

Project: Back to Basics

Refer to these tips and techniques when you need quilting how-to information, from selecting tools and materials to binding and finishing your quilt.

TOOLS

Before you begin any quilting project, collect the tools and materials you'll need in one easy-to-access place. Below is a list of general supplies.

FOR CUTTING

Acrylic ruler: This thick, clear-plastic ruler helps you make perfectly straight cuts with a rotary cutter. Many sizes are available.

Marking tools: Use special fabric markers so the marks are easy to remove after sewing and quilting.

Rotary cutter and mat: These tools have revolutionized quilting because you can cut strips, squares, triangles, and diamonds more quickly, efficiently, and accurately with a rotary cutter and mat than with scissors. Always use a rotary cutter with a mat designed specifically for it to protect your work surface and to keep fabric from shifting while you cut.

Scissors: You'll need two pairs of scissors—one for fabric and one for paper and plastic.

Template plastic: This slightly frosted plastic comes in sheets about $\frac{1}{16}$ " thick. Use it to make templates you can trace around to cut out fabric pieces (see *Make and Use Templates*, right).

FOR PIECING

Iron and ironing board: Use an iron and ironing board to press seams, which ensures accurate piecing.

Sewing machine: A machine with well-adjusted tension will produce pucker-free patchwork.

Thread: There are conflicting opinions about the best thread content. The traditional choice for piecing cotton quilts is 100% cotton thread. However, with today's thread

technology, fine-weight polyester is another option.

FOR APPLIQUÉ

Fusible web: Use this iron-on adhesive to secure appliqué shapes to a foundation instead of basting with needle and thread.

Needles: For hand appliqué, try a fine sharps or milliner's needle.

FOR HAND QUILTING

Frame or hoop: You'll get smaller, more even stitches if you keep your quilt stretched as you stitch. A frame supports the quilt's weight, ensures even tension, and frees both your hands for stitching. Once set up, however, it cannot be disassembled until quilting is complete. Hoops are more portable and less expensive. Quilting hoops are deeper than embroidery hoops to accommodate the thickness of quilt layers.

Needles: A "between" or quilting needle is short with a small eye. Common sizes are 8, 9, and 10 (the larger the number, the finer the needle). Size 8 is best for beginners.

Thimble: This finger cover relieves the pressure required to push a needle through several layers of fabric and batting.

Thread: Quilting thread, including the preferred 100% cotton variety, is stronger than sewing thread.

FOR MACHINE QUILTING

Darning, free-motion quilting, or hopper foot: This sewing machine attachment is used for free-motion quilting. You may find one in your machine's accessory kit. If not, know the model and brand name of your machine when you go to purchase one.

Safety pins: Use safety pins to hold

quilt layers together during quilting.

Table or other large work surface that is level with your machine bed: Your quilt will need the support.

Thread: Look for either 100% cotton or cotton-polyester quilting thread.

For quilting that blends into the background, use fine nylon or polyester monofilament thread.

Walking or even-feed foot: This sewing machine attachment helps you keep long, straight quilting lines smooth and pucker-free.

CHOOSE FABRICS

The best fabric for quiltmaking is 100% cotton because it minimizes seam distortion, presses crisply, and is easy to quilt. Unless otherwise noted, quantities in materials lists are for 42"-wide fabrics. We call for a little extra yardage to allow for minor cutting errors and slight shrinkage.

PREPARE FABRICS

There are conflicting opinions about the need to prewash fabric. The debate is a modern one because most antique quilts were made with unwashed fabric. However, today's dyes and sizing are unlike those used a century ago.

Prewashing fabric offers certainty as its main advantage. Today's fabrics resist bleeding and shrinkage, but some of both can occur in some fabrics. Some quilters find prewashed fabric easier to quilt. If you choose to prewash your fabric, press it well before cutting.

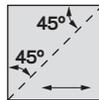
Others prefer the crispness of unwashed fabric for machine piecing. If you use fabrics with the same fiber content throughout the quilt, then any shrinkage that occurs in its first washing should

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be uniform. Some quilters find this small amount of shrinkage desirable, because it gives the quilt a slightly puckered, antique look.

CUT BIAS STRIPS

Strips for curved appliqué pieces and for binding curved edges should be cut on the bias (diagonally across the grain of a woven fabric), which runs at a 45° angle to the selvage and has the most stretch. To cut bias strips, begin with a fabric square or rectangle; use an acrylic ruler to square up the left edge if necessary. Make a cut at a 45° angle to the left edge (**Bias Strip Diagram**). Handle the diagonal edges carefully to avoid distorting the bias. To cut a strip, measure the desired width from the 45° cut edge; cut parallel to the edge. Cut enough strips to total the length needed.



BIAS STRIP DIAGRAM

MAKE AND USE TEMPLATES

MAKE TEMPLATES

A template is a pattern made from extra-sturdy material so you can trace around it many times without wearing away the edges. Acrylic templates for many common shapes are available at quilt shops. Or make your own by duplicating printed patterns on template plastic.

To make permanent templates, purchase easy-to-cut template plastic, available at quilt shops and crafts supply stores. Lay the plastic over a printed pattern. Trace the pattern onto the plastic using a ruler and a permanent marker to ensure straight lines, accurate corners, and permanency.

For hand piecing and appliqué, make templates the exact size finished pieces will be (without seam allowances). For piecing, this means tracing the patterns' dashed lines.

For machine piecing, make templates that include seam allowances by tracing the patterns' solid and dashed lines onto the template plastic.

For easy reference, mark each template with its letter designation, grain line (if noted by an arrow on the pattern), and block or quilt name. Also mark the matching point of each corner on the seam line (these may be indicated with dots on the printed pattern). Cut out the traced shapes on their outside lines. Using a pushpin, make a hole in the template at each corner matching point. The hole must be large enough for the point of a pencil or a marking pen to mark through.

Verify each template's shape and size by placing it over its printed pattern. Templates must be accurate because errors, however small, compound many times as you assemble a quilt. To check templates' accuracy, make a test block before cutting the fabric pieces for an entire quilt.

USE TEMPLATES

To trace a template on fabric, use a pencil, a white dressmaker's pencil, chalk, or a special fabric marker that makes a thin, accurate line. Do not use a ballpoint or ink pen; the lines may bleed if washed. Test all marking tools on a fabric scrap before using them.

To make pieces for hand piecing, place a template facedown on the wrong side of the fabric and trace. If desired, mark the matching points on the corners of the seam lines. Reposition the template at least 1/2" away from the previous tracing, trace again, and repeat (**Diagram 1**).

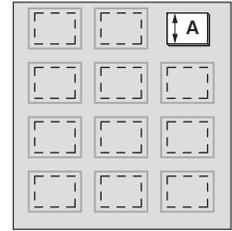


DIAGRAM 1

To make pieces for hand appliqué, place a template faceup on the right side of the fabric and trace. The lines you trace on the fabric are the sewing lines. Mark cutting lines 1/4" away from the sewing lines, or estimate the distance by eye when cutting out the pieces with scissors. For hand piecing, add a 1/4" seam allowance; for hand appliqué, add a 3/16" seam allowance.

Because templates used to make pieces for machine piecing have seam allowances included, you can use common tracing lines for efficient cutting. Place a template facedown on the wrong side of the fabric, and trace. Mark the corner matching points through the holes in the template; they should each be right on the seam line. Reposition the template without leaving a space between it and the previous tracing, trace again, and repeat (**Diagram 2**). Using a rotary cutter and a ruler, cut out pieces, cutting precisely on the drawn lines.

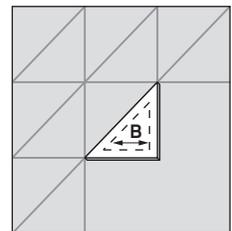


DIAGRAM 2

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PLAN FOR CUTTING

Our project instructions list pieces in the order they should be cut to make the best use of your fabrics.

Always consider the fabric grain before cutting. The arrow on a pattern piece indicates which direction the grain should run. One or more straight edges of a pattern piece should follow the fabric's lengthwise or crosswise grain.

The lengthwise grain, parallel to the selvages (the tightly finished edges), has the least amount of stretch. The crosswise grain, perpendicular to the selvages, has a little more give. The edge of any pattern piece that will be on the outside of a block or quilt should be cut on the lengthwise grain. Do not use the selvage of a woven fabric in a quilt. When washed, it may shrink more than the rest of the fabric.

In projects larger than 42" in length or width, we usually specify that the border strips be cut on the width (crosswise grain) of the fabric and pieced to use the least amount of fabric. If you'd prefer to cut the border strips on the lengthwise grain and not piece them, you'll need to refigure the yardage.

SET IN SEAMS

The key to sewing angled pieces together (setting in seams) is carefully aligning marked matching points. Here, we use diamonds and a square—a common type of set-in seam—to illustrate the process. Whether you're stitching by machine or hand, start and stop sewing precisely at the matching points (dots on **Diagram 3**); be sure to backstitch to secure seam ends.

BY MACHINE

First make an angled unit by sewing two diamonds together between matching points along a pair of edges (**Diagram 3**).

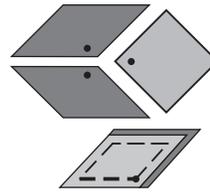


DIAGRAM 3

Then, with right sides together, pin one edge of the angled unit to one edge of the square (**Diagram 4**). Align matching points at each end, pushing a pin through both fabric layers to check alignment. Machine-stitch precisely between matching points, backstitching at seam ends. Remove unit from sewing machine.

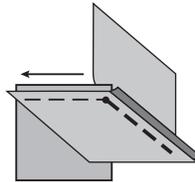


DIAGRAM 4

Bring adjacent edge of angled unit up, and align it with the next edge of the square (**Diagram 5**). Insert a pin in each corner to align matching points as before. Machine-stitch between matching points. Press seams away from set-in piece (the square).

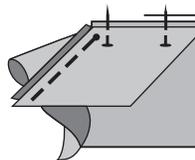


DIAGRAM 5

BY HAND

First make an angled unit by sewing two diamonds together between matching points along a pair of edges (**Diagram 3**).

Then, with right sides together, pin one edge of the angled unit to an edge of the square (**Diagram 6**). Use pins to align matching points.

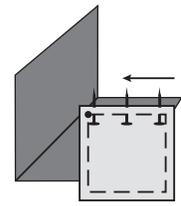


DIAGRAM 6

Hand-sew the seam from the open end of the angled unit to the matching point in the corner. Remove pins as you sew. Backstitch at the corner to secure stitches. Do not sew into the 1/4" seam allowance, and do not cut your thread.

Bring the adjacent edge of the square up, and align it with the next edge of the angled unit. Insert a pin in each corner to align matching points as before; then pin remainder of the seam (**Diagram 7**). Hand-sew seam from inside corner to open end of the angle, removing pins as you sew. Press seams away from set-in piece (the square).

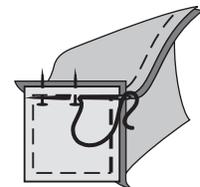


DIAGRAM 7

FOUNDATION PIECING

To make precisely pieced, intricate blocks or units, you can sew together fabric pieces on a paper pattern or foundation. Some quilters find this technique (also called paper piecing) to be freeing because precise cutting isn't required and grain line direction isn't a worry. However, it requires you to think about piecing in a different way.

To foundation-piece, you stitch fabric pieces to a foundation paper with the marked side of the paper facing up and the fabric pieces layered underneath. The resulting pieced unit will be a mirror image of the foundation paper. To illustrate the process, **diagrams 8-12** show the

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right and wrong sides of a unit as it is being constructed.

To make a foundation paper, trace desired pattern onto tracing paper or the foundation material of your choice, including all lines, numbers, and dots. Repeat to make the desired number of foundation papers. Cut out the traced foundation papers roughly $\frac{1}{4}$ " outside the dashed outer lines.

Roughly cut out fabric pieces that are at least $\frac{1}{2}$ " larger on all sides than the area on the foundation they will cover. (For this example, light and dark print rectangles were cut to cover the triangles on the foundation paper.)

With right sides together, layer light print position 1 rectangle atop dark print position 2 rectangle; align a pair of long edges.

Place a foundation paper, marked side up, atop the layered rectangles, positioning the paper so the aligned rectangle edges are $\frac{1}{4}$ " beyond the stitching line between positions 1 and 2 and at least $\frac{1}{4}$ " beyond the foundation's outer stitching line (Diagram 8).

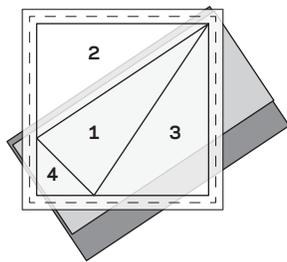


DIAGRAM 8

To check placement, pin on the line between positions 1 and 2; then flip the dark print rectangle open. Make sure the rectangles completely cover positions 1 and 2 and extend at least $\frac{1}{4}$ " into adjacent positions. If they don't, reposition and recheck until they do.

Working with marked side of foundation paper up, use a small

stitch length (1.5 millimeters) to sew on the stitching line through all layers, extending stitching past the beginning and end of the line by a few stitches (Diagram 9).

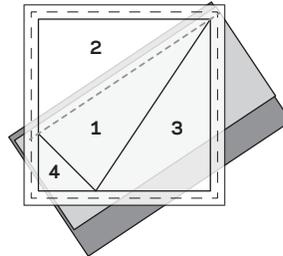


DIAGRAM 9

Turn stitched layers over so foundation paper is on the bottom. Press dark print rectangle open. Referring to Diagram 10, trim light print rectangle only (not the foundation paper) to about $\frac{1}{4}$ " beyond next stitching lines (the line between positions 1 and 3, and the line between positions 1 and 4). Roughly trim dark print rectangle to the edge of the foundation paper (you will trim it later on the dashed lines when you trim the entire unit).

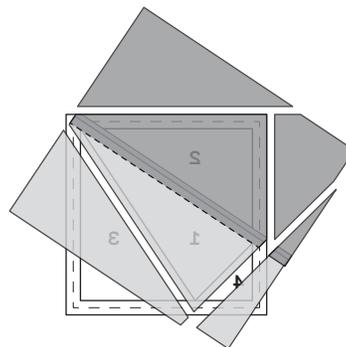


DIAGRAM 10

With right sides together, align dark print position 3 rectangle with long trimmed edge of light print piece. Turn stitched layers over so foundation paper is on top. Sew on the stitching line (Diagram 11). Turn stitched layers over so foundation paper is on bottom. Press dark print rectangle open. Roughly trim dark print rectangle to the edge of the foundation paper.

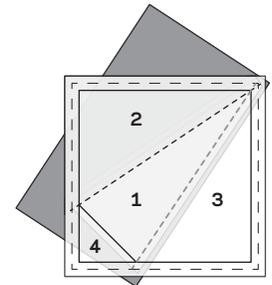


DIAGRAM 11

In same manner, add dark print position 4 triangle. Trim all fabric layers and foundation paper on the outer dashed lines to complete a foundation-pieced unit (Diagram 12). Remove foundation paper with tweezers or the blunt edge of a seam ripper.

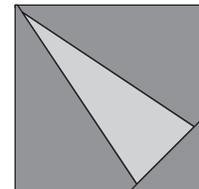


DIAGRAM 12

MITER BORDERS

To add a border with mitered corners, pin a border strip to one edge of the quilt center, matching centers. Sew together, beginning and ending the seam $\frac{1}{4}$ " from quilt center corners (Diagram 13). Allow excess border fabric to extend beyond edges of quilt center. Repeat with remaining border strips. Press seams toward the border strips.



DIAGRAM 13

At a corner, lap one border strip over the other (Diagram 14). Align the edge of a 90° triangle with the raw edge of the top strip so that the long edge of the triangle intersects

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the border seam in the corner. With a pencil, draw along edge of triangle from seam out to the raw edge. Place bottom border strip on top, and repeat the marking process.

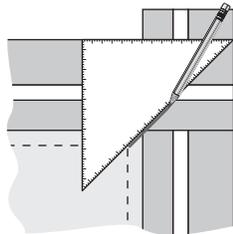


DIAGRAM 14

With right sides together, match marked seam lines and pin (Diagram 15). Beginning with a backstitch at the inside corner, sew strips together, stitching exactly on marked lines. Check the right side to make sure the corner lies flat. Trim excess fabric, leaving a 1/4" seam allowance. Press seam open. Mark and sew remaining corners in same manner.

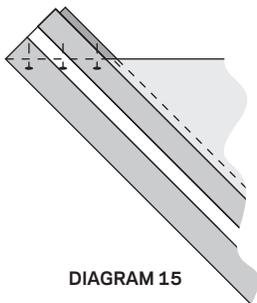


DIAGRAM 15

SELECT BATTING

For a small beginner project, a thin cotton batting is a good choice. It has a tendency to stick to fabric, so it requires less basting. Also, it's easy to stitch. It's wise to follow the stitch density recommendation printed on the packaging; this indicates the maximum distance between rows of stitching required to keep the batting from shifting and wadding up inside the quilt.

Polyester batting is lightweight and readily available. In general, it springs back to its

original height when it is compressed, adding a puffiness to quilts. It tends to "beard" (work out between the weave of the fabric) more than natural fibers. Polyester fleece is denser than polyester batting and works well for pillow tops and place mats.

Wool batting has good loft retention and absorbs moisture, making it ideal for cool, damp climates. Read the label carefully before purchasing a wool batting; it may require special handling.

COMPLETE QUILT

Cut and piece backing fabric to measure at least 4" bigger on all sides than the quilt top. Press seams open. With wrong sides together, layer quilt top and backing fabric with batting in between; baste. Quilt as desired. Trim batting and backing fabric even with the quilt top edges.

Binding for most quilts is cut on the straight grain of the fabric. If your quilt has curved edges, cut binding strips on the bias. Cutting instructions for the projects in this issue specify the number of binding strips or a total length needed to finish the quilt. Instructions also specify enough width for a French-fold, or double-layer, binding because it's easier to apply and adds durability.

Join strips with diagonal seams to make one continuous binding strip (Diagram 16). Trim excess fabric, leaving 1/4" seam allowances. Press seams open. Fold one end of the binding strip under 1" (Diagram 17); press. With wrong side inside, fold strip in half lengthwise and press (Diagram 18).

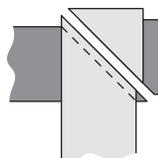


DIAGRAM 16



DIAGRAM 17



DIAGRAM 18

Beginning in center of one edge, place binding strip against right side of quilt top, aligning binding strip's raw edges with quilt top's raw edge (Diagram 19). Begin sewing the binding in place 2" from the folded end. Stop sewing when you're 1/4" (or a distance equal to the seam allowance you're using) from the corner. Backstitch, then clip threads. Remove quilt from under the sewing-machine presser foot.



DIAGRAM 19

Fold binding strip upward, creating a diagonal fold, and finger-press (Diagram 20).

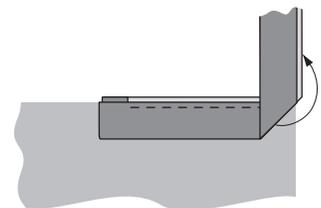


DIAGRAM 20

Holding diagonal fold in place with your finger, bring binding strip down in line with next edge of quilt top, making a horizontal fold that aligns with the quilt edge (Diagram 21).

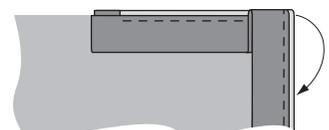


DIAGRAM 21

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Start sewing again at top of horizontal fold, stitching through all layers. Sew around quilt, turning each corner in same manner.

When you return to the starting point, encase binding strip's raw edge inside the folded end (Diagram 22). Finish sewing to the starting point (Diagram 23).

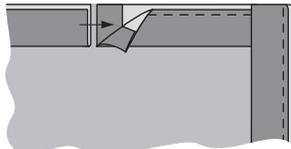


DIAGRAM 22

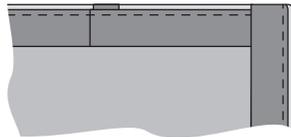


DIAGRAM 23

Turn binding over each edge to the back. Hand-stitch binding to backing fabric, making sure to cover all machine stitching.

To make mitered corners on the back, hand-stitch up to a corner; fold a miter in the binding. Take a stitch or two in the fold to secure it. Then stitch the binding in place up to the next corner. Finish each corner in same manner.