



*Pattern  
Alteration*

# Lengthening and Shortening



Extension Family Development  
and Resource Management Specialists

**B**efore attempting to lengthen or shorten a garment, review Extension publications E-372, *Principles of Pattern Alteration*, and E-373, *Personal Measurement Chart*, for basic alteration instructions.

A garment needs lengthening if major fitting points, such as the waist or hem line ride up evenly around the body or fall too short for comfort. You might also want to lengthen it because of personal preference or fashion. Shortening is needed if major fitting points are too long and/or extra crosswise folds appear evenly around the body.

Lengthening or shortening a pattern is often the only adjustment you need to correct fitting problems. *Complete all lengthening and shortening alterations before beginning any alterations for width*, starting at the neck or shoulder area and ending at the hem. Most patterns have printed lengthening and shortening lines to show where these alterations should be made.

The *Personal Measurement Chart* shows how much to lengthen or shorten the garment. Do not confuse overall lengthening or shortening needs with posture problems because those problems often require lengthening or shortening only in specific areas along with width adjustments. Check specific Extension sewing publications on posture problems if you're uncertain about the alteration.

Make sure that each lengthening or shortening alteration is correct by comparing the altered pattern's measurements to the pattern length you need. For pattern pieces with two lengthening or shortening lines (such as long sleeves), alter one or both so the pattern will be proportioned correctly on the body. For example, long sleeves can be lengthened above the elbow dart(s) so that the dart(s) will point toward the elbow, but they might not need lengthening or shortening below the dart to adjust sleeve length.

## Basic lengthening and shortening

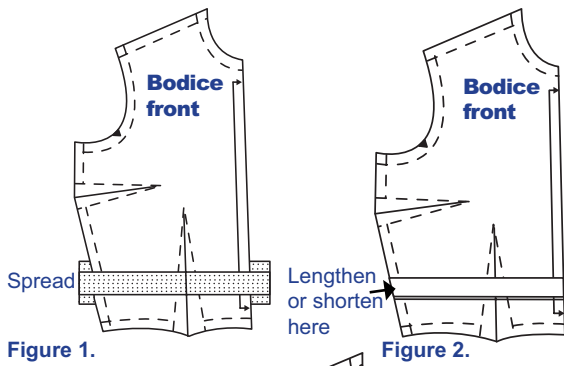


Figure 1.

Figure 2.

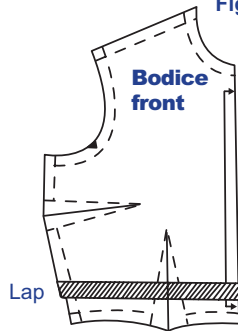


Figure 3.

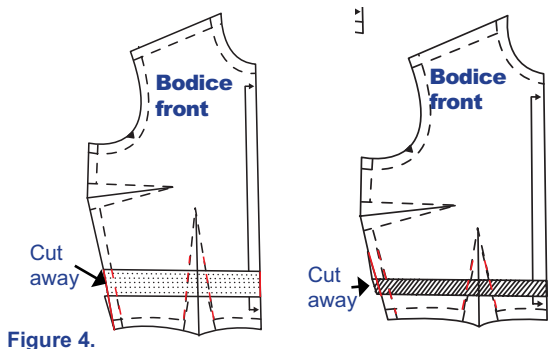


Figure 4.

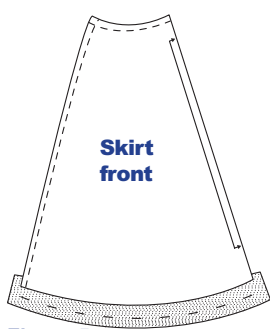


Figure 5.

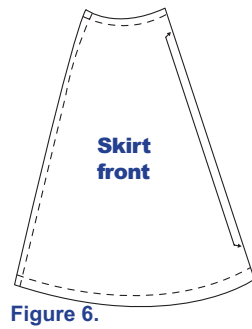


Figure 6.

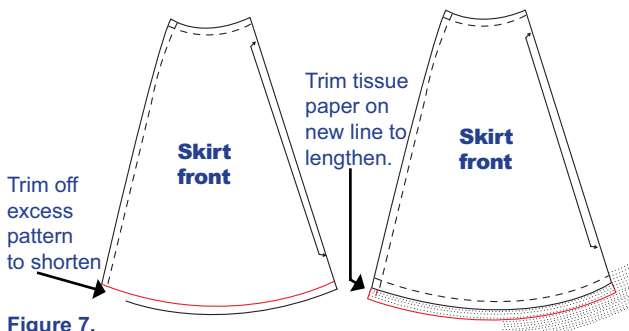


Figure 7.

On the *Personal Measurement Chart*, determine the amount of alteration you need from line 7, shoulder to waist; line 13, skirt length; line 17, side length; and/or line 11-b, sleeve length. *Do this alteration on front and back pattern pieces.*

*To lengthen:*

1. On separate tissue paper, draw two parallel lines the width of the pattern piece to be altered. Make the distance between the lines equal to the amount you want to lengthen the pattern.
2. Slash the pattern along the lengthening line and tape one cut edge to one line drawn on the tissue.
3. Tape the other section of the pattern to the other line drawn on the tissue. Make sure the grainline arrows and the center front and back lines of the pattern remain straight (Fig. 1).

*To shorten:*

1. Measure up from the shortening line the amount you need and draw a line across the pattern parallel to the shortening line (Fig. 2).
2. Fold the pattern along the shortening line and bring it up to the drawn line, creating a tuck (Fig. 3).
3. Tape or pin the pattern in place.

*To complete either alteration:*

Redraw the darts and redraw the cutting and seam lines (Fig. 4).

## Gored or circular hem

On the *Personal Measurement Chart*, determine the amount of alteration you need from line 13, skirt length. *Do this alteration on the front and back pattern pieces.*

Most gored or circular hems are lengthened or shortened easily at the lower edge.

*To lengthen:*

1. Tape tissue paper in place under the hem edge.
2. Measure the amount you need an equal distance from the pattern edge for the entire hem. Mark it at several locations (Fig. 5).

*To shorten:*

Measure the amount you need an equal distance above the pattern edge for the entire hem. Mark it at several locations (Fig. 6).

*To complete either alteration:*

1. Draw the edge similar to the original curve.
2. Trim the excess tissue (Fig. 7).

## Fitted sleeve darts

Sleeve darts should point toward the elbow when the arm is bent. Incorrect dart placement will create extra fullness above or below the elbow and will be uncomfortable. You can adjust the dart location while keeping the correct sleeve length.

Determine how much alteration you need from line 11-a, sleeve length, shoulder to elbow, on the *Personal Measurement Chart*. Draw a line at a right angle to the grainline above the elbow dart(s) if the pattern does not have a lengthening or shortening line already marked (Fig. 8).

*To lengthen:*

Follow the basic lengthening instructions on page 2.

*To shorten:*

Follow the basic shortening instructions on page 2.

*To complete either alteration:*

1. Redraw the cutting and seam lines.
2. Shorten or lengthen the sleeve length you need by spreading or lapping along the lengthening or shortening line marked on the pattern. The line lies between the elbow darts and the bottom of the sleeve. If a lengthening or shortening line is not marked in the area, draw one in at a right angle to the grainline. Redraw the cutting and seam lines (Fig. 9).

## Pant crotch depth

Refer to Extension publication E-390, *Special Alterations for Pants*, for instructions.

## Bust cart and fullness location

Read publication E-388, *Location of Bust Fullness*.

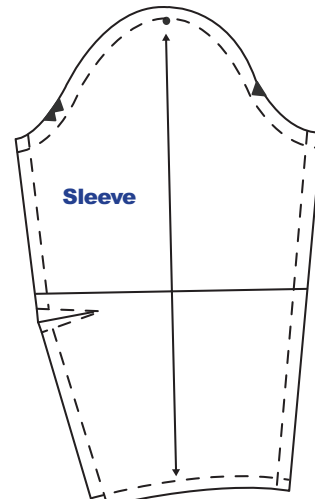


Figure 8.

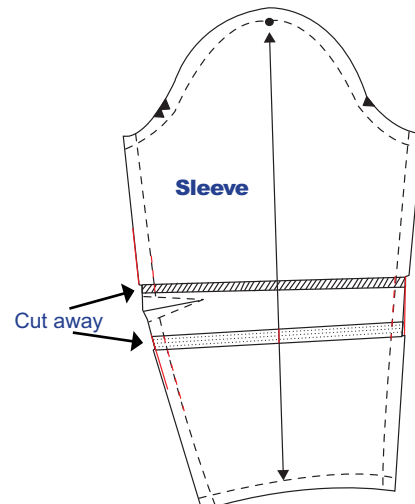


Figure 9.

*Becky Culp wrote the original manuscript for this publication.*

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Revised