Tired of extensive alterations? Draft your own patterns for a good fit the first time

BY JUDITH NEUKAM

The light blue top’s pattern was purchased using the size chart and the wearer’s bust measurement. Considerable fitting is needed to correct these problems: 1. Shoulders are too wide; 2. Bustline appears snug; 3. Waistline pushes up; 4. Hipline is too small; 5. Armholes gape; 6. Excess fabric in the back; 7. The torso is too long; and more.
Pattern drafting is no more difficult than following a recipe. Take the prescribed steps, and you’ll have a pattern before you know it. Many years ago, I found and purchased Pattern Drafting and Grading: Women’s and Misses’ Garment Design by Mayer Rohr (Rohr Publishing) in a used bookstore. My version is a 1952 revision of the original 1928 volume. I learned it was used as a textbook for half of the 20th century and precedes other classic pattern-drafting books, such as Modern Pattern Design by Harriet Pepin (Funk & Wagnalls, 1942), reprinted by the Center for Pattern Design in 2010; Dress Design: Draping and Flat Pattern Making by Marion S. Hillhouse and Evelyn A. Mansfield (Houghton Mifflin Company, 1948); Patternmaking for Fashion Design by Helen Joseph Armstrong (Harper & Row, Publishers, Inc., 1987); and Pattern Making by the Flat- Pattern Method by Norma R. Hollen and Carolyn J. Kundel, first edition (Burgess Publishing Company, 1961).

Mayer’s book is unlike the others in several ways. He wrote brief, concise descriptions. His directions are small drawings with almost no explanation, but he includes a master map showing how measured areas translate to the pattern draft. I am pleased with the results of his methods and share them here with added explanation where I think it can help.

You’ll find executing this drafting process much easier than reading it, so I recommend gathering your supplies and following the steps to see the results. The benefit of drafting your own patterns is arriving at a better fit faster. If you have a difficult-to-fit body, such as the model in the photographs on this page, or are just tired of making numerous alterations to patterns, explore the possibilities of drafting patterns for yourself.

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SUPPLIES
YOU’LL NEED
• 36 inches covered curtain-weight or bead-weighted cord (FabricFarms.com)
• Seam binding to tie around your waist
• Eyebrow pencil
• French curve
• Large piece of paper
• L square
• Measuring tape
• Pencil
• Ruler or yardstick
• Straight pins

The purple top was made from a pattern drafted to the wearer’s measurements. The drafting process took under an hour, and the results are much closer to a perfect fit. This pattern can be used to help fit other patterns, and as a springboard for launching your own designs by adding ease, design lines, and sleeves. Openings can be changed to get the look you want, and the effort gives you the fit you deserve.
Establish your reference points

Accurate dimensions are important, but it’s equally important to maintain a consistent relationship between measurements. Do this by marking your body with key reference points before you measure; then, when you measure between reference points for multiple measurements, you always return to the same point. Wear the foundation garments and shoes you plan to wear with the finished clothes. You will be marking your body, so wear as little as possible. However, for this draft, it’s helpful to start with a sleeveless garment with correctly shaped armholes for your body. To get the most precise measurements, ask a friend to help.

1. Mark the armholes.
   Trace along the armhole edge on both arms using the brow pencil. Then, remove the top.

2. Band the waist.
   Tie the seam binding around your waist snugly but not tightly.

3. Identify the neckline.
   Wrap the weighted cord around your neck. Start on the front with the ends crossing in the back and draping over the shoulders, as shown at right. Arrange it to your preferred jewel neckline.

4. Determine the shoulder seamline.
   Lay the pencil along the top of the shoulder, evenly between front and back. Then, use the brow pencil to mark where the pencil crosses the armhole marking, and at the opposite end where it crosses the weighted cord at the neckline.

5. Mark your hipline on each side-seam location with crossed pins.
   Mark the navel with crossed pins to establish the center front.

Take your measurements, then draft the foundation

This foundation shell is your personal block. The measuring is not complicated, and you can follow the little drawings to understand the measuring and guide your drafting with the larger draft map at far right. It’s most efficient to take all the measurements and record them in the spaces provided before you draft the pattern. Sometimes what you are asked to do seems counterintuitive, but continue as directed.

Use paper that is about 30 inches square to draft the pattern. To “square” a line means to draw it perpendicular to the reference line.

**MEASURE AND DRAFT THE BACK**

**1. Center-back length.**
   Draw a straight vertical line near the right side of your paper. Label point A about 3 inches down from the top. Measure down the center back length, and label B.

**2. Back-shoulder height.**
   Measure the length from waist to shoulder, at the side neck, with the tape parallel to the center back. From this length, subtract the AB length and extend the difference above A, and label C.

**3. Half-high-back width.**
   Measure down ⅓ of AB, and label D. D to E is half the full high-back width. Square a line from D across to E, and continue the line past the armhole about 3 inches.

**4. Half-back-shoulder width.**
   Measure from center back to top of the armhole plus ¼ inch ease. On the draft, square a line this length from C across to F. Square a line from F down to line DE, and label G.

**5. Back-shoulder slope.**
   Square a line ⅓ inch long from B to H. Draw a line from H, the back shoulder slope length, and where it crosses FG, label I.
6 Back-shoulder-seam length. Measure the shoulder length plus \(\frac{1}{4}\) inch ease from I to where it meets CF, and label J. Draw the shoulder line between I and J. Draw a curved line from J to A for the back neckline.

7 Half-back width. Measure from the side seam at the underarm to center back, parallel to the floor, to find length OP. Drop K \(\frac{1}{4}\) inch below B. Square a line from K to L the length of OP. Square a line from L up to extended line DG, and label M.

8 Side-waist depth. Measure from center-back neck to the side seam at the waist. From A, draw a line this length to meet KL, and label N.

9 Side-seam length. Measure from waist to underarm. Draw a line this length from N to end on line LM, and label it O. Square a line from O to AB, and label the intersection P. Square a line from E to intersect OP, and label Q. Draw a 1-inch diagonal line dividing the right angle OQE, and label R. Draw the armhole from I to E to R to O using a French curve as a guide.

10 Back-waistline width. Square a line from KN through where the diagonals cross. Label the point T and the base S. On line KL, mark half of LN on either side of S for dart width.

11 Add the waist-to-hip length. Drop this distance from K, and label U. U to V is \(\frac{1}{4}\) the hip circumference, plus \(\frac{1}{2}\) inch for ease. Square a line from U across to V. Draw a line from V to N. Square a line from S to UV, and label W; shape this dart during fitting.
MEASURE AND DRAFT THE FRONT

1. **Center-front length**
   Draw a straight vertical line near the left side of your paper. Label point AA about 3 inches down from the top. Measure down the center-front length, and label BB.

2. **Front shoulder height**
   Measure the length from waist to shoulder, at the side neck, parallel to the center front. Extend the difference between the AABB length and the new measurement above AA and label CC.

3. **Half-chest width**
   AA to DD is about 1/5 of line AABB. DD to EE is half the width across the chest. Square a line from DD across to EE; then extend the line about 3 more inches.

4. **Half-front-shoulder width**
   Measure from center front at neck to shoulder point. Square a line this length from CC, and label it FF. Square a line from FF to DDEE, and label GG.

5. **Front shoulder slope**
   Measure the length from the center-front waist to the shoulder point. Draw a line from BB, the front shoulder slope length, and label where it intersects FFGG point II.

6. **Front shoulder seam**
   II to JJ is the shoulder-seam length. Draw a line from II to intersect line CCFF and label this point JJ. For the front neckline, draw a curved line from AA to JJ, passing 1/4 inch from the crossing of squared guidelines, as illustrated on the drafting map at far right.

7. **Front width**
   The front width is the measurement from center front to the side seam at the underarm. Square a horizontal line this length from BB, and label the point LL. Then, square a line from LL to line DDGG, and label MM.

8. **Side-waist depth**
   AA to NN: Measure from center front at the neckline to the side waist. Draw a line from AA to where the measurement intersects LLMM, and label NN.

9. **Side-seam length**
   Measure from waist to underarm. From NN, draw the side-seam length to end on LLMM and label OO. Square a line from OO to center front and label PP. Square a line from EE to intersect OOPP; label the point QQ. Draw a 1-inch diagonal line bisecting the right angle at QQ, and label RR. Draw the armhole from II to EE to RR to OO with a French curve as a guide.

10. **Half-front-waistline width**
    Label TT at the crossing of diagonal lines NNPP and BBEE. Square a line from BBLL to TT, and label the intersection SS. Make a dart by drawing equal legs from TT to Z1 and Z2, each 1/2 inch from SSTT.

11. **Front-skirt length from BB to UU**
    The distance from the waist to hip at center front plus 1/2 inch. Square a line from UU to VV the same length as U to V on the back. Draw a line VV to LL. Square a line from SS to WW, and shape the dart during fitting.
Add wearing or style ease

The foundation you drafted is extremely fitted. To make a wearable garment, you need to add wearing ease, as shown below. If you know the amount of ease you prefer, you can add it to a copy of your foundation pattern. Or start with the modest amount recommended here and experiment to see what is most comfortable for you. Cut extrawide seam allowances on the side and shoulder seams and audition different amounts with your muslin test garment. Changing the ease moves the seamline position, so be sure to mark the placement on your test garment before you take it apart to apply any changes to your paper pattern and permanent record.

To add ease to your foundation, first trace the outline of the front and back pattern drafts. Lower the armholes \( \frac{1}{4} \) inch, as shown by the dotted lines, then extend the side seams \( \frac{1}{2} \) inch. This adds 2 inches total to the garment’s circumference.

Add seam allowances and plan your escape

The foundation pattern does not include seam allowances; always keep this as a working copy so it’s ready for you to create new designs. For sewing a garment, trace a copy of the pattern and add the seam allowance width of your preference to all edges except the hem, where you add a hem allowance.

This pattern has a jewel neckline, which will not pull over your head. Plan your escape before you cut the fabric. Because the pattern has minimal ease, you’ll need a full opening at center front or center back. You can choose a separating zipper, or a placket with buttons or snaps. Alternatively, opt for a side-seam zipper, and add a keyhole opening at the neckline.
Change the darts to suit your shape

You shouldn’t have to adjust the fit much because this pattern is made to your measurements. But through the simple technique of dart rotation, you can make style adjustments that work better for your body. Before making any of the following changes, trace a copy of the pattern.

**ADJUST FOR A FULL BUST**

If the measurement across the fullest part of your bust, from side seam to side seam, is greater than PP to OO, cut out the dart and slash from TT to 2 inches shy of RR, and then from RR \( \frac{3}{4} \) inches, leaving a pivot point. Spread the dart at TT, pivoting on the paper hinge to create greater space for the bust and reduce the armhole slightly. Add \( \frac{1}{2} \) inch to the length at center front.

**MAKE THE FOUNDATION WITH PRINCESS SEAMS**

Cut open all the darts. Then, slash from the shoulder center to TT. Pivot at TT to lower NN to Z2 LL. Add \( \frac{1}{2} \) inch to the length at center front, tapering to nothing at the side seam. Add seam allowances to the new edges.

**OPEN A BUST DART FROM THE SIDE SEAM**

Start by dividing the pattern at the waistline, from BB to LL, but keep the upper and lower portions aligned for now. Then draw a line from TT to the side seam. Cut out the dart and cut along the horizontal line you drew to TT, leaving a hinge. Spread the pattern apart on this cut line until NN meets BB LL. The space that opens from the side seam is the new bust dart. When sewing the dart, move the point at least 1 inch from the bust point toward the side seam. Sew the bodice and skirt separately and then reconnect them by aligning the waistline seam.
Add a cowl neckline

There are many ways to change this pattern. This foundation pattern can be used to create a blouse, dress, or vest with a few style changes. You can remove the darts so it’s not so fitted or add sleeves. Here, I’ll show you how to modify the jewel neckline for a pleated cowl.

1 Copy the foundation front. Square a line from the center front to TT. Cut the dart from Z1 to TT to Z2 and along line NN to Z2.

This design is about 5 inches deep at the center front. The drape positions are secured with stitched pleats.

2 Close the waist dart. Pivot the pattern on TT to make NN meet line BLLL. Draw a new side seam from OO to LL.

3 Draw a line 3 inches from the neckline on the shoulder seam connecting to TT. Draw a parallel line 1 1/2 inches away, as shown. Cut along these lines. From a point 5 inches down from AA draw a line to the side neck. Cut and remove this wedge and the horizontal dart at TT.

4 Label the sections A, B, and C. Spread the sections equally to close the dart shape at the center front. Add paper to the open areas, and draw curved lines from the shoulder seam to the center front.

5 Cut along the two curved lines and spread the sections. Square a line along the edge of section A to BB. Draw four 3-inch-long pleat lines between the sections along their original dividing lines. The double arrows indicate the pleat folds. Add 1 inch to the neckline for a cut-on facing. Cut the front on the bias.

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