

# A GUIDE TO Pattern Grading

by Kathryn Brenne

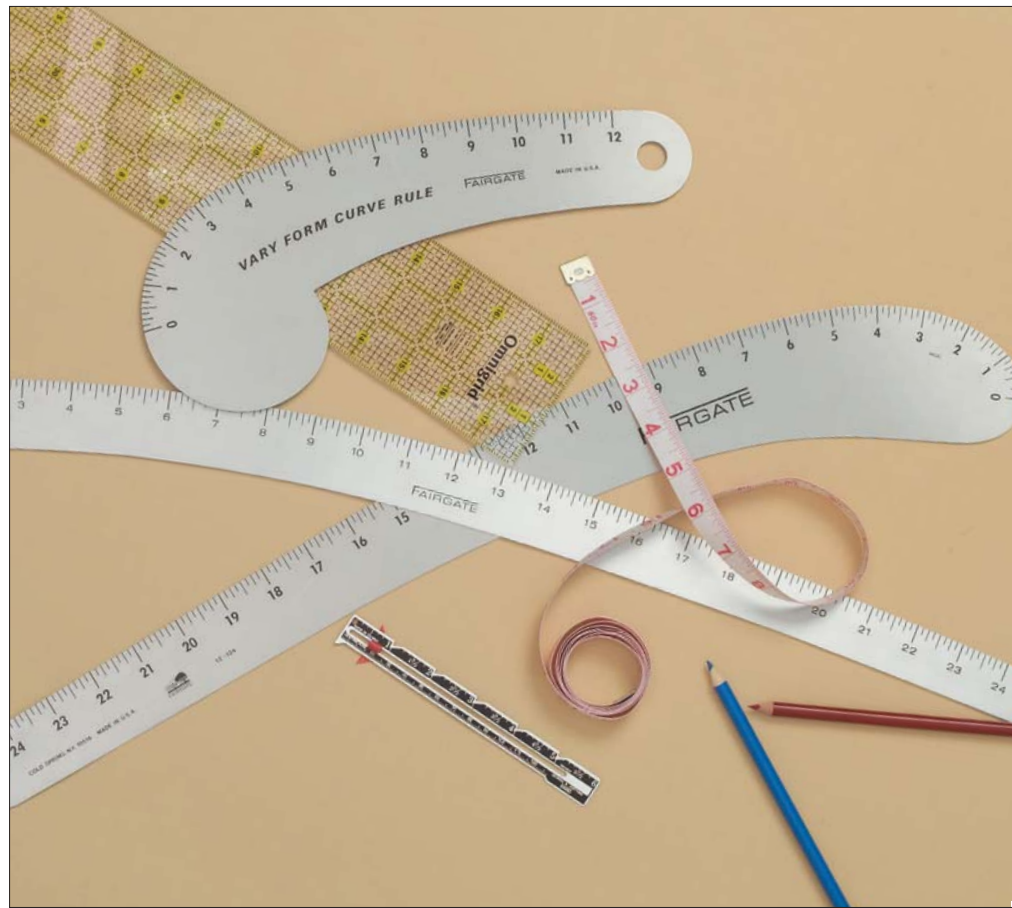
Disappointed that the pattern you love doesn't come in your size? Don't be. With a few easy steps you can adjust the tissue up or down to suit your measurements.

**g** rading is the production term used to increase or decrease a pattern from one size to another. Most pattern companies (and clothing manufacturers) use a size 10 as the starting point for a pattern design, then grade the pattern up or down to different sizes. If you find you require a pattern size that is smaller or larger than the range in which the pattern has been printed, you can easily grade the pattern up or down to suit your needs. The technique outlined here will change only the pattern size; it will not alter the pattern for a personalized fit. Once a pattern has been graded, it can then be altered for a custom fit. This technique is suitable for those who require patterns smaller or larger than the regular size pattern range.

## Getting Started

This technique will work for any type of garment, but you must begin with a **multi-sized pattern** that is closest to your size. Multi-size patterns have more than one size printed on the same tissue paper, and the variances between the sizes will be used as the basis for grading up or down.

Having the right tools will make the job easier and more accurate. A variety of curved patternmaking rulers, available from Fairgate or Dritz, are recommended. Use a **curve stick** to redraw side seams and a **vary form curve** ruler to draw



new sleeve caps, armholes and necklines. A **French curve** or **styling curve** could also be used. A transparent quilt-and-sew ruler with  $\frac{1}{8}$ " grid marks can be used for both measuring and drawing lines. A **sewing gauge with movable slider** is a useful tool for accurately measuring distances. Fine, **colored pencils** are used to draw the new markings and cutting lines. I prefer mechanical pencils with 0.7mm lead. You should have at least two colors to make it easier to differentiate between the reference lines and the new

pattern lines. In the examples shown here blue pencil is used to make reference lines and red pencil is used to draw the new pattern cutting lines and symbols. A tape measure can be used to quickly measure lengths. Use **transparent invisible tape** if necessary. This tape allows you to draw on it and see the markings.

## The Technique

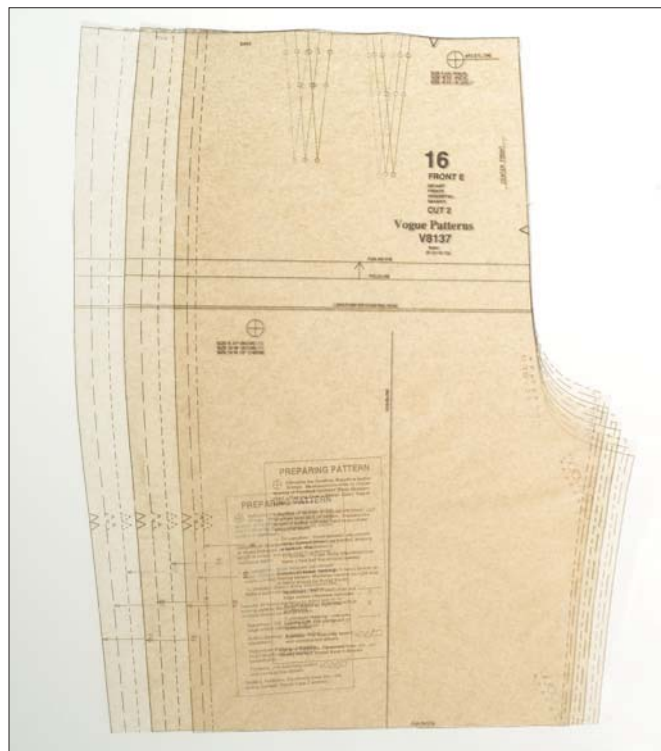
Begin by looking at the measurement chart found on the pattern envelope and compare the measurements for

two consecutive sizes. The difference in measurement between the two sizes is the grade. For example, a Misses' size 10 pattern measures 32 1/2" at the bust, 25" at the waist and 34 1/2" at the hip. Looking at a size 8, all of these measurements are 1" smaller. This is a 1" grade. Following this sequence, grading the pattern to a size 6 will therefore reduce it by another 1". This is what is shown in the examples photographed here.

**1. Prepare the tissue.** Separate all of the pattern pieces required for the garment and lightly press them flat with an iron. If the pattern is being increased in size, trim the pattern along the largest size's cutting line and tape it to a large piece of paper (Kathryn uses banquet table paper) or attach strips of paper to the pattern edges. Perfect Pattern Paper, featured on page 94, would work well.

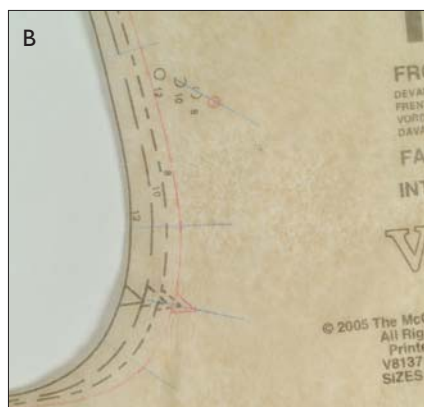
**2. Find the graded seams.** Take a look at the pattern pieces and note any areas where there are multiple cutting lines or symbols for each size. These are the areas that have been graded. Not all edges or details are graded. Only the edges that have multi-sized lines will be redrawn; any notches, circles or marking that move from one size to another will also be graded. Some of the details that change with grading are: collar length, facing length, button spacing and belt length. Details that don't usually change with grading are: dart width, collar width, facing width, belt width, button size, pocket length and the hem allowance.

**3. Set up reference lines.** At corners, draw a straight line (blue pencil mark) through the corner points of each size. Extend the reference line approximately 1" beyond all of the original corners. (A) The corner for the new size will then



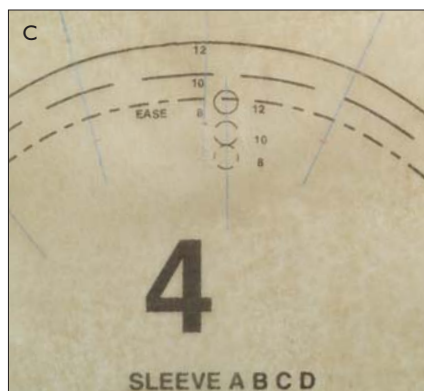
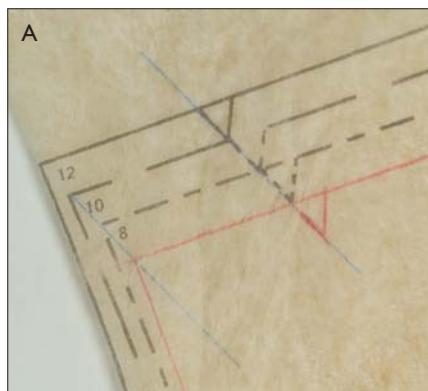
This photo shows the full range of grades for sizes 8 through 24. Note that the center front line, hem line, grainline, and lengthening and shortening line remain constant for all sizes. The dart size remains constant for all sizes, and they remain in the same position for sizes 8-10-12, then move outward between sizes 12 and 14; remain in the same position for sizes 14-16-18, then move outward between sizes 18 and 20; remain in the same position for sizes 20-22-24. When grading (or in construction in general) darts can be positioned where they flatter your body best.

fall on this reference line. Do this at all corners. Use this same technique to set up reference lines (blue pencil marks) through the middle of notches and circles. (B) When working with curved seams, draw several reference lines at 90° to the seam line. (C)



## ONE EXCEPTION TO THE RULE

Grading a Vogue Pattern between a size 10 and a size 12 using this technique will vary slightly when compared to a standard size 10 Vogue Pattern. Vogue Pattern sizes 6 to 10 have a 1" grade and pattern sizes 12 to 24 have a 2" grade. The grade difference between a size 10 and a size 12 however is 1 1/2". Therefore, if this technique is used to grade a size 12 down to a size 10, the new size 10 will be slightly smaller than a printed Vogue Pattern size 10. This only occurs when working with sizes 10 and 12. Be aware of this difference. Making a muslin once the grading has been completed will ensure that all grading has been done accurately and that all pieces will fit together.



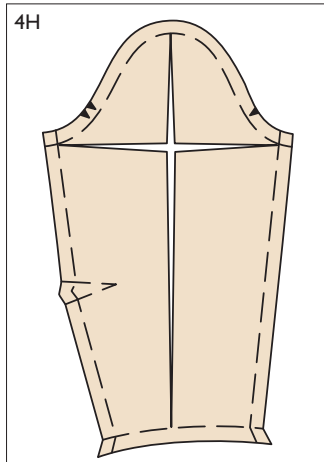
**4. Plot the new cutting lines.** To grade the pattern to the next size up or down, measure the distance between sizes at all of the graded seams. Draw new cutting lines (red pencil marks) exactly the same  
(continued on page 70)

# Perfecting the Fit (continued from page 17)

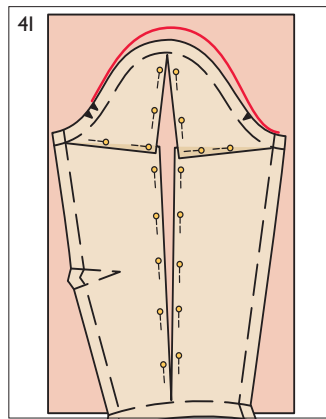
- Remove the stitching in the armhole area above the notches and release the sleeve cap until the sleeve hangs straight and smooth.

To transfer this adjustment to your fashion pattern:

- Remove the sleeve from the fitting muslin and open the underarm seam.
- Slash the pattern along the lengthwise grain from the top of the sleeve cap just to, but not through, the armhole seam allowance and the hemline.
- Slash across the pattern, from one underarm point to the other, excluding the seam allowances. (4H)



- Place a piece of tissue paper under the cut edges. Spread the cut edges of the vertical slash the amount needed. As you do this, the edges of the horizontal slash will overlap. Pin or tape in place.
- Using the fitting muslin as a pattern, redraw the sleeve cap. (4I)



### Thin Arms

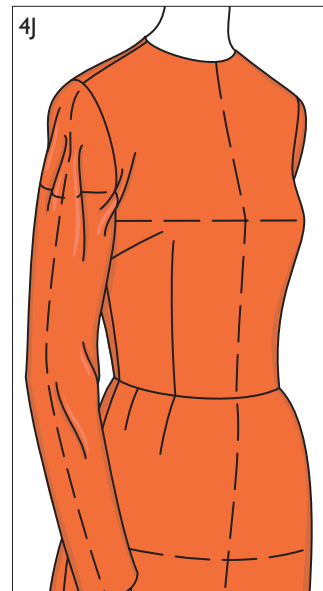
If the sleeve of your fitting muslin wrinkles and sags, it is because there is too much wearing ease for the size of your arm. (4J)

To correct your fitting muslin:

- Remove the stitching in the armhole above the notches.
- Fold the sleeve along the lengthwise grain from the top of the sleeve cap just to, but not

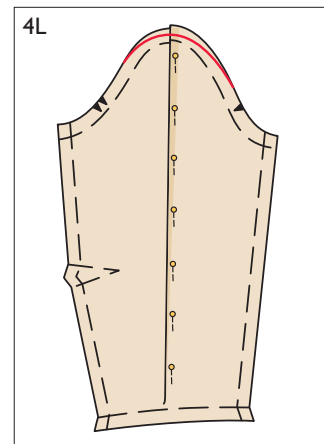
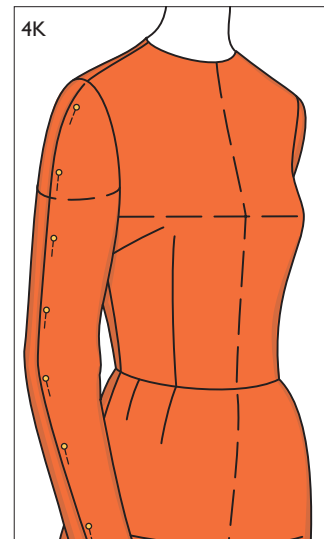
through, the hemline. Remove the minimum amount necessary to improve the fit.

- Pull the sleeve cap up at the

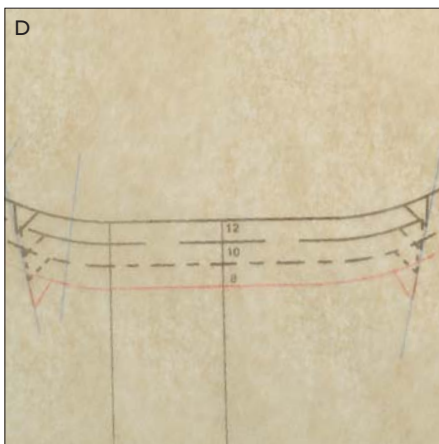


shoulder until the sleeve hangs straight and smooth. (4K)

To transfer this adjustment to your fashion pattern, adjust the sleeve pattern by making a lengthwise tuck in the pattern which duplicates the adjustment on your fitting muslin and redraw any cutting lines. (4L). ●

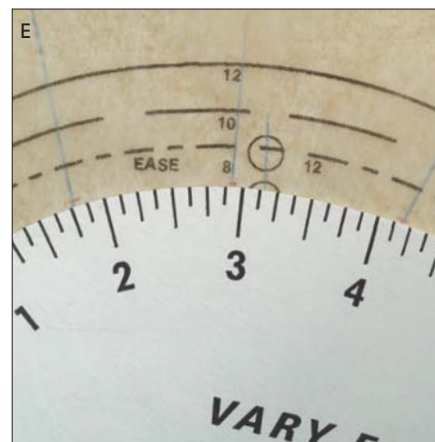


# A Guide to Pattern Grading (continued from page 21)



lines (red pencil marks) exactly the same distance away from the last size. (D) At

curved edges, plot dots at the reference lines, then connect the dots using either a



vary form curve ruler; French curve ruler or a styling curve ruler. (E) Amounts vary at different areas of the garment, so you must work with each edge individually. If you are grading more than one size up or down, complete one set of markings first before moving onto the next size in order to maintain accuracy. When pattern details such as buttonhole spacing are printed on separate patterns according to size, align a common reference point such as the waistline. From this reference point, determine the spacing difference for each size and alter the new pattern accordingly.

**5. Once the pattern has been graded**, use the new pattern as a starting point to alter for a customized fit. ●