of 32 diamonds each.

For the queen + quilt, you should make 2 strips of 27 diamonds each and 2 strips of 36 diamonds each.

This is the initial length. You may need to add or remove diamonds.

Step 17:

Because almost no one can make a seam that is perfectly and repeatably $\frac{1}{4}$ " your diamond strip may be a little too long or short. The best way to insure the correct length is to simply compare it with the corresponding side of the quilt. Very carefully, trying to avoid stretching the bias edge of the diamond border, line up one edge of the dark border with the top point of the diamond border.

Follow the fabric down to the bottom of the borders.

Notice how the tip of the blue swirly diamond is below the bottom of the dark border. This is how it should work. If the last point of the diamond border is shorter than the dark border, then add another diamond. If the last point of the diamond border is more than a full diamond past the end of the dark border, remove a diamond. Do this with all 4 sides of the quilt and all 4 diamond strips.



Step 18:

Cut $1\frac{1}{4}$ " strips of white fabric to form the thin inner white border.

*****This is the default size for this border, if you want to calculate an exact border look at Step 26 at the end of these directions. Use the width that you calculated in that step. *****

For the lap quilt you will need $1\frac{1}{4}$ strips for each side. (total 5 strips)

For the Queen size you will need 2 strips for each side if you use a straight seam to join the strips, if you use diagonal seams to join the strips you will need $2\frac{1}{2}$ strips for each of the long sides and 2 strips for each of the short sides. (total 9 strips).

For the Queen +, you will need $2\frac{1}{2}$ strips for each of the long sides and 2 strips for each of the short sides. (total 9 strips).

Sew the strips along the long side of the quilt, then sew the strips across the short side of the quilt.

Step 19: Add two more diamonds to each of the shorter diamond borders. These will be the corner diamonds.

Step 20: Add an extra white triangle at both ends of each strip.



Step 21: Trim the triangles at the end of the strips $\frac{1}{4}$ inch from the point of the last diamond.



Step 22:

Fold the quilt top in half and make a mark in the seam allowance to indicate $\frac{1}{2}$ way. Fold it in half again and mark at the folds to show the $\frac{1}{4}$ points. Fold it in half one more time and mark the $\frac{1}{8}$ points.

Do the same thing for the diamond border strips.



Step 23:

Starting with the long sides of the quilt, lay out the diamond border along the edge of the quilt and line up the marks. Evenly pin the pieces together and sew.



Step 24:

Do the same thing with the top and bottom diamond borders.

Step 25:

Cut strips of fabric the width that you calculated in step 16, or $1\frac{1}{4}$ " if you don't want to do the calculations.

For the lap quilt you will need $1\frac{1}{2}$ strips for each side. (total 6 strips)

For the Queen size you will need $2\frac{1}{2}$ strips for each side. (total 10 strips).

For the Queen +, you will need 3 strips for each of the long sides and $2\frac{1}{2}$ strips for each of the short sides. (total 11 strips).

Sew the strips along the long side of the quilt, then sew the strips across the short side of the quilt.

The top is now ready for quilting and binding.

Extra Step 26:

The last step is included here to calculate the exact size of the thin white border between the dark fabric and the diamond strip. Most people will just use the pre-calculated width so this step can be ignored. If you like to have things measure exactly then perform this calculation and use that number in step 18

Once all the strips are done. Measure them against the corresponding side of the quilt.

Measure from the outside point of the diamond on the left to the right side point of the rightmost diamond.



For example, if your seams were EXACTLY perfect (mine sure aren't) then the sides of the lap size quilt should measure exactly 52 1/2 inches and the diamond strip should measure 53 3/4". The difference between the two lengths is 1 1/4". Half of this should be on the top and half on the bottom so in this case you need just 5/8" white border all the way around. When you add the 1/2 for the two seam allowances, you will need to cut strips that are 1 1/8" wide.



Notice how the purple batik diamond is below the bottom of the dark border.

This is the thickness that needs to be added between the border and the diamonds.

I am going to go through the calculations again. I will use the numbers from the queen size quilt.

You can get the necessary white border by measuring how much the diamond border extends beyond the edge of the dark border. Either, measure the quilt and the diamond border and subtract the difference, or line up the border and the quilt and measure how much the border extends beyond the quilt. If for some reason the diamond border is shorter than the quilt, add another diamond. If the diamond border is more than 3 1/2" longer than the quilt, remove a diamond.

You need to do this for the length of the quilt as well as the width. You will have 2 numbers that will almost certainly not be the same. Let's say that the queen size quilt is 76 ½" X 88 ½" and your diamonds are 78" X 101".

You don't have to make the side borders the same as the top and bottom borders, but I think it looks better if you do. Fortunately, the bias edge on the diamonds gives you a lot of play.

In the above example, the difference in width is 1½" and the difference in length is 2½". If we average these 2 numbers then divide by two (Half on the top and half on the bottom) gives a thin white border of 1inch with and extra half inch for the seam allowance.

The formula would be the (length difference + width difference)/4 plus ½" seam allowance.

For this example, $(1\frac{1}{2} + 2\frac{1}{2})/4 + \frac{1}{2}$, you would cut strips 1 ½" wide for the thin white borders.