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Preface
Welcome to the fifth edition of Cottell's Planning for Residential Design. Continuing with the success of the first four editions, this hands-on comprehensive planning and drafting book covers:
- Presents clear instructions with corresponding easy-to-follow technical illustrations and simplified build sequences that will stimulate the creative development of both technical and design-oriented students;
- Serves as a reference to the professional pattern-makers and designers;
- Eases the need for basic foundation patterns and:
- Provides a variety of instruction so that the residential student will continue to learn long after the instructional experience.

Based on the contributions of past participants and all of the past, this new edition adds innovations and concepts of the through years of experience in the industry and classroom. It is comprehensive enough to be a tool in the hands of the professional and is a great design portion tool for the future.
Acknowledgments
About the Author

Helene Joseph Armstrong is a fashion designer, teacher, and author. She was a successful sportswear designer for a number of years before becoming a professor. A former student of the Fashion Institute of Technology, she is the author of numerous fashion books and articles. Her expertise in the field of fashion design has been recognized with numerous awards, including the American Apparel and Footwear Association Design Award and the International Apparel and Textile Association Design Award.

Mrs. Armstrong is a graduate of the Fashion Institute of Technology and the University of Michigan. She has taught at the Fashion Institute of Technology, the University of California, Los Angeles, and the Fashion Institute of Technology in New York City. She has also served as a judge for the International Apparel and Textile Association Design Awards.

In addition to teaching and design work, Mrs. Armstrong has been a designer for the apparel firm of Ralph Lauren and the designer of the U.S. Olympic team uniforms. She has also been a member of the Fashion Group International and the American Apparel and Footwear Association. She is the author of numerous fashion books and articles and is a regular contributor to fashion and design journals.

Her latest book, "Essential Workwear," is a comprehensive guide to the design and construction of workwear garments. The book covers a wide range of topics, from the history of workwear to the latest trends in design and fabrication. It is an essential resource for designers, students, and professionals in the fashion industry.

The author is a graduate of the Fashion Institute of Technology and the University of California, Los Angeles. She has taught at the Fashion Institute of Technology, the University of California, Los Angeles, and the Fashion Institute of Technology in New York City. She has also served as a judge for the International Apparel and Textile Association Design Awards.
Patternmaking Essentials for the Workroom

Patternmaking Tools
- Functions of Patternmaking Tools
- Guide to Reading Pattern Measurements
- Introduction to Math

Pattern Paper

Pattern Making Terms

Pattern Grading

Drafting

Flared Outlines and Equalizing

Specimen Information

Sewing Line Basics

Sewing Guides

Infant and Newborn

Production Terms

Body Scanning

Computer Companies

Last but Not Least

Looking Ahead to Bohns

Apparel Product Development

Cone Shirt

Pattern Chart

Design Indonesians Sheet
Chapter 1

Patternmaking Tools

To work effectively, the patternmaker needs access to the right tools and supplies. To communicate effectively in the fashion industry, it is important to understand the terms and to use them correctly. The following list identifies some of the basic tools and supplies used in patternmaking.

1. Scissors
   - Raspberry 8" or 12" the shaping tool
   - Straight edge
2. Pattern block
   - A mannequin, or manikin, is used for fitting
3. Tracing paper
   - Tracing wheels
4. Pattern making
   - Mechanical pencils and erasers
   - Rulers
5. Cutting
   - Fabric
   - Needles
   - Sewing
6. Tape measure
   - Rulers
   - Measuring tools
7. Pattern cutting
   - Patterns
   - Pattern pieces
8. Pattern making
   - Pattern pieces
   - Pattern making
9. Pattern cutting
   - Pattern making
   - Pattern cutting
10. Pattern making
    - Pattern making
11. Pattern cutting
    - Pattern cutting
12. Pattern cutting
    - Pattern cutting
13. Pattern cutting
    - Pattern cutting
14. Pattern cutting
    - Pattern cutting
15. Pattern cutting
    - Pattern cutting
16. Pattern cutting
    - Pattern cutting
17. Pattern cutting
    - Pattern cutting
18. Pattern cutting
    - Pattern cutting
19. Pattern cutting
    - Pattern cutting
Functions of Patternmaking Tools

Tools provide the means used to mark fabric and patterns for the production of garments. Symbols are used to show the tools and the techniques used. The symbols are: arrow, straight pin, point, square, scissors, and tape measure. Each of these tools has a specific purpose and is used in the production of patterns. The symbols are used to mark the marks made on the pattern pieces.

The symbols used are:
- Arrow: indicates the direction of the cut and fold lines.
- Pin: marks the location of the seam allowances and the stitching lines.
- Point: indicates the location of the dots and the vertical and horizontal lines.
- Square: indicates the location of the corners and the points.
- Scissors: indicates the location of the cutting lines.
- Tape Measure: indicates the location of the measurement lines.

The Importance of Math

Mathematics is the language of the garment industry. It is used to measure, calculate, and plan the production of garments. The importance of math in the garment industry cannot be overstated. The patterns are used to make the garment and the measurements are used to make sure that the garment fits correctly.

The Test Your Math Skills section is designed to help the reader understand the importance of math in the garment industry. The questions are designed to help the reader understand the basic concepts of math that are used in the garment industry.

Test 1: Measure the distance between letters A and B, C and D, E and F, G and H, and I and J, B and C, and A and D, at 1/8 inch increments.

Test 2: Measure the distance between the letters A and B, C and D, E and F, G and H, and I and J, B and C, and A and D, at 3/8 inch increments.
**Pattern Making Terms**

The following terms and definitions are related to the skill set.

**Pattern Drafting:** A system of patternmaking that depends on measurement taken from a body or model to create basic, foundation, or design patterns. Includes preparation of the basic pattern set.

**Pattern Matching:** The process of matching a pattern to a pre-designed pattern. This is done using a cut and grade method to create design patterns.

**Basic Pattern Set:** A design pattern that contains the front and back pieces for a complete garment. This set is used as a foundation for design patterns.

**Matching Pattern:** Any pattern used as a base for new publications when generating design patterns. It's noted in the basic pattern set in the base list design project.

**Fabric Terms**

*Material:* A fabric-woven cloth made from bristled or bleached cotton and is a variety of weights:
- **Cotton,** Used for draping and draping basic patterns.
- **Woven,** Used for cutting and cutting basic patterns.
- **Denim,** Used for cutting and cutting basic patterns.
- **Rayon,** Used for cutting and cutting basic patterns.
- **Silk,** Used for cutting and cutting basic patterns.
- **Cotton,** Used for cutting and cutting basic patterns.
- **Rayon,** Used for cutting and cutting basic patterns.
- **Silk,** Used for cutting and cutting basic patterns.

*Grain Lines:* Lines on which the fabric is cut and is a variety of weights:
- **Crosswise Grain:** Yarns cross the fabric from selvage to selvage. It is the filling yarn of a woven fabric. Crosswise grain lines are:
  - **Selvage:** The narrow, firmly woven, and finished edge of the woven fabric. Crosswise grain lines are:
  - **Bias:** A slanted or diagonal line cut or sewn across the seaming of the selvage.

*True Bias:* The angle line that intersects with the selvage and crosswise grain at a 90° angle. True bias has maximum stretch. Stretch and comfort:
- **Hemp:** HEMP-COTTON COMBINATION is used and is often sold to industry in rolls and order as otherwise instructed.
Figure 1: Correcting the Grain

1. Examine the pattern to ensure that the grain line is correctly marked. If the grain line is not marked, it should be drawn lightly on the pattern pieces to indicate the direction of the fabric's weave. The grain line is usually marked with a thin, straight line, and it should run parallel to the selvage of the fabric. The grain line is important for ensuring that the finished garment will hang correctly and meet the body. (Figure 1)

2. Adjust the Grainline

- Tracing: If the grainline is not marked on the pattern, trace it lightly with a marking pencil. Be sure to make the grainline straight and consistent throughout the pattern. (Figure 2)
- Template: Use a grainline template to mark the grainline on the pattern. (Figure 3)
- Freehand: Use a ruler or other straight edge to draw a straight line on the pattern to mark the grainline. (Figure 4)

3. Check the Grainline

- Grainline should run parallel to the selvage of the fabric. (Figure 5)
- This ensures that the fabric will hang correctly and meet the body. (Figure 6)

Figure 2: Correcting the Grainline

1. Examine the pattern to ensure that the grain line is correctly marked. If the grain line is not marked, it should be drawn lightly on the pattern pieces to indicate the direction of the fabric's weave. The grain line is usually marked with a thin, straight line, and it should run parallel to the selvage of the fabric. The grain line is important for ensuring that the finished garment will hang correctly and meet the body. (Figure 1)

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- Tracing: If the grainline is not marked on the pattern, trace it lightly with a marking pencil. Be sure to make the grainline straight and consistent throughout the pattern. (Figure 2)
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3. Check the Grainline

- Grainline should run parallel to the selvage of the fabric. (Figure 5)
- This ensures that the fabric will hang correctly and meet the body. (Figure 6)
**DART**

- **Dart Point**: A designated point on the front and back pattern where darts are to be stitched. This is the point where the dart is to be pinned or basted. (Figure 1)

- **Dart Legs**: The two lines that form a V at a predetermined point on the pattern. (Figure 2)

- **Dart Marks**: The area of space adjacent to the dart point where dart is to be made and be gently pinched together, where it is needed to control the fit of the garment. (Figure 3)

- **Dart Opening**: The blending and straightening of pattern lines, seam marks, and dart marks. (Figure 4)

- **Dart Notch**: A notch in a dart that allows the dart to be placed properly on the garment. (Figure 5)

**BLENDING, TRUEING, AND EQUALIZING**

- **Blending**: A process of smoothing, shaping, or rounding angular lines along a seam for a smooth transition from one point to the next and for blending marks to made on the pattern or marks. (Figure 6)

**SPECIAL INFORMATION**

- **Blending**: Instructions apply to most patterned designs to make a smooth transition from the left side to the pattern cut from an unprinted fabric such as a border print, ruffled, or printed trims. (Figure 7)

- **Straightening**: The process of straightening pattern lines is an essential part of pattern making. (Figure 8)

- **Dart Notches**: These are made to allow the darts to be placed properly on the garment. (Figure 9)

- **Angle Placement**: The angle at which the dart is to be placed on the pattern. (Figure 10)
The Way We Were

Cutting has been the backbone of essentially the same way since the introduction of the sewing machine in the mid-nineteenth century. Old-fashioned, labor-intensive methods are still used by some small manufacturers and dressmakers, however, because they can afford them. The cobbler changed his apron. Personal contact and a personal touch are changing the way we design, execute, and manufacture garments across the board. Computer-aided design and computer-aided garment production applications are still used, but 15 percent of apparel sold in America is manufactured offshore. This reality has accelerated the use of computer-aided pattern preparation methods, and the Internet.

In the 1970s, grading and marker making were computerized, followed by the 1980s for large company-owned designs (CAD) systems taking over patternmaking, fabric design, and design graphics. Today, even the smallest manufacturers use hardware and software to make the design and production processes computerized, efficient, and more productive. One new method can be seen in the fashion business today. Computerized pattern grading, computer-aided design, and on-demand overseas production are the key to the small business.

Computer-aided design offers manufacturers the chance to create new designs for on-demand overseas production and to adjust them as needed in the marketplace. In the 1980s, it was common for manufacturers to order garments from the fashion house. Today, they can create their own designs and produce them as needed at the factory.

The fact that design is a constant changing environment is increasingly being recognized by other businesses. For example, the fashion industry is constantly changing. Fashion savvy retailers are trying to stay on top of the changing fashion. The ability to change a design can make the difference between success and failure in the fashion business.
**PRODUCTION TERMS**

**First Pattern:** A first pattern is the original piece to be used for making or shaping a pattern. The first pattern is generally made on nalining or vinyl material that has been executed in the same method as the final pattern. It is the nearest size to the pattern. Thereafter, the pattern is fractioned off from the final draft pattern.

**Printed Pattern:** A pattern piece printed on the fabric or vinyl material is known as a printed pattern. Only those pieces that have been executed in the same method as the final pattern are fractioned off from the final draft pattern.

**Pattern Marker:** A marker to the arrangement of pattern pieces that are subsequently used to shape a pattern. These pieces are designed by computer for the pattern maker or the pattern maker can design his or her own pattern marker using a computer.

**Digitized Marker:** A marker to the arrangement of pattern pieces that are subsequently used to shape a pattern. These pieces are designed by computer for the pattern maker.}

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**Grader**: A grader (machine) decreases the size of patterns based on the company's preferred scale (example: model size 12). The company sets its own requirements for gradation, which are maintained by the grader. The grader, along with the company's specifications, is used to grade the pattern and ensure accuracy. The graded pattern is then used for production.

**Computer Graded Pattern**: A pattern that has been designed and created using a computer. The pattern is then graded using the computer's software to ensure accuracy and consistency. The graded pattern is then used for production.
BODY SCANNING

Body scanning is another tool that holds industry is adopting the heat set of measurements for its customers. The body scanner is a high-scanning device that can produce scans in minutes (1,000 per minute). Body scanning takes place in a brochure and eliminates the need for measurement in real time. For those who have been working in the industry for 50 years, it has come of age, even though its full potential has yet to be realized.

COMPUTER COMPANIES

Computer companies offer automated systems that include the design, pattern design, grading, and cutting. High-speed cutting can also be done in production systems and electronic tracking in sewing, sampling, digitizing, and cutting. The system can be manufactured by computer companies that will design and build the system. The system can be integrated by the computer manufacturer if you want to find more information.


takeda@snackd.com

Gather: www.gather.com

Tech: www.tech.com

File: www.file.com

Computer: www.computer.com

Optima: www.optimax.com

LAST, BUT NOT LEAST

El Fit: For the future of the garment for the next phase in production, a good line must evolve inside the garment. The main goal is to ensure that the fit of the garment is both perfect and simple to produce. The software allows the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up.

E-FIT SIMULATOR IS BORN

In 2004, El Fit Simulator software was developed by the innovative mind of the designer, president of the software, who through his own approach, enabled the software to be used. The software allows the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up, allowing the designer to work on a digital mock-up.
APPAREL PRODUCT DEVELOPMENT

The designer, assisted by the design room personnel, creates a design that will be sold in retail stores. The design is then developed into a production line by the production department. The design is then approved by the company's executives.

COST SHEET

A cost sheet is a complete record of each design and its costs, including all materials used. The cost sheet is used to determine the selling price of the product. The cost sheet includes all costs associated with the production of the product, including labor, materials, and overhead costs.

The cost sheet is an important tool for determining the profitability of a design. It ensures that all costs are accounted for and that the selling price is sufficient to cover all costs and provide a profit.

The cost sheet is also important for maintaining accurate records of all costs associated with the production of a design. This helps to ensure that all costs are accounted for and that the selling price is sufficient to cover all costs and provide a profit.

The cost sheet is an important tool for maintaining accurate records of all costs associated with the production of a design. This helps to ensure that all costs are accounted for and that the selling price is sufficient to cover all costs and provide a profit.
**Pattern Chart**

The pattern chart is a complete record of all patterns needed to make the pattern. A color code is used to distinguish lengths and insertions from other pattern pieces. When completed, the chart is placed on front of the production pattern and given to the production department as a guide for cutting pieces, as shown. A match chart is found in the back of the book.

**Design Specifications Sheet**

This design specifications sheet is a record of the finishing requirements for each design. It is used by those responsible for cutting to ensure that the garment meets the pattern cut. Clearly, the chart is referred to the design, as shown.

[Diagram and specifications listed as text]
Chapter 2

**Form Measurements and Figure Analysis**

WHO IS THE STANDARD IDEA FIGURE?

She is a composite figure whose measurement standards are based upon statistical norms. She evolved from common feedback to become humanized and modernized in accordance with the standards set by successful manufacturers, pattern makers, designers, and industrial firms. Her figure is a perfect fit, therefore, a set of measuring standards, and she is called the "Ideal" figure. It is only when her measurements satisfy the majority of consumers' needs that she becomes an "Ideal Figure." She is not perfect, for her body measurements vary considerably from one person to another.

Who Needs Her?

Technical people use her dimensions for pattern making. Designers use her proportions for designing new styles, and manufacturers choose her for manufacturing clothes. Her measurements must be used to determine if clothes are to be massed for a particular segment of the population.

Does This Exclusive Figure Have Standards?

Even though her dimensions vary, she does have standards. She is a statistical figure with a set of body proportions, with a series of 16.1 to 1.12-inch differences among bust, waist, and hips. These standards are based upon a study of thousands of women. These standards will enable a designer to fit a pattern on this figure, and the resulting garment will be a perfect fit for all the women whose bodies fall within the standard figure range. This range is called the "Standard Ideal Female Figure." Since modern clothing patterns were standardized in 1940, the figure was used to change the standards of measurements. Since then, the standard figure has been called the "Ideal Figure." It is the modern female figure because it is based on the average female body and is considered to be a standard for all women's clothing patterns. The figure is not a perfect fit for all women, but it is a close approximation of the average female body. This figure is called the "Ideal Female Figure."
FORMS, WILLOW-CONE AND HUMMELIKE

For the past 10 years, forms have been adapted to the specific requirements of private clients, and some can be ordered with specific measurements reflecting their customers.

Classic Body Measurements

Forms are highly relevant today, and they are needed in a visual and practical manner. Hummel-like forms are adapted to the specific requirements of clients, and some can be ordered with specific measurements reflecting their customers.

Pattern Industry Standards

The response to national standards and current trends is the pattern industry and the American Society for Testing and Materials (ASTM) and the Clothing Technology Corporation (CCTC) that have developed and revised standards to reflect current industrial processes and current manufacturing practices. This book has developed a comprehensive and concise standard based on frequency measurements from large segments of the population.

Other Attempts at Standardization

The American Society for Testing and Materials has developed national standards for statistical body measurements for better fitting apparel. The standards were created to minimize the number of measurement errors in body measurements. For additional information, contact ASTM 1501 15th St. NW, 10th Floor, Washington, DC 20005. Phone: 1-800-873-6611. The following table of measurements are available:

- Children's sizes 2-6, 7-14, 15-20
- Adult male sizes 36 to 46
- Adult female sizes 30 to 50
- Menswear, size 36-46
- Womenswear, size 36-52

American Society for Testing and Materials (ASTM) 1501 15th St. NW, 10th Floor
Washington, DC 20005 Phone: 1-800-873-6611

- Children's sizes 2-6, 7-14, 15-20
- Adult male sizes 36 to 46
- Adult female sizes 30 to 50
- Menswear, size 36-46
- Womenswear, size 36-52

American Society for Testing and Materials (ASTM) 1501 15th St. NW, 10th Floor
Washington, DC 20005 Phone: 1-800-873-6611
Figure Analysis for Personal Use

1. Head Height—A Measuring Device for Comparison
   - Measure the length of your head from the top of the crown to your neck. Use the head measurement to match each head length from the chart.
   - The first line behind the sample moves indicated head levels. The broken line existing the sample marks indicate where the head, point, top, and base are in relation to the standard head marks of the perfect model with the figure behind.
   - Compare your head locations with the model locations if the locations are shown or follow head levels at least... want... top... base...

2. Bust Types
   - A bust is a soft curve and slight protruding bustline.
   - A flat bust moves bustlines to the anterior...
   - Box self terminates into curve and movements to back...
   - Breast joint, shoulders, self, and in the anterior...

3. Hip Types
   - A hip is a broad and a well-defined hip...
   - Front view: Illustrating coordinated front view, hips (LOA) to back view...
   - Square, right: Souse on form side view...
   - Diamond: Waist part of the figure is designed by a smaller, rounded, and back...

Figure Analysis Continued

The following discussion involves constructing and cutting the inner pieces for your stitches. Proceed through the steps in order, matching the fashion diagram on the opposite page through the hands to help you understand and follow the instructions for the next steps.
**LANDMARK TERMS**

To ensure accuracy, you must know where the landmarks are and verify their proper placement. The following list provides the locations of the landmarks that are used in pattern making:

1. Center front neck
2. Center back neck
3. Center front waist
4. Center back waist
5. Side front (points
6. Side back (points
7. Mid-seam line
8. Shoulder line
9. Armhole line
10. Center back line
11. Center front line

**MEASURING FORM AND MODEL**

- Form measurements are taken with the model in a standing position, with the head in a natural position and the arms at the sides. Measurements are taken from the ground to the top of the head.
- The front and back body measurements are taken at the center front and back lines, respectively.
- The sleeve measurements are taken at the sleeve head and center sleeve lines.
- The armhole measurements are taken at the armhole line.
- The shoulder measurements are taken at the shoulder line.

**Preparation of the Form for Measuring**

1. **Figure 1:** Cut a strip of cloth 3 1/2 x 25 inches. Fold the strip in half and pin it to the model's back, just below the waist. Mark the body measurements on the strip and pin it in place.
2. **Figure 2:** Mark the body measurements on the strip and pin it in place.
3. **Figure 3:** Mark the body measurements on the strip and pin it in place.

**Additional Measurements**

- Shoulder: Measure from the shoulder line to the back of the neck, at the center back line.
- Armhole: Measure from the armhole line to the center back line, at the shoulder line.
- Waist: Measure at the waist line, at the center back line.
- Neck: Measure at the neck line, at the center back line.

**Additional Form Measurements**

- Center front: Measure from the center front line to the center back line, at the center back line.
- Center back: Measure from the center back line to the center back line, at the center back line.
- Side front: Measure from the side front line to the side front line, at the side front line.
- Side back: Measure from the side back line to the side back line, at the side back line.
- Full bust: Measure at the bust line, at the center back line.
- Waist: Measure at the waist line, at the center back line.
- Hip: Measure at the hip line, at the center back line.
- Neck: Measure at the neck line, at the center back line.

**Form Measurements and Pattern Analysis**

- Form measurements are taken from the model, with the model in a standing position, with the head in a natural position and the arms at the sides. Measurements are taken from the ground to the top of the head.
- The front and back body measurements are taken at the center front and back lines, respectively.
- The sleeve measurements are taken at the sleeve head and center sleeve lines.
- The armhole measurements are taken at the armhole line.
- The shoulder measurements are taken at the shoulder line.

**Additional Form Measurements**

- Shoulder: Measure from the shoulder line to the back of the neck, at the center back line.
- Armhole: Measure from the armhole line to the center back line, at the shoulder line.
- Waist: Measure at the waist line, at the center back line.
- Neck: Measure at the neck line, at the center back line.

**Additional Form Measurements**

- Center front: Measure from the center front line to the center back line, at the center back line.
- Center back: Measure from the center back line to the center back line, at the center back line.
- Side front: Measure from the side front line to the side front line, at the side front line.
- Side back: Measure from the side back line to the side back line, at the side back line.
- Full bust: Measure at the bust line, at the center back line.
- Waist: Measure at the waist line, at the center back line.
- Hip: Measure at the hip line, at the center back line.
- Neck: Measure at the neck line, at the center back line.
Preparing the Model for Measuring

1. Pin the model's neck so that the neck is at a comfortable height and the shoulders are level.
2. Adjust the model's arms so that they are at a comfortable angle.
3. Pin the model's legs so that they are at a comfortable angle.

Taking Measurements

- Place the metal tape end of the tape measure at the center front and extended to the next reference point when taking measurements.
- Draw a horizontal line at the level of the bust line.
- Draw a line from the bust point to the hip point.
- Draw a line from the hip point to the knee point.
- Draw a line from the knee point to the ankle point.
- Draw a line from the ankle point to the floor.

HORIZONTAL BALANCE LINE (HBL)

- Measure from the floor to the pin and mark it at center front.
- Use this measurement to measure up from the hip and pin and mark the point at the waist. The mark at this point is the waistline.
- Draw a line around the hip and mark the point at the waist.
- The standard tape measure is 6 to 7 inches above the crotch. Use the best measurement for pants and skirts.

CIRCUMFERENCE FOR FORM AND MODEL MEASUREMENTS

- Mark the points at the waist, hips, and bust.
- Use the tape measure to measure the circumference at these points.

Figures 1, 2, 3, and 4

- Figures 1, 2, 3, and 4 illustrate the placement of the tape measure at various points.
- Figures 5, 6, and 7 show the placement of the tape measure at the bust, waist, and hip points.

Figures 5 and 6

- Figures 5 and 6 illustrate the placement of the tape measure at the bust and waist points.
- Figures 7 and 8 show the placement of the tape measure at the hip and thigh points.

Figures 7 and 8

- Figures 7 and 8 illustrate the placement of the tape measure at the hip and thigh points.
- Figures 9 and 10 show the placement of the tape measure at the knee and ankle points.

Figures 9 and 10

- Figures 9 and 10 illustrate the placement of the tape measure at the knee and ankle points.
- Figures 11 and 12 show the placement of the tape measure at the arm and shoulder points.

Figures 11 and 12

- Figures 11 and 12 illustrate the placement of the tape measure at the arm and shoulder points.
- Figures 13 and 14 show the placement of the tape measure at the foot and calf points.

Figures 13 and 14

- Figures 13 and 14 illustrate the placement of the tape measure at the foot and calf points.
- Figures 15 and 16 show the placement of the tape measure at the head and neck points.

Figures 15 and 16

- Figures 15 and 16 illustrate the placement of the tape measure at the head and neck points.
- Figures 17 and 18 show the placement of the tape measure at the armhole and shoulder points.

Figures 17 and 18

- Figures 17 and 18 illustrate the placement of the tape measure at the armhole and shoulder points.
- Figures 19 and 20 show the placement of the tape measure at the bust and waist points.

Figures 19 and 20

- Figures 19 and 20 illustrate the placement of the tape measure at the bust and waist points.
- Figures 21 and 22 show the placement of the tape measure at the hip and thigh points.

Figures 21 and 22

- Figures 21 and 22 illustrate the placement of the tape measure at the hip and thigh points.
- Figures 23 and 24 show the placement of the tape measure at the knee and ankle points.

Figures 23 and 24

- Figures 23 and 24 illustrate the placement of the tape measure at the knee and ankle points.
- Figures 25 and 26 show the placement of the tape measure at the arm and shoulder points.

Figures 25 and 26

- Figures 25 and 26 illustrate the placement of the tape measure at the arm and shoulder points.
- Figures 27 and 28 show the placement of the tape measure at the foot and calf points.

Figures 27 and 28

- Figures 27 and 28 illustrate the placement of the tape measure at the foot and calf points.
- Figures 29 and 30 show the placement of the tape measure at the head and neck points.

Figures 29 and 30

- Figures 29 and 30 illustrate the placement of the tape measure at the head and neck points.
- Figures 31 and 32 show the placement of the tape measure at the armhole and shoulder points.
HORIZONTAL ARC FOR FORM AND MODEL MEASUREMENTS

Front
Figure 2.1
- Acorn, upper point to center back.
- Acorn, front at center back, to shoulder acorn.
- Acorn, upper point to center front.
- Acorn, lower point to center front.

Back
Figure 2.2
- Acorn, upper point to center back.
- Acorn, lower point to center back.
- Acorn, center back, to shoulder acorn.
- Acorn, center back, to shoulder acorn.

Model for Personal Fit
Figure 2.3
- Acorn, upper point to center back.
- Acorn, lower point to center back.
- Acorn, center back, to shoulder acorn.
- Acorn, center back, to shoulder acorn.

Neck Circumference
Measure around the upper neck, divide by 3, and record to nearest 1/2.

VERTICAL MEASUREMENTS FOR FORM AND MODEL

Front and back—Form and Model
Figure 3.1
- At lower neck (at) shoulder tip to neck.
- Above shoulder (as) shoulder tip to neck.
- Shoulder length (sl) shoulder tip to neck.
- Shoulder width (sw) shoulder tip to shoulder tip.

Personal Fit: Asymmetric Verification
- Shoulder span (ss) shoulder tip to shoulder tip.
- Shoulder length (sl) shoulder tip to shoulder tip.
- Shoulder width (sw) shoulder tip to shoulder tip.

New Strap Measurement
Figure 4.1
- Place metal tip of the measuring tape at center of shoulder. Measure from metal tip to shoulder tip and record.
### Standard Measurement Chart

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### Drafting the Basic Pattern Set

**Chapter 3**

- **The Basic Pattern Foundation**
- **Determining Cap Area**
- **Adjusting the Draping to Accurately**
- **Base Area**
- **Increase or Decrease the Body**
- **Changing the Baseline**
- **Setting the Baseline into the Prototype**
- **Using the Crotch and Hip Seams**
- **Basic Pattern/Seams**
THE BASIC DRESS FOUNDATION

Introduction: Developed using the measurements taken from the body, the dress is created by first considering the basic measurements that are taken from the body. These include the bust, waist, hip, and shoulder measurements. The dress is then cut to fit the body, with adjustments made as necessary. The dress is then made up of the fabric, with the seams and hems being added. The dress is then ready to be worn.

Creating Basic Patterns: The dress patterns are created by first making a full-scale pattern of the dress. The pattern is then adjusted to fit the body, with the seams and hems being added. The dress is then made up of the fabric, with the seams and hems being added. The dress is then ready to be worn.

Pattern Shapes Described: Patterns are designed to fit the body, with the seams and hems being added. The dress is then made up of the fabric, with the seams and hems being added. The dress is then ready to be worn.

Why Dress?: Dress patterns are designed to fit the body, with the seams and hems being added. The dress is then made up of the fabric, with the seams and hems being added. The dress is then ready to be worn.

Manual and Computer Drafting: Both manual and computer drafting methods are used for creating the basic patterns. The computer drafting method is illustrated on the right side of the page, where a link to the pattern is provided.
**Chapter 3**

STARTING THE BASIC PATTERNS

**Front Bodice Draft**

![Diagram of a front bodice draft with measurements and instructions](image)

- B in B: Back length (6) plus 1/4" above the waist point.
- A to C: Across shoulder, less 1/3" (14)
- Square A line from C.
- D to E: Center front length (15)
- Mark and square on H.
- H to F: Back neck (12) plus 1/4"
- Square out from H and four inches up 1" from E.

**Figure 1**
- A to B: Shoulder length (13)
- Square B line from A.
- G to H: Waist depth (5)
- Mark on the waist line.
- H to I: Shoulder length (13) Square H line from I.
- J to K: Bust span, plus 1/4" (10"
- Move J to I center front through H to K.
- P to K: One half of B (12)
- Mark down from P.
- L to M: Across shoulder, plus 1/4" (15)
- Square up and down from M.
- N to O: Bust placement (20)
- Square bust placement (20)

**Figure 2**
- A to G: New strap, plus 1/4" at.
- Draw line from E to E along E.
- N to O: Side length (11)
- M to P: Mark 1/4" in from M.
- Personal fit, see formula or adjust after the draft is complete. See page 44.
- O to P: 50" length line is needed to fit a bodice with one equal to H to I. Drop line from H to I.

**Figure 3**

**Completing the back measurement**
- P to Q: Waist arc (13) plus 1/4" near, less H to F
- Draw line Q from H to F and extend. Draw down leg from F through Q, equal to it.
- Deep point: Center a point 3/4" from bust point. Inventor slots from this point to F and K.
- Draw slight curve from E to E and H to H.

**Figure 4**

**Real Cup Formulation: Test fit**
- C Cup: 3/8 = 2 3/4"
- D Cup: 1/2 = 3 1/2"
- E Cup: 1 = 1 1/4"

For additional information, see page 44. Continue with instruction C7.

**Figure 5**

*Note: Test fit 1/2" which will be dependent on the structure of the garment.*
**BACK BODICE DRAFT**

**Figure 6**
- A to B = Full length (9)
- A to C = Armhole (14)
- Square (A - D) across from C
- B to F = Garment back length (11)
- Mark and square off 1 inch.

**Figure 7**
- A to F = Back neck (12), plus 1/8 inch
- B to G = Shoulder slope (7), plus 1/8 inch
- F to H = Shoulders length (13), plus 1/2 inch
- Draw arm curve G
- Square down from F to O below
- H to I = Short placement (20)
- H to J = Waist arc (19), plus short intake of 1 1/2" and 1/4" forward, (short/long sizes added)
- I to K = Short intake.
- Slash curve and line L.

**Figure 8**
- F to M = Square down, 3/4 inch
- M to N = Side length (11)
- E to G = Square up from E, 1 inch below line M to N
- Draw dart legs from Q, 1/8 inch, point I and X.
- Draw slightly curved lines from R to X and from S to I.

**Figure 9**
- F to P = One-half of F to H. Mark
- P to O = Draw a straight line in the direction of point O (indicated by broken lines)
- P to R = 1/4 inch. Mark
- Draw dart leg from Q, 1/8 inch past P and connect to T.
- Mark 1/4 inch to R, draw other dart leg from Q, equal to dart leg Q, R and connect to T.
- D to S = Draw curve from Q to R. Mark
- S to T = Across back, plus 3/4 inch (10)
- Square up and down from T, as shown.

**Figure 10**
- Avant-Bras. Draw with the French curve touching W, T, and S. The curve should touch square free.
- Neckline: Draw a line in a gentle line from the center, draw a neck miter at 90 degrees and ending close to D.
- To bet X, add seam to miter, see pages 44 and 46.
**Increasing and Decreasing Bust**

The bodice is drafted with a D-cup. The pattern can be adjusted for bust size C, B, A, and DD for projected fit. The bodice is adjustable to fit (Figure 4 and 5).

**Fitting the Bodice**

Cut and sew the bodice. Press without seams. Place on mannequin and mark adjustments. Adjust the patterns.

**Pattern Correction for Asymmetrical Bodices**

- **Bust to Neck:** Adjust the pattern to fit the bust size. Mark the alterations on the pattern.
- **Shoulder Taper:** Decrease the shoulder taper to fit the bust size.
- **Sleeve Adjustments:** Adjust the sleeve length to fit the bust size.

**Imperfect Alignment**

- **Front or Back:** Adjust the pattern to fit the bust size.
- **Shoulder Taper:** Decrease the shoulder taper to fit the bust size.
- **Sleeve Adjustments:** Adjust the sleeve length to fit the bust size.

---

*Note: The diagrams illustrate the adjustments for bust, shoulder, and sleeve sizes.*
**Fitting the Neckline**

- If the neck straight is too long or too short, the shoulder and back neckline will be uneven. Adjust the neck edge or add a seam allowance of 0.3 cm to the shoulder and back neckline. (Fig. 24)

**Fitting the Armhole**

- On a well-fitted dress, the armhole fits the arm and the upper arm of the body. Adjust the armhole by spreading or narrowing the armhole. (Fig. 25)

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>24</td>
<td>Adjusting the neck edge or adding a seam allowance</td>
</tr>
<tr>
<td>25</td>
<td>Adjusting the armhole by spreading or narrowing</td>
</tr>
</tbody>
</table>

**Gap Below Front Mid-Armhole**

- The gap is caused by an imbalance in the armhole. (Fig. 26)

**Gap Above Front Mid-Armhole**

- The gap is caused by an imbalance in the armhole. (Fig. 27)

<table>
<thead>
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<th>Figure</th>
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<tr>
<td>26</td>
<td>Gap below front mid-armhole</td>
</tr>
<tr>
<td>27</td>
<td>Gap above front mid-armhole</td>
</tr>
</tbody>
</table>

**Gap Below Back Mid-Armhole**

- The gap is caused by an imbalance in the armhole. (Fig. 28)

**Gap Above Back Mid-Armhole**

- The gap is caused by an imbalance in the armhole. (Fig. 29)

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
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<tbody>
<tr>
<td>28</td>
<td>Gap below back mid-armhole</td>
</tr>
<tr>
<td>29</td>
<td>Gap above back mid-armhole</td>
</tr>
</tbody>
</table>
**SKIRT DRAFT**

The skirt should be drafted in H Ackerman's three-dimension method. Begin in the back by drafting the back skirt as in Figure 1. The front skirt is drafted by starting at the hips, measuring the circumference, and drafting the skirt by the same method. The skirt draft is equal to the sum of the hip and length. To achieve a smooth transition between the back and front, the skirt should follow the natural slope of the body. It is important to allow for some ease in the back and front, so the skirt will fit comfortably.

**Personal Dart Intake Chart**

<table>
<thead>
<tr>
<th>Chart 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chart 3</td>
</tr>
<tr>
<td>Chart 4</td>
</tr>
<tr>
<td>Chart 5</td>
</tr>
</tbody>
</table>

**Figure 1**

- A to B = Skirt length (inches)
- A to C = Center front dart depth (inches)
- A to D = Back dart (inches)
- B to C = Skirt length (inches)
- C to D = Skirt length (inches)

**Figure 2**

- D to K = Back waist arc (inches, plus 1/2 inch for dart intake)
- M to N = Front waist arc (inches, plus 1/2 inch for dart intake)
- P to Q = Dart placement (inches)
- H to N = Dart placement (inches)

**Figure 3**

- C to P = Side hip depth (inches)

*Drafting the Basic Pattern* 49

*Drafting*
The darts legs be added to the shorter legs and bound in the waist of the waist.

Figure 4

The darts legs be adding to the shorter legs and bound in the waist of the waist.

Figure 5

A Well-Balanced Skirt

1. The skirt aligns with the center lines of the form and brings straight from the hip to the heel, indicating that the TIL line (monogram) is parallel with the fluid (figure 1a). The skirt is shown in the bodice is shown in Figure 1b.

Figure 1a

Figure 1b

Imbalanced Skirt

2. Problems. The skirt overlies the center line (figure 2a). A dart will appear at the center of the skirt (figure 2b).

Figure 2a

Figure 2b

3. Possible causes: Straighten dart intake or side waist incorrectly marked. Check the location of the TIL on the form and the skirt dart.

4. Suggested solution: Save the side waist until the skirt aligns with the center line on the form. It may be necessary to make the side seem to correct the problem. Increase dart intake, if necessary.
**SELF-EVALUATION TRUE AND FALSE TEST**

Circle true (T) or false (F). The correct answers are page 34.

1. *Every* was the fill of the knit fabric.
   - T
2. Flat lay, correct are needed.  - F
3. A dart is the same in sewing.  - T
4. Red fill lines do not match from the front.
5. Cutting results from misplaced seams. - F
6. A center front comes from center in the front.
7. The slit is parallel to the dart.
8. Each dart to the center point is lower than the center point.  - F
9. The dart lines are always the same length.
10. Some lines from the front and back.  - T
11. Cutting is finished at the seams.  - F
12. Front line up, even by curves in shapes.  - T

13. There are 12 major slots on the front of the skirt.  - T
14. It is necessary to make adjustments to measurements taken from the front and back.  - F
15. The center front can determine the dart length.  - T
16. The center front can determine the dart width.  - F
17. Measurements taken from a chart and size is parallel.  - T
18. The shoulder and size are the same.  - F
19. On the center crop, match the hem at the grade line.  - T
20. The dart lines are identified by a counter.  - F

**PREPARING PATTERNS FOR TEST FIT**

**Matching Joining Seams**

Place patterns on the top of patterns without darts on joining pattern. Secure the darts must be handstitched. Match the location of the H/L to the border (H/L). Figure 1. Sizing adjustments may be made to the side edge only until the side aligns with the center line of the front. It may be necessary to make the side seam to correct the pattern. (Continue the dart, if necessary.)

**Sizing**

1. Place back pattern on top of front pattern. Stitch the dart allowance (center seam) and mark the location of the side seam. (Continue the dart, if necessary.)

**Basting Front and Back Skirt**

Figure 1.

- Place the side and front (the back is) to the side and front (the back is) in place. (Continue the dart, if necessary.)

**Matching Joining Seams**

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**Basting Front and Back Skirt**

Figure 1.

- Place the side and front (the back is) to the side and front (the back is) in place. (Continue the dart, if necessary.)
THE BASIC SLEEVE

The basic sleeve is a standard shape attached to the basic bodice pattern.

A sleeve is a garment, which is to cover the most obvious and mobile parts of the human anatomy. The arm motions permitted by a sleeve are made possible by the armhole fitted close to the body. This armhole should be the correct size to allow the arm to move freely and comfortably.

The outer seam of a well-fitted sleeve should lie snugly forward of the side seam of the arm to allow for the movement of the arm. The seam at the side of the sleeve should lie close to the side seam. The arm of the sleeve should fit snugly but not tightly, so that it can move freely. In addition, the sleeve should lie with the center of the shoulder seam without feeling tight or of the side seam.

Sleeve Terminology

Common terms that are familiar with those in design and production will help to avoid misunderstandings when producing clothing.

Grainline: Straight grain of the sleeve, which is the center line of the sleeve from top of cap to wrist level.

Biceps point: Watertight part of the sleeve dividing cap from the lower sleeve.

Sleeve cap: Curved top of the sleeve above biceps point.

Cap height: Distance from biceps to the top of the garment.

Elbow level: Place of the armhole point of the arm, and the location of the elbow joint.

Ventral line: Front of the body.

Shoulder: Point of the shoulder where the sleeve must fit smoothly into the armhole.

Notches: A notch at the hem of the sleeve that is cut parallel to the side of the body. The notch indicates the front and back of the sleeve. Two notches are cut on the back sleeve, one in the front and back notches.

Cuff: Ranging from 1/4 inches to 1/2 inches above the wrist seam, front and back.
**SLEEVE DRAFT**

Figure 2

Draw a line from A to E. Divide into sixths, mark and label as shown.

B to F = 3 to G

Draw a line from O to F and from F to E.

Figure 3

Square lines from the following:

- C—at 1 1/2 inch
- D—at 1 1/4 inch
- E—at 1/2 inch
- F—at 3/4 inch
- G—at 1 inch
- H—at 2 inch

**SLEEVE MEASUREMENT CHART**

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</table>

**SLEEVE CAP EASE**

Cap ease of the basic dress cap is approximately 1 1/2 inches for all diameters, and 1 1/4 inches for the tallest models. The basic pattern for the sleeve cap does not accommodate the ease, but the ease is required because of differences in front and center of the body. In order to allow the sleeve to fit properly, follow the "Armhole Measurement" chart (Figures 1 and 2). Other sleeve fitting problems that may develop can be solved by adjusting to pages 63 through 65.
ADJUSTING SLEEVE TO ARMHOLE OF BODICE

The basic sleeve should measure approximately 2 inches more than the length of the arm that the circumference of the arm. The basic sleeve cap should extend to the armhole. The sleeve cap height should be determined by the armhole circumference of the front and back. If there is an additional length of armhole, it will affect the length and shape of the armhole in the finished garment. The armhole is typically shorter than the sleeve cap height.

Determining Cap Ease

Two methods are given to determine cap ease. The sleeve can be worked around the armhole and back any extra, or the measurement can be taken by using the plastic rule. Both are illustrated.

Method 1: Working the Sleeve

1. **Trace the pattern on the sleeve and draw a line from the armhole to the center of the pattern.**
2. **Place a line from O through V equal to S to P.**
3. **Draw a line starting at the end of the line from X to O.**
4. **Repeat the process for the back sleeve.**

Method 2: Using a Plastic Rule

1. **Place a plastic rule on the finished sleeve and mark the position of the sleeve cap.**
2. **Place a plastic rule on the pattern and mark the position of the sleeve cap.**
3. **Adjust the pattern according to the measurement taken.**

Ease Control Darts

Back Dart:
- Mark points 2 1/2 inches from U and the second point 1 1/2 inches from V.
- Trace a line from V to O.

Front Dart:
- Mark points 1 1/2 inches from U and the second point 1 1/2 inches from V.
- Trace a line from V to O.
Chapter 3

Method 1: Full Bust Measurement

1. Mark the center of the front and back bodice sections. Draw a line from the center point to the bottom of the armhole. Measure the bust circumference at the fullest point and mark the center point of the bust. Draw a line from the center point to the armhole. Repeat for the back bodice and mark the bust point.

2. Mark the center of the front and back bodice sections. Draw a line from the center point to the bottom of the armhole. Measure the bust circumference at the fullest point and mark the center point of the bust. Draw a line from the center point to the armhole. Repeat for the back bodice and mark the bust point.

Adjusting the Armhole to Accommodate Cup Ease

1. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

2. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

3. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

4. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

5. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

6. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

7. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

8. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

9. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

10. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

11. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

12. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

13. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

14. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

15. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

16. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

17. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

18. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

19. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

20. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

21. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

22. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

23. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

24. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.

25. To adjust the armhole to accommodate cup ease, mark the center point of the front and back bodice sections. Draw a line from the center point to the armhole. Cut along the line for the front and back bodice sections. Repeat for the other side.
Increase or Decrease the Skirt

Changing the width of the skir at the bottom or decrease the length:

Figure 1

- Front skirt initial markings
- (optional) extra 1/2 inch at one side
- Skirt with push out top of the extended line of the neck. From the skirt up
- toward right side and 1 1/2 inch below.
- Skirt with seams at top with the brown line. From the skirt down on
toward right side and 1 1/2 inch below.
- Repeat for process on the front skirt. Always also includes the original skirt pattern.

Increase or Decrease Cap Ease

Pattern: Backing around the cap that appears like a pattern. Difference cap height (see Figure 7)
- the skirt with yarn (see Figure 8)
- This method will also increase or decrease cap ease.

Figure 6

- To increase cap height, cut through the yam line to the corner of the pattern and back, and 1/2 inch to spread the cap for the extra amount of core needed.

Figure 7

- To decrease cap height, cut through the yam line to the corner of the pattern and back, and 1/2 inch to decrease the extra.

Setting the Sleeve Into the Armhole

- The sleeve is ready to be placed in the armhole. It is not known whether the sleeve will align with the armhole. The sleeve should be placed in the armhole shoulder to armhole from neck to armhole, and pushing the cap to the shoulder seam. See Figures 12 and 14. If a sleeve fails out of alignment, it can be rotated to correct the problem.

Figure 10

- The sleeve should be cut on machine or the fabric of choice.
- Cut the center line and the shoulder line. Cut the sleeve from the fabric.
- Two methods will be used to set the sleeve cap in the armhole. The cap is placed into the armhole and stitched to the armhole or one of the other sleeves can be made from front to back. Stitch one side of the sleeves and the other 1/2 inch (see Figure 14). Pull the gathered sleeves to the other side, from the front or back armhole, and stitch the bottom edges.
- Make sure it is well sealed and sewed together.
- Sleeve with perfect alignment (see Figure 16).

Evaluate the Hang and Fit of the Sleeve

- The sleeve aligns with the armhole slightly forward of the shoulder. The sleeve aligns slightly forward of the shoulder, and 1/2 inch to spread the cap for the extra amount of core needed.

Figure 12

- To increase cap height, cut through the yam line to the corner of the pattern and back, and 1/2 inch to spread the cap for the extra amount of core needed.

Figure 13

- To decrease cap height, cut through the yam line to the corner of the pattern and back, and 1/2 inch to decrease the extra.

Sleeve with Perfect Alignment

- The sleeve is well sealed, and the sleeve is well sealed, and 1/2 inch to spread the cap for the extra amount of core needed.
SEAMLESS WORKING PATTERNS

The basic patterns on should remain undamaged in creating other patterns. Seams are added at the completion of their basic patterns. The first pattern is the basic pattern. The second pattern is the finished pattern. This pattern is the basic pattern. The third pattern is the finished pattern. This pattern is the basic pattern. The fourth pattern is the finished pattern. This pattern is the basic pattern. The fifth pattern is the finished pattern. This pattern is the basic pattern. The sixth pattern is the finished pattern. This pattern is the basic pattern. The seventh pattern is the finished pattern. This pattern is the basic pattern. The eighth pattern is the finished pattern. This pattern is the basic pattern. The ninth pattern is the finished pattern. This pattern is the basic pattern. The tenth pattern is the finished pattern. This pattern is the basic pattern.

SELF-EVALUATION TEST

Matching Test

Bar code numbers that match the examples. To check your answers, refer to page 101.

1. Changes 10 to 10
2. Pattern fit
3. Cuff on long sleeve.
4. Cuff on short sleeve
5. Sleeve hangs to back
6. Pattern along capeline
7. Sleeve hangs not main side
8. Back darts
9. Breast
10. Bra
11. Unlined
12. Lined
13. Balancing darts
14. Balance the lines
15. Decrease darts
16. Decrease darts
17. Match darts

---

[Diagrams and illustrations related to pattern making and design]
COMPLETING THE PATTERN

Seam Allowance

The following are general guidelines:

1/4 inch
- All seam lines
- Shirting seams
- Narrow hemming
- Darts

1/2 inch
- Armholes and sleeves
- Waistbands
- Shoulder seams

1 inch
- Bodice seams (1 1/2 inch)
- Zipper seams (2 inch)

Overseam
- 3/8 inch seam allowance

Punch/Circle
A symbol to indicate:
- Notching the end of a dart
- Notch on front waistline
- Buttonhole placement
- Insert seam
Dart Manipulation (Principle #1)

Why Flat Patternmaking?

Flat patternmaking is the fastest and most efficient method devised for developing design patterns that control the shaping or true and fit of most produced garments. The patternmaking teacher in the pattern shop is guided in selecting an efficient and systematic approach of flat patternmaking for manipulation using the dart, or similar methods.

Flat patternmaking is based on accurate measurements and techniques that can be adapted to the design, and overcoming fitting in the lines of a model's figure. All are explained in greater detail in this chapter. Read the pages and see the transformation of a working pattern into a design pattern (the author's sign here design).

Due to a working pattern

From a pattern pattern was chosen, a perfect shape to be changed and tailored.

What I try go on here are plotted steps.

Why is this pattern written so

Due to a working pattern

Look what has been done to the

My original shape can be seen here.

For what I was not the same.

Why is it not the same?

What was the size in my

I do not look in my

Yet without any ideas fell to do.

I know the design on the model previewed,

The design for the size which they had

If you see page 38 and you will find me,

Design simple and complete ways to create

You are written in the reverse to my design.
WORKING PATTERNS

The basic front and back patterns drafted in Chapter 2 are used throughout the text as working
patterns and are fully labelled. The reader may wish to make more detailed pattern
preparations using the pattern-making instructions and illustrations in this chapter. These
detailed preparations are intended to show the relationship between the pattern
preparations and the finished garment. Working patterns are used extensively to
illustrate the shaping of the pattern for a specific design, the transfer of pattern
preparations to the fabric, and the construction of the garment. A pattern prepara-
tions that demonstrates how to make the working patterns is given in the next chapter.

FLAT PATTERN MAKING

METHODOLOGY

There are two main pattern-making techniques used in fashion design: the flat method and the pattern-cutting method. The flat method involves cutting the pattern pieces directly from the original pattern, without altering the shape of the pattern. The pattern-cutting method, on the other hand, involves cutting the pattern pieces from the original pattern after altering the shape of the pattern to create the desired design. The pattern cutting process is illustrated in the next chapter.

THREE SEPARATE TECHNIQUES

Dart manipulation: Changing the location of a dart will alter the shape of the design. Darts can be moved from one area of the pattern to another to create different design shapes. Adding darts can add structure to the design and create new design elements. Removing darts can create more fluid and flowing design lines. Altering the shape of the dart can also change the overall design shape.

Examples: Illustrations of how dart manipulation can be used to create different design shapes are shown in the next chapter.

Design Analysis

Design analysis is the process of evaluating the pattern and the design. It involves examining the pattern and the design to determine how they work together and how they can be improved. Design analysis helps designers to make informed decisions about the design and the pattern. It is an essential part of the design process and is used to ensure that the design is both functional and aesthetically pleasing.

The Process

The process of creating a pattern involves the following steps:

1. Sketch the design idea and identify the key elements.
2. Select the appropriate pattern blocks and features.
3. Trace the pattern blocks and adjust them to fit the design.
4. Mark the design details and notes on the pattern.
5. Test the pattern to ensure that it fits the body and the design.

Design Elevation

Design elevation is the process of creating a three-dimensional representation of the design. It involves creating a model of the design using various materials such as clay, paper, or digital software. Design elevation helps designers to visualize the design and to make changes to the design before it is made. It is an important part of the design process and is used to ensure that the design is both functional and aesthetically pleasing.

Examples: Illustrations of design elevations are shown in the next chapter.

1. Sketch the design idea and identify the key elements.
2. Select the appropriate pattern blocks and features.
3. Trace the pattern blocks and adjust them to fit the design.
4. Mark the design details and notes on the pattern.
5. Test the pattern to ensure that it fits the body and the design.

Additional Resources

For more information on pattern-making techniques and design analysis, refer to the following resources:

- Fashion Design: Pattern Making and Design Analysis by Mary Jane Hare
- Pattern Cutting and Design Analysis by Virginia McNeese
- Pattern Design and Development by Susan Brown

These resources provide detailed explanations and illustrations of pattern-making techniques and design analysis, and can be used to deepen your understanding of these important design concepts.
PATTERN MAKING TERMS

Sewing terms and their definitions will be
introduced throughout the text to help build
understanding.

Pattern Plain. The act of placing items on or in
a pattern or placing items on a pattern to
create a design pattern. This is often done
to organize the elements of a design.

Pattern making. The act of drafting and
constructing a design pattern to create a
specific shape. This is usually done by
using a pattern making tool such as a
pattern maker's tool.

Pattern manipulation. The act of modifying
and adjusting a design pattern to create a
specific shape. This is often done by
using a pattern maker's tool.

Design pattern. A design pattern is a
specific shape that can be used to create
a specific design. Design patterns are
created by pattern makers using pattern
making tools.

TEST FIT

As each design pattern is created, the design
should be cut and tested to ensure that the
pattern is accurate. Inaccurate patterns can
lead to problems in the final product.

The pattern should be cut from the
pattern paper. The pattern should be
tested to ensure that it is accurate.

1. The pattern should be cut from
the pattern paper. The pattern
should be tested to ensure that it
is accurate.

2. Any adjustments should be
made to the pattern to ensure that it
is accurate.

DART MANIPULATION

Principle #1

The dart is a design element that can be used
to create a specific shape. The dart is
created by cutting into the pattern and
shaping the fabric to create a specific
shape.

Applying Dart Manipulation—Introduction to Design Patterns

The technique is applied when the dart of a
pattern is cut and moved to create a specific
shape. The dart is cut out of the pattern and
moved to create a specific shape.

Pattern manipulation techniques

1. Cut and move: The dart is cut out of
the pattern and moved to create a
specific shape.

2. Push: The dart is pushed into
the pattern to create a specific
shape.

3. Pull: The dart is pulled out of
the pattern to create a specific
shape.

Pattern manipulation

- Darts can be used to create a
specific shape when cutting out the
pattern.

- Darts can be used to create a
specific shape when cutting out the
pattern.

- Darts can be used to create a
specific shape when cutting out the
pattern.
**SINGLE-DART SERIES—SLASH-SPREAD TECHNIQUE**

Flat patternmaking depends on precisely developed patterns as a basis for creating design patterns.

**Steps in the Process**

1. **Design Analysis:** Selecting where the dart is to be placed. Add darts and construct one or two parts of the series.

2. **Pattern Making:** Drawing lines on the basic pattern to indicate where the design elements are located. In this example, the dart is drawn from the bust point to the bust line.

3. **Manipulation:** Applying the slash method to change the shape of a traced pattern into a design pattern. (The traced pattern is cut from paper and placed on the darted line.) The patterns are traced through paper and woven or interwoven through the layer. This allows the parts to be traced through the paper or woven through the layer. A trace line is then drawn through the pattern through the layer. The pattern is then traced through the layer, and the parts are traced through the finished pattern.

---

**Center Front Waist Dart**

**Design Analysis:**

The waist is located in the center front, and the design elements are located in the bust area. The waist is drawn from the bust point to the bust line.

**Pattern Mark and Manipulation:**

- Trace the traced pattern, label the center front waist dart, and label the dart leg A and B.
- Trace the traced pattern from center front to bust point.
Figure 3: Draw pattern, cut and fit. Trace.
- Fold pattern on paper and crease.
- Center dart in 1/2 inch from dart point.
- Draw dart tail to dart point.

Figure 4: Add darts to pattern as shown.
- Complete pattern using general pattern information for guidance. If necessary, go to pages 50 and 51.
- To test fit, cut on fold for full front for half-sizes, adding 2-inch extension at hem. Cut back pattern to complete design over 1/2 width.
- Test and pin the pattern onto steam. Place on tissue paper for a test fit.

Follow this procedure for the next three projects.
SINGLE-DART SERIES—PIVOTAL-TRANSFER TECHNIQUE

This technique involves transferring a pattern from one paper sheet to another without exposing the pattern to light. The pattern is traced onto a new paper, and the transferred pattern is then traced onto a new pattern paper. This technique is often used in patternmaking to reduce the amount of time spent on patternmaking.

Pattern Plot and Manipulation

1. Place the working pattern on paper with a pencil or pen through the front point (pivotal point).
2. Mark the end of each section (pivots A and B) and dot the end of each section (pivot C) with a pencil or pen.
3. Place the pattern on the new pattern paper.

Design Analytic Design 5

This design extends from the front point to the bust point. Note the relationships that were among the design, the pivot, and the转让 pattern shape.

Mold Neck Dart

Figure 1

Figure 2

Figure 3

New Pattern Shape

- Remove all writing from pattern.
- Place dart leg to front point.
- Center dart point 5/8 inches from the front point.
- hollow dart leg to the dart point.
- Add 1/2 inch seam and 1/2 inch at neckline.
- Cut in much for test fit.
Side Dart

Figure 1: Mark side dart location (C) and trace pattern from A to C (shaded area).

Pattern Plot and Manipulation

Figure 2: Draw pattern until dart leg reaches point A and paper pattern from dart and open space for side dart.

Figure 3: Draw pattern from dart leg to back seam and paper pattern from dart leg and open space for side dart.

Mid-Armhole Dart

Figure 1: Mark mid-armhole dart location (C) and trace pattern from A to C (shaded area).

Pattern Plot and Manipulation

Figure 2: Draw pattern from dart leg to bust point and paper pattern from dart leg and open space for mid-armhole dart.

Figure 3: New Pattern Complete

1. Remove pattern, draw legs to bust, center dart point, and trace pattern from dart leg and open space for mid-armhole dart.

2. Draw new dart legs.
THE SHOULDER DART

The shoulder dart should be indicated when it interferes with a design detail. The shoulder dart, like the bust dart, can be transferred to another section as needed. It can be cut away by changing its shape or by removing it from the dart area. Additional dart is drawn on the side or back at the waist or underarm.

The most common dart sections are shortened if preferred, other treatments can be used.

The Multipositional Working Pattern for Use When Shoulder Dart Not Required

Pattern Plot and Manipulation

Figure 1. Pattern Plot 1

1. Trace back pattern, including the HB line.
2. Draw line from dart point and mid-back to the guideline. Draw facing (figure 1b).
3. Trace and cut facing from paper (figure 1a).

Figure 2

- Cut dash lines from neck, shoulder dart, and mid-back to, met through, center point.
- Spread sections equally.
- Trace on paper; center.
- Trace and treat neck, shoulder, and armhole.
- Mark more correct method as shown. Mark changes from shoulder.
THE BACK NECK DART

Pattern Plot and Manipulation

Use dart or pivot method.

1. Trace back pattern and all markings.
2. Draw straight lines from center of dart to shoulder points.
3. Draw a straight line from neck to shoulder point.

Excess Transferred to Armhole

Pattern Plot and Manipulation

1. Trace back pattern and all markings.
2. Draw 6.5 cm. at point to neck guideline.
3. Draw from 6.5 cm. at point to pivot point and from dart point to pivot point.

SELF-EVALUATION TEST

1. Develop patterns by transferring the same dart in the following locations, using the pattern-making techniques indicated. After each pattern is completed, test dart using the methods described on page 76, Figure 1.

<table>
<thead>
<tr>
<th>Location</th>
<th>Corresponding Pattern</th>
<th>Pivot Transfer Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>High dart</td>
<td>Figure 1, page 82</td>
<td>Mid-shoulder</td>
</tr>
<tr>
<td>Mid-shoulder</td>
<td>Figure 3, page 83</td>
<td>Center dart neck</td>
</tr>
<tr>
<td>Shoulder tip</td>
<td>Figure 3, page 84</td>
<td>French dart</td>
</tr>
</tbody>
</table>

2. The pattern for Design 1 has been developed (Figure 1). Make the self-dart change Design 2 if you, in what way? Ear in a suitable fabric for the project.

Design 1

Design 2
3. The patterns for Designs 3 and 4 are traced and labeled A and B. Match the designs with the correct pattern shape. Make either A or B below each sketch. Cut each design on single fabric for panels.

Consistency of Dart Angle

To prove that the angle of the dart leg remains constant, without regard to its location, around the pattern's outline, start the following pattern in the sequence given. The shoulder dart designs, flat—fold lines, the wide dart (fig. 2), patterns and the narrow front dart (fig. 3) shown first. Draw the dart leg pattern piece on the dart line (fig. 4). Place a depth line through the base points of all three pattern and angle the dart legs. They will match. Reduce the same degree of angle from the shortest to the longest dart. The space between the base of the dart legs of each pattern was the difference in distance related to the position from the dart joint (see Fig. 4) from the jowl point to the point where the dart is located. The shorter a dart is to a greatest point, the closer the space between dart legs, the further the distance, the wider the space between dart legs (fig. 5).

Proof of Principle #1

In the preceding patternmaking exercises, the dart shapes were transferred to many different locations around the outline of the front bodice pattern. The shapes of the patterns vary from the original working pattern. When the dart legs are closed and opened, the patterns are the original size and shape. This can be proven by using the patterns previously developed. Bring the dart legs together, exposing the flat, front, and back sections. Track the patterns, adjusting the center front. Observe that the patterns coincide exactly (fig. 6).
TWO-DART SERIES—SLASH-SPREAD TECHNIQUE

A simple sewing pattern template and side dart will be developed at the points that follow. One can then measure and transfer these points to create individual patterns. These are ideal shapes to develop the individual pattern for accurate measurements. The location of these points is a matter of opinion and will vary. This is because it is important to know the location of the dart when designing or creating patterns. The dart may be found by marking the points in the following ways:

- Mark the points at the back of the pattern using a tailor's chalk, a marking tool, or a non-marking pencil.
- Mark the points at the front of the pattern using a non-marking pencil, a marking tool, or a tailor's chalk.
- Mark the points at the waist of the pattern using a non-marking pencil, a marking tool, or a tailor's chalk.
- Mark the points at the hip of the pattern using a non-marking pencil, a marking tool, or a tailor's chalk.
- Mark the points at the bust of the pattern using a non-marking pencil, a marking tool, or a tailor's chalk.

**Waist and Side Dart**

**Design Analysis/Design 1**

The pattern can be used as a standard sewing pattern.

**Pattern Plot and Manipulation**

**Figure 1**
- Back dart pattern. Use dart at the back of the pattern that is located at the bust point.
- Front dart pattern. Use dart at the front of the pattern that is located at the bust point.
- Side dart pattern. Use dart at the side of the pattern that is located at the bust point.
- Waist dart pattern. Use dart at the waist of the pattern that is located at the bust point.
- Hip dart pattern. Use dart at the hip of the pattern that is located at the bust point.
- Bust dart pattern. Use dart at the bust of the pattern that is located at the bust point.
- Hip dart pattern. Use dart at the hip of the pattern that is located at the bust point.

**Figure 2**
- Draw a square line on the pattern, with center front dart in the center, as shown. Continue.
- Close dart dart at point X. Mark the center point.
- Trace and mark both points.

**Figure 3**
- Draw a square line on the pattern, with center front dart in the center, as shown. Continue.
- Close dart dart at point X. Mark the center point.
- Trace and mark both points.

**Figure 4**
- Fold dart line toward the back.
- Draw a square line on the pattern, with center front dart in the center, as shown. Continue.
- Close dart dart at point X. Mark the center point.
- Trace and mark both points.

**Figure 5**
- Draw a square line on the pattern, with center front dart in the center, as shown. Continue.
- Close dart dart at point X. Mark the center point.
- Trace and mark both points.

**Figure 6**
- Draw a square line on the pattern, with center front dart in the center, as shown. Continue.
- Close dart dart at point X. Mark the center point.
- Trace and mark both points.

**Figure 7**
- Draw a square line on the pattern, with center front dart in the center, as shown. Continue.
- Close dart dart at point X. Mark the center point.
- Trace and mark both points.

**Figure 8**
- Draw a square line on the pattern, with center front dart in the center, as shown. Continue.
- Close dart dart at point X. Mark the center point.
- Trace and mark both points.
Mid-Shoulder and Waist Dart

Design Analysis: Design 3

Figure 3

1. Cut cloth lines (cut straight). Heat point between shoulder and side dart (Design).
2. Draw a straight line from shoulder to hip point.
3. Draw a curve line from hip point to waist point.
4. Cut out pattern pieces and add dart points.
5. Trace the pattern onto fabric.

Pattern Plot and Manipulation

Figure 1

1. Take pattern. Mark best point and add dart hole.
2. Draw a straight line to best point from mid-dart hole and move dart point of the side dart to best point.
3. Cut out pattern pieces and add dart points.
4. Trace the pattern onto fabric.
5. Cut out fabric pieces and add dart points.

Mid-Armhole and Waist Dart

Design Analysis: Design 3

Pattern Plot and Manipulation

Figure 1

1. Cut cloth lines (cut straight). Heat point between shoulder and side dart (Design).
2. Draw a straight line from shoulder to hip point.
3. Draw a curve line from hip point to waist point.
4. Cut out pattern pieces and add dart points.
5. Trace the pattern onto fabric.

Figure 2

1. Take pattern. Mark best point and add dart hole.
2. Draw a straight line to best point from mid-dart hole and move dart point of the side dart to best point.
3. Cut out pattern pieces and add dart points.
4. Trace the pattern onto fabric.
5. Cut out fabric pieces and add dart points.
TWO-DART SERIES—PIVOTAL-TRANSFER TECHNIQUE

**Mic-Neck and Waist Dart**

**Design Analysis:** Design A
Pattern Plotting and Manipulation

- Trace pattern on paper with pins through the back point. Mark neckline, Label C.
- Mark points A and B, 1 inch from the point.
- Mark point C at the shoulder tip.

**Pattern Plot and Manipulation**

- Trace pattern on paper with pins through the back point. Mark shoulder tip C.
- Trace dart leg 1 and trace to point C.

**Shoulder-Tip and Waist Dart**

**Design Analysis:** Design B

- Trace pattern on paper with pins through the back point. Mark shoulder tip C.
- Trace dart leg 1 and trace to point C.

**Pattern Plot and Manipulation**

- Trace pattern on paper with pins through the back point. Mark shoulder tip C.
- Trace dart leg 1 and trace to point C.
SELF-EVALUATION TEST

1. Develop patterns for the following dart locations using the patternmaking techniques indicated. The patterns have been developed, fold the dart using the methods described on page 107: Figure 2 (a, b, and c).

- Behind neck and waist
- Shoulder and waist
- Quarter front and waist

| Method of Technique | Corresponding Pattern | Project Transfer Technique | Corresponding Pattern
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>dart</td>
<td>Figure 3, page 94</td>
<td>Figure 1, page 91</td>
<td>Figure 3, page 94</td>
</tr>
<tr>
<td>dart</td>
<td>Figure 3, page 95</td>
<td>Figure 1, page 98</td>
<td>Figure 3, page 95</td>
</tr>
<tr>
<td>dart</td>
<td>Figure 2, page 98</td>
<td>Figure 1, page 92</td>
<td>Figure 3, page 93</td>
</tr>
</tbody>
</table>

2. Designs 1 and 2 differ from the two-dart series in which the waist dart remains and the side dart changes location. How do they differ? Analyze the two designs. Compare with the existing pattern. Four pattern shapes are illustrated. Two patterns relate to the design. Choose the correct pattern shape for each design.

3. Develop pattern shapes for Designs 1 and 2. Use the slash-and-spread technique and the project-transfer method.
Chapter 5

Designing with Darts
(Tuck-Darts, Pleats, Flares, and Gathers)

INTRODUCTION

The dart is one of the most flexible and versatile parts of the garment. The space between the dart legs can be used in a variety of creative ways, limited only by the imagination of the designer. Darts in a specific location are referred to as dart equivalents (diagramed as tuck-darts, pleats, flares, and gathers). Dart equivalents replace the dart in control and will always be related to the pivotal point of a pattern such as front or side. The difference between a dart and a dart equivalent is the manner in which each is marked (pinned, basted, or subsequently stitched). One advantage of darts is that they do not alter the shape of the pattern or garment. Darts are sometimes placed on the side of a pattern, allowing the side seam to be cut away and then pinned. This is particularly useful for garments that need to be cut on the bias or for garments that need to be cut on the bias.
**TUCK-DART**

- A tuck-dart is a partially backstitch treated dart, indicated where solid and solid line the dart line, 1/2 inch below the finished length to close the dart.

**PLEAT**

- A pleat is an unstitched, folded dart held securely along the dart line. It is developed on a dart or the pattern that does not include point and can be stayed, etc. (Figures 3 and 4 for pleats.)

**FLARE**

- A flare is an open, unstitched dart. The open-dart spreads evenly across the bottom. Patches, straps, and pockets are not needed. Broken lines indicate original dart lines.

**GATHERS**

Gathers are illustrated using the slash-spread and spread-dart techniques. Gather the back of the basic pattern (Figures 2a). (Figures 3 and 4 for gathers.)

**SLASH-SPREAD TECHNIQUE**

- Figure 1: Gather at waist. Mark mid-shoulder, labeled dart legs k and k.
- Figure 2: Draw lines from k 1/2 inch from each side of the mid-shoulder, ending at back point (Figures 4).

**FLARE**

- Figure 3: Mark back shoulder notches same distance to inside shoulder (Figures 5 and 6). Add 1/2 inch seam at 1/2 inch at center back. Cut and stitch for a bell fit.
DART CLUSTERS AND DART EQUIVALENTS

The dart clusters may be divided using multiple opening and closed dart designs. When used as a single design tool, the dart cluster may also be used as a group of dart clusters or as a single, closed dart, also known as a dart cluster, which may be divided using multiple opening and closed dart designs.

The following instructions (Figures 17, 22, and 23) apply to the development of both dart and full dart clusters. For each closure or cluster, the instructions may be divided using multiple opening and closed dart designs.

The instructions may be divided using multiple opening and closed dart designs. When used as a single design tool, the dart cluster may also be used as a group of dart clusters or as a single, closed dart, also known as a dart cluster, which may be divided using multiple opening and closed dart designs.

The instructions may be divided using multiple opening and closed dart designs. When used as a single design tool, the dart cluster may also be used as a group of dart clusters or as a single, closed dart, also known as a dart cluster, which may be divided using multiple opening and closed dart designs.
Dart Cluster

- Cut dart line 1/2 inch from dart point and notice
- Mark pattern, including dart legs
- Draw dart line. Cut front back for trial fit.

Tuck-Dart Cluster

- Cut dart line 1/2 inch from dart point and notice
- Mark pattern, including dart legs
- Draw dart line. Cut front back for trial fit.

Pleat Cluster

- Mark the center fold of dart point for pleats, leaving one half the dart fold for pleat pleats.
- Mark pleat folds at center and 1/4 inch from dart leg.
- Draw dart legs equal to length of the pleat leg. Pleat legs equal to length of the pleat leg.
- Add seam, allow excess of paper below waists for shaping dart. Cut those pieces.

Figure 3
- Fold dart means toward center from waist pattern section. Position will be marked.
- Draw dart lines across waist. Draw dart lines across waist.
- Cut circles to waist line, dart points, or use both facing sections across waist, add dart to waist.
- Untie and pin in position.}

Notes
Graduated Darts

Graduated darts are darts of varying length within a garment. They may be used for adjustment or detailing. They can also be used for shaping a garment. To ensure blending in the draping of the dart, block the dart tip and the dart point to avoid a hard edge. The dart length is generally 1-1/2 inches, with all grading even being observed by the addition of darts at the sides. The back pattern is complete with this design.

Radiating Darts

Radiating darts feature radiating darts from point 1, with the quietest dart placed at the side, and then to bust point.

Pattern Plot and Manipulation

- Block Pattern on neck and label dart legs A and B.
- Label a dart from the center front to the side seam, placing through the dart point.
- Draw a guideline from center front to 1 inch past the dart point, labeled C.
- Draw another guideline from shoulder to guideline D.
- Cut this paper.

Design Analysis

Design features radiating darts from point 1, with the quietest dart placed at the side, and then to bust point.

Pattern Plot and Manipulation

- Block basic pattern. Label dart legs A and B.
- Place a dash line from neck to bust point.
- Label C.
- Draw a small line on each side, labeled 0 and 1.
- Mark dart 1-1/2 inch on each side of C. Mark and draw a small line from D and to bust point.

- Add 1/4 inch at neck.
- Add 1/2 inch on each side of C. Mark and draw a small line from D and to bust point.
**Parallel Darts**

Paralleled darts are formed by having the dart points on the two sides of a nontailored pattern. Space between the parallel darts can be increased by moving the dart point of the side dart forward from dart point.

---

**Parallel French Darts**

**Design Analysis: Design 1**

- **Pattern Plot and Manipulation:**
  - Trace two-dart from bodice pattern.
  - Draw curved dotted line through dart tips.
  - Fuse pattern around neck.
  - Cut pattern from paper.

- **Method for Finishing Darts:**
  - Add 1/2 inch seam allowance to darts.
  - When darts are sewn together, slash a line 1 inch wide to within 1/2 inch of dart point.
  - Add seams and finish edges.

**Design Analysis: Design 2**

- **Pattern Plot and Manipulation:**
  - Trace two-dart from bodice.
  - Draw curved dotted line from dart point to waist dart to center of neck.
  - Add seams and finish edges.
  - Stitch back dart to pattern for a dart fit.

---

**Parallel Darts at Neck**

Figure 2

- **Design Analysis: Design 2**

- **Pattern Plot and Manipulation:**
  - Trace two-dart from bodice.
  - Draw curved dotted line from dart point to waist dart to center of neck.
  - Add seams and finish edges.
  - Stitch back dart to pattern for a dart fit.

---

**Designing With Garments**

**Figure 2**

- **Design Analysis: Design 2**

- **Pattern Plot and Manipulation:**
  - Trace two-dart from bodice.
  - Draw curved dotted line from dart point to waist dart to center of neck.
  - Add seams and finish edges.
  - Stitch back dart to pattern for a dart fit.
Parallel Dart—Cape Effect

Design Analysis: Design 3
Seamline and darts extend beyond shoulder tips, creating a cape effect. The necklines parallel the curved lines.

Pattern Plot and Manipulation

- Trace pattern, extend shoulder 1/4" inches.
- Draw vertical dotted lines from dart points, pin and stitch your lower shoulder.
- Draw a curved line from extended shoulder until it intersects with vertical line from the side seam.
- Draw a dotted curve line between end of lines.
- Draw a parallel curve line for the neckline.
- Cut from paper and fit to bodice.

Figure 1

- Trace pattern, extend shoulder 1/4" inches.
- Draw vertical dotted lines from dart points, pin and stitch your lower shoulder.
- Draw a curved line from extended shoulder until it intersects with vertical line from the side seam.
- Draw a dotted curve line between end of lines.
- Draw a parallel curve line for the neckline.
- Cut from paper and fit to bodice.

Figure 2

- Trace pattern, extend shoulder 1/4" inches.
- Draw vertical dotted lines from dart points, pin and stitch your lower shoulder.
- Draw a curved line from extended shoulder until it intersects with vertical line from the side seam.
- Draw a dotted curve line between end of lines.
- Draw a parallel curve line for the neckline.
- Cut from paper and fit to bodice.

Figure 3

- Trace pattern, extend shoulder 1/4" inches.
- Draw vertical dotted lines from dart points, pin and stitch your lower shoulder.
- Draw a curved line from extended shoulder until it intersects with vertical line from the side seam.
- Draw a dotted curve line between end of lines.
- Draw a parallel curve line for the neckline.
- Cut from paper and fit to bodice.

Parallel Dart Design Variations

The parallel dart designs are popular problems. The garment patterns are correct if they result in exact replica of the design. Solutions for Designs 1 and 2 can be seen on the right.

Design 1
- Trace pattern, extend shoulder 1/4" inches.
- Draw vertical dotted lines from dart points, pin and stitch your lower shoulder.
- Draw a curved line from extended shoulder until it intersects with vertical line from the side seam.
- Draw a dotted curve line between end of lines.
- Draw a parallel curve line for the neckline.
- Cut from paper and fit to bodice.

Design 2
- Trace pattern, extend shoulder 1/4" inches.
- Draw vertical dotted lines from dart points, pin and stitch your lower shoulder.
- Draw a curved line from extended shoulder until it intersects with vertical line from the side seam.
- Draw a dotted curve line between end of lines.
- Draw a parallel curve line for the neckline.
- Cut from paper and fit to bodice.

Design 3
- Trace pattern, extend shoulder 1/4" inches.
- Draw vertical dotted lines from dart points, pin and stitch your lower shoulder.
- Draw a curved line from extended shoulder until it intersects with vertical line from the side seam.
- Draw a dotted curve line between end of lines.
- Draw a parallel curve line for the neckline.
- Cut from paper and fit to bodice.

Design 4
- Trace pattern, extend shoulder 1/4" inches.
- Draw vertical dotted lines from dart points, pin and stitch your lower shoulder.
- Draw a curved line from extended shoulder until it intersects with vertical line from the side seam.
- Draw a dotted curve line between end of lines.
- Draw a parallel curve line for the neckline.
- Cut from paper and fit to bodice.
ASYMMETRIC DARTS

Asymmetric darts overcome front of the garment, tighter shapes will change radically from that of the matching pattern. Asymmetric darts require special pattern handling and identification, as will the darts that follow these instructions. Compare pattern shapes with each other, cut, pin, and compare the design for best fit. Darts are more flexible. A 1 1/2 inch pattern is recommended.

Right side pattern is not necessary.

Darts that are not part of the matching pattern, may influence the placement of a different dart. Use the dart to balance the pattern, and the influence of pattern placement before the pattern is placed. Some placement is required for each pattern. Place dart at the center of the pattern, 1 1/2 inch at the shoulder, and 1 1/2 inch at the side seam.

Asymmetric Radiating Darts

Design Analysis: Design 1

Both darts are in the same side, forming a single dart and making the pattern simple. The design analysis is the same as the design. However, the pattern can be placed on the center of the pattern, 1 1/2 inch at the shoulder, and 1 1/2 inch at the side seam.


Pattern Plot and Manipulation

- Trace pattern on tail, transferring excess due to additional dart placement. Draw necklines.
- Cut from paper, fabric.
- Draw waistline from dart points to side seam.
- Crotches 5 inches up from the bottom of each side seam and 3 1/2 inches at the side seam.

Figure 1: Asymmetric Darts

- Cut from paper, fabric.
- Draw darts across pattern, 1 1/2 inch below each seam.
- Cut from paper, fabric.
- Label right side with three lines and add seams.

Figure 2: Asymmetric Darts

- Cut from paper, fabric.
- Label right side with three lines and add seams.
- Complete pattern for first fit.
**ASYMMETRIC DARTS**

Asymmetric dart is centered at the garment. Pattern design will change radically from that of the matching pattern. Asymmetric dart requires special pattern handling and identification, as do all designs that differ from standard designs. Compare pattern phases with each design. Cut back to complete the design for best fit.
Asymmetric Curved Darts

Pattern Plot and Manipulation

- Draw dart pattern on fabric, transferring waist dart to mid-bust location. Cut and unfold.
- Draw a curved line from bust point to waist.
- Draw a parallel line from bust point to armhole.
- Close the dart legs. Tape and baste pattern.
- Center dart points 1 inch from bust point. Draw dart legs.
- Label right side. Add arm and placket line.
- Complete pattern for cutting.

Asymmetric Dart Variations

Designs are practice problems. Designs 3 and 4 are given for advanced students. The garment patterns are correct if they result in exact representations of the design. Designs 3 and 4 can be seen on page 111.

Design 1

Design 2

Design 3

Design 4
Chapter 6

Stylelines

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Intersecting Dart Design Variations
The intersecting dart designs are perfect problems. The pattern pieces are correct if they result in exact segmentation of the design. The designs 3 and 4 are solutions on the VEB.
INTRODUCTION

The princess style is distinguished by a neckline that starts at the front and back neck, with a forming curve that sets from the front and back points and smoothly blends, and which is not modified for bust or seam positions. Points can be shaped to enhance the form, but must be drawn on the front pattern. The design can be based on the original princess pattern. This is the most popular style for women.

Pattern Plot and Manipulation

Front View
- Trace front of princess pattern.
- Draw straight line from the bust point to the neck point to mark the bottom edge of the bust.
- Round off the curve to form a smooth shape.
- Trace the side seam and armhole.

Styling Additions
- Developing designs from a one-piece pattern or from existing drapings, start from the bust point and wrap the design around the bust.
Chapter 6

Figure 8 (Optional Front Panel Shaping)

1. Slide front panel onto front panel shaping point and trim points.
2. Trace back panel shape in front panel back waist shaping point and pattern
   and transfer back of the back panel and pattern to front panel.
3. Adjust new central panel on side front panel when matching the patterns.

Figure 7 (Back Pattern)

1. Trace back pattern.
2. Place skirt onto the shoulder dart leg and mark dart point and draw the pattern line.
3. Stitch shoulder dart point to the shoulder line and redraft dart legs. (Broken line indicates original shape)
4. Crossmark dart points on sketches.

Figure 9 (Complete Pattern)

1. Complete the pattern, as shown.
2. Center guideline on side panels.

Classic Princess Styleline Variations

The following designs are based on the classic pattern. Calculate pattern for these designs or use other variations for practice. Use the three guidelines (if you are an advanced student) or develop the design from the basic pattern. Remember, always show the pattern with the pattern in the sketch. The finished pattern should result in perfect representations of each design. If they do not, trace the pattern and try again.
ARMHOLE PRINCESS STYLELINE

Pattern Plot and Manipulation
Figure 1 Front
- Trace and cut front pattern.
- Draw a line from waist and side dart points to bust.
- Crossmark 2" inches from bust point. Label A.
- Draw a straight guideline from bust point to body armhole. (Distance can vary along shoulder.)
- Mark 1/4" inch up from armhole to guideline.
- Draw a curved line from 1/4" armhole to bust point. Extend dart legs from waist to bust point.
- Crossmark 2" inches above and below bust point for ease content matches.

Figure 2 Back
- Trace and cut back pattern. Transfer the shoulder dart points to mid-armhole. It will be absorbed into the neckline.
- Draw a line 2" inches up from dart point of waist dart and crossmark for room.
- Repeat styleline instructions, placing guideline from crossmark to mid-armhole.

Design Analysis
The armhole princess design is a variation of the classic princess and features a styleline that curves from the bust point to waist and the shoulder blades back to your mid-armhole. The design is developed from a bodice pattern with side dart transferred to mid-armhole as a curved dart (styleline).

Figure 3 Front
- Cut and separate pattern along styleline.

Figure 4 Side Panel
- Complete side panel using the princess line.

Figure 5 Back
- Cut and separate pattern along styleline.
- To transfer dart excess from mid-armhole, draw the dart length and match along styleline of back panel (broken line) and trim excess from the pattern.

Figure 5 Cutting and Seaming
- Trace pattern pieces, varying from styleline at waist and neckline at armhole. It works on top to top at armhole, and paper to the shortest point on armhole. Taper both sides evenly.
- Blend armhole, adding to shorter side and trimming larger side equally, as shown.
Armhole Princess Styleline Variations

The finished designs are based on the armhole princess. Design or modify the variations. The finished pattern sheets should meet the perfect representations of each design. If they do not, recreate the problem with the pattern. When placing the pattern, respond to the fuses as the design appears on the drawing. Develop the design using the two-dart pattern. Advanced students may want to use the armhole princess pattern.

Design 1
Design 2
Design 3
Design 4

Panel Styleline

The panel styleline is not a dart equivalent because it does not pass through the bust point. The existing darts cannot fit the pattern.

Pattern Plot and Manipulation

Figure 1:
- Trace front and back tessellate patterns and all markings.
- Place front and back patterns.
- Draw slash lines to bust point.
- Mark symmetrical location.
- Trace panel styleline from waist and add 1.25" from front and back mail centers.
- Draw a curved line to the armholes.

Design Analysis

The panel styleline proceeds from the waist to midpoint of the front and back below without passing through bust point. A short side dart accommodates the panel styleline. The panel styleline cannot be cut to create other designs.
Panel Styleline Variations

The practice designs are based on the panel pattern. Generate patterns for the designs or create other variations using the basic pattern. Advanced patternmakers may adjust the panel pattern to develop the design. When plotting, note styleline curves as they appear on the design. The finished pattern shapes should result in the final representation of the design if they do not, trace the pattern and try again.

Figure 7
- Separate front pattern along styleline.
- Close dart legs on front side panel and match at the bodice.
- Close dart legs on front side panel. Complete front as shown.

Figure 8
To eliminate the side seams, place the front and back panels together and trace.
- Extend the pattern through the center of the panels.
- Mark darts at waist and armpit.
- Complete pattern for test fit.
Added Fullness (Principle #2)

Principle: To increase fullness in a garment to an extent greater than the dart width provides, the length and/or width of the pattern's darts must be increased by slashing and spreading where fullness is needed.

Consideration: Adding to the outside of the pattern's darts increases the amount of fabric in a garment and can change the silhouette.

Three Types of Added Fullness

To add fullness, the cutting pattern is increased in one of three ways:

Equal fullness. Opposite sides of a pattern are spread equally, increasing fullness to top and bottom.

One-sided fullness. One side of the pattern is spread to increase fullness, forming an arc shape at the top and bottom.

Unequal fullness. One side of the pattern is spread more than the other, forming an arc shape at the top and bottom.

Compare the silhouette differences between the design and the basic element when adding fullness.
Identifying Added Fullness

Fullness along the body line is always directed to the bust. Therefore, design can be identified as having added fullness. Draw a line through the length or width of the garment (Figure 1), and when the line is directed lower than the bust (Figure 2), and when the pattern block is extended, the fullness can be seen in the front of the pattern. The fullness can be adjusted horizontally or vertically, or both, and can be developed as equal increments, or one-sided fullness.

Added fullness may be combined with dart manipulation (Figure 4) and continuing (Figure 5). Each section overall will be illustrated throughout this text.

The patternmaker determines the type of fullness required by the way the match is executed. When the patternmaker is aware of the designer's intent, he or she can adjust the pattern to suit.

Method for Plotting the Pattern for Added Fullness

Added fullness is plotted as a series of straight lines drawn across the pattern. In the direction the fullness occurs on the design (horizontally, vertically, or diagonally), each section overall will be illustrated throughout this text.

The pattern maker determines the type of fullness required by the way the match is executed. When the patternmaker is aware of the designer’s intention, he or she can adjust the pattern to suit.

Formula for Adding Fullness

To determine the amount of added fullness desired, give consideration to the fabric type. Lightweight and loosely woven fabrics require more fullness than heavy, densely woven fabrics. Using a standard warp as an example, added fullness may equal:

• One and one-half times the measurement (26” + 1/2” = 33”)
• Two times the measurement (26” + 2” = 30”)
• Two and one-half times the measurement (26” + 2 1/2” = 35”)

To help make the eyes in visualizing different amounts of fullness, make examples, using 12” measures in the manner to be illustrated. Follow the formulas for each example. The finished length of each sample can be 18 inches. Save the examples for use when determining fullness.
Fullness of a Semi-View Above Bust

Design Analysis
A dart at fullest below the bust of Design 2 controls gathered line that runs at mid-seamline. One-sided fullness is eliminated. Designs 1 and 3 are given for practice.

Pattern Plot and Manipulation

Design 1
- Place three bodices.
- Square front center front to mid-antholole.
- Square a dash line to dart point. Label X.
- Draw slash lines in the direction pattern falls and cut pattern from paper.

Design 2
- Cut two bodices to point X and from back point to point X, separating pattern.
- Close waist dart, overlapping dart point. 3/4 inch. Fullness caused by the spread area next to bust compensates for any loss of measurement due to overlap.
- Cut second slash lines to, not through, waist.
- Pin on paper and spread such 3/4 inch.
- Trace pattern outline and blend.
- Pull pattern to complete set for using basic back design.

Design 3
- Mark dart leg to true point. Close waist dart.
- Dart leg is shaped to center the bust.
- Cut pattern from paper. Trace guide lines.

Added Fullness to a Dart Leg

Design Analysis: Design 1
Analyze the design and fit of the patterns.

Pattern Plot and Manipulation

Design 1
- Remove dart excess from shoulder.
- Pin the front and back design as indicated.
- Tack excess back into shoulder.

Design 2
- Cut dart line to, not through, side seam.
- Spread a 3/4 inch dart and blend.

Design 3
- Mark dart leg to true point. Close waist dart.
- Dart leg is shaped to center the bust.
- Cut pattern from paper. Trace guide lines.
Gathers on a Style Dart

Figure 1
- Trace front pattern and draw curved dart leg 1 inch from bust point.
- From the bust point draw a curved dart leg to the bust point, and to the shoulder 1 1/2 inch from neck.
- Extend shoulder 1 1/4 inch and draw an arrow line passing through mid-shoulder to the underarm.
- Close dart lines and trim shaded area of the shoulder.

Figure 2
- Trace dart from the bust point and draw down dart. One dart leg will not meet the waistline. Extend dart to the length of the pattern.
- Cut dart lines in, not through, shoulder.
- Spread dart lines to a natural 25-

Figure 3
- Trace the back pattern. Draw and trim the neck. Extend shoulder 1 1/4 inch.
- Complete the pattern for a test fit.

Fullness to Insets

Design 1
- Cut dart leg from pattern.
- Draw dart lines, cut through pattern on side of dart leg, extend dart leg.
- Spread dart lines to desired fullness.
- Trace and blend the spread area.

Design 2
- Cut dart leg from pattern.
- Cut dart lines, cut through pattern on side of dart leg, extend dart leg.
- Spread dart lines to desired fullness.
- Trace and blend the spread area.

Pattern Plot and Manipulation

Figure 1
- Trace front pattern.
- Draw dart band 1 1/2 inches wide.
- Draw dart line from bust to bust and 2 inches up from center front. Mark dart.
- Draw dart line from bust to bust and 2 inches up from center front. Mark dart.
- Cut pattern from paper.

Figure 2
- Trace back pattern.
- Draw dart band 1 1/2 inches wide.
- Draw dart lines, cut through pattern on side of dart leg, extend dart leg.
- Spread dart lines to desired fullness.
- Trace and blend the spread area.

Figure 3
- Trace back pattern.
- Draw and trim the neck. Extend shoulder 1 1/4 inch.
- Complete the pattern for a test fit.
Added Fullness Design Variations

The pattern designs are based on added fullness. Develop patterns for each design, or design other variations for numbers. Each design requires an addition for fullness. The finished garment should look like the design. Eliminate extra darts to ease the problem of FF. ABD.

Atom design number may be viewed on the DVD by page and design numbers.

BLOUSON FOUNDATION

A blouson is a full-sleeved garment with an opening anywhere from below the bust to the ankle. The blouson is covered (held in place) by one of the following methods:

- Elastic (at hip) in the bodice length of the outer part (Design 3).
- Belt across blouson to waist (Design 1).
- Elastic, announcements elastic, or armhole (within the garment's frame).
- A band, attached below the separate hose, measuring less than hip measurement (Design 2).

The blouson foundation is developed by adding length and width to the pattern within its frame and arm section. This is an application of Principle #2, combined with manipulation of the existing dart curves (Principle #5). To determine the amount of length added for the blouson, add twice the amount desired. For example, for a 1 1/2 inch opening, add 3 inches to the existing length.

Blouson Designs 1, 2, and 3 are just a few examples of this style. Design 1 illustrates modified fullness included in a method for increasing fullness. Designs 2 and 3 are practical designs.
Modified Blouson

Pattern Plot and Development

- Trace front two dart pattern and back.
- Measure down 3/2 inches or more from front and back side-waists. Draw line from here to armpit. To true side dart. Mark and mark dart line from here to armpit (see page 110).
- Square up front hem to armpit.

- Measure out 1 1/2 inches or more at front and back side-waists. Draw line from here to armpit. To true side dart. Mark and mark dart line from here to armpit (see page 110).
- Complete pattern for test fit.

Figure 1

Figure 2

Blouson with Increased Fullness

Pattern Plot and Manipulation

Figure 1 on 1

- Trace front and back pattern. Include the back shapeline and cross-grain seam. Add to preferred length.
- Draw slash lines from front and back waist to approximately 3 inches up from armpit curve (Figure 1).
- Draw slash lines from dart points of front and shoulder darts to a joining point at the back (Figure 2).

Figure 3 on 4

- Cut slash lines, not through emeblish (front and back darts)
- Cut back, shoulder dart.
- Trace pattern on paper and spread 1/2 inch. Mark pattern and trace. Add 1 inch at the side waist of back pattern to balloon the fullness between back and front. Add desired length (example: 2 inches below waist for 3 inches overlap).
- Complete pattern for test fit.
Yokes, Flanges, Pin Tucks, and Pleat Tucks

Yokes for Bodice

3 Yoke is the upper part of a garment that fits the shoulder area. It is attached to the lower section by a seam that may appear as a horizontal or diagonal line. A yoke may also be placed anywhere above the bust level or in the back, sometimes below the shoulder blades. The yoke controls gathers, pleats, or a placket that is attached. In a design feature, yokes are based on all types of garments. To fit the better proportion when designing yokes, Yoke variations are given on page 140.

Design Analysis: Designs 1 and 2

The yoke series includes a front yoke (Design 1). The back (Design 2) illustrates a yoke attached to an inserted front and side gathers (page 147). Figure 5, or Design 3, Figure 6.

Basic Front Yoke—Slash and Spread

Pattern Plot and Manipulation

- Trace front bodice pattern.
- Square a line 2 1/2 inches down from center front to main bodice pattern.
- Draw a line from head point to make a parallel with center front and from side point to head point. Mark notch, as shown.
- Extend center front 1 inch for buttons and buttonholes (see Chapter F1).
- Mark notches for gathers at center 1 1/2 inches out from each side of slash line in yoke and dart legs as marked.
Basic Back Yoke—Pivotal and Transfer

Back yokes are developed without a shoulder dart. Insert from the back dart is transferred to the side seams, where it may extend well up or as far as desired, or at the neckline of the armhole. Use the method to develop patterns for designs 2, 3, and 4.

Pattern Plot and Manipulation

**Figure 1**
- Square a line from the center back to the mid-point, or at a point that is one-fourth of the center back length. If the fullness is to be added at the center back, add this line.
- Draw a line from the dart point to the yoke line for use as the pivotal point, labeled A, B, C, D.

**Figure 2**
- Place the pattern on paper with a push pin through the pivotal point.
- Mark yoke line on the pattern at A and B.
- Plot the pattern from A to C and mark dart leg extended areas.

**Figure 3**
- Plot pattern so that dart leg B touches crossmark on paper.
- Trace remaining pattern from dart leg D to B on pattern. Mark yoke line B and label amputated B. Remove pattern.

**Figure 4**
- Plot a line connecting A to B. (The distance between E and D represents dart extent.) To remove excess, see Figure 2, page 147.

**Figure 5**
- Trace back pattern from yoke line 6 inches to waist. Mark pivotal point and remove pattern.
- Draw vertical line from 5 to 6.
- Measure down from B to equal B-D (see Figure 4) and mark.

**Inverted Pleat**
- Add 6 inches to the width of the back pattern.
- Mark center back to indicate side of the pleat at center back and at 1.5 inches. Cut on fold or add a seam at center back.

**Back Yoke with Added Fullness/Gathers**

Design 3
- Fullness is patterned across the back yoke of Design 3. To form a fullness, follow instructions given on page 146, Figures 1, 2, 3, and 4.
Back Yoke with Action Pleat
Pattern Plot and Manipulation

Figure 1
- Cross-section A-B 2.125 inches from A (placket.)
- Mark D.6 inches from C (neckline.)
- Draw line with a 3 to 4.5
- Cut dart from B to near D. Spread 2 inches for pleat; pleat ends 3 inches above neck line.
- Mark gathers centered; remove 1 inch out from each side of the dart leg. Dart is indicated by dotted lines.

Figure 2

Yoke Design Variations
The yoke design variations are practical problems. The generated patterns are correct if they result in correct representations of each design.

Design 4

Design 4: Action pleats that are placed 2.5 inches in front of the armpit of the bodice. To develop the pleat line, refer to instructions given on page 146, Figures 1, 2, 3, and 4.

Design 6

Design Analysis: Design 4

Figure 1: Flanges
- Trace the front bodice pattern, transferring dart to shoulder line.
- Fold flanges with inside fold toward center front.
- Mark notches at each dart leg, or half the width of the dart beyond the notches, where the fold ends (exact location)

Figure 2: Dart Flange
- Trace the back bodice pattern, transferring dart to shoulder line.
- Mark dart leg, and seam allowance notches.
- Stitching: Stitch inside seams together, fold dart legs. Top stitch 1 inch in from fold. 4 inches down on dart legs on right side of garment.
Flange to Wear

The flange is developed by adding flanges (pronciple 62) without the use of the darts above.

Design Analysis Design 2

The front and back flanges of Design 2 are connected to each other and not to the shoulder seam. The flange extend slightly beyond the shoulder tip.

Pattern Plot and Development

- Trace front and back patterns, maintaining the shoulder line to the mid-abdomen.
- Mark 1-inch from front and back shoulder tip.
- Mark 2-1/2 inches from side waist.
- Draw slash line from A to B for flange placement.
- Cut patterns from paper.

Figure 1 and 2

Figure 3 and 4

- Cut slash lines from A to B, not through B.
- Place on paper and spread 4-3/4 inches for 3/4-inch wide flange (shaded area).
- Trace pattern.
- Draw a straight line across open space A.
- Mark center and circle 3 inches done, from center and 1/2 inch in from shoulders for stitching guide. (Ditch) holes cause damage in fabric. Pinch hole placement required for the right side of the garment should be marked with small dot or pin.
- Extend 3 inch at center for the buttons and buttonholes. See Chapter 16.
- Ditch grainline and complete for test 16.
Flange Insert

Design Analysis: Design 3
A flange effect is created by inserting a shaped section of fabric into the bodice.

Pattern Plot and Manipulation

Figure 1 and 2
- Trace front and back patterns.
- Mark A 1/2 inch from front and back shoulder tips at waist.
- Mark B 1/2 inch from front and back shoulder tips.
- Draw slash line to connect A and B.
- Measure A to B length for front and back flanges, rounded.
- Baste and tie ties by extending to slash lines B.
- Mark gathers evenly spaced at front and back, 2 inches from center lines.
- Extend center back 1 inch for closure.
- Baste shoulder area of armhole.

Figure 3 and 4
- Cut and separate pattern pieces.
- Draw guidelines, as shown.

Figure 5
- Draw a vertical line on the paper equal to front and back flange length.
- Using A & B measurements from bodice, draw center shoulder tip location labeled as front paper.
- Spread out from fold at B equal to extend flange width as example; 1 method is measuring to design points A using front and back A's measurements, as shown. Mark and cut for front and back.
- Complete pattern for front and back.
**Flange Design Variations**

Flange design variations may present problems. The generated patterns are correct if they result in exact representations of the designs. If they do not, locate the problems and try again.

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**Pleat Tucks and Pin Tucks**

1. A tuck is a folded fold on the right side of the fabric, resembling a pleat. Tucks serve as design details that may be placed on any garment (top, skirt, dress, sleeves, pants, etc. for women). Tucks can be placed in any direction (vertical, horizontal, and diagonal). Tucks on pants may be placed anywhere, but tucks on pants may be placed only 1 to 2 inches above the hemline. Tucks on skirts can be placed anywhere, but tucks on skirts may be placed only 1 to 2 inches below the waistband. Tucks on pants may be placed anywhere, but tucks on pants may be placed only 1 to 2 inches below the waistband. Tucks on skirts can be placed anywhere, but tucks on skirts may be placed only 1 to 2 inches below the waistband.

---

**Pattern Plot and Manipulation**

The method shown for developing tucks can save manual stitching and spreading the pattern. The pattern tucks are plotted as guidelines for marking the pattern piece. In establishing the tucks and their placement, use the following guidelines for marking the pattern piece:

- **Figure 1**: Pleat Tuck Guidelines
  - **Step 1**: Draw a line for the extension 1/4 inch from the center front.
  - **Step 2**: Draw the tuck guideline 1/4 inch from center front.
  - **Step 3**: Draw the second guideline 1 inch from the first line.

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**Design Analysis: Design 1**

Design 1 features pleat tucks from neck to waist and the pleat line is 1 inch from the center front.
Pin Tucks

Design Analysis: Design 2
Design 2 features pin tucks in a bib style. Pin tucks are placed with space between them.

- Draw four sets of parallel lines, 1/8 inch wide, for the tuck lines and spaced 1/8 inch apart. Draw the first tuck line approximately 2 inches from the paper's edge. This will allow room to cut on the fold (the actual allowance will depend on the number of tucks and the style of a particular design).

Pattern Plot and Manipulation
- Trace pattern and draw fold line.
- Cut front pattern and separate patterns.
- Draw line 3/8 inch or trace sawtooth line 1/4 inch apart from front pattern lines. Draw additional parallel lines spaced 1/8 inch apart.

Figure 3 and 4
- Fold paper along fold guidelines.
- Cut and unfold. Fold paper and trace for other side. Figure 3B shows the completed bib.

Figure 2
- Pin back rows of tucks.
Contouring: Principle #3

Contour Designs

Contour Designs follow the contour of the body rather than bringing the lines across around the bust and shoulder blades. Contour designs include the areas where the body contours under the bust, coincides the area (contouring over, under, and along the bust), and other contours and necklines contouring around the bust. To avoid fitting problems, patterns developed for contour designs are based on Principle #3. Contouring and its counterparts, fitting patterns rather than adjustments, are made to compensate for the differences between the body and the bust. The following information deals with the individual contours to correct common fitting problems through the use of the appropriate Contour Guide Patterns.
**INTRODUCTION**

Section 1.3.1 and 2.1 classifications: those that exist on the front and those that do not. Sections directed to this diagram are those existing on the front, replacing the front with line numbers. The points of the pattern are those existing on the front. The garment can be manipulated, as discussed in the section for Principle 1.3.1. Pattern manipulation is not shown in this section, but it is shown on the page. The pattern manipulation is shown on the pattern manipulation page. The points on the pattern manipulation page are shown at the bottom of the pattern manipulation page.

**CLASSIC PRINCESS STYLELINE**

The classic princess line is characteristic of a style line that exists on the front and back, and the line that exists on the front is shown in the illustration. The classic princess line is shown on the front of the pattern manipulation page. The classic princess line is shown on the pattern manipulation page. The classic princess line is shown on the pattern manipulation page. The classic princess line is shown on the pattern manipulation page. The classic princess line is shown on the pattern manipulation page. The classic princess line is shown on the pattern manipulation page.

**Design Analysis**

The classic princess line is characteristic of a style line that exists on the front and back, and the line that exists on the front is shown in the illustration. The classic princess line is shown on the front of the pattern manipulation page. The classic princess line is shown on the pattern manipulation page. The classic princess line is shown on the pattern manipulation page. The classic princess line is shown on the pattern manipulation page. The classic princess line is shown on the pattern manipulation page. The classic princess line is shown on the pattern manipulation page.

**Pattern Fitting and Manipulation**

**Figure 1: Front Fitting**

1. Trace front of pattern on paper.
2. Draw style line from shoulder to center front point.
3. Draw line from center front point to bust point.
4. Draw line from bust point to waist point.
5. Draw line from waist point to hem point.

**Figure 2: Back Fitting**

1. Trace back of pattern on paper.
2. Draw style line from shoulder to center back point.
3. Draw line from center back point to bust point.
4. Draw line from bust point to waist point.
5. Draw line from waist point to hem point.

**Figure 3: Side Fitting**

1. Trace side of pattern on paper.
2. Draw style line from shoulder to side seam point.
3. Draw line from side seam point to bust point.
4. Draw line from bust point to waist point.
5. Draw line from waist point to hem point.
**Classic Princess Stylene Variations**

The following designs are based on the classic princess. Germinate patterns for these designs or create other variations for practice. Use the classic princess if you are an advanced student, or develop the design from the basic pattern. In no other design style does the pattern exactly reflect the design. The finished pattern shapes should result in perfect interpretations of each design. If they do not, locate the mistakes and try again.
ARMHOLE PRINCESS STYLELINE

Pattern Plot and Manipulation

Figure 6 Root
- Trace and cut pattern.
- Draw line from side and side dart points to bust.
- Connect ¼ inch from side point. Label X.
- Draw a straight line from bust point to end armhole. (Position can vary along armhole.)
- Short 1½ in. at end point of armhole.
- Draw curved line from side armhole to bust point.
- Extend dart leg from waist to bust point.
- Center mark 2 inches above and below bust point for new center darts.

Design Analysis

The armhole princess design is a variation of the classic princess and features a styleline that curves from the bust point to front and the shoulder blades' back to center armhole. The design is developed from a two-dart pattern with the dart transitions to armhole as a curved dart eliminated.

Figure 4 Back
- Trace and cut pattern. Transfer the shoulder dart across to end armhole. It will be absorbed in the princess.
- Draw a line 3 inches up from dart point of waist dart and extend dart for more.
- Repeat styleline instructions placing guideline from center to end armhole.

Figure 3 Front
- Cut and separate pattern along styleline.
- Draw the armholes from waist and ending at armhole. If needed, add seam allowance to armhole. Flip both sides separately.

Figure 5 Back
- Cut and separate pattern along styleline.
- To remove dart, transfer dart and symbol. Draw the dart's length and width along styleline of back panel. Transfer dart and trim excess from pattern.
Amphole Princess Styleline Variations

The princess designs are based on the amphole princess design. Design 1 has even set-in variations. The darts pattern shape should result in perfect application of each design. If they do not, locate the problem and fix it. When plotting the pattern, remember that lines are drawn on the sewing pattern exactly as they appear on the design. Deciding the design center using the two-dart pattern. Additional features may want to see the amphole princess pattern.

Panel Styleline

The panel styleline is not a Dart equivalent because it does not pass through the bust points. The existing darts control the gathering.

Pattern Plot and Manipulation

- Trace front and back waistline patterns and all markings.
- Trace front and back patterns.
- Draw darts lines below point.
- Mark and assemble patterns.
- Draw panel sections from front and mid 1/2 back from front and back waistlines.
- Draw a curved line on the patterns.

Design Analysis

The panel waistline extends from the waist to mid-thigh of the front and back below without passing through bust points. A dart will direct the panel styleline. The panel styleline can be varied to create other designs.
Panel Styleline Variations

The practice designs are based on the panel pattern. Generate patterns for the designs or create other variations using the basic pattern. Advanced pattern construction may use the panel pattern to develop the design. When placing, draw guidelines exactly as they appear on the design. The finished pattern pieces should result in perfect representation of cut lines. If they do not, trace the pattern and try again.

1. Design 1
2. Design 2
3. Design 3
4. Design 4

- To eliminate the side seam, place the front and back panels together and tape.
- Extend the guideline through the center of the panels.
- Mark notches at waist and on ribs.
- Complete pattern to fit.
Chapter 7

Added Fullness (Principle #2)

ADDED FULLNESS: PRINCIPLE #2

Principle: To increase fullness in a garment to an amount greater than the instruction provides, the length and/or width within the pattern/fabric must be increased by adding and spreading where fullness is needed. Carefully adding to the outside of the pattern/fabric increases the amount of fabric in a garment and can change the proportions.

Three Types of Added Fullness

1. Equal fullness: Opposite sides of a pattern are spread equally, increasing fullness to top and bottom.

   - One-sided fullness: One side of the pattern is spread to increase fullness, forming a straight line at the top and bottom.

   - Unequal fullness: One side of the pattern is spread over the other, forming an arc shape at the top and bottom.

   Compare the differences between the design and the basic pattern when adding fullness.
Identifying Added Fullness

Fullness from the neck line is always added to the bust. Therefore designs can be identified as having added fullness if fullness passes through the length of the body of the pattern. Figure 1, when fullness is closed, gives the line from the bust (figure 2) and where the pattern extends beyond the outline of the figure (figure 4). Fullness may appear in the form of patterns, places, shape, ends, flows, fullness at the horizontal or vertical, or at an angle, and can be developed in equal or unequal sections in lines, boxes, and others.

The amount must be put on at the same time when fullness is increased.

Added fullness may be continued with parts that are part of the same pattern, indicating Principle 4 (example of this will be demonstrated in the next section). The pattern maker determines the type of fullness added in this way the design is evolved. When the patternmaker is unsure of the designer's intent, it is best to ask before developing the pattern.

Method for Rotating the Pattern

For Added Fullness

Add fullness to the side of the straight line design, follow the pattern in the direction the pattern appears, or the design (horizontally, vertically, or on an angle). When preparing the pattern, the beginning and end of each design line depend on where the fullness begins and ends on the design. The line often is often absorbed into the added fullness.

Formulas for Adding Fullness

To determine the amount of added fullness desired, give consideration to the fabric type, the weight, and the width. Fabrics in fullness or design, the examples (true weight more fullness than bulky, closely woven fabrics). Using a thickness in an example, added fullness may equal:

- The triangle chart shows the measurements (10" + 17"
  + 35")
- Two times the measurement (26" + 26" = 52")
- Two and one third times the measurement (26" + 26" = 39")

To help the eye in considering different amounts of fullness, the example, using thick lines as equal weight, follow the formula for each example. The weight of each example should be followed and compared to the examples for use when determining fullness.
Fullness at a Semi-Mine Above Bust

Design Analysis
A dart pleat line above the bust of Design 2 constrains gathers that go at an angle from the bust. The added fullness is indicated. Designs 1 and 3 are given for practice.

Pattern Notation and Manipulation

- Figure 1
  - Draw front bodice.
  - Square from center front to mid-bust line.
  - Square a small triangle at dot point. Label A.
  - Draw slash lines in the direction fullness falls and cut pattern from paper.

- Figure 2 (Added Fullness and Gather Section)
  - Cut from mid-ankle to point B, and from bust point to point C, separating pattern.
  - Draw waist seam, overlapping dart point 3/4 inch. Fullness created by the gathered seam to bust is incorporated for any less of measurement due to overlap.
  - Cut remaining dart lines, not through waist. Place on paper and spread each side 1/4 inch.
  - Rear pattern’s outline and blend.
  - Front patternline and complete for most fitting based on tech pattern.

Added Fullness to a Dart Leg

Design Analysis: Design 1
- Analyze the design and notes for the patterns.

Pattern Notation and Manipulation
- Figure 3
  - Remove dart excess from shoulder.
  - Place front and back design as indicated.
  - Tack excess from shoulder.

- Figure 4
  - Cut slash lines 0.5 inch, not through waist.
  - Spread 2.5 mm toward and blend.
Gathers on a Style Dart

Design 1

- Draw front pattern and reduce curved dart leg 3 inches from bust point.
- Draw a line from center bust 1 3/4 inches up from bust level that equals bust span.
- From this point draw a curved dart leg to bust point, and to the shoulders 1 3/4 inches from neck.
- Extend to outside 1 1/4 inches and draw curves that follow through mid-shoulder to the neckline.
- Piece dart lines and trim shaded area of the neckline.

Design 2

- Cut or draw a line that passes through the dart, then cut off the neckline. Blend curve at the bottom of the pattern.
- Cut dart lines, not through shoulders.
- Spread dart lines to match dart:

Pattern Plot and Manipulation

Figure 1

- Draw back pattern. Draw and trim the neckline. Extend shoulder 1 1/4 inches.
- Complete the pattern for a test fit.

Design Analysis: Design 1

The bust point is 3 inches from the original location. The gathers are directed away from the bust and shaded. Design 2 is for greater fullness.
Added Fullness Design Variations

The practice designs are based on added fullness. Develop patterns for each design, or design other variations for practice. Which design requires an add-on for fullness? The finished garment should look like the design. If it does not, locate the problem and try again.

Pattern development for Design 3 may be viewed on the DVD, for page and design numbers.

BLOUSON FOUNDATION

A blouson is a flopped-hem garment with an overhang anywhere from below the bust to the ankle. The blouson is controlled (held in place) by one of the following methods:

- Elastic cut shorter than the finished length of the outer pan (Design 3).
- Belt or elastic to waist (Design 1).
- Casing accommodates elastic or drawstring within the garment’s hem.
- A band, attached below the separate blouson meaning less than hip measurement (Design 2).

The blouson foundation is developed by adding lengths and widths to the pattern within its base and at its outline. This is an application of Principle #2, combined with manipulation of the existing dart occurs (Principle #1). To determine the amount of length added to the overhang, add twice the amount desired; for example, for a 1.5-inch overhang, add 3 inches to the existing length.

Blouson Designs 1, 2, and 3 are but a few examples of this style. Design 1 illustrates modified fullness. Included is a method for increasing fullness. Designs 2 and 3 are practice designs.
Modified Blouson
Pattern Plot and Development

Figure 1 (page 2)

- Trace front and back patterns and trace.
- Measure seam 1 1/2 inches on each side from front.
- Trace line from seam to middle.
- Draw slant lines from front and back seams to create a fullness effect.
- Square seam from line to middle.

Figure 2

- Measure 1 1/2 inches on each side from front.
- Draw line from seam to middle.
- Draw slant lines from front and back seams to create a fullness effect.
- Square seam from line to middle.

Figure 3

- Cut darts using a dart towards the armhole.
- Pin and trace for finished product.
- Pin and trace for finished product.

Blouson with Increased Fullness

Pattern Plot and Manipulation

Figure 1 (page 3)

- Trace front and back patterns and trace.
- Draw line from seam to middle.
- Draw slant lines from front and back seams to create a fullness effect.
- Square seam from line to middle.

Figure 2

- Trace front and back patterns and trace.
- Draw line from seam to middle.
- Draw slant lines from front and back seams to create a fullness effect.
- Square seam from line to middle.

Figure 3

- Trace front and back patterns and trace.
- Draw line from seam to middle.
- Draw slant lines from front and back seams to create a fullness effect.
- Square seam from line to middle.

Figure 4

- Trace front and back patterns and trace.
- Draw line from seam to middle.
- Draw slant lines from front and back seams to create a fullness effect.
- Square seam from line to middle.
Yokes, Flanges, Pin Tucks, and Pleat Tucks

Yokes for Bodice

Yoke Design Variations

Yokes for Bodice

Basic Yoke—Basic and Modified

Basic Yoke with Inset Box Pleat

Basic Yoke with Attached Fabric/Ornament

Basic Yoke with Attached Fabric/Ornament

Tunic Flanges

Dress Flanges

Flange to Waist

Flange to Hip

Flange Design Extensions

Pleat Tucks and Pin Tucks

Pin Tucks

Pattern Plot and Manipulation

Trace front bodice pattern.

Square a line 2 1/2 inches down from center front neck to himboe (center)

Dark slash from bust point to yoke line parallel with center front and from side seam to bust point. Mark miter stitch, as shown.

Extend center front 1 inch for buttons and buttonholes, as shown.

Mark stitches for gather every 1 1/2 inches, off-center each side of bust line at yoke and dart tips, as needed.

Design Analysis Designs 1 and 2

The yoke designs include a front yoke (Design 1). The back (Design 2) features a yoke attached to an irregularly pleated and gathered waist (page 147, Figure 5, or Design 3, Figure 3).
Basic Back Yoke—Placket and Transfer

Back yokes are developed without a shoulder dart. Excise from the back dart, a triangle to the side, and add a triangle to the waist. A slight modification may be eliminated if the dart leg is increased or the waist is adjusted for a more relaxed fit. The method to develop patterns for Designs 2, 3, and 4.

Pattern Plot and Manipulation

Figure 1
- Square a line from the center back to the midline; at the point that is one-quarter of the center back length. If the BHL is on the working pattern, use this line.
- Draw a line from the dart point to the shoulder for use as the pivot point. Label A, B, C, D.

Figure 2
- Trace the pattern on paper with a pair of pins through the pivot point.
- Mark the center on the back at points A and B.
- Draw the pattern from A to dart leg C and mark dart leg (dotted lines).
- Mark pattern on paper with a pair of pins through the pivot point.
- Mark the center on the back at points A and B.
- Draw the pattern from A to dart leg C and mark dart leg (dotted lines).

Figure 3
- Mark pattern so that dart leg B touches cross-mark on paper.
- Trace remaining pattern from dart leg D to B on paper. Mark center line R and label dart leg R. Remove pattern.

Figure 4
- Error in connecting A to B. The distance between A and B represents dart across center back. To remove excess, refer to Figure 3, page 142.

Back Yoke with Inverted Box Pleat

Figure 5
- Trace back pattern from shoulder height to waist, mark pivot point and remove pattern.
- Draw parallel line from A to B.
- Measure down from B equal to B (see Figure 4).

Inverted Pleat
- Add 3 inches to the width of the back pattern.
- Mark center of pleat and pleat at center back and at 1 1/2 inches from center back, blend into pleat.
- Mark center of pleat and pleat at center back.

Pattern Plot and Manipulation

Figure 1 (Back-Yoke)
- Back lower back section, extending center back 3 to 4 inches for gathers. The excess from the satin dart (broken line) is absorbed into gathers. For this example, A to B is a straight line.
- Mark center for dent and center back.

Design Analysis: Design 3

Designs are gathered across the back yoke of Design 3. To develop pattern, refer to instructions given on page 146, Figures 2, 3, and 4.
Back Yoke with Action Pleat

Pattern Plot and Manipulation
- Shoulder seam: 2 1/2 inches from front
- Neckline: 1 1/2 inches from front
- Back neck: 4 inches
- Bicep: 4 inches from center back
- Cut back line from B to Y
- Mark notches at each dart leg

Design Analysis: Design 4
Design 4 features action pleats that are placed 2 1/2 inches from the armhole at the yoke line. To develop the pattern, refer to instructions given on page 146. Figures 1, 2, 3, and 4.

Yoke Design Variations
The yoke design variations are practice problems. The generated patterns are correct if they result in exact representations of each design.

Dart Flange

Figure 1: Dart Flange Placement
- Place the front bodice pattern, transferring dart to shoulder tip.
- Fold flange with inside fold toward center front.
- Mark notches at each dart leg, or half the width of the dart beyond the notch, where the fold ends (see dart placements).

Stitching Guide
- Stitch in seam together fold dart legs. Top stitch 1 inch from fold. 4 inches down on dart legs on right side of garment.
Flange to Waist:
The flange is developed by adding halfness (Principle 2) with the use of the dart curves.

Design Analysis: Design 2
The front and back flanges of Design 2 are connected to each other and set in the shoulder seam. The flange extends slightly beyond the shoulder tip.

Pattern Plot and Development

1. Trace front and back patterns, remembering the shoulder dart to the new armhole.
2. Mark 1 inch from front and back shoulder tips.
3. Mark 5 inches in front side waist.
4. Draw DART line from dart to new flange placement.
5. Cut patterns from paper.

Figures 3 and 4
- Cut slant line from A to B, one through it.
- Place on paper and spread A 1 inch for the 1/2 inch-wide flange (shaded area).
- Trace pattern.
- Draw a straight line across open space A.
- Mark punch and center 3 inches down from center and 1/8 inch in from stitchline for stitching guide. (Punch hole's center damage in the fabric. Punch hole placement required for the right side of the garment should be marked with chalk, eraser or pencil.)
- Deduce 1 inch at center back for buttons and buttonholes. See Chapter 16.
- Draw guidelines and complete the test fit.
Flange Inset

Design Analysis: Design 3

A flange effect is achieved by inserting a shaped section of fabric into the bodice.

Pattern Plot and Manipulation

Figures 1 and 2 show front and back patterns.

- Mark 4.125 inch from front and back dart legs at waist.
- Mark 8.125 inch at front and back shoulder tips.
- Draw waist line to connect A and B.
- Measure A to B length for front and back flange.
- Refine armhole by blending to dashed lines C.
- Mark gather control notches at front and back waist 2 inches from center line.
- Extend center back 1 inch for closure.
- Trim shaded area of armhole.

Figures 3 and 4 show cut and separate pattern parts.

Draw guidelines as shown.

Figures 5 and 6 show:

- Draw a vertical line on the paper equal to front and back flange length.
- Using B as measurement of front bodice, mark shoulder-top location (labeled B). Fold paper.
- Squint out from fold at B equal to desired flange width (example: 3 inches) and connect to flange point A using front and back A-B measurements, as shown. Mark notches for front and back.
- Complete pattern for test fit.
**Pleat Tucks and Pin Tucks**

A tuck is a stitched fold in the right side of the fabric, resembling a pleat. Tucks used as a design detail may be placed as any garment (a skirt, dress, apron, etc.), or they can be stitched to any dress lining, bodice, back, and sleeves. Tucks may be placed on a variety of patterns at various angles and spaced as desired. It is sometimes necessary for a manufacturer to have a tuck inserted at the factory to save labor time. If the tucks are to be inserted into a finished garment, instructions for inserting them should be included in the pattern instructions. The tuck can be sewn to a tuck line or individual pattern piece, or it can be inserted at the factory. To insert tucks into a garment, follow the general instructions that follow. For instructions on inserting tucks into a finished garment, see Chapter 16.

**Pleat Tucks**

**Design 1**

**Pattern Plot and Manipulation**

The method shown for developing tucks does not involve cutting and spreading the pattern. The pattern is plotted on the tuck location as a guide for marking the pattern paper or fabric. It is then established for the required tucks and tuck line.

- **Figure 1 Pleat Tuck Instructions**
  - Draw a line for the extension 3/4 inch from the center front.
  - Draw the tuck guide line 3/4 inch from center front.
  - Draw the second guide line 1 inch from the first line.

**Design Analysis: Design 1**

- Draw a line for the extension 3/4 inch from the center front.
- Draw the tuck guide line 3/4 inch from center front.
- Draw the second guide line 1 inch from the first line.
Pin Tucks

Figure 1
- Fold the pattern on paper right side up.
- Mark the pattern on paper aligning pin and guidelines.
- Trace the pattern.

Figure 2
- Draw four sets of parallel lines, .5 inch wide, for the back middle and spaced 1.4 inch apart.
- Draw the first back line approximately 3 inches from the pattern's edge. This will allow room to cut on the fold (actual allowance will depend on the number of tucks and the size of a particular design).

Pattern Ref and Manipulation
- Figure 3
- Cut and sew the tucks: fold paper on the back line and trace (Figure 3)
- Cut and fold the tucks on the back line and trace (Figure 3)
- Pin tucks

Figure 4
- Fold the tucks on the back line and trace (Figure 3)
- Pin tucks

Design Analysis: Design 2
Design 2 features pin tucks in a rib motif. Pin tucks are placed with space between them.

Figure 5
- Mark the tucks with pins and stitch through lines.
- Fold the tucks and press with steam by slip stitching through lines.

Figure 6
- Pin tucks

Figure 7
- Pin tucks
Contouring: Principle #3

Principle: To fit the contours at the upper torso closer than does the basic garment, the pattern must be reduced, added, and altered to fit the contours at the bust, waist, and hip areas. The contouring pattern must be altered to fit the contours above the bust, waist, and hip areas.

Contour Designs
Contour designs follow the contours of the body, rather than bridging the bust and hip areas around the bust and hip areas. Contour designs include the bust, waist, and hip areas (contouring above the bust, waist, and hip areas), and the contour of the garment above the bust, waist, and hip areas. To avoid fitting problems, patterns developed for contour designs are based on Principle #3, Contouring, and are adjusted to fit the contours at the bust, waist, and hip areas.

Corollary: To fit the contours at the upper torso closer than does the basic garment, the outline of the pattern is removed from the bust, waist, and hip areas, and the basic garment is altered to fit the contours at the bust, waist, and hip areas.
THE CONTOUR GUIDE PATTERNS

The Contour Guide Patterns are tools that help the patternmaker solve contour fitting problems by ensuring they are incorporated into the design. The patterns are charted with guidelines that indicate the amount of ease to be included in the design, as well as fitting the garment in the correct proportion. The patterns are charted with design types and adjust the measurements between the figure and the sewing pattern. The guide patterns are illustrated on the pages below and opposite the text. The boundary is charted for design cutting layout methods and for drafting garments. Illustrated are the front and back Contour Guide Patterns after the guide lines have been charted. The development and use of these patterns are illustrated in the projects that follow.

Preparing the Contour Guide Patterns

Measurements Needed

- (Optional)

Cut out the pattern pieces, and fold as needed.

See Chapter 3 for measurements, if needed.

Figure 1 and 2

- Trace the front and back patterns, including all markings.
- Place pattern at seam point and draw acircle using the seam allowance measurement.
- Draw a circle at the neck and between the figure and the back pattern.
- Punch a hole (with the aid) for place insertion when transforming the circle to a thread pattern.

Figure 3 and 4

- Trace the front and back patterns, including all markings.
- Place pattern at seam point and draw acircle using the seam allowance measurement.
- Draw a circle at the neck and between the figure and the back pattern.
- Punch a hole (with the aid) for place insertion when transforming the circle to a thread pattern.

Figure 5 and 6

- Trace the front and back patterns, including all markings.
- Place pattern at seam point and draw acircle using the seam allowance measurement.
- Draw a circle at the neck and between the figure and the back pattern.
- Punch a hole (with the aid) for place insertion when transforming the circle to a thread pattern.

Figure 7 and 8

- Trace the front and back patterns, including all markings.
- Place pattern at seam point and draw acircle using the seam allowance measurement.
- Draw a circle at the neck and between the figure and the back pattern.
- Punch a hole (with the aid) for place insertion when transforming the circle to a thread pattern.

Figure 9 and 10

- Trace the front and back patterns, including all markings.
- Place pattern at seam point and draw acircle using the seam allowance measurement.
- Draw a circle at the neck and between the figure and the back pattern.
- Punch a hole (with the aid) for place insertion when transforming the circle to a thread pattern.

Figure 11 and 12

- Trace the front and back patterns, including all markings.
- Place pattern at seam point and draw acircle using the seam allowance measurement.
- Draw a circle at the neck and between the figure and the back pattern.
- Punch a hole (with the aid) for place insertion when transforming the circle to a thread pattern.
Measure the Depth of the Hollow Areas and Chart the Patterns

Patternmakers should use the standard measurement given of the front, back or any other section between the bust and waist. Otherwise, memory the base of the pattern.

- Use the same outline measurement to pin mark above and below the bust at a point where the measurement of the hollow areas.
- Use two measurements for the pattern making. One outline is used to bridge the hollow area and another to center it. The other outline is used to determine the depth. The measurement includes the amount of ease required for movement that can be removed from the pattern or not.
- Center when measuring a pattern, not on the body. A pattern can only be cut on the body by its own measurement.

Guideline 2—Cutout Armholes

The armhole is eliminated for a symmetrical design. Use the following method.

Form
- Draw the outline from the armhole to the center of the pattern.
- Mark measurement of the circumference line and connect to neck and bust line.

Standard Measurement = 1/2"
Guideline 6—Contour Between the Busts

This approach is used to control damage between the busts when the bust area is too high.

Form:
- Place the ruler across bust points.
- The bust line measures depth at the center front between the busts.

Pattern:
- Straighten bust line from center front to the bust points.
- Mark the measurement on each side of the square the bust point.
Standard Measurement = 3/4" (1/8" each side)

Guideline 6—Shapeless Designs

Points without busts are eliminated for shapeless designs and those with busts with narrow hips.

Pattern:
To simplify, the previous guidelines are combined into guidelines 7, 2, and 3.
- Draw bust line from bust point and shoulder (previous line).
- Add 3/4" at bust point for softness and comfort.
- Subtract 1 1/2" to adjust the thickness of the intercostal area.
- Extend bust line to bust point.

Shoulder Slope and Side Ease

Eliminate unneeded fabric at the shoulder area for curve neck or shoulderless. Measure side seam ease for shaped and box tops.

Form:
- Plot point on the back shoulder from shoulder to shoulder tip.
- With the center point, measure depth at mid-deckline.

Pattern:
- Mark depth measurement at mid-deckline and connect to shoulder and shoulder tip.
Standard Measurement = 1 1/8"/inch
- Mark the same for the neck as well as the back.
Standard Measurement = 1 1/2"/inch

Guideline 7—Back

Eliminate unneeded ease for shaped and straight necklines.

Pattern:
- Mark a point on the neck that is in line with the bust point of the curve back.
- Draw guideline 2 from the collar point to the neckline.
- Measure and reduce ease as needed for the front bodice.
How to Use the Contour Guide Patterns

The Contour Guide Patterns should be used for all designs that require the figure to be draped or gathered. The patterns come in more than one style, and they can be adjusted to fit the individual. The Contour Guide Patterns are designed to help with draping and gathering, and they provide guidelines for shaping the garment.

Design 1: This design features a straight skirt with a fitted waist. The waistline is drawn at the natural waist, and the skirt is gathered at the front. The back is pleated, and the sides are darted.

Design 2: This design features a fitted bodice with a flared skirt. The bodice has princess seams, and the skirt is gathered at the back. The sides are darted, and the back is pleated.

Figure 1: A line is drawn from the waistline to the hip, and a curve is drawn from the hip to the knee. A line is drawn from the knee to the ankle, and a curve is drawn from the ankle to the floor. This line is then repeated on the other side.

Procedure for Pattern Fitting Using the Contour Guide Patterns

1. Mark the body measurements:
   - Back: Width at the shoulders, back length, and center back.
   - Front: Width at the shoulders, front length, and center front.

2. Transfer the pattern pieces to the fabric:
   - Front and back panels are cut on the fold.
   - Collar and cuffs are cut on the grain.
   - Hem and shoulder seams are cut on the bias.

3. Pin the pattern pieces onto the fabric:
   - Pin the pattern pieces onto the fabric, making sure they are aligned with the body measurements.
   - Pin the pattern pieces together to ensure they fit properly.

4. Trace the pattern pieces onto the fabric:
   - Use a tracing wheel or a fabric marker to trace the pattern pieces onto the fabric.
   - Trace the pattern pieces onto the fabric, making sure they are aligned with the body measurements.

5. Cut the fabric:
   - Cut the fabric along the traced lines.
   - Cut the fabric along the traced lines, making sure they are aligned with the body measurements.

6. Sew the pattern pieces together:
   - Sew the pattern pieces together, starting with the back and then the front.
   - Sew the pattern pieces together, starting with the back, then the front, and then the sleeves.

7. Hem the garment:
   - Hem the garment, making sure it is even and straight.
   - Hem the garment, making sure it is even and straight, and then add the finishing touches.

8. Try on the garment:
   - Try on the garment, making sure it fits comfortably.
   - Try on the garment, making sure it fits comfortably, and then add the finishing touches.

9. Adjust the pattern:
   - Adjust the pattern, making sure it fits comfortably.
   - Adjust the pattern, making sure it fits comfortably, and then add the finishing touches.

Transferring Excess of the Systeme

- The contour guidelines of Design 1, 2, and 3 are drawn as separate lines. The skirt is drawn as a separate line, and the bodice is drawn as a separate line. The guidelines are repeated on the back and front of the garment.

- The guidelines are repeated on the back and front of the garment, and the guidelines are repeated on the back and front of the garment. The guidelines are repeated on the back and front of the garment.
The Classic Empire

The Classic Empire is a popular style based on many types of garments. It is distinguished by a style line crossing under the bust, separating the pattern into two parts. The lower section is called the skirt. To emphasize the contour of the bust, the side darts are sewn to the bodice and control the fit of the upper garment. The empire style line may or may not continue to the front, back or sides. It is often used in many different directions after coming under the bust.

Design Analysis

The mullion style of the Classic Empire covers and contours the bust. The style line slopes gently downward to the center back. The garment fits close to the figure than does the basic pattern. Darts are patterned and controlled by the mullion under the bust.

Pattern Plot and Manipulation

Use the Contour Guide Patterns or follow the patterns given.

1. Trace patterns side by side and mark guidelines. The bust should be x x x .

Design 1
Design 2
Design 3

Draw the bust circumference. Remove patterns and place guide lines.

Square a line from the center bust touching the dart leg on the bust. Fold A to B.

Side seam measures 1/4" to 3/8" less than A to B. Mark. Measure 3/4" to 3/8" less than A to B. Mark and square a front line.

Draw a curved style line from the dart leg to center back, bending with the square line.

Contour the bust dart and trim the broken line area.

Trim the broken line area of the back dart to style line only.

Separate patterns at the side seam and cut through empire style line.
**SURPLICE (OR WRAP) DESIGNS**

Surplise designs have right and left sides that cross over each other. The underneath section of a lapped side can be the same pattern shape, or the innermost side can be controlled by a dart. The wrap section may be designed as grommets, hooks, or other. The style requires a full pattern and special instructions in wrap skits. Design I has a centered lap type section. Design 2 is for practice. See Chapter 13 for built-up necklines.

**Pattern Fit and Manipulation**

Use the Common Gauge Patterns or follow the plot and measurements given.

**Figure 1**
- Trace the front pattern on fold.
- Transfer guideline line from left side 1 inch and 1/2 inches from shoulder and side seam guides.
- Remove the pattern and connect guideline.
- Cut pattern from paper and omit.
- Mark 1 1/2 inches from shoulder tip and down 1/4 inch.
- Mark B 2 inches down from side waist.
- Draw a curved line from A to B, reaching dart point on the right side.
- Draw a dash to end and continue from bust point.
- Cut from paper and grain shaded areas.

**Figure 2**
- Trace back pattern and transfer shoulder and side seam guides.
- Mark C 1 1/2 inches from shoulder tip and down 1/4 inch to eliminate shoulder dart edges.
- Mark D 1 1/2 inches down from center back neck line and draw a curved line to C.
- Draw 1 inch curve back extension.
- Cut pattern from paper and grain shaded area.
OFF-SHOULDER DESIGNS

Gathered Shoulder
Design Analysis Designs 1 and 2
Design 1 has a gathered shoulder, with the entire side of the design fitted nearly to armhole. Part of the dart excess is gathered, the remaining excess is made dart control. Design 2 is the opposite. Designs offer variations for an additional challenge.

Pattern Plot and Manipulation
Use the Common Guide Pattern or follow pivot and construction steps.

Figure 1
- Trace front pattern on fold. With a push pin, transfer guideline 6. Include the side seam and shoulder gusset. Transfer pattern.
- Cut pattern from paper. Unfold.
- Connect guidelines, marking guideline 6 on remaining side of the pattern only.
- Mark X 2 inches from shoulder tip and down 1/4 inch.
- Mark Y and Z 1 inch below armscye or side seam guidelines.
- Draw lines from X to Z.
- Blend armholes to point Y.
- Draw lines from lower back points to shoulders.
- Cut pattern from paper.
HALTERS

Halters are designed with bare shoulders and are created by cutting the armhole deeply into the shoulder line. In Design 1, the halter cut is extended far to around the neck. The back is low cut. Design 5 is illustrated and Design 2 is a practice problem.

V-Neck Halter

Pattern Plot and Manipulation

For the correct guide patterns or follow the plot and measurements given:

Figure 1

- Trace front pattern. With a pencil pin, transfer guidelines 2, 8, 11 (modified by 6) and 5 (include side seam guide). Remove pattern. Connect guidelines.

Back

- Mark neck A and connect to guideline 5 at bust level.
- Mark B 1 1/2 inches from point A.
- Draw an 6-inch line up from point A. Parallel with the center front line.
- Square and connect to B.
- Draw an inward-curved line from point B ending 1/2 inch below armhole on side seam guide.
- Cut pattern from paper.

Figure 2

- Mark guidelines 2 and 5 to not through the bust point. Overlap, tape, trace, and hem.
- Trace the guidelines.
- To develop the low back, see instructions in Chapter 19, page 417.

Figure 3

- Trace guidelines 2 and 5 to not through the bust point. Overlap, tape, trace, and hem.
- Trace the guidelines.
INTRODUCTION

A collar encircles the neck and forms the base, offering great opportunities for design variations. Collars may be developed close to or away from the neckline. They may be wide, narrow, flat, or high and full or without an attached band. The collar edge may be styled to follow a basic shape—tie it may be neat, rounded, scalloped, squared, or permitted to be loose in any direction.

The shape of a collar design should complement and enhance the style and purpose of the garment. Collar styles such as stand and lapel collars will be discussed in Chapter 28 with jackets and coats. Tucks are in Chapter 24.

COLLAR TERMS

Neckline edge: The side of the collar that is stitched to the neck line of the garment.
Collar stand: The height of which the collar sits over jacket.
Roll line: The line shows at the collar stand.
**COLLAR STAND AND ROLL TYPES**

The roll line of the three collars illustrated in figures 1, 2, and 3 indicates where the height of the stand begins and the roll line begins.

![Collar Illustrations](Image)

**COLLAR CLASSIFICATIONS**

Regardless of the collar design, the neckline edge generally has one of two basic shapes:

1. Contrary to the neckline shape of the form or garment, this type of collar will spring open when unstitched—convertible (figures 4 and 5).
2. Cadyly follows the shape of the neckline of the form or garment. This type of collar will stay in place when unstitched—nonconvertible (figure 6).—the Point Pot collar.

![Collar Diagrams](Image)

**BASIC SHIRT COLLAR FOUNDATION**

The basic point collar may be worn open or closed. The center of the collar is 1 inch to the center back, and its width varies from 2 to 2 1/2 inches. It can be developed with a stripe along the collar edge or marked and cut in either a one-piece or two-part version back and collar. The guideline may be straight, curved, or have depression for design effects desired when cut into stripe, check, or paisley. The basic collar can be a base for other designs.

**Measurements Needed**

<table>
<thead>
<tr>
<th>Center back neck</th>
<th>Center front neck</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

![Collar Diagram](Image)

**Figure 1**

- Square a line in the center of the paper. Mark and label the following locations:
  - A to B = 3 inches collar width
  - B to C = Total neck measurement. Label C
  - C to D = Center back to shoulder. Mark for notch.

![Collar Diagram](Image)

**Figure 2**

- Draw a line up from C.
- Mark E 1 1/2 inches from C.
- Draw a curved line from E. Blend with D.
- Square a line from A. Join 3 inches or more from guideline C. Label F.
- Draw a line from F to E.
- Draw again and cut the collar from the paper.

**Straight Collar**

- Develop a straight collar using instructions given in Figures 1 and 2, except that the neckline edge is straight. The collar's width may be increased to 3 or 4 inches.

![Collar Diagram](Image)
Folded Basic Collar

Figure 1
- Fold paper lengthwise.
- Squeeze a guideline down from fold in the center of paper.

Figure 2
- Unfold the paper. Fold the collar and paper on the guideline.
- Trace the collar. (Completed collar is shown.)
- Cut from paper notch, close guidelines.

Collar Variations

Figure 3
- Collar design carry-over from back collar. Cut to center back and blend approximately in line with the shoulder notches.
**Fit Problems of the Collar**

- **Figure 1:**
  - Position: Collar height is above the shank line at the back neck.
  - Adjustment: lower the collar edge.
  - Guide: place the collar edge between the shoulder and the center back on the neckline.

- **Figure 2:**
  - Lower the collar to 1/2 inch below the shank line at the center back.
  - Guide: move the shoulder area and remove the excess.

**Pattern Construction**

- **Figure 3:**
  - Cut three slash lines from shoulder to center back.
  - Spread in equal measured spaces. Trace and cut pattern.
  - Test fit.

- **Figure 4:**
  - Annotate: collar falls loosely around the garment.
  - Solution: decrease the collar edge.
  - Cut three slash lines to the neckline between the shoulder and the center.

- **Figure 5:**
  - Overlap the slashed parts to take up the excess.
  - Remove collar from the garment.

**Pattern Construction**

- **Figure 6:**
  - Slash pattern, overlap equal amounts, and tape.
  - Trace and cut the pattern.
  - Test fit.

---

**PETER PAN COLLARS**

The Peter Pan collar introduces the principle of the full neck, partial collar, and the collarless. Apply this principle to all collar designs that stay in place when unbuttoned.

**Principle**

The neckline edge of non-collared collars is similar in shape to the curve of the person's neck. The lower its decolletage, the lower is the stand of the collar; the lower similarly, the higher is the stand.

**Relationship of the Collar's Stand, Width, and Neckline**

The height of a collar stand is controlled by the amount of overlap at the shoulder tips of the front and back patterns. This overlapping technique is called the 2 to 1 ratio and is illustrated as the development of the Peter Pan Collars.

- **Figure 7:**
  - Compare the neckline edge of each collar to that of the basic neckline. Compare the width of each collar to the height of the collar stand.

- **Appendix:**
  - Height: 2 to 1
  - Width: 1/4 to 1/2
  - Length: 1/4 to 1/3

**Three Basic Peter Pan Collars**

Three types of Peter Pan collars are based on the length of the collar stand and the collar width. The front part of a collar can be designed to any length or width but must blend with the back collar at the collarline.

- **Figure 1:**
  - Band (full length)

- **Figure 2:**
  - Band (partial)

- **Figure 3:**
  - Band (short length)
Peter Pan with 1/2-Inch Stand
(Part-Roll)

Pattern Plot and Manipulation

Figure 1
• Trace the back pattern, place the front pattern on top of it, leaving the neckline and overlapping the shoulder tip 4 inches.
• Trace the neckline and part of the center line.
• A point will appear at shoulder neck.

Figure 2
• Extend the center back neck 1/8 inch. Draw the neckline through the point ending 1 1/8 inches below center front.
• Draw a style collar parallel with the neckline.
• Cut the collar from the paper.
• Mark notches at shoulder neck and waist.
• Cut the collar on the fold and trace it on the neckline of the garment. Add an extra 1/8 inch beyond the collar point.

Figure 3
• Trace the collar on the fold. Remove the pattern.
• Mark center back notches.
• Cut the collar from paper.

Figure 4
Complete the Collar
• Complete the collar as illustrated.

Peter Pan with Full Roll

Pattern Plot and Manipulation

Figure 1
• Trace the back pattern, place the front pattern on top of it, leaving the neckline and overlapping the shoulder tip 2 inches.
• Trace the neckline and part of the center line.

Figure 2
• Complete the collar as illustrated.
SAILOR COLLAR

The sailor collar was inspired by the sailor's uniforms and is based on variations of the crew collar style.

Basic Sailor Collar

Design 1

Figure 1

Design Analysis Design 1

Design 1 features a sailor collar that is squared off back and ends at a V-neckline in front. The best indicator for the pattern development of design with an extension for button and buttonhole, see page 190, Figure 4.

Pattern Plot and Manipulation

Figure 3

- With front and back neck facing, overlap shoulder tips 1/8 inch.
- Trace center front, center back, and neckline. Be sure garment
- A to B is the depth of the V-neck.
- Sewing collar as illustrated.
- Square a line from center back to shoulder, and from the shoulder, connect with B. Blend shoulders and.
- Cut collar from paper.

Figure 2

Completing Collar

- Trace collar on fabric. Cut from paper and unbold.
- Sew pintucks (front first = undercollar). If the center front is cut on bias, the collar at center back should be split and seams added.

Figure 4

Sailor with Extension

Figure 4

- Repeat instructions for design 1 with the following exceptions:
- Draw a parallel line 1 1/2 inch from center front. Draw a line from shoulder neck part B to the extension to complete the collar.
- Mark buttonhole placement. (See Chapter 16.)

Figure 3

- Complete Basic on Ford
- Establish sailor neckline on bodice.
- Cut from paper (Do not illustrated)
- Trace center back, draw extension mark buttonhole placement. (See Chapter 16.)
Pattern Flat and Manipulation

Figure 1: Collar
- Develop the neckline from A, B, C, to D. Insert inner collar at angle lines.
- Extend collar 2 inches past B line.
- Square a line from F and up to shoulder. Continue the line to the length of the tie 2 inches from B.
- Shape the tie ends.
- Cut four paper tie wedge sections from inner.

Design 2
- Place neckseam on fold with 1 inch seam allowance.
- Cut a V-shaped excess from the front and back at the shoulder line. Cut on fold and add 1/4 inch seam.

Figure 3: Tie Ring
- Draw a 2-inch square.
- A tie ring can be attached to garment underneath the tie. Pull through ring.

Collars with Deep, Open Necklines

Design Analysis: Designs 1 and 2

Design 1: Illustrates collar on open neck. In Design 1, the collar sits a flat collar, under the neck, at the neck. In Design 2, the collar sits with a 1/2-inch seam allowance cut on fold.

Collar for U-Neck
Figure 1
- Trace front and back patterns together or, the paper, matching shoulder at neck.
- Overlap shoulder tips 1 1/2 inches.
- Develop collar as illustrated.
- Cut collar from front.
- To complete collar, use front and back sections.
- Trace collar and modify for necklines. See page 187, Figure 2.

Collar for Stylish Neckline
Figure 2
- Before overlapping shoulder, cut neckline on front and back body pattern using measurements given. Trim away unwanted areas.
- Place front and back patterns on paper, matching shoulder at neck. Overlap shoulder tips 2 inches and trace front and back, and center front.
- Remove pattern.
- Develop collar as illustrated.
- Cut collar from paper.
- To complete the pattern, use the front and back patterns with trimmed neckline.
- Trace the collar and modify for the unaltered base. See page 187, Figure 2.
MANDARIN COLLAR

A Mandarin collar is a low-cut, standing collar. It is often found on oriental-inspired fashion, and it can be a stylish and elegant addition to any outfit. The collar is made at the center front, and the back is usually longer than the front. The Mandarin collar is a great option for dresses, jackets, and other clothing items.

### Basic Mandarin—Design 1

#### Measurements Needed

- Center back neck
- Center front neck
- Total

#### Pattern Plot and Manipulation

**Figure 1**
- A line at the center of the paper equal to the following measurements:
  - A - B = 1 1/2 inches (center back)
  - B - C = 1 1/2 inches (center front)
  - B - D = Center back to desired measurement
- Mark for shoulder notch

**Figure 2**
- Square up 1 1/2 inches from C. Mark and label D.
- Draw a curved line from E to D, completing the neckline edge of collar.
- Square a 1 1/2-inch line at right angles to E, D, and label E.
- Draw a line from A to E parallel with B-D-E line.

**Figure 3**
- Cut collar from pattern paper.
- To complete the patterns, trace on fold. Draw guidelines and notch center back.
- Complete the pattern and trace to make a duplicate copy for the collar facing.

### Mandarin Collar Variations

The following examples are variations of the Mandarin foundation. Trace the pattern and modify as illustrated:

#### Canton Collar (Design 1)
- Draw curves as shown.

#### Empire Collar (Design 2)
- Extend line 1 1/2 inches at center front.
- Bend to collar band as shown.

#### Wing Collar (Design 3)
- Extend line 1 1/2 inches at center front.
- Bend to collar band as shown.
**COLLAR WITH STAND**

**Design Analysis**

A collar is attached to the top edge of a neckline. The collar is not the same for the basic and other styles. The collar is made in a similar manner to the neckline. To develop the neckline, see pages 192 and 193. The pattern for Design 3 is illustrated.

**Pattern Plot and Manipulation**

- Base neckline on.
- Square-out 2 cm extension above A and B. Connect.
- Draw curved line.
- Mark bottom edge as shown.

**Figure 1**

- Cut straight lines at right angles to the collar's upper edge.
- Place center back on fold. Spread sections 1/2 inch. Trace repeating allowing collar to lie on garment without overlapping. Cut on curve back.

- Cut from paper.

**Figure 2**

- Join straight line indicates part of the collar that is needed.
- Draw the collar using measurements given.
- Match the mid-point of the upper edge of the collar.

**Figure 3**

- Draw slosh lines.
- Cut from paper.

**WIDE COLLAR AND STAND**

Designs featuring wide collars are used either below the basic neckline, or illustrated, or stand away from the basic neckline. Both collar and stand are based on the horizontal or collar principle.

**Pattern Plot and Manipulation**

- With the front and back neck touching, overlap shoulders 1/2 inches.
- Trace center back, center front, and neckline.
- Trace the neckline, ending 1/2 inch below center front.
- Draw the collar parallel with the neckline, ending 1 1/2 inches above the center front line. (The collar may be as wide as desired, and the front collar may be of any shape.)

**Figure 1**

- To draw the stand, see the measurement of the neckline edge of the new collar. See pages 193 and 194 for guidance.
- Trace collar to stand 1 1/2 inches for neck.
COLLAR AND STAND AWAY FROM THE BASIC NECKLINE

Design Analysis
The distance from the basic neckline and the style of the collar may be varied to create different versions of this design.

Pattern Plot and Manipulation

Figure 2
1. Lower the neckline 1 inch to corner point.
2. Draw the collar parallel to the new neckline, ending approximately 2 inches from center front. (Collar can be arched as desired.)

Figure 3
1. Trace the neckline on the front and back pattern.
2. Trace the back pattern. Transfer the new neckline as shown.
3. Place the front pattern on the back pattern, with new neckline touching down 1/2 inch.
4. Overlap shoulder tips 2 inches.
5. Trace the front pattern and trace the new neckline.
6. Remove the pattern and pencil in the new neckline.

Figure 4
1. For guidance in developing the collar stand, see page 199 and 195.

ALL-IN-ONE COLLAR AND STAND

Figure 1
1. Draw Mandarin collar with extension. (See page 194, Figure 4.)
2. Extend a line up from center front and center back equal to the collar width plus 1/3 inch.
3. Draw a line parallel with the bottom edge of the Mandarin. Extend 1/4 inch beyond center front line to form point of the collar. Connect with center front of stand.
4. Draw stay lines.

Figure 2
1. Cut both lines, run through, and line edge.
2. Place center back on the fold. Spread 1/8 inch to lower edge of collar under at center back.
3. Trace and spread the collar edge.
**ROLL COLLARS**

Black roll collar should be finished by any method (baste or for a wider variation). The finished height, however, should be slightly shorter than the armhole length to accommodate the stretch of the fabric. The finished length should be slightly longer than the armhole opening to allow for the stretch of the fabric. The finished length should be slightly longer than the armhole opening to allow for the stretch of the fabric.

**Turbo Neck**

**Roll Collar with Cutaway Neck**

- **Pattern Plot and Development**
  - Figures 1 and 2: Facing collar and facing extension.
  - Figure 3: Facing collar and facing extension.
  - Figure 4: Facing collar and facing extension.
  - Figure 5: Facing collar and facing extension.
  - Figure 6: Facing collar and facing extension.

- **Design Analysis: Design 2**
  - Figure 7: Facing collar and facing extension.
  - Figure 8: Facing collar and facing extension.
  - Figure 9: Facing collar and facing extension.
  - Figure 10: Facing collar and facing extension.

- **Sewing Guide**
  - Figure 11: Facing collar and facing extension.
  - Figure 12: Facing collar and facing extension.
  - Figure 13: Facing collar and facing extension.
  - Figure 14: Facing collar and facing extension.

- **Paper Preparation**
  - Figure 15: Facing collar and facing extension.
  - Figure 16: Facing collar and facing extension.
  - Figure 17: Facing collar and facing extension.
  - Figure 18: Facing collar and facing extension.

- **Collars**
  - Figure 19: Facing collar and facing extension.
  - Figure 20: Facing collar and facing extension.
  - Figure 21: Facing collar and facing extension.
  - Figure 22: Facing collar and facing extension.

- **Steps**
  - Figure 23: Facing collar and facing extension.
  - Figure 24: Facing collar and facing extension.
  - Figure 25: Facing collar and facing extension.
  - Figure 26: Facing collar and facing extension.

- **Measurements**
  - Figure 27: Facing collar and facing extension.
  - Figure 28: Facing collar and facing extension.
  - Figure 29: Facing collar and facing extension.
  - Figure 30: Facing collar and facing extension.

- **Calculation**
  - Figure 31: Facing collar and facing extension.
  - Figure 32: Facing collar and facing extension.
  - Figure 33: Facing collar and facing extension.
  - Figure 34: Facing collar and facing extension.
COLLAR DESIGN VARIATIONS

SELF-EVALUATION TEST

Match column 1 with the correct answer from column 2. Review the chapter. Check your answers on page 809.

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Collar edge</td>
<td>1. Raw for collar and stand</td>
</tr>
<tr>
<td>2. Neckline collar edge</td>
<td>2. Reduce collar's edge</td>
</tr>
<tr>
<td>3. Dart line</td>
<td>3. Needed to bulk collar</td>
</tr>
<tr>
<td>5. Open collar</td>
<td>5. Sewn to neck of garment</td>
</tr>
<tr>
<td>6. Gored collar</td>
<td>6. Follows curve of the neckline</td>
</tr>
<tr>
<td>7. Lace collar</td>
<td>7. Raw edge</td>
</tr>
<tr>
<td>8. Cotton collar</td>
<td>8. Iron collar</td>
</tr>
<tr>
<td>10. Shoulder tip overlap 1/8 inch</td>
<td>10. Iron collar</td>
</tr>
<tr>
<td>11. Neckline measurement</td>
<td>11. Non convertible</td>
</tr>
<tr>
<td>12. Straight collar</td>
<td>12. Style of the collar</td>
</tr>
<tr>
<td>13. Convertible collar</td>
<td>13. Collar's neckline edge is notched</td>
</tr>
<tr>
<td></td>
<td>15. Does not follow the line edge</td>
</tr>
<tr>
<td></td>
<td>16. Height of back collar</td>
</tr>
</tbody>
</table>
BUILD-UP NECKLINES

Such an alteration above the base of the neck and may accommodate the position of the neck in a natural position (Figure 1). There are two basic types of build-up necklines: all-in-one with shoulders (Figure 2) and set-in fronts (Figure 3). Both types can be worked from any proportion or any height at which a neck would be placed. The natural neck line to the shoulder is the point from the neck and shoulder to the front. The length from the neck is generally known as the neck. Neckline is an application of Principle 1. Neckline manipulation patterns reflecting the movement to the neckline or Principle 2. Added fullness can be added to the pattern's outline. Because of the special features of this type of neckline, design are included in the instructions. More about finishing can be found in Chapter 36.

Stovepipe Neckline

Design Analysis: Designs 1 and 2

The neckline of Design 1 extends above the natural neckline at front and back, with seams at center front and center back. Design 2 is a practice problem.

Patterns Plot and Manipulation

Figure 1

- Trace and cut front bodice pattern.
- Mark 1/2 inch down from center front.
- Mark 3/4 inch in front neck at shoulder.
- Short curved slash line from A to B.

Figure 2

- Cut slash line from A to B, cut through point B.
- Place on paper and spread 1/2 inch. Secure.
- Trace and label center front neck C.

Figure 3

- Center line 1 1/2 inches up from point B and square a short line.
- Draw a curved line to C and to A.
- Blend at A and B. Notch (Figure 3a). Cut from paper.

Figure 4

- Draw center front of pattern on fold of the paper.
- Trace neckline from center front to 1 inch down from B on shoulder.
- Remove pattern. Draw the bottom edge parallel with the neckline. Notch center front neck.
Figure 1: Front
- Trace pattern, transforming 1/2 inch of the dart across to end neck.
- Extend center from neck 3 1/2 inches and square a short line. Label A and mid-shoulder B.
- Square a line 3 1/2 inches up from B, ending 3/4 inch out from shoulder. Label C.

Figure 2: Back
- Trace pattern, transforming all or half of the dart across to the neck. Remaining excess will be eased in along the shoulder or the manipulation back pattern—see page 83.
- Draw a 1-inch extension. Mark notches.

Figure 3: Facing
- Trace back pattern, extending 1 inch from B. Remove pattern. Draw facing edge parallel with neck edge. Notch at point C, and curve back.

Figure 4: Facing
- Draw a line parallel with the neck line from point C. Draw a line parallel with the shoulder line from point D. Notch at point E, and curve back.

Figure 5: Facing
- Draw a line parallel with the shoulder line from point F. Notch at point G, and curve back.

Pattern Plot and Manipulation
- Plot pattern, transforming 1/2 inch of the dart across to end neck.
- Extend center from neck 3 1/2 inches and square a short line. Label A and mid-shoulder B.
- Square a line 3 1/2 inches up from B, ending 3/4 inch out from shoulder. Label C.

Built-Up Boat Neckline
Design Analysis: Design 1 and 2
The neckline of Design 1 extends outward from the shoulder and comes down to the neck. Design 2 is extended back from the neck, while point B, Design 2 is included for pattern. Design other variations for additional practice.
**INSET BANDS**

An inset band is developed from part of the front and back bodice and inserted separately along the shoulder or neckline. The band is extended so that it will not be flat on the shoulders or back. The following instructions apply to any type of inset neckline. The shoulder design is extended to another location along the shoulder line or transferred to the neckline to become a part of the band or may be multiplied parallel to the back pattern (see note on page 206).

**Rounded Inset Band**

**Design Analysis:** Design 1

The inset band is formed around the garment, with the upper edge away from the neck and shoulder.

**Pattern Plot and Manipulation**

- **Figure 1:** Trace back, transferring shoulder line to neck line and shoulder edge.
- **Figure 2:** Place the front on back shoulder line. Draw the neckline and back facing illusion as a guide. (Broken lines indicate original pattern.)
- **Figure 3:** Cut and spread front and back patterns, cutting curved section. The lower part of the front and back bodice completes the design.
- **Figure 4:** Close neck seam. Place front pattern on seam allowances of front pattern. Extend back band.

**Inset Band Variations**

**Design Analysis:** Designs 2 and 3

Design 2 has an inset band that comes to a point at center front and curves around to center back. Design 3 is given as a practice problem.

**Pattern Plot and Manipulation**

- Use the instructions for Design 1 and the illustrations that follow in guides for developing the patterns.

**Figure 1:** Potted patterns

**Figure 2:** Close neck seam. Spread front and back patterns. Trace pattern on center front fold. Draw guidelines and seam and notches. Complete pattern for test fit.
Chapter 12

Cowls

Cowls

Cowls are created by allowing fabric to fall to desired depths from neck. Cowl can be made from a variety of materials, such as, cloth, chiffon, and certain linens. The depth of the cowl depends on various factors such as the shape of the neck and the width of the shoulder. The deeper the depth of the cowl, the greater the amount of fabric needed.

Types of Cowls

- Basic Cowls
- High Neck Cowls
- Low Neck Cowls
- One-Piece Layered Cowls
- Patterened Cowls
- Shoulder Cowls
- High-Necked Cowl
- V-Neck Cowl

Self-Evaluation Test
Nature of the Bias Cut

Figure 1
The lengthwise grain and cross-grain can be opposite directions in the same fabric, but the one grain usually forms a part of a garment. The fabric grain lines are placed parallel to the edge of the bias on the side of the grain closest to the selvage. Figure 2 shows the bias grain, which is usually determined by lining up the selvage on the bias with the bias line on the paper pattern. For further information about the nature of bias, see Chapter 20.

Twisting

Figure 3
Place a gauge at the corner of each fold of the cloth. Then mark the bias grain. If the fold of the cloth does not align with the bias grain, mark it on the side of the grain closest to the selvage. Smoothly, correct the pattern into shape, side over side.

Finding True Bias

Figure 4
To find true bias, fold the cloth grain to the lengthwise grain—on parallel lines. Secure the fabric and pin along the edges to hold. Mark the bias line with chalk or thread. Be sure to judge the bias on the fabric. The bias pattern should be traced on masking paper first and then pinned to the fold of the fabric. Place tape underneath the tape to prevent slipping when cutting.

Fitting the Cowl Drape

Figure 5
If there is a dart, remove it temporarily, pin or baste through. Pin or baste the shoulder seams with center lines matching. Allow the bias fabric to fall and stretch, with both fabric past side seams and waistline. Pin where indicated. With sharpened chalk, mark the outline of the form on the drape (right side only unless the design is asymmetric).

Correcting the Pattern

Figure 6
- Remove darts from the beam.
- Measure the difference between the original pattern and the marked outline.
- Mark the original pattern at the marked outline and draw blending lines. Adjust the pattern (under the armhole). Recap and check the fit.

Making Patterns for Bias-Cut Coats

Bias patterns are generally developed for garments cut on the straight of weaves. Bias cuts use weaves, not for those cut on the bias. The bias patterns require adjustments of the garment to fit. The bias is cut on perfect bias and folded on the cut for a fitting transferred to the pattern of the bias. The amount that the bias is cut on the bias line on the form pattern is added or subtracted to the original pattern. The adjustments cause the pattern to be transferred on the bias, so that it will stretch. When ready, it should lie in the final test.
Pattern Plot and Manipulations

1. Trace the front bodice pattern. Label center front and A.
3. Mark C 1/16 inch from B.
4. Draw a line from A to B and then from A to C.
5. Square a short line from center front to bust point.
6. Cut the pattern from paper along A, B, and C, distorting as needed to create a new neckline.
7. Cut draft lines for, but through the bust point and point C.

Design Analysis: Design 1
The slash and spread line indicates that some part of the pattern was transferred to the front cowl.

Figure 2: Fold pattern guide line 3 1/2 inches down from paper's edge and label B.

Figure 3: Fold lines. Square a line 1 inch from point D. Trace the pattern on paper so that point B touches the guideline and point A is under point D.

Figure 4: Trace center front with the fold of the paper below high level guideline; score with a ballpoint pen and stitch to center front after the first fitting.

Figure 5: Trace the pattern stitching lines and cut and center front neck, remove pattern.
Mid Depth Cowl

Figure 1 Front:
- Trace the front bodice and square a slash line from center front to the bust point (bust level).
- Mark A between the center bust neck and bust level.
- Mark B at mid-bust level and draw a line to A.
- Draw a slash line from shoulder to bust level and another in between.
- Cut the pattern from paper.
- Draw slash lines to, not through, the shoulder and bust points.

Design Analysis: Design 2

The cowl falls from the shoulder to a depth below the neck and bust level. The length of the cowl takes up one-third of the waist dart covers. The fold-back facing is needed.

Figure 2:
- Fold the paper and square a guideline 3 inches down from paper edge.
- Place the pattern on paper so that A line touches the guideline and pattern A touches fold of the paper.
- The center front pattern is placed on the fold below bust level.
- Trace the pattern, starting from B and cutting at center front waist.
- Mark C 4 inches up from A for fold-back facing.
Low Cowl

Design Analysis: Design 3
The line of the cowl slopes at an angle below the bust level. A slit in the back and center is transformed to the neck line for a more fitted look.

Figure 1
- Draw a line from center front to the bust point.
- Label point A.
- Align 1 1/2 inches from shoulder tip. Draw a line from A to B.
- Draw a straight line between the shoulder tip and point B, ending at point A.
- Cut from paper.
- Cut slashes to not through the shoulder and bust point.
- Close dart into T-pee.

Design Analysis: Design 4
Deep cowl is usually designed with a cowl hood. It can be stitched into the side seam of the cowl hood (Illustrated) or continued around to the back. Cowl (front and back) below bust level indicates that fabric has been added to the center front.

Pattern Plot and Manipulation
Design 4
- Mark center point 2 inches from bust line.
- Mark point A
- Mark 1 1/2 inches from shoulder tip. Draw a line from B to point A.
- Trace neckline (shaded area).
- Cut slashes from A to not through the bust point.
- Close the dart legs.

Pattern Plot and Manipulation
If you are not using the Center Cowl Pattern, use the measurements given.
- Mark center point 2 inches from bust level.
- Mark point A.
- Mark 1 1/2 inches from shoulder tip. Draw a line from B to point A.
- Trace neckline (shaded area).
- Cut slashes from A to not through the bust point.
- Close the dart legs.
**Back Cowl**

Back cowl is developed with the use of a square suit. Designs 1, 2, and 3 illustrate a high, medium, and low cowl.

**High Back Cowl**

**Pattern Plot and Manipulation**

**Figure 1**

- Cut a 36-inch square of paper and fold.

**Back Set-Alike**

- Mark A 4 inches down from back neck.
- Mark B 4 inches down from back neck.
- Measure from A to B (includes dart expanse).
- Mark C where back width equals the width between the dart legs.
Mid Back Cowl

1. Mark A midway between neck and waist.
3. Measure from A to B. Transfer.
4. Mark C to equal dart intake.
5. Follow instructions given on page 231, Figures 1, 2, 3, 4, and 5.

Low Back Cowl

1. Mark A 1 inch up from center back mark.
2. Mark B 1 inch from shoulder tip.
3. Measure from A to B. Record.
4. Mark C to equal dart intake.
5. Follow instructions given on page 231, Figures 2, 3, 4, and 5.
ONE-PIECE ARMHOLE COWLS

Design Analysis: Designs 1, 2, 3, and 4

Four Variations for Underarm Cows

Design 1—Over-shoulder cowls, Figure 1
Design 2—Slit cowls, Figure 1
Design 3—Armhole cowls, Figure 2
Design 4—Cowl above, Figure 2

- Use front and back basic two-piece bodice, with shoulder dart (if needed) to.avoid armhole.
- Draw a square line on paper, label A, B, and C.
- Place front and back line on B.C. line for extension, with a 1-inch space between the front and back side
- Secure and trace the front and back pattern, resulting sections indicated by the bodice lines.
- Trace around line between front and back side.

Design 1 Over-shoulder Cowls
- Trace shoulder and continue 3 inches more.

Design 2 Slit Cowls
- Draw a line from front to shoulder to mark end shoulder. Figure 2

Design 3 Armhole Cowls
- Draw a line connecting the front and back shoulder. Label D.E.

Design 4 Long-sleeve Cowls
- Draw a line connecting the shoulder tips, label D.E.
- Mark the center of the D.E. line and draw a line to the side, starting from the points around the line to equal the desired sleeve length. Add length if desired.
- Square a line out from both sides that equals the arm measurement plus 1/2 inch (or half an inch).
- Trace a line joining and label E over the arm measurement.
Pleated Cowl

Pleat control the full of cowl and add fullness. The instructions that follow show the development of cowl with pleats along the shoulder line. The same procedure can be used for cowl with pleats along the armhole and side seam. Cowl designs shown are more of the principle and are a pattern folded with pleats. Development of Design 1 is shown. For pleats, develop patterns for Design 2 and 3.

Pleated Shoulder Cowl

Design Analysis
Design 1 has two pleats at shoulderline with the cowl depth above the bust level.

Pattern Plot and Manipulation
Figure 1
- Trace front pattern and make a slash line from the center front to bust point then level.
- Mark A between the bust and bust level.
- Mark B at mid-shoulder.
- Draw a line from A to B.
- Draw two slash lines, each starting between point B and the shoulder line ending between point A and bust level.
- Cut the pattern from paper.

Figure 2
- Fold the paper. Draw a guideline 4 inches down from the fold.
- Cut slash lines at 45 degrees, continuing from the shoulder line.
- Place section A and B on guideline and center front of pattern. Drop back line, shaft of waist dart will show, and the slashed sections will open.
- Secure pattern sections.
- Draw a vertical guideline 2 inches in from center front, passing through pattern sections.

Figure 3
- Rejoin the shoulderline.
- Spread each section 1 1/4 inches at maximum shoulder point, keeping each section on the guideline. Sew.
- Trace outline of pattern and center of each spread section along shoulder line (for pleats).
- Remove the pattern.
- Mark corners of each pleat, connect the lines following the angle of the armhole, and then at center seam. Mark sections at each point.
- Draw a parallel line 1 inch above 4/4 line for fold-back stitching.

Figure 4
- Cut the pattern from paper. Unfold.
- Draw a fold guideline.
- Complete the pattern for test fit.
- Follow the instructions given for the test fitting on page 223, Figures 5, 6, and 7.
- Reconsider the back pattern, follow the instructions on page 223, Figures 5 or 6.
EXAGGERATED COWLS

Fallopian tubes can be achieved without pincushion by grading the pattern beyond the waist line by 1 inch at center back. This type of design requires a certain amount of treatment in the curve for the design pattern was used to develop the design. However, any pattern may be used.

High Exaggerated Cowl

Design 1

Figure 1

1. Trace the basic front and back bodice and midriff shape.
2. Extend a line from center back and measure from the bust point to the bust point (nose measurement plus 4.1 inches).
3. Square down to shoulder. Draw a curved line with the shoulder, line A and B.
4. Draw slash lines with one slash line squared to bust point.
5. Cut the pattern from the paper.

Figure 2

1. Cut darts from center bust to, first through the lines and bust point.
2. Close the side and back seams.
3. Place on the paper and spread out. Tie to control even in a bow.
4. Trace the entire of the pattern.

Figure 3

1. Exaggerated pattern shapes should be labeled for identification.
2. Draw a guideline for design.

Figure 4

1. Trace the basic back and midriff shape.
2. Mark 1 inch down from the shoulder back.
3. Square from center back, stopping at 1 inch from the shoulder line.
4. Draw a guideline on the shoulder line.
5. Trace the entire pattern on the paper.
6. Exaggerated pattern shapes should be labeled for identification.
7. Use cloth to hold pattern in place.
**Inset Cowls**

Inset cowls can be applied on any bodice, front, or similar pattern. An overlapping cowl inset can be designed for the purpose of modification, the inset line is developed and does not represent a complete pattern. Both patterns are not illustrated. Figures 2 and 3 are included in practice problems, and the inset foundation is illustrated.

**V-Neck Cowl**

Design 1, Design 2, Design 3

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**Self-Evaluation Test**

Check the correct answer(s). To check your answers, see page 905.

Cowl shape test
1. When cut on bias
2. When cut on straight
3. When cut on bias

Controlled waist
4. Dart across
5. Facings
6. Facing around shoulder

The basic dart
7. Center front waist
8. Waist dart
9. From dart at side seam

Cowl guide
10. Fall in opposite directions
11. Fall in the same direction
12. Fall in any direction

Waist and welt placement
13. Have the same tension
14. Have different tension
15. No difference

Cowl facing
16. Fall evenly from shoulders
17. Even on one side
18. Hang in free fall
19. Uneven on one side
20. Uneven on one side
21. Uneven on another pattern
22. Uneven on one side
23. Pattern on the second fit
24. Pattern on the second fit
25. Pattern on the second fit
26. Pattern on the second fit
27. Pattern on the second fit
28. Pattern on the second fit
29. Pattern on the second fit
30. Pattern on the second fit
Chapter 13

Skirts/Circles and Cascades

Introduction

Changing the silhouette of a skirt, its curve, shape, without regard to creative detailing, is one of the focal points for designers who wish to change the look and direction of fashion. A skirt whose basic shape hangs straight from the hip to the hem is usually charged by modifying or altering the seams of the backline, moving the skirt away from or close to the figure, or hiding and lowering the waistline.

Skirt Lengths

The skirt which is often seen in fashion magazines, is the knee-length skirt.
FOUR SKIRT FOUNDATIONS

Each of the four skirt foundations has a specific shape that closely resembles the silhouette of the figure. These shapes are used to develop the basic shapes of skirts.

Straight or Rectangular Shape (Basic Skirt)
- The skirt hangs straight from hip to hemline.
- The skirt panels are cut in one piece.

A-Shape or Trapezium
- The skirt falls away from the hips, fitting out at the hemline.
- The skirt panels are cut in one piece.

Pegged or Inverted Triangle
- The skirt tapers from hip level to hemline.
- The pegged or inverted triangle can be achieved by narrowing the waist and hip fullness or by tapering from the hip to the knee.

Ball Shape
- The skirt falls from the figure's waist down, forming a ball shape.
- The skirt panels are cut in one piece.

SKIRT CHARACTERISTICS

Suits are described in terms of the following three areas:
- The sweep of the skirt or the skirt at the hemline
- Movement of the skirt or the waistline of the skirt
- The movement of the body

FLEXIBILITY OF SKIRT DARTS

The three groups of darts enhance the flexibility of the skirt when the major pattern-making principles are applied. The second and third groups of darts are completed pattern shapes. The designs variations are provided to encourage further exploration.
LOW-WAIST SKIRTS

Design envelope
The basic skirt is the foundation for this project. The
low waist at a line below the natural waist line can
be at any depth. Create your own design based on
this basic line.

Pattern Plot and Manipulation
Figure 1
- Trace the back and front skirrs to length and hem;
  center center back 1 1/4 inch.
- Draw parallel lines 2 1/2 to 3 inches below waist.
- Trim 1/4 inch from side seams and back darts;
  dart line is cut away after side and waist seams
  are added

Figure 1a
- Trace to desired length;
  center center back 1 1/4 inch.
- Add 1/2 inch seam, 1/8 inch at the
  center, half 1 inch.
- Cut the pattern from the paper.
- Facings: Trace parallel lines 2 1/2 inches below
  the hemmed waistline. Place paper underneath
  the pattern and cut the pattern to
  create facing pattern.
- Remove paper and cut the facing patterns.

Figure 1b
- Close darts at the back
  pattern, tape and blend.

Figure 2a
- Front being finished.

Figure 2b
- Complete the patterns.
- Cut for a test fit.

HIGH-WAIST SKIRTS

Preparing the Skirt
Figure 1
- Draw an extended centerline 2 1/2 inches.
- Label a.

Figure 2
- Draw a line from a to b.
- Draw vertical lines centered between the dart
  ends and parallel with the center back and front.

Figure 3
- Draw centerline 2 1/2 inches.
- Mark and label as follows.
- Draw dart line 2 1/2 inches from the side seams.
- Label b.
PREPARING ZIPPER AND WAISTBAND

Overlock or zigzag raw seams. To avoid stretching and the desired fit, begin with the zipper open. Stitch a short distance then close the zipper and continue sewing. Be sure to hoop all fabric before cutting. Use the seam allowance of the skirt. Complete the pattern in the same way.

Figure 5: Cutting the zipper

1. Stitch across back seam from hem to zipper. Finish edges with a zigzag stitch.
2. Press the seam open.
3. On the right side of the fabric, place the "top Stitch" of the back of the zipper 3/4 inch below waist and aligning upper edge with the center mark.
4. Stitch 1/4 inch from the seam to allow the entire fabric piece and stitch along the zipper edge.
5. Figure 5: Zipper stitch

Figure 6: Adjusting the zipper

1. Cut the seam edges to the desired length and fit the pattern. Sew the back seam 3/4 inch below waist and position the zipper 1/4 inch from the center edge. Stitch along the zipper edge.

Figure 7: Sewing the zipper

1. With fabric facing right side, pin the zipper. Stitch the "top Stitch" 3/4 inch below waist and aligning upper edge with the center mark. Stitch 1/4 inch from the edge. Stitch across 1 1/4 inches below the zipper stop, back stitch.

Figure 8: Finishing the zipper

1. Stitch across back seam from hem to zipper. Finish edges with a zigzag stitch.
2. Press the seam open.
3. On the right side of the fabric, place the "top Stitch" of the back of the zipper 3/4 inch below waist and aligning upper edge with the center mark.
4. Stitch 1/4 inch from the seam to allow the entire fabric piece and stitch along the zipper edge.
5. Figure 5: Zipper stitch

Figure 9: Cutting the waistband

1. With fabric facing right side, pin the waistband. Stitch the "top Stitch" 1/2 inch below waist and aligning upper edge with the center mark. Stitch 1/2 inch from the edge. Stitch across 1 1/4 inches below the zipper stop, back stitch.

Figure 10: Adjusting the waistband

1. Cut the seam edges to the desired length and fit the pattern. Sew the back seam 1 1/4 inches below waist and position the waistband 1 1/4 inches below the waist. Stitch along the waistband edge.

Figure 11: Sewing the waistband

1. With fabric facing right side, pin the waistband. Stitch the "top Stitch" 1 1/4 inches below waist and aligning upper edge with the center mark. Stitch 1 1/4 inch from the edge. Stitch across 1 1/4 inches below the waist, back stitch.

Figure 12: Finishing the waistband

1. Stitch across back seam from hem to zipper. Finish edges with a zigzag stitch.
2. Press the seam open.
3. On the right side of the fabric, place the "top Stitch" of the back of the zipper 1/2 inch below waist and aligning upper edge with the center mark.
4. Stitch 1/2 inch from the seam to allow the entire fabric piece and stitch along the zipper edge.
5. Figure 5: Zipper stitch

Figure 13: Cutting the pocket

1. With fabric facing right side, pin the pocket. Stitch the "top Stitch" 3/4 inch below waist and aligning upper edge with the center mark. Stitch 3/4 inch from the edge. Stitch across 3/4 inches below the zipper stop, back stitch.

Figure 14: Adjusting the pocket

1. Cut the seam edges to the desired length and fit the pattern. Sew the back seam 3/4 inch below waist and position the pocket 3/4 inch below the waist. Stitch along the pocket edge.

Figure 15: Sewing the pocket

1. With fabric facing right side, pin the pocket. Stitch the "top Stitch" 1/2 inch below waist and aligning upper edge with the center mark. Stitch 1/2 inch from the edge. Stitch across 1 1/4 inches below the waist, back stitch.

Figure 16: Finishing the pocket

1. Stitch across back seam from hem to zipper. Finish edges with a zigzag stitch.
2. Press the seam open.
3. On the right side of the fabric, place the "top Stitch" of the back of the zipper 1/2 inch below waist and aligning upper edge with the center mark.
4. Stitch 1/2 inch from the seam to allow the entire fabric piece and stitch along the zipper edge.
**Stitching Guide**

Place interfacing to the inside of the waistband.

- Fold waistband right side facing. Stitch back of the waistband. Stitch back-stitch at the other end to section 1/2 inch on underedge (Figure 1).
- Turn right side out and press (Figure 1).

![Figure 1](image)

**Attaching the waistband**

- With right side facing, pin the waistband around the waistline, matching the center notches (Figure 2).
- Stitch back-stitch the waistband at each end (Figure 2).

![Figure 2](image)

**Attaching the hem**

- Fold the waistband and pin (Figure 3).
- Stitch back-stitch on right side to catch the bottom waistband (Figure 3).

![Figure 3](image)

**FLARED SKIRTS**

**The Flared Skirt**

The flared skirt refers to Principle K1. With manipulation (shifts) transferred to the hemlines, Principle K2, Add Flare, to increase the sweep of the hemline. Flared skirts have a triangular silhouette.

**A-Line Flared Skirt**

**Design Analysis**

The A-line silhouette is one in which the hemline measures greater than the hip circumference. It is achieved by transferring the excess at the hip to the hemline and adding points at the side seam. The end has a more rounded effect along the hemline that provides additional stability at the waist.

**Pattern Flat and Manipulation**

- Trace front and back basic shapes to preferred length and hem allowance.
- Draw slash lines from the dart points (center line is transferred to hip line and parallel with center lines).
- Label A, B, C, D, E.
- Cut from the paper.
- Cut to, not through, dart points.
- Baste on the paper.

![Pattern Flat and Manipulation](image)
Basic Flared Skirt

Design Analysis

A flared skirt has a flare sweep along its hemline that does not connect to the waistline. The curve of the skirt extends behind the butt and may cause the buttline sweep from front to back to differ. If this difference is not equal, the flare may appear uneven, especially at the side seams of the back panel, causing the side seam to twist and pull. To correct the problem, follow these steps:

• Trace front and back skirts.
• Trace lines from back pattern to hemlines parallel with center lines.

Pattern PK and Manipulation

1. Trace front and back skirts.
2. Trace lines from back pattern to hemlines parallel with center lines.
One-Dart Skirt Foundation

The one-dart skirt foundation has two functions to develop rawa skirt with a neatly equal balance sweep and to create skirts that drape to the figure by transferring the dart cuts below the dart points. To develop the pattern, the basic skirt is modified.

The pattern is a guide. Use your own measurements.

- Add dart points of the front and back together. Front darts = 1” back darts = 2” total = 3”.
- Divide in half = 1 1/2” (brake for each dart).

Figure 1.2

- Trace front and back patterns, designating dart legs (broken lines). Note arrows on sleeves, at waist, and on front to balance parallel with center lines.
- Measure down 4 1/2 inches from front and back waist on guideline and connect for dart point.
- Measure out 3/4 inch (personal measurement can vary) from each side of guideline at waist, mark and connect with dart point.
- Measure down on guideline from dart point, marking a series of dots at equal spaced 1 1/2 inch apart. Mark segments below pivot points for developing full-darted skirts that drape.
**Fitted Skirt Based on One-Dart Pattern**

**Pattern Preparation and Manipulation**

- Trace and cut one dart pattern from A to C.
- Can cut in half on paper.

**Added Flare Skirt**

**Design Analysis**

The flare skirt may be increased by adding additional flare within the pattern's frame and to the side seams for balance. The skirt will have more swing than the basic fitted skirt. Long skirts with great sweeping hemlines are often wider than the fabric. A separate pattern should be made for the reverse side, which is reversed, to form the flare. Flares with added flare may be developed from either the basic one-dart or inverted skirt or from the Radius Circle Chart (page 298). The one-dart pattern is illustrated. Add to pattern length and allow 2 1/4 inches for the hem.

**Pattern Pair and Manipulation**

- Trace skirt pattern.
- Draw slash lines, Label A and B.
**SKIRTS WITH GATHERED WAISTLINES**

Both patterns should be considered before estimating the amount of fabric desired.

1. **Ethnic weights:** Finely woven fabric limits the amount of gathers that can be stitched into a weight. Lightweight fabrics can reduce greater fullness.

2. **Cost:** Gatherings increase yardage and adds to the cost of the garment.

**Computing for Gatherings**

Figure 1

- 1/2 to 1 ratio = 30 inches gathered into 15 inches (minimum garmet)
- 1 to 1 ratio = 52 inches gathered into 26 inches (average garment)
- 2 to 1 ratio = 60 inches gathered into 30 inches (average garment)
- 3 to 1 ratio = 72 inches gathered into 36 inches ( average garment)
- 4 to 1 ratio = 108 inches gathered into 54 inches (extra fullness)

Gathered skirts are either flared (diagonal) or flared (rectangular).

**Flared Skirt with Gathered Waist**

- Use the easiest or inelastic waistline.

**Figure 2**

- Prepare the skirt following instructions on page 243.
- Figure 1, and page 244, figure 2.
- After spreading the skirt, release the waist and spread the material to reduce the fullness by spreading it (a) (the amount) of each piece.
- Add flare and draw a line to the waist, leaving the hip line. Blend the waist.
GOARED SKIRTS

A gore is a dart that tapers toward the waist. A goered skirt contains any number of gores— four or eight is common. Each gore is a piece of cloth or a strip of cloth, depending on the look desired. The gore may be straight or curved; it may be shaped or straight. Each panel may be a piece of cloth, depending on the look desired. The gores may be straight or curved; both are used to create the skirt. It is important to remember that each panel section must be matched to ensure the correct pattern pieces are matched when assembled. Design 1 through 9 are examples of gores in skirts.

Design Analysis

The basic 4-gore skirt is developed from the basic Adine skirt, which is an attached or separate (or part of the waistband.)

Pattern Formula and Manipulation

Figure 1, 2
- Trace front and back basic 4-gore skirt (see pages 154-158.)
- Add 3 gore allowances to center back and back of a 4-gore skirt.
- Cut pattern from the paper and then straight, bias, and correct any necessary systems for future design.
- Complete pattern for test fit.

Figure 3, 4, 5
- Front and back full
- Cut straight at waistline.
Adding Gored Flare

* Mark 2 inches out from the 8 guideline.
* Draw a curved line from the waist, running to the lower curved area in Figure 2b.
* Place flared paper behind the paper pattern aligned with the curve. Draw the back gored pattern, remove the paper and set wide.

**Side Back Gored Flare**
- On the same pattern, mark 2 inches from the other side of B and side seams (Figure 2a).
- Follow Figure 3a instructions to draw the flare line and turn shape (shaded area in Figure 4a).

Figure 1: Front and Side Front Gored Flare
- Repeat the instructions given in Figures 2a and 2b. Mark the flare from the B guideline.
8-Gore Pleated Skirt

Design Analysis
The 8 panels are arranged so that the front panel is wide rather than joining panels. All panels have seam allowances except at the side seams. This example illustrates the flexibility of lines for design variations.

Pattern Plot and Manipulation

Figure 1 Front
- Trace back front and back into.
- Measure the obtained front dart point to center front.
- Mark, then from center front to equal this measurement, plus 6-1/2 inches, labeled A.
- Draw a line from A to dart point. Shift second dart, 1/4 inch forward, this line is original dart location.
- Draw second gore line from dart point to hem, parallel with the guideline at an angle to it, labeled B.
- Add 2 inches at side seams of the front.
- Connect the line to extension part of top front bodice using a line instructions (see page 240, Figures 3 and 4).

Figure 2 Back
- Repeat the process to develop back skirt.
- Mark the gore width (C-11) at hem equal to front gore width (A-8) and shift dart to the guideline.

Separating Gore Panels

- Figure 5a & 5b: Front/Back Gore Panels
- Add 2-1/2 inch seams and 1 inch for the hem.
- Mark point (A) 2-1/2 inch up from the dart point of the back pattern (figure 5b).

Sew
- Mark center for the seams and hem allowances.
- Mark centers at all facing gore panels as illustrated.
- Sew gathers and wrong sides between all panels. To adjust the waistband, refer to page 227.

For sewing instructions for the waistband and facing, refer to pages 239-240.
Figures 3.4 Front
- Cut and separate gore sections.
- Trace gore, placing center front of gore on fold (Figure 4).
- Measure from waist of the gore panel to a location where panels are to meet (example: 4 inches).
- Space out 1/4 inch from each mark, label X.
- With a square rule held at this location, draw a line 1 1/2 inches out from point X for pivot slope. Mark.
- Space out 7 1/2 inches. Mark and blend hemline. Connect to complete panel.
- From a blend line from X to the gore panel.
- Mark notches and guidelines; add seams and 1/2- to 3/4-inch hem.

Figure 6. 6 Back
- Repeat instructions given for front gore.
- Mark identification notches.

Figure 9 Pect Support
- To add scams (or gore panels with point), draw seam allowance from waist parallel to guideline, curving out to tip of the print, as shown.
- Place panels and circle 1/8 inch in and up from point X.
12-Gore Skirt

Introduction

Gore skirts are constructed by cutting 12 gore panels, which are then sewn together to form a skirt. The gore panel is a panel that is cut from the skirt and then sewn together to form the skirt. The gore panel is divided by sewing the waist and hip into the skirt, and the gore panel is divided into 12 gore panels. The dart lines of the waist and hip are divided by sewing the waist and hip into the skirt. The gore panel is divided by sewing the waist and hip into the skirt. The gore panel is divided by sewing the waist and hip into the skirt.

Measurement (for all gore panels):

- Waist: ____________ plus 1 inch ease
- Hip: ____________ plus 1 inch ease
- Center front hip depth (P):__________

Formulas for 12-Gore Panel:

- Waist: ____________ plus 1 inch ease
- Hip: ____________ plus 1 inch ease
- Center front hip depth (P):__________

Figure 3: Square a line out from both sides at A (waist) and C (hip) using the recorded measurements. Draw a line between the waist and hip measurements. The recorded measurement is 1.38 inches less than the hip measurement.

12-Gore Design Variations

Design 1: Tie added equally on each side of the 12-gore panel.

Design 2: Single side slit cut through each panel with side added.

Design 3: Uneven flared hems, pointed or rounded.

Designs using the 12-gore panel follow.
12 Gore Graduated flare

Design Analysis:
This graduated flare skirt can be developed from the
12 gore panel. Make a pattern panel by cutting
the pattern and the hemline for flare on each
gore piece.

Pattern Plot and Manipulation:

Figure 1
- Draw gore panel on paper. Label center front.
- Square line across panel and paper at hip level.
- Number the panel (two times more, making top
level and side seam. This represents one half of
the skirt.)
- Number the panel 1 through 6.
- Mark 1.5 inches from waist center back and
draw verticals to third panel (back panel). Trim.
- Extend center front (Panel 1) and back (Panel 6)
to desired length. Label A and B end drawn lines
for new hemline.

Panel Development:
- Measure up from A at center front to a point
where the flare will begin (example: 12 inches),
label C.
- B.D. = A.C. Mark. Draw line from C to D.

Panel 1
- Measure out from A to width of the flare (example:
4 inches). Mark and connect with C. This
line should equal the length. Blend the joint
point to B, Panel 1.
- Repeat for other side of panel and continue
marking flare on each side with each panel equal.
Length and width of flare 1. (Note that indicate
the panel for the flare 1, 2, and 6. Broken lines
indicate flare panels for gore 2, 4, and 6.)

Separate Panels:
- Place paper underneath the pattern and number
pieces as follows: For gore 1, center fold line, gore
2,,more flare indicated by broken lines. Con-
clude the pattern until all pieces are transposed.
Zigzag 12-Gore Skirt

Design Analysis

The skirt is designed with a zigzag pattern. The waistline is marked above the waistline and set to 1. The skirt is cut in sections. No Breaks are on the right; a zigzag is given for practice. Center your own design.

Pattern Plot and Manipulation

Figure 1
- Trace 3 copies of the gore panel side by side. Extend to desired length.
- Square short lines up from the center at each panel. Label A in the center of panel 2 at base.
- Panel 2 is planned for the zigzag panel design.
- A 6° 2 inches part of the next crosses Panel 3. Line follows angle of dart leg.
- A-B = 2 inches (the high waist), as shown.
- C-D = A-B, squared from C. Dote Box to E.
- E-F = A-B, connected to center guide of panel 2.
- Panel 2 establishes panel width.

To complete the gore panel, draw parallel line with B and C. Continue line from H.
- H-F = F-G (the front) then curved horizon.
**PEGGED SKIRT WITH PLEATS**

**Design Analysis**
The side seams are tapered to create a basic pegged skirt. Darts along the side seams are replaced by pleats. The pleats are inserted at the side seams, the pleat line is ½ inch below the waistline. The basic back skirt is trimmed with a belt at back waist.

**Pattern Plot and Manipulation**
- Trace back skirt.
- Place a line from 1 inch below center front to dart leg at waist.
- Mark 1 inch to side seam and draw line to help for pegged effect.
- Draw dart lines for pleats in a straight line.
- Cut pattern from paper. Trim broken line area. Sew wedge for waistband.

**SKIRT PLOT**
- Fold the paper between opening options.
- With tracing wheel, over fold and sketch waistline. Open pattern and sketch in perforated marks at waist.
- Notch for pleats.
- Trace back, taper side seam, and notch for darts. 7 inches up from hem, not illustrated.

**Construction**
- Trace basic skirt on tissue paper. See page 237 for belt details (pipping, etc.).
- Trace waist section to bottom of belt at center front and front.
- Trace pattern and enlargements for back.
Asymmetric Radiating Gathers

Design Analysis

Gathers radiate from a raised stayline that ends at the top of the waistband. It is called a tunnel loop.

- The waist is 1 1/2 inches wide and half of the waist is cut on the bias. It is cut on the 45-degree angle.

Pattern Plot and Manipulation

- Trace full pattern.
- Extend dart points 1 1/2 inches down from waist.
- Draw the curved seres line from dart, crossing the other side of the center line, continuing past the waistline 1 1/2 inches. The width of the tunnel loop is 1 1/2 inches.
- Draw a line parallel with the tunnel loop and end at the dart point.
- Draw the gathered dart lines.

Waistband: see page 237. The waistband is cut in two sections so that the buttonhole can be stitched into the top of the band.
SKIRTS WITH YOKES

Yoke with Gathered Skirt

Design Analysis

The pattern of Design 1 begins 3 1/2 inches down from the waistline and is attached to a gathered panel of the skirt. The skirt is developed from a basic straightline skirt and is spaced for fullness. Instructions are on page 217. Zipper instructions are on page 236. Designs 2 and 3 are for practice.

Pattern Plot and Manipulation

Figures 1, 2
- Base front and back patterns.
- Plot yoke (example: 3 1/2 inches below waist).
- Draw yoke line parallel with waistline.
- Draw slash lines below the yoke and label.
- Cut and separate patterns.

Design 1

Figure 1
- 3 1/2 inches below waistline
- Yoke line parallel with waistline
- Slash lines below the yoke and label

Design 2

Design 3

Design 4

Figure 3
- Trace outline for the dart pattern
- Complete the pattern and cut to follow the dart fit
Diagonal Yoke with Flared Skirt

Design Analysis:
The yoke for Design 1 is parallel to the waist, to the point where it extends a diagonal to the center front waist. The back is diagonal to the waist. The lower sections are based on an even width and length, as shown in Figure 1. The instructions are on page 234. Ripple instructions are on page 236. Design 2 is a different style.

Pattern Plot and Manipulation

Figure 1
- Trace back from and back seam.
- Draw slash lines on one side from waist line to three inches below the starting point of center back waist. Continue the yoke across back, parallel with the waist.
- Draw slash lines, label A and B.
- Cut and separate patterns.

Figure 2
- Draw centerline and slash lines as shown.
- Label A and B.
- Cut and separate patterns.

Figure 3
- Draw centerline and slash lines as shown.
- Label A and B.
- Cut and separate patterns.

Figure 4
- Draw centerline and slash lines as shown.
- Label A and B.
- Cut and separate patterns.

Figure 5
- Draw centerline and slash lines as shown.
- Label A and B.
- Cut and separate patterns.

Figure 6
- Draw centerline and slash lines as shown.
- Label A and B.
- Cut and separate patterns.

Figure 7
- Draw centerline and slash lines as shown.
- Label A and B.
- Cut and separate patterns.

Figure 8
- Draw centerline and slash lines as shown.
- Label A and B.
- Cut and separate patterns.
Figure 3: Cut darts and trace. Close darts and trace. Add 1 inch at center back for zipper if side opening is not desired.

Terms:

- Fabric width: The distance from selvage to selvage.
- One-half of fabric's width: The distance from selvage to center of fabric's width.
- Three-fourths of fabric's width: The distance from selvage to a point three-quarters of the way across the fabric's width.

Attached Tiers:

Design 3 is not illustrated and should be a general guide for developing patterns with attached tiers. For additional practice, develop Designs 1 and 3 (three-lengths) or share other variations based on this concept. Use the skirt pattern to proportionate pieces when developing tiers.
Pattern Plot and Manipulation for Design 2

Figure 1 (cont.)
- For dress in designated.
  - Chest: 35 inches
  - Back: 28 inches
  - Arms: 38 inches
  - Hips: 33 inches
  - Crotch: 20 inches
  - Length: 37 inches

Figure 2 (cont.)
- Dress pattern for each side A, B, C, and D.
  - Adjust dress pattern to desired length of pattern as labeled.
  - Back A: Cut 1 width
  - Back B: Adjust back skirt by making notches 2 1/2 inches or more back along hip seam.
  - Back C: Cut 2 widths.
  - Back D: Cut 4 widths.
  - Skirt D: cut 6 widths.
  - Skirt E: cut 6 widths.
  - Skirt F: cut 8 widths.

- If more than one size is desired, add one full width or more to each panel.

Figure 3
- 1/2" inches
  - C.
  - D.
  - E.
  - F.
  - G.
  - H.

Pattern Plot for Designs 3, 4, and 5
(Based on a length of 56 inches)

Figure 1 (cont.)
- Trace the front, back, and dress pattern onto the measurements given on page 22. Label lines A, B, C, D, and E.
- Square line across the pattern for cutting.

Figure 2 (cont.)
- Mark the stitching line 1 1/2 inches above line A and 1/2 inch above line B.
  - The skirt can be separated along the stitching line, or one the back side to attach the ties.
  - Here—add 1 1/2 inches to the length of line B and C.

Separations (continued)
- Two or more layers of fabric on flared panels attached by the shoulder or underarm.
  - The fabric panels are centered through the width of the body and through the width of the neck.
  - The neckopening ends are concealed for seams of the preceding neck sleeve. The form on a sample paper copy of the skirt. Place the cope skirt on the form to see if the form is correctly balanced. See pages 234 and 235 for waistband and upper interections.

PREFURS

- Think of prefurs as a single layer or a short skirt. A prefur is the component that completes a garment.
**Projected Task for Design 5**

**Figure 3 The Fronts**
- Draw front line equal to each length, add 1" for seam allowances.
- Invert the pattern for the rear in Figure 3, 4, 5, 6, and 7, and draw a line 5" from the bottom line.
- Figure 4 is the length and equals the pattern for the front waist.

**Figure 5 The Backs**
- Draw one line equal to each length.
- Invert the pattern for the back in Figure 3, 4, 5, 6, and 7, and draw a line 5" from the bottom line.

**Figure 4 The Sides**
- Cut each side (A, B, C) from the side.
- Draw darts lines from dart points to the bottom of Fig. 6.
- Divide the back and center darts.
- Add label lines XX as shown.
- To prepare the underlay, see Figure 4.

**Flow Chart for Design 6**

- Prepare a copy of the basic front and back view, following the instructions of Figures 3 and 5. The finished skirt is illustrated.

**Figure 5**
- Cut each side (A, B, C) from the side.
- Draw darts lines from dart points to the bottom.
- Divide the back and center darts.
- Label darts lines XX as shown.
- To prepare the underlay, see Figure 4.

**Figure 4**
- Close darts on Fig. A. Remove on the fold. (If more fabric is needed, make the printed copy of the dart in one piece.)
- Spread dart sections twice as much as spaces in Fig. A. Add 1.25" to length. Remove opening.
- Spread section twice as much as spaces in Fig. B. Add 1.25" to length. Remove opening.
- Side seams:
  - Add one half of the X-C space to side seams.
  - Draw a line: Blend horizontals.
  - Repeat for back. Spread panels and add to the side seams.
PLEATS

A pleat is a fold or crease that everts fabric. Pleats are used to create subtle worn-in a single plane on a straight or curved or a deep contouring group of pleats on slits, bosoms, sleeves, fronts, and pockets. Pleats may be cut in various ways, but the principle is that the fabric is gathered together and then evenly divided into sections. They may be gathered only with or without the accompanying pleat, or they may be gathered together with or without the accompanying pleat. The pleat may be single, double, or triple. The finished shape may be pleated with the fold line or at an angle to it.

Types of Pleats

Box Pleats

Placed on the fabric that everts fabric. Pleats are placed on the fabric that everts fabric. Pleats are made in a single plane on a straight or curved or a deep contouring group of pleats on slits, bosoms, sleeves, fronts, and pockets. Pleats may be cut in various ways, but the principle is that the fabric is gathered together and then evenly divided into sections. They may be gathered only with or without the accompanying pleat, or they may be gathered together with or without the accompanying pleat. The pleat may be single, double, or triple. The finished shape may be pleated with the fold line or at an angle to it.

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Inverted Box Pleat with Backing

1. Mark A for pleat placement. (Example: 8 inches).
2. Mark 2 inches up from A and connect with B.
3. Cut the curve from paper.
4. Place contour line of the pattern on fold of the paper. Extend sections and trace the pleat.
5. Remove and cut pleat backings.
6. Fold the pleats and top stitch to hold in place.

Inverted Box Pleat Without Backing

1. Mark A for placement. (Example: 8 inches).
2. Square in 2 inches out from A.
3. Sew at the line.
4. Stitch at the edge.

Double Inverted Box Pleat

1. Mark A for pleat placement. (Example: 8 inches).
2. Height determines the amount of width needed. Square in 2 inches out from A and extend.
3. Notch every 1/4 inch for pleat fold.

All-Around Pleated Skirt

The all-around pleated skirt can be developed by using the pleat formula or it may be plotted by traditional means. Generally, it is less expensive for a manufacturer to send a skirt to a pleater than to have it done in the manufacturer's factory. Professional pleaters will custom the pleat to the length and hip measurements for all pleated skirts and to any length desired. Some small firms will plot pleats for those desiring a personal fit. (Refer to Appendices for additional information on pleat formulas.)

Design Analysis

The skirt should feature a skirt that enhances the figure. Each pleat is stitched approximately 3/4 inch below hip for better fit, using the pleat formula as a guide.

Pattern Plot and Manipulation

Measurements Needed:
- Waist
- Hip
- Length

Example: 30-inch waist, 40-inch hip, length 26 inches plus 3 inches for hem and waist seam = 26 inches.

Plot Formula:
- Number of pleats (N) needed
- Depth of pleat (D)
- Length of pleat (L)
- Hip circumference (H)
- Pleat spacing (P)

Figure 1 Plot Depth

Shade in the plot with the same allowance as the pleat to form a triangle. Draw a line from A to B and from C to B. Repeat the process until the last pleat is formed. Place all pleats and repeat the process until the last pleat is formed and then connect the dots. Draw the other half of the skirt pleat. Add to the waist allowance and pleat depth with pleat depth at the waist line.
Figure 2 Adjusting Neck to Shoulder

Plackets are joined to the back opening on the pins, making the neck opening smooth. Join the neck at the back on the pin, then fit the woven and knit neck openings. Example: 30-inch fabric and 30-inch fabric, difference between the side neck and center back neck is 5 inches, difference between the side neck and center back neck is 10 inches. Decide the difference by two times the number of pieces each piece has two sides example: 10-inch difference by 40 pieces each = 400 inches = 34 inches. This measurement represents the amount each piece will allow to fit in the waist.

Figure 3 Inverted Box-Placket Skirt

Design Analysis

The skirt features inverted box plackets in front with slightly flared leg at side seams. The back is full with a line; these can be either stitched or unlined, see Chapter 17 for pocket edging and lapels, and pages 284 and 285 for waistband and stitch limitations.

Pattern Put and Manipulation

Figure 2 12

1. Trace basic front and back skirt.

2. From a rectangular piece, the Dart point to hem, parallel to center back line, and mark 1/2 inch. Label & Trace a line from the dart point. Label A "pivot point."

3. Mark out 5 inches at side seam for future adjustment. Draw a line at the center point of the side seam line. See page 249, Figures 5 and 6, as a guide.

4. Cut from paper.
Methods for Stitching Darts

Method 1
- Draw dart legs lightly curved.
- Place the dart legs and match at center.
- Place the dart legs 3/8 inch and up from the center and up 3/8 inch at the center of the dart.

Method 2
- Trim excess to within 1/2 inch of the dart legs (seam allowance) and 1/4 inch for the dart.
- Match the dart legs and match at center.
- Place the dart legs and match at center.
- Place the dart legs 3/8 inch and up from the center and up 3/8 inch at the center of the dart.

Working Pattern Modifications
- Before cutting the working pattern, cut a dash line from top line to not through dart legs.
- Close the dart legs.
- Place the pattern on the dart, matching center front line. Place the remaining pattern outlined area, remove the pattern.
- With a matching wheel, trace across the pattern at the dart and cutting lines can be added in the pattern lines for cutting. The pattern sections cut in the pattern should be identified and labeled the best.
GODETS

Godets are generally triangular-shaped wedges of fabric placed between seams or inserted under a seam allowance for ease of shaping. Godets provide additional skirt room or may be added as a design feature to create accentuated curves or to accentuate the waist. They may extend evenly to the hemline or be positioned at the side seam to lengthen or enhance the skirt.

Basic Godet

Design Analysis: Designs 1 and 2

Design 1 is an example of a simple godet inserted into the skirt panel. The godet can be inserted with the side seam as shown in Figure 1, Design 2.

Pattern Plot and Manipulation

- Mark godet at desired placement (example: 3½ inches and label A-B-C).
- Draw the line horizontally at desired width (example: 4 inches). Label D-C. Connect A to C and mark a point on the line equal to the full length.
- Add 3½ inches for the gusset, then jog back to a ½-inch seam, as shown.
- Blend with the hemline.

Godet Variations

Godets may be contoured, squared, beamed, or shaped as a half circle, a three-quarter circle, or a full circle. For general instructions and illustrations as a guide for developing godet variations, see pages 214 and 215 for straight and zipper installations.

Design 1

- See Figures 1, 2, and 3.

Pattern Plot and Manipulation

- Plot pattern for cut-out design.
- Cut from paper.
- Use cutting section for spreading.
- Draw slash lines.
- Cut slash lines to, not through, the top of this section.
- Spread for free, sewn.

Design 2

- See Figures 1, 2, and 3.
**Wrap Skirt**

A basic, A-line, flared, or gathered skirt can be developed into a wrap skirt by extending the center front seam line, and the center back seam line to the sides. The hemline may be straight or curved. A belt or sash may be added to tie at the sides or center back. Designs are based on an A-line flare skirt.

**Wrap Skirt with Side Seam**

Pattern Flat and Manipulation

Figure 1
- Trace the front skirt. Extend a vertical line out from center front at the waist and hip extension and back for facing.
- Trace center front waist and 3 inches out from the waist (indicates the fold line for facing).

Figure 2
- Trace back skirt on the fold.

Figure 3
- Belt extends to the full length of the waist, less 1 1/2 inches. Mark button and belt buckle. Endless belt is hemmed and not worn.

**All-in-One Wrap Skirt**

Figure 1
- Align the side seams of the front and back skirt straight at side. A dart is inserted at the side waist.

Figure 2 Facing
- Trace skirt from waist to the curve of the bustline.
- Width = 1 1/2 inches to 2 inches.

Figure 3 Belt Construction
- Belt extends 26 inches beyond length of the waist and center back.
- Place belt loops in the waistband at right side of the skirt for tie to pull through.

Design 1
- Design 2
CIRCLES, PLEUMS, AND CASCADES

As creative elements, circles have always inspired designers. Circles can be designed as circular skirts, dresses, draperies, pleats, pleats, and as cones falling from various locations on the bodice into sleeves and other types of garments. They are formed as a ball (one or part of a circle, having a rounded, a pointed, or an intricate pattern). Circles in dress design are tested in the test draft that is displayed in a pattern making and an ornament. The radius in the form of a circle is the line that passes through the center of the circle. A circle through the center of the circle is also included. A discussion about construction techniques and its affects on the circle of the dress is also included.

Terminology

Circle centered: the point that is equidistant to all points on the circle
Radius: the distance from circle center (point A) to the circle's edge (point B).
Diameter: the distance across the center of the circle. The diameter of a circle of radius r is shown twice the radius (r x 2 or 2r).

Circle Within a Circle

A circle will have a circle within a circle for the purpose of designing. The inner circle is attached to the joining seam of the garment, and the outer circle is the boundary. The radius measurement establishes the circumference (distance) around the inner and outer circles. The length of the inner circle is the inner circle. The outer circle is the outer circle. The radius circle center provides the measurement, see page 247. Other methods are included.

Parts of a Circle

Think of the circle as having four separate sections. Sections of the circle are removed from the full circle to create a skirt or panel.

A circle is divided into the number of quarter sections: a full circle, three-quarter circle, half circle, or quarter circle. Each circle skirt is illustrated.
Radius Chart for Circle Skirts and Cascades

Purposes of the Radius Measurement

The chart provides a quick method for finding the radius of a circle in the skirt or cascade. The actual measurement shown is effective in the circle and the actual measurement shown is effective in the circle below.

How to Use the Circle/Cascade Chart

Columns 1 to Length Measurements

Measure the length of the circle in which the measurement must be found, select the nearest whole number.

Columns 2 and 3—Radius Measurements for the Circle/Circle Measurement

Select the length measurement column 1, go across the chart to the column of the distance from 0 to 10 radius measurements. Subtract 1/2 the measurement to get the radius adjustment.

The radius (r) plus the radius represents 1/8 inch added or subtracted from the measurement.

Length of the Skirt or Cascade

Length of the skirt or cascade is measured as described.

Other Methods for Developing Circle/Radius

- To find the radius, divide the measurement from Column 1 by the fraction given.
- How to find circle skirt.
- How to find circle skirt.
- How to find circle skirt.
- How to find circle skirt.
- How to find circle skirt.

The use of the Radius Chart and the circle tool is illustrated in the development of the following circle skirts.

Full Circle Skirt

The formula applies to all types of circle and circle edge measurements, and is based on a 2.5-inch radius. The example is given on page 294. A full circle skirt chart is illustrated.

Formulas

1. Total measurement = 2 radius + 2 circle measurements
2. Number of circle measurements = 1 circle measurement + 1 circle measurement
3. Subtraction: 1 circular measurement = 2 circles
4. Radius finished measurement = 3.5 times the radius
5. Length = 25 inches plus 1 inch for seam allowance

Circle Tool

1. Use the tool to measure and punch through the radius measurements and determine the location of the radius measurement and position, starting the measurement 1.5 inches from the top. X = starting point.
2. Y = radius, \( Y \) = circle radius, plus seam allowance.
Patterns Post and Development

Half circle skirt is drafted using the radius measurement. The pattern is cut next to complete the circle skirt.

Measurements needed

Mark and set length. The personal measurements are taken the same as given in the formula.

Paper needed

Cut paper 18 inches x 16 inches and fold in half.

Figure 1

Center fold of paper in A, X to Y = Radius measurement. Mark Y to Z = Skirt length. (plus allowance) Circle next clockwise a few ply’s. Secure the pinned upper side of paper on the back mark. Lift the tape measure up and show around through the hole (Y). Draw the radius and Z above the bottom.

Figure 2

Optional. To finish the line at center back, cut 1/4 inch. The back cut be lowered 1/4 inch.

• Cut the skirt from the paper and make a duplicate copy to complete the circle.

Figure 3

Rectangular Skirt with Four Seams

The location of the straight grainline can be changed to center the fall of flaps of skirt having cascades. See page 274.
Granite Placement Relative to the Fall of the Fabric

Granite 1: These fall toward the side and skirt front; straight granite.
Granite 2: These fall toward the front and toward the seam which connects front and side seams.
Granite 3: These fall at center, side seam, and in between placed at each center.

Hemline Adjustments

A seam allowance should be hemmed or rolled and the hem fall straight. Mark the hemline with a chalk or a piece of thread to the correct length. Bend the marked hemline and trim the overhang. Place the overhang on the skirt pattern, front and back. Add seam allowances. Trim seams.

Figure 1

Three-Quarter Circle Skirt

A quarter-section of the last piece is needed. This results in a less hemline area but an increase in the ease measurement to compensate for the loss of the waist. The skirt can have any waist, back or can be cut in many more pieces. For the choice of granite placement on page 294.

Pattern Plot and Manipulation

Formulas

Add seam allowances:

- **Yes**
- **No**

Subtract 1" for waist

- **Yes**
- **No**

Locate the measurement on the chart and go to Column 4, 0.34" circle.

- **Yes**
- **No**

If using the sample measurement of 35" inches, the circle is 3.50", plus three 0.25" inches; total measurement will be 9.44" inches. Length plus hem, as divided.

Figure 2a

Paper Layout

Cut a 64-inch square of paper. Tape paper to circle chart.

- **Yes**
- **No**

Figure 2b

Left side from paper.

- **Yes**
- **No**

Cut the side into 4" strips.

- **Yes**
- **No**

Cut the side into 6" strips. Neat to identify matching seams. See options on page 294 for the placement of the granite.
**Half Circle Skirt**

Fold pattern half through center. Note how to line the inner lining of the skirt. Line up the rings. The drapery may be used as a support. The inner lining is 14 inches less than the skirt length. 

**Pattern Fit and Manipulation**
- Base measurement: Add 3 inches for bust. Add 1 inch for waist. 

- **Figure 1**
  - Use this measurement in Column 1 of the Kenise Circle Chart and proceeds to Column 3. 
  - Use your measurements in the chart to determine the circle measurement. 
  - The circle measurement will be 8.3 inches. 
  - Length plus hem, as directed.

- **Figure 2**
  - Cut the skirt from the pattern. 
  - Branding was calculated, cut in half. 
  - All seam allowances are calculated. 
  - Seams are in place and the skirt is sewn. 
  - Hems are not needed. 

- **Figure 3**
  - Branding was calculated, cut in half. 
  - All seam allowances are calculated. 
  - Seams are in place and the skirt is sewn. 
  - Hems are not needed. 

- **Figure 4**
  - Branding was calculated, cut in half. 
  - All seam allowances are calculated. 
  - Seams are in place and the skirt is sewn. 
  - Hems are not needed.

**Circular Skirt with Handkerchief Hem**

**Design Overview**
- The design is a circular skirt with a handkerchief hem. 
- The skirt is designed for even hemlines only.

**Pattern Fit and Manipulation**
- **Figure 1**
  - For a circular skirt, increase the waistline measurement. 
  - Example: 8 inches more or less. 
  - Locate radius for full-circle in Column 5 of the Circle Chart. 
  - Fold pattern in half, label center of waist X. 
  - Use your measurements in the chart to determine the circle measurement. 
  - The circle measurement will be 12 inches. 
  - Cut fabric. 
  - Branding was calculated, cut in half. 
  - All seam allowances are calculated. 
  - Seams are in place and the skirt is sewn. 
  - Hems are not needed.

- **Figure 2**
  - Branding was calculated, cut in half. 
  - All seam allowances are calculated. 
  - Seams are in place and the skirt is sewn. 
  - Hems are not needed.

- **Figure 3**
  - Branding was calculated, cut in half. 
  - All seam allowances are calculated. 
  - Seams are in place and the skirt is sewn. 
  - Hems are not needed.
Circular Skirt with Graduated Length Hemline

Design Option:
The design has double circular skirts with one side that is gathered than the other. A center box is formed by the front of the skirt passing on either side. Material ties are attached together. If the waist is too small, add 1.5 inches to final measurement. (For a girl's dress, add 2 inches to final measurement.)

Formulas for Lengths:
- To find radius, follow instructions for the circle and radius circle chart, page 250, Columns 1 and 2.
- Determine shortest and longest lengths needed. Add both measurements together, plus 1.5 inches, and round total measurement.
- Divide the measurement in half and round.

Example:
- 21-inch half-shoulder line - 4 + 1/2 inch radius (full circle).
- Shortest length - 20 inches.
- Longest length - 26 inches.
- \( r = \text{radius} = 8.54 \) inches.
- Total = 44.18 inches.

Pattern Plot and Manipulation:

Paperwork:
- Material: 1/4 inch.

Figure 1:
- Fold paper and mark center, \( A \).
- \( AB = \) one-half of total length (use paper 32 x 32 inches). Draw the hemline using measuring devices (see page 250, if necessary).
- \( ZA = \) short length of skirt. Mark.
- \( ZA = \) radius measurement minus 1/2 inch for stretching seams, plus 1/2 inch. Cut outer circle from paper.

Two Circles at Waist (Not Illustrated)

Pattern Plot and Manipulation:
- Measurement: waist, skirt measurement plus seam allowance two inches, add 2 inches for seams, add 4 inches.
- To make a circle skirt with two circles, divide the skirt measurement into two.
- Add the measurement in Column 1 of chart.
- Subtract radius for the high circle in Column 3, less 1/2 inch.
- Cut two circles.

Gathered Circular Skirt (Not Illustrated)

Pattern Plot and Manipulation:
- To add gathers to the waistline of a circular skirt, increase the waist measurement. (Example: waist measurement = 24 inches, add 1.5 inches for gathers, plus 1/2 inch.)
- Use 32 inches of cotton and fold 1/2 inch needed in columns 7, 8, or 9 in the following manner.
SELF-EVALUATION TEST

Circle T for "true" or F for "false." Check your answers, see page 105.

1. The skirt silhouette and skirt design are the same.  T  F
2. The front pivot is where the zipper stops.  T  F
3. The basic skirt hangs straight from the hip area.  T  F
4. A ragged edge can have greater latitude at waist than at hem.  T  F
5. The facings of the skirt have minimal movement.  T  F
6. Width of the waistline is called the hip.  T  F
7. The space between dart legs is metal for design.  T  F
8. Skin darts can be combined to create special designs.  T  F
9. The waistband is the same as waistline measurement.  T  F
10. Placement of the gusset affects the flare of the skirt.  T  F
11. Placing adjacent seams means the angles of the dart.  T  F
12. A ratio 1:2:1 in fullness indicates insignificance in fullness.  T  F
13. The weight of the attire affects the ratio of fullness.  T  F
14. A seams changes jog along the same seams.  T  F
15. The dart excess is never included with added fullness.  T  F
16. Adding fullness will fall in direction of the dart line.  T  F
17. Ignore dart excess left over when yokeless is draped.  T  F
18. Plain groups that face in same direction are box pleats.  T  F
19. Fan-out pleats that graduate from waist are accordion pleats.  T  F
20. Box-pleat skirts stretch and hang uneven at the knee.  T  F

Sleeves

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INTRODUCTION

Sleeves have been used as a device for changing the silhouette of garments throughout the history of fashion. In the 1860s, the dominant silhouette was a large upper sleeve—a shape that puffed out from the shoulder with the lower section tapered toward the wrist. For the next 50 years, the sleeve fell straight from the shoulder to the wrist. In the 1860s, it was replaced by an elongated, elongated-sleeve shape that extended from the shoulder to the wrist. In the 1880s, the sleeve was shortened and included a rounded shoulder seam signifying a return to a natural shoulder with minimal padding. By the early 1900s, the sleeve had returned to its original shape with a more rounded shoulder. The shape gradually diminished and disappeared and will probably reappear again.

There are two major classifications of sleeves; the set-in sleeve and the split-in sleeve. The set-in sleeve is cut separately and stitched into the armhole. The split-in sleeve is cut as part of the bodice. Set-in sleeves are introduced in this chapter. Sleeve details and variations are discussed in Chapter 15.

Split-in Sleeve

Sleeves can be designed to fit the armhole smoothly or with gathers. They can be designed flat, with or without excess fullness and can be cut to any length.

The finish of the sleeve can be finished in a variety of ways, as will be illustrated in this chapter.

Terminology

Sleeve cap: Curved top of the sleeve from front to back.

Cap height: Distance from the base of the cap to the armhole.

Sleeve length: Distance from the base of the cap to the base of the sleeve.

Elbow level: The location of the elbow is labeled with the elbow of the arm.

Wrist level: The bottom (hemline) of the long sleeve, level with the wrist.

Gusset: Center of sleeve from top of the cap to the base level—straight grade of sleeve.

Quartering sleeve: Sews divided into four equal parts from cap to wrist. Use as guidelines for spreading the sleeve. Quarter sections are labeled X (see illustration).

Notches: One notch indicates front sleeve; two notches indicate back sleeve. Cap notches indicate sleeve whose shoulder and elbow are extended to varying lengths.

Elbow Dart Variations

The elbow dart excess may be converted into another dart or pleat, treated as ease, or transferred to other locations around the pattern for design variations.

Darts or Pleats

- Draw slash lines 1/2 inch above and below dart legs and from dart point to elbow level (Figure 1).

- Cut slash lines and spread sections to equalize dart excess. Divide one dart into two, omitting dart points and punch and indents (Figure 2).

- Mark notches 2 inches up and down from dart legs.

- Draw blending line over dart area (Figure 3).
**Shoulder Pads**

The construction and appearance are suited to the accompanying shoulder pads. Add the thickness of the cloth to the shoulder and to the sleeve top one half times for added height. It is not necessary to add to the shoulder or pad garments with a lined seam or a sleeve without one in the armhole of the design unless there is for the shoulder pad.

**SLEEVES**

Sleeve cuffs are divided in a variety of widths and styles in a number of measurements, patterns, and so on. The most common are the basic shirt cuff (the French) cuff: the boxed cuff; the sleeve cuff; and the wide, pinned cuff. Other design variations are usually developed using the general instructions as a guide. The guidelines can be altered to accommodate height, size, or style as appropriate for the pattern or basic design pattern and stripes. For which constructions, see page 49.

**Measurements Needed**

| Armhole | Cuff | 1/2 inch | Cuff width as desired. Example: 6 1/2 inch. (4) for a basic cuff 2 inches wide.
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**Basic Shirt Cuff**

- Fold paper lengthwise.
- Draw a parallel line 1/2 inch long (any size).
- Add 1 inch for extension.

**French Cuff (Used with Collar)**

- Fold paper lengthwise.
- Subtract 2 inches from fold and measure the cuff width.
- Draw parallel line 8 1/2 inches long. Mark for height and add 1/2 inch extension to both ends of the cuff. Connect ends.
- Mark for buttonhole (see Chapter 16).
- Add seams and zigzag.
- Cut from the paper.

**Self-Faced Cuff**

- Develop cuff using general instructions.
- Cuff can be designed directly at the pattern, or curve through lines.
- Cut four pieces to complete the set.
Contoured Cuff

Design Analysis

Contoured cuffs follow the shape of the arm and should be made of a stretch fabric such as interlock or jersey. The design of the cuff and upper sleeve is based on the arm shape—straight, rounded, pointed, or asymmetric.

Measurements Needed

- Arm measurement plus 2 inches
- Sleeve measurement from the elbow to the cuff measurement and round the difference

Drafting the Cuff

The complete sleeve is illustrated.

- Trace the basic sleeve.
- Trace dotted cuff line (thick area).
- Place a guideline from the cuff point to the back center.
- Divide the completed cuff pattern into equal sections (usually 4 or 5) equally spaced from the opening to the cuff line.
- Draw a straight line parallel to the guideline, add length for facing, and mark center X, where X points of the cuff must overlap.

- Fold both Set A, B, C, D, and E at their respective fold lines.
- Draw the guideline with a marker on both sides of fold as guides and cut from the paper with a

Roll-Up Cuff

Design Analysis

Roll-up cuffs are developed all-in-one with the sleeve or in separate cuffs attached to the sleeve and sewed up. To develop this type of cuff, determine the finished length of the sleeve; then, add cuff length and add 2 inches (for interfacing). Use these measurements or personal measurements. See the process for pants with cuffs.

Add-On Cuff with Sleeve

- Trace sleeve in finished length desired, label A-B.
- Draw three parallel lines spaced 1 inch apart before hem (A-B line), label Sections 1, 2, and 3.

- The completed pattern shape for the sleeve.

- Fold sleeve to finished length desired, label A-B.
- Draw three parallel lines spaced 1 inch apart before hem (A-B line), label Sections 1, 2, and 3.

- Fold sleeve and mark center X, where X points of the cuff must overlap.

- Fold set A, B, C, D, and E at their respective fold lines.
- Draw the guideline with a marker on both sides of fold as guides and cut from the paper with a
CAP SLEEVES

Cap sleeves can be worn from the arm (Design 1) or continue to the wrist (Design 2). This type of sleeve can be shaped in a variety of ways and is useful for designing in a blouse, dress, or shirt.

Puffing Cap

Pattern Plot and Manipulation

Figure 1: Sleeve Cap
- From approximately 1 inch from cap beginning, draw a vertical line up from arm.
- From 4 inches from each side of the underarm, add 1/4 inch more to each side of the cap. Add near curve from the cut height to center if necessary.

Figure 2: Cap Sleeve
- Trace a copier of the puffing sleeve. Slash and spread 1/8 inch down or less as desired. Blouse sleeve cap.

Figure 3: Short curved cap sleeves can be self-faced.

DARTLESS SLEEVE PATTERN

The dartless sleeve pattern derives from the basic sleeve in two steps. It does not have an elbow dart and 1/4 does not taper in the hemline. Its purpose is to provide a smooth, sweeping hemline (long, frothy, slight) to the sleeve or the entire cap (see sleeve design). It does not require an elbow dart (see sleeve design).

Two dartless sleeve patterns are illustrated, a half pattern and a full pattern. The basic sleeve pattern can also be used to develop a design, but the dartless sleeve pattern simplifies the process.

Pattern Plot and Manipulation

Figure 1:
- Trace basic sleeve, including all markings (broken line indicates original pattern).
- A-C = A-B, squared down from B.
- D-E = A-C, squared down from D.
- Draw a line from C to E, mark center and label 1.
- Measure out from each side if one half of entire movement. Mark.
- Cut from paper; discard unneeded sections.

Figure 2: Full Sleeve
- Divide line equally on both sides of the guideline to quarter the curve. Label X.

Figure 3: Half Sleeve
- Cut a copy of the back sleeve from grain line and cut out scores. Take front end round curving into the back armhole. (When using the half sleeve, the sleeve guideline on the half and the front method is used and oriented when needed.)
MODIFYING ARMPHOLE TO REDUCE SLEEVE CAP EASE

Figure 1. 1/4" sleeves can be eliminated by lowering the sleeve cap with a 1/2" slash and spread 1/4" at center back. This is sufficient for lifting over the bust of the body. Excess can be trimmed away from the sleeve edge. Sleeve cap is traced over to specimen to be drafted. Modify to any pattern in combination to solve the lifting pattern.

Options
- Leave front and back armhole, reduced up to 1/4" at each (Figure 3).
- Add 1/8" at shoulder and side seams, to area (Figure 2).
- Sleeve cap length 1/4" to 1/2" for full sleeves (Figure 4).

PUFF SLEEVES

Design Analysis: Designs 1, 2, and 3

- Full sleeves have fullness added - Principle 2. They are designed with gathers at the shoulder, at the capline, or at the capline and forearm. The fullness can be any length, and fullness can be more or less than 1/2" horizontal. No additional space to modify armhole or sleeve cap. The dartless back pattern is the base for creating full sleeve designs.

Figure 3. Fullness at Hem

1. Use the dartless back pattern for the following puff sleeve designs.
2. Place sleeve 2 inches below hem.
3. Draw and cut slash lines from hem to but not through capline.
4. Add 1/4" to neck seam.
5. Mark seam allowance and cut from paper.

Figure 4. Sleeve Arm

1. Shape arms with elastic, or pull through armhole to secure short sleeves. Sewn at shoulder, above elbow, above measurement plus 1/2" below elbow. Sewn at elbow, add the arm at the length of the sleeve length. Add 1/8" at center.
CIRCULAR HEMLINE SLEEVES

Fullness of Cap

Figure 1
- Use the dartless half-sleeve (see page 305, Figure 1).
- Place the sleeve on paper with seam line along fold. (Place the back 1/2 inch over fold.)
- Mark and draw curved line.
- Cut along the paper.

Fullness of Hem and Cap

Figure 1
- Use the dartless half-sleeve (see page 305, Figure 1).
- Mark and draw curved line.
- Cut along the paper.

Figure 2
- Trace the pattern, notch, and trim front sleeve curve.

Face
- Trace facing of the sleeve 1/4 inches wide.

Figure 1
- Trace pattern, draw the guideline. Notch turn front sleeve curve.

CIRCULAR HEMLINE SLEEVES

Fullness of Cap

Figure 1
- Use the dartless half-sleeve (see page 305, Figure 1).
- Mark and draw curved line.
- Cut along the paper.

Figure 2
- Trace dartless sleeve back 2 inches below biceps. Remove pattern. Squirt a line across the sleeve form.
- Draw sketch lines.
- Cut each line by, not through, cap.
Bell Sleeves

Design Analysis

A bell sleeve is a smooth cap and a hemline slanting out in the shape of a bell. The bell sleeve may be developed in any length and size desired. It can be based on the dartless sleeve, or the enlarged hip, or the extended hip, or any number of methods. The dartless sleeve illustrates three sleeve lengths.

Pattern Plot and Manipulation

Figure 1

- Draw the dartless sleeve block, including a quarter sleeve, length of sleeve, and armhole.
- Mark length of sleeve as desired; below hemline, allow easing or fullness.
- Draw a full line between the side and armhole.
- Cut as shown, not through cap.

Figure 2

- Fold paper.
- Place sleeve on the fold of the paper and spread for desired shoulder length or armhole length.
- Trace the pattern outline. Trace front and back sleeve.
- Draw an inverted curve to fit underarm.
- Cut front of pattern, draw guideline, and trace front armhole curve (full pattern shown).

Figure 3

- Cut the back of the pattern, draw guideline, and trace the back armhole curve.

Figure 4

- Trace the back pattern and cut.
- Trace again for the front pattern.
- Cut the front, trim the excess from underarm curve (chord area) where guidelines.

Figure 5

- Align underarm and trace the pattern.
- Draw the guidelines, cut from paper, and trace the sleeve curve.

Petal Sleeves

Design Analysis

The petal sleeve resembles a petal in the sleeve sections which is drawn in each section at the cap. The sleeves are developed in a number of ways and in varying lengths. The petal sleeve is well suited for the casual type of garment, and the petal section is made to fit the sleeve. The front and back sections are combined to form the sleeve. All these variations are developed from the same pattern.

The sleeve may be self-faced or faced. See page 315 for adjusting the armhole.

Plan Petal—Design 1

Pattern Plot and Manipulation

Figure 1

- Draw the dartless sleeve to 1 1/2 inches below hemline, include full armholes.
- Measure in 1 1/2 inches at the underarm. Draw a line to the corner of the sleeve:
  - A & C 5 inches; Mark.
  - A & C 3 1/2 inches; Mark.
- Draw petal guideline.
- Trace front sleeve curve far from petal.
- Cut the back petal from the pattern.

Figure 2

- Two-Piece Petal
  - Trace the petal pattern and cut.
  - Trace again for the front petal.
  - Cut the front, trim the excess from underarm curve (chord area) where guidelines.

Figure 3

- All-in-One Petal
  - Align underarm and trace the pattern.
  - Draw the guidelines, cut from paper, and trace the sleeve curve.
Gathered Petal—Design 2

- Trace back petal from Design 2. Extend measurement length 3 3/4 inches. Dotted broken line is original petal line.
- Trace slash lines.
- Adjust the ambiere; see page 310.

Figure 4

Petal—Design 3

- Trace back petal from Design 3. Draw slash lines equally across the pattern.
- Adjust the ambiere; see page 310.

Figure 7

Figure 8—Back Sleeve
- Cut slash lines to not through the backline. Place on the paper and spread the pattern example 3 3/4 inch on each side. 2 1/2 inch straight edge to corners.
- Trace and remove the pattern.
- Add 1 inch to cap height. Blend and cut from the pattern.

Figure 5

Figure 6—Front Sleeve
- Trace the front sleeve.
- Cut and trace from the sleeve case. (If alternate petal is desired, align underarm. See figure 4.)

Figure 9

Figure 10—Long Lantern Sleeve—Design 1
- Armhole round (See page 314.)

Figure 11

Pattern Petal and Manipulation
- Trace the lantern sleeve pattern and all markings.
- Label quarter sections.
- Mark on half of the armhole; measure 1 1/2 inch from each side of the grins at the hemline.
- Draw lines from the wrist marks to hem.
- Draw a guideline to center from the hem (center).
- Divide the sleeve into eight parts and number.
- Cut and discard the unmatched segments (shadowed area).

Figure 12
Figure 2: Cut and separate the upper and lower sections.

Figure 3: 
- Place the paper on the table, spread the desired amount of paper, and trace.
- Measure down 1 inch from the bottom edge.
- Blend a curved line to the underarm.
- Draw a smooth line of sleeve.
- Cut from the paper.

Figure 4: 
- Trace back half of the shoulder pattern to the underarm curve.
- Draw a box from the underarm curve to the bottom edge, then measure 1/2 inch in from the bottom edge.
- Draw a line parallel to the original shoulder curve.
- Draw a line parallel to the original shoulder curve.

Figure 5: 
- Cut the underarm curve.
- Cut and separate the upper from the lower section.

Figure 6: 
- Cut through the armholes.
- Trace the lower section, spreading the same amount as the upper sleeve.

Figure 7: 
- Draw a line parallel to the original shoulder curve.
- Draw a line parallel to the original shoulder curve.
- Draw a line parallel to the original shoulder curve.
- Draw a line parallel to the original shoulder curve.

Figure 8: 
- Cut through the armholes.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.

Figure 9: 
- Cut through the armholes.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.

Figure 10: 
- Cut through the armholes.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.

Figure 11: 
- Cut through the armholes.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.

Figure 12: 
- Cut through the armholes.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.

Figure 13: 
- Cut through the armholes.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.

Figure 14: 
- Cut through the armholes.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.
- Trace the lower section, spreading the same amount as the upper sleeve.
SLEEVES WITH EXTENDED CAPS

**Darted Cap**

**Design Analysis—Design 2**

Darts point out from the end of the arm and are continued by darts down the back. Design 2 is based on the same pattern, except that the cap is lined for gathering. Cap collar can be eliminated, as illustrated, or see page 399 for adding to the arm hole.

**Bottom Fit and Manipulation**

- Trace the basic sleeve.
- Draw dash lines 2 inches away from the center grain line at cap.
- Draw 1/8 inch wedge along each dash line at the cap (1/2 inch from each side of notch to center of the grainline). This eliminates some of the cap ease. (Dotted) instruction if the armhole has been adjusted.
- Cut the sleeve from paper. Draw and uncut sections of dotted lines.

**Figure 1**

- Mark lines to 1/16 inches, not through, corners of the grains.
- Raise darts 1/16 inches. Spread sections equally and trace.
- Center and mark the dart point 1/16 inches down each opening. Draw dart legs.

**Figure 2**

- Fold dart legs, clipping pattern to blend cap.
- Unfold and mark notches and pinch circles.

**Crescent-Shaped, Extended Cap**

**Design Analysis—Design 3**

The sleeve cap is curved, forming a crescent-shaped style (see plate 1) to the armhole. Instruction for Design 4 is available in this project. See page 399 to adjust the armhole.

**Pattern Fit and Manipulation**

- Trace basic sleeve and all markings.
- Label center grainline A. Mark E 1/4 inch above from A.
- Mark Band C 1/4 inch from A.
- Separate 1/16 inch between B and C and between E and H.
- Trace a curved line from D to F parallel to the sleeves.
- Cut the slits from paper.
- Cut darts carefully from A to E and E to D, and so on.
- Cut outlines from A to E, B and A to C.

**Figure 1**

- Cut to, not through, remaining slits lines from inner to outer cap. Place paper underneath and secure.
- Spread on paper. Sections D and E touch curve of the sleeve.
- Measure the spread space and use as a spread amount for the next wiffet.
- Secure by pressing spread sections to the paper underneath.
- Square lines from A equal to grain width 1/16 inch. From this point, draw lines to D and F parallel to the cap. Note B and F lines should be equal 1/16 inches. If not, adjust by increasing or decreasing spread, line to line.
- Cut from the paper.
- Slash through to elbow.
Gathered Crescent Sleeve

Design Analysis—Design 4

The sleeve extends beyond the fall of the arm, with gathers forming around the crescent sleeve.

Instructions given for the crescent-shaped extended cap sleeve, with the following exceptions:
- Spread point 6 inches or more.
- Measure up 1 inch to form a gathered section ending at point E.

Sleeve with Vertical Pleat

Design Analysis

A pleat is folded through the length of the sleeve and over the sleeve cap. The pleat is stitched to gather at the shoulder tip.

The sleeve can be developed with the darts to form the foundation. The bands can be held by cuff, the sleeve placket, or the sleeve placket bands can be extended to form fuller. If a cuff is desired, see page 395, adjust the sleeve using the instructions on page 316. Design 2 is thought to be problem.

Pattern Plot and Manipulation

Figure 1: Draped half pattern. If the draped sleeve is not available, see page 399. For rectangular, the cap is the guideline is horizontally 1.5 X. See Figure 2:
- Fold paper and square a line across the paper 1.5 inches down from the neck line.
- Drape pattern on the fold, aligns the sleeves line with the guideline. Secure.
- Trace the sleeve cap from A to B, and trace the neckline.
- Measure the cap from A to B. Record.
- Shift the pattern 1 inch on guideline. Pattern is parallel with the fold. Secure.
- Trace to complete the pattern, starting from X.
- Extend X line using A to X measurement. Square across X to parallel down to match X, completing the sleeve draft. Mark the center of the pleat fold.
- Complete the pattern for a full fit.

Figure 1

Front outline

Sleeve length

Sleeve level

Neck line

Gather line
**LEG-OF-MUTTON SLEEVES**

**Design Analysis**
Design 1 is developed by enlarging the biceps and cap area, tapering the fullness toward the elbow level. Design 2 is developed by broadening or Tripping the maximum given. True 1/2 inch from the shoulder line, blend to E/B armhole notch, to balance the design.

**Pattern Plot and Manipulation**
- Trace the basic sleeve and all markings. Label cap A and B.
- Mark 2 inches down from cap on the guideline, label C.
- Draw slash lines from C to underarm.
- Cut from the paper.

**LEG-OF-MUTTON SLEEVES**

**Design Analysis**
Design 3 is developed by changing the slope of the sleeve, creating a more fitted look. Design 4 is developed by broadening the sleeve area, creating a looser fit. True 1/2 inch from the shoulder line, blend to E/B armhole notch, to balance the design.

**Pattern Plot and Manipulation**
- Trace the basic sleeve and all markings. Label cap A and B.
- Mark 2 inches down from cap on the guideline, label C.
- Draw slash lines from C to underarm.
- Cut from the paper.

**COWL SLEEVES**

**Design Analysis**
The cowl sleeve is based on the center of the sleeve capacit to a desired depth (maximum 5 inches). It is developed from the dartless back sleeve to any sleeve length. Designs 1 and 3 are variations.

**Pattern Plot and Manipulation**
- Trace the dartless back sleeve.
- Mark 1 1/2 inch from cap (eliminates cap ease). Omit instruction if the armhole was modified.
- Mark B 5 inches or more down from the cap. Correct A and B.
- Mark C 2 inches from A.
- Mark D between the biceps and elbow.
- Draw slash lines from C and D to B.
- Cut from the paper. Draw shaded area at cap.
- Slash from B to not through. Cut cap, D at underarm, and from elbow level to underarm.

**COWL SLEEVES**

**Design Analysis**
The cowl sleeve is based on the center of the sleeve capacit to a desired depth (maximum 5 inches). It is developed from the dartless back sleeve to any sleeve length. Designs 1 and 3 are variations.

**Pattern Plot and Manipulation**
- Trace the dartless back sleeve.
- Mark 1 1/2 inch from cap (eliminates cap ease). Omit instruction if the armhole was modified.
- Mark B 5 inches or more down from the cap. Correct A and B.
- Mark C 2 inches from A.
- Mark D between the biceps and elbow.
- Draw slash lines from C and D to B.
- Cut from the paper. Draw shaded area at cap.
- Slash from B to not through. Cut cap, D at underarm, and from elbow level to underarm.
WEDDING SLEEVES

The traditional long, bell-shaped wedding sleeve is based on the basic sleeve with the elbow dart extended to the shoulder. Other variations are also possible, see Designs 2, 3, 4, and 5.

Design Analysis

The sleeves of Design 1 are a modified basic with loops and trim on the edge of the opening.

Pattern Plot and Manipulation

Figure 1
- Trace the basic sleeve.
- Draw a dash line from the dart point to mark 2 inches from the underarm, label A.
- Label that corner of the front underarm.
- Draw a guideline 1 inch over from the guideline and 2 1/2 inches from the front, label B.
- Draw a guideline from C to A and B.
- Cut from the paper.

Figure 2
- Cut slash lines not through the dart point.
- Close the elbow dart. Tape.
- Trace the pattern and mark grainline.
- Mark placement for loops. Specify desired size. (Dart layout may be stretched 1 to 2 inches down to shorten its length.)

Figure 3
- Trace the sleeve section for the facing indicated by the fashion line in Figure 2.
- Separate lining at the dart point for seam allowances.
- Add seem and grainline.

Figure 4
- Trace the sleeve section for the facing indicated by the fashion line in Figure 2.
- Separate facing at the dart point for seam allowances.
- Add seem and grainline.

SLEEVE DESIGN VARIATIONS

Designs 2, 3, 4, and 5 show possible sleeve variations. Remember, the dart can be transferred to any location around the pattern's outline.
SLEEVES WITH LOWERED ARMHOLE

Design Analysis:
Design with dropped armholes (originally called Bishop sleeves) require sleeve and body modifications. The reduction of the sleeve must be increased to lengthen the amount equal to the lowered armhole. Sometimes, the arm cannot be raised without strain on the upper garment if the armhole is too low. To prevent this, the length of the arm opening is increased slightly under the center back seam. This portion of the sleeve will drop off the arm to ensure freedom of movement in the armhole.

Pattern Plotting and Manipulation:

- Figure 1. Basic neck bodice.
- Mark armhole 2 or more inches on the sleeve and bodice. Hint: Draw a curved line from mark to center.
- Draw another curved line 2 inches below first line of the sleeve.
- Cut from the paper. Trim shaded areas.

Figure 2. Sleeve Modification:
- Cut line through the curve.
- Place on the paper, fitting each section 3 to 4 inches, below.
- Trace the sleeve, blending a line from corner of the armhole lower and sleeve cap.
- Cut from the paper.
- All of the above: see page 310.

BASIC BISHOP SLEEVES

Design Analysis:
The Bishop is a boxy sleeve that hang gracefully over the arm from a smooth cap. Length is added for bishoping.

The sleeve draft is based on the 310 sleeve. See Chapter 21 for bishop sleeve manipulation. The Bishop sleeves are made uniform by adding the length of the armhole to compensate for the lowered armhole.

Bishop Sleeve Draft:

- Figure 1. Trace the shirt sleeve and all markings.
- Measure the gussets.
- Label the gussets A and B.
- Mark the quarter section 8.

For full development, see page 310.

For Bishop sleeves, see page 467 for blouse sleeves.
EXAGGERATED BISHOP SLEEVE

Design Analysis
The exaggerated bishop sleeve is based on the bishop pattern, with greater fullness at the wide and longer length for greater blossoming. For full development, see page 312.

Pattern Plot and Manipulation

FIGURES 5, 6
- Trace the basic bishop sleeve; see page 311, Figure 6. Write quarters-sections form in full right panels.
- Cut from paper Figure 1.
- Cut along back to, not through, the sleeve cap.
- Vertical or diagonal lines through top edge
- Bring a curved line 1 inch below original length for blossoming, requiring to underarm (figures 1 and 2). On one side, make 2 inches long, 1 1/4 inches wide, and cross with notches.
- Draw a guideline, cut and mark the notches. Complete the pattern for test fit (Figure 10).

SELF-EVALUATION TEST
Fill in the blanks. To check your answers, see page 312.

1. Name two basic sleeve
2. Widest part of the basic sleeve is
3. Number of notches for the back is
4. Center cap notched to
5. A short cap covers the sleeve to
6. Adding length to a cutted sleeve creates
7. The center bishop is lifted for cap

8. Shorten the for exaggerated puff sleeves.
9. One way to reduce cap ease is to
10. Add to to reduce cap ease.
11. The average cap ease for an adult basic sleeve is
12. A basic sleeve fits exactly in front of
13. Cap pockets indicate
14. The greater fullness for the bishop sleeve is
15. To save a sleeve cap.
Kimono, Raglan, Drop Shoulder, and Exaggerated Armholes

INTRODUCTION TO SLEEVE-BODICE COMBINATIONS

Kimono, Raglan, Drop Shoulder, and Exaggerated Armholes
**BASIC KIMONO**

The Japanese kimono is developed by combining the sleeve length with the body or top. The basic kimono is the basis for developing the kimono cover. The kimono can be adapted and modified for a variety of other designs, several of which are illustrated here. Some illustrations appear on the facing page and are shown along the side, overlapping in the kimono style. The "bouffant" sleeves, with the armhole dropped into the kimono design, are continued by extending part of the dart curve to the side seam, below the kimono pattern. The basic kimono draft is shown in the side diagram. To draft a kimono based on the side foundation, see page 350.

**Kimono Draft**

- Draw a line from the shoulder tip to the side seam. Draw the basic back pattern, transferring the shoulder dart to each end.

**Figure 2: Front Pattern Preparation**

- Trace and cut the basic front pattern.
- Draw the line from the mid-shoulder and dart point to the bust point.
- Mark to cut through the line. Set aside until the back draft is complete.

**Figure 3**

- Mark 1/8 inch from the shoulder tip.
- Place a side of mid-shoulder, extending the dart, and draw the length of the sleeve.
- Square a line from the armhole measurement.
- Draw the line to the armhole.
- Cut from the paper. Trace a second copy and mark the original shoulder tip as a guide.

**Figure 4**

- Trace the front pattern on top of the traced copy, and place a pin at the shoulder tip. Allow for the shoulder dart mark on the back pattern.
- Cut the side dart until the side seam touches the side seam of the back (below the bust point, if necessary) before.

- Trace the front pattern in red pencil from mid-shoulder and the side seam. This line is now a part of the front pattern. Remove pattern.
- Blend the front shoulder dart to the side shoulder of the traced back pattern.
- Cut around the front pattern and sleeve.
- Complete the pattern for a fit.
BASIC DOLMAN

Design Analysis

The dolman has lowered shoulders with exaggerated darts under the arms, providing a high arm line. It is developed from the basic kimono. Originally a dolman was a lowered armhole with a set-in sleeve. (See page 258.)

Pattern Plot and Manipulation

Figure 1, 2
- Trace front and back kimono foundation.
- Draw slash lines from the shoulder tips, ending 3 to 4 inches up from the waist.

Figure 3
- Slash or pivot to spread underarm darts, giving as much lift as desired. Blend the underarm. Bold and uneven broken lines indicate possible dartless design variations. For practice, explore other design variations.
- Repeat the back and front patterns.

Short Sleeve Kimono

Figure 1
The kimono sleeves can be cut any length. A popular style is the easy shoulder dart sleeve. Follow the directions for developing this design. Note that the sleeves were shaped to prevent any point at the front or back. A lining is required for the curved line.

Figure 1
- Choose length.
- 3/4" to 3/4"
- Notch facing.
- Repeat for back pattern.
ONE-PIECE COMBINATIONS

One-piece combination designs are developed by adjusting the bust and back patterns along either the sleeve (Design 1) or the shoulder (Designs 2 and 3). The instructions for basic kimono also apply to the kimono, cupped, or kimono with gusset.

Use the following information as a guide for developing the designs, adjusting the special instructions that follow:

1. Add ease (generally 1 1/2 to 2 inches along seams; see Figure 1)
2. Change the length of the top
3. Change the sleeve length

Kimono with Shoulderline Seam

Figure 1
- Fold costume seams together, allowing 1 inch between shoulder tips.
- Tapered
- Round shoulder to move about 2 1/2 inches below shoulder notch.

Kimono Without Overarm Seam

Design 2
- Fold the sleeves, gathered at neckline (Figure 1).
- Design 3
- Tapered from line and elbow. (Draw a line connecting the center of the sleeve. Mark the center and draw a line to the shoulder tip. Use the wrist measurement below cut at stretch point or center measurement and draw the sleeve of the armhole. Add 2 inches to the armhole and add 1 to 2 inches to the length for blousing. Draw a horizontal line across the neckline between broken line Figure 2)

Figure 1
- Draw a line connecting the center of the sleeve. Mark the center and draw a line to the shoulder tip. Use the wrist measurement below cut at stretch point or center measurement and draw the sleeve of the armhole. Add 2 inches to the armhole and add 1 to 2 inches to the length for blousing. Draw a horizontal line across the neckline between broken line Figure 2.
KIMONO TORSO FOUNDATION

The kimono torso foundation can be developed with the standard front and back patterns in the basic torso foundations. The front and back patterns are inserted together to create a complete foundation of the dress. Use to add pattern to draft the front pattern.

Pattern Plot and Manipulation

Figure 1
- Trace back neckline foundation except the halter.
- Label side seam A. (Back line)
- Draw a guideline through the shoulder neck parallel to the center back. Label B.
- Place the front neck on level with the back BRL and shoulder back finishing X guidelines. The front and back center line should be parallel.
- Trace front pattern starting at shoulder tip and ending in the side dart leg line.
- Follow the instructions even if your pattern line up differently from the example. Center dot marks at the shoulder check. Shoulder tips B, C, and side seams.

Figure 2
- Draw a line from B to C, and continue the line to above length. Label D.
- Draw E = half of the center measurement square from D.
- Draw a short line from E.
- Draw a new side seam, blending through each mark.
- The underarm can be drawn as shown or it can be of any shape.

Figure 3 & 4

Figure 3
- BACK KIMONO TORSO
- FRONT KIMONO TORSO

Figure 4
- Spreading the Pattern
  - Place a paper across the draft and angle together.
  - Cut the outline of the pattern.
  - Remove the underarm square.
  - Label "back kimono torso.
  - Trace the front neckline and center line from the draft.
  - Label "front kimono torso."

KIMONO, BAGLIA NO SHOULDER, AND EXAGGERATED ARMHOLE
KIMONO DRESS

Design Analysis: Designs 1 and 2

Design 2 is based on the kimono foundation. The sleeve and neckline are cut on the bias, with the design elements placed accordingly. The pattern includes a front and back piece pattern. The sleeve is a cut-on-sleeve pattern, and is designed to be cut on the bias, allowing for ease of movement. The pattern is designed to be cut on the bias, allowing for ease of movement.

Pattern Plot and Manipulation

Figure 1: Use the front kimono foundation and draw a new pattern for the design. Add 3 inches to the front pattern, if desired. Draw the new pattern, shift to desired position, and cut the pattern. Add 3 inches to the back pattern, if desired. Draw the new pattern, shift to desired position, and cut the pattern.

Design 1

Figure 1: Use the front kimono foundation and draw a new pattern for the design. Add 3 inches to the front pattern, if desired. Draw the new pattern, shift to desired position, and cut the pattern. Add 3 inches to the back pattern, if desired. Draw the new pattern, shift to desired position, and cut the pattern.

CAFTAN

Design Analysis: Design 3

A caftan (also called a kaftan) is a flowing, full-length, sleeveless garment, usually worn as a beachwear or as a lounging robe. It is designed to be cut on the bias, allowing for ease of movement. The pattern is designed to be cut on the bias, allowing for ease of movement.

Figure 1: Trace front kimono. Add 3 inches on the hemline. Drape a 1-inch tape parallel with center front. Draw V-neckline and curved hemline. Gathered sleeve shows bias kimono sleeve as desired. Draw a line to shoulder and hemline. Mark center and other 3 inches. Place back pattern. Trace back kimono, front on top, matching shoulder and center back. Draw sleeve and side seam. The design is repeated by several methods: buttons, snaps, loops, or ties.
KIMONO WITH GUSSETS

A v-shaped neck edge called a gusset replaces fullness at the arm of a regular kimono. The pattern allows for a dress form without distorting armholes at the arm.

Steps of gusset are illustrated:
- Maximum 12.5 at NECK
- Minimum 10 at NECK

The draft pattern requires 1/2 inch shoulder pads.

Preparing Skirt and Bodice

Figure 1.
- Trace basic sleeve at center of the paper
- Redraw guideline 1/4 inch Square a guideline
- Mark 1 1/2 inches down underarm. Label X
- Elbow dart. Darts exactly 1/4 inch and blend for ease. Trim 1/4 inch back to white. Mark notches as shown.

Figure 2.
- Trace and transfer shoulder dart and 1/2 inch of the arm dart excess to back arms holes and blend.
- Mark 2 1/2 inches down side seams. Label X.

Figure 3.
- Place the back darts on the back shoulder with 3/4 inch in string and shoulder notch (at touching the sewing, shoulder) phenomenon may vary from illustration.
- Repeat instruction on front draft.

Gusset S.A. (continues with Figure 3)

Draw a 3 1/2-inch line from at direction of the arm hole plan. C Center Line. Label S.

New Center Line (may vary from illustration):
- Mark center of the guideline between shoulder tip - N. Label T.
- Mark 1 inch from the guideline at waist level. Label U.
- Draw a line from Y to Z.
- Cut sleeve out on the Y-Z line (even seam). Trim even at waist level.

Oversew Seams (Front and Back)

Figures 4-5.
- Trace the outlined patterns and include the panel off.
- Use the measurement given to trace and blend shoulderline at mid-shoulder and even seam.
Sewing Instructions

- Cut pattern in the chosen fabric.
- Fold a 1-inch strip of tissue material.
- Center it on the back and stitch along the edges.
- Cut the desired length of the garment.
- Sew through the slit line.

The garment may be pinned or stitched before being finished.

Preparing Full and Half Garments

Dot mark each corner of the garment at the desired (B, C, and D). Figure 11a is the sample.

Full Garment

- Stitch side seams of the garment with and side seams together, existing at C, and D dot marks and back stitch. Press seams open (Figure 11b).

Two-Piece Garment

- Figure 12a: Place the garment on the fabric. Staggering on the front and back and gradually finishing at B.
- Figure 12b: Place the garment on the fabric and gradually stitch down to D mark and back stitch (Figure 12c). Repeat on other side of the garment.
- Press seams toward the garment, low all remaining seams.

Two-Piece Garment

- Figure 12d: The garment is stitched to the garment before the side seams and underseams are stitched.
- Stitch side seams of the garment and garment, starting at the front and gradually finishing at B.
- Place at B and gradually stitch down to the other side of the garment (Figure 12a).
- Repeat instructions on the back side.
- Sew the front and back garment from the underarm seams through the garment, ending at the side seam of the side.
- Press seams toward the garment, low all remaining seams.

Cut Garment Stitches

- Figure 8a: Draw a line 0.5 inch wide and 1/3 inch from point B. Then, this amount (less) to trace.
- Fold pattern on line and center at end of the slit cut the length of the pattern along.

Figures 8b to 8g: Figure 8c: Fold paper. Square 2.5 inch line from fold at center of paper. Label C and D.

- Figure 8d: Draw lines from B to fold of paper equal to B-C measurement. Add 1/2-inch seam allowance, cut, and unfold (Figure 8a).

Two-point garment: Figure 9a to 9k

- Draw 0.5 inch wide and 1/3 inch from point C. Then, this amount (less) to trace.
- Draw a 2.5-inch diagonal line out from the corner. Draw a blending curve line. Add seams and cut from the paper.

Figure 10a to 10c

- Spread slit. Stitch and back stitch, starting at dot mark C and gradually ending at B.
- Press needles B and gradually stitch down to D mark and back stitch (Figure 10c). Repeat on other side of the garment.
- Press garment toward the garment, low all remaining seams.
RAGLAN SLEEVE

The raglan can be based on any pattern or这儿里里线。The raglan is illustrated with and without sleeve darts.

Figure 10 b. Modifying the Bodice
- True pattern, including shoulder back dart and 1/2 inch from back dart in all bodice pattern. Lower for armhole: 3 1/2 inches in front or less, according to design. With a French Seam; draw the curve of the armhole, blending with pattern. Label A, B, C, D, E, F, G.

Figure 20 a. Forming the Raglan Hook
A to B = 1 in. 
Figure 20 b. Forming the Raglan Hook
A to C = 2 in. Mark and sown lines. Cut raglan hook from bodice and cur Figure 20 and 21; lower sections are complete.

Modifying the Sleeve Cap
Figure 4
- Take the basic sleeve and extend cap guidelines: 1 1/4 inch square at elbow, labelled E to E, F to F, G to G, H to H.
- Mark 3 1/2 inches from bust line. Label E to F.
- Use a French Seam to draw the cap from H to H, blending with back and rear sections.
- F to X = A to Z of back panel. Mark.
- Divide the dart into 5 1/2 inch, back panel (each. B; each 1/2 inch, front panel. Mark 1/4 inch up from 0 and draw a line to zero at front and 0.0 same. Mark center section, as shown.

Figure 5 a & b. Placing Raglan Yoke
- Place raglan yoke on sleeve cap, matching A to C points first. Secure and pin shoulder tips B and E; drawing guidelines. Trace and remove.
- Mark Z on the guideline centered between shoulder tips (must not align with grain).
- Mark Y to C 3/8 inch from center shoulder at waist and draw a line from Y to Z. (Fig. 5c).
- Draw curve of each line from B and C to Z, Fig. 5d.
Baggy Sleeve

1. Draw a slightly curved line from E and F to elbow, blend, if necessary.
2. Draw raglan with elbow line.
3. Mark midline, shoulder seam lines and 3/4 inch down the arm seam.
4. Draw a free line, starting and ending with all points. Mark centers of shoulder tips, 8/2 in. Raglan Casing without elbow line.
5. Add 3/4 inch parallel line with overarm seams blending to shoulder tip.
6. Mark a point up from G that equals elbow to H and out 8/2 inch. From this point, draw a line to elbow level and across with level. (Figure 7b).

Figure 1
One-Piece Raglan

1. With arm level together, spread 1/2 inch.
2. Trace front and back sleeves and add 1/2 inch. Center and mark a point 3 inches down from the shoulder tips and draw a curved line to the shoulder tips.
3. Blend the front line.
RAGLAN DESIGN AND VARIATIONS

The raglan is a very versatile foundation for creating other related designs. Style lines can be drawn in any direction from point A of the diagram illustrated in the following diagram. However, it is important to keep the front and back body proportions, as illustrated, from the upper back point, then trace the side front and back bodice.

Figure 1

Figure 2

Figures 3, 4. Separate patterns are illustrated. Add sleeve patterns for gather on the design of choice.

Yoke with Round Sleeve

Pattern Plot and Manipulation

Figure 1, 2 Yoke line

Place the raglan pattern on the outline of the front body, with 5 points touching. The yoke lines are squared from the center front to the back bodice. The shoulder line is then drawn, or at 45 degrees to the center back. The shoulder area is then drawn.

Design 2
Raglan Drop Shoulder

Following this example is another version of the drop shoulder from page 354. The sleeve pattern contains a seam along the shoulder line. The remaining steps can be the basis for many design variations.

Pattern Notation

Figure 1: Place the pattern on the shoulder line of the bodice, with 5 points on each side:
- Mark a line from the neck edge to the 3rd point.
- Mark 1/4 inch from the square line and draw a line perpendicular to 6 points.
- Trace the shoulder area of the pattern.

Figure 2: Trace the remaining sleeve on the drop shoulder pattern.

Drop Shoulder Draft

The drop shoulder pattern is developed by attaching a portion of the upper sleeve cap to the bodice. The dropped shoulder extends beyond the shoulder line and covers part of the upper arm at varying lengths. It may be developed without the lower sleeve (Design 1) or with the lower sleeve (Design 2). Instructions apply to blouses, dresses, jackets, coats, and more. Draw your own variations showing the creative flexibility of the drop shoulder pattern. See page 357.

Drop Shoulder Draft

Pattern Notation

Design 1

- Mark the center between the cap and sleeve cap.
- Trace a line across the sleeve cap from this mark.
- Mark 1/2 inch from the center at the bottom and draw a curved line. Label X.
- Measure armhole curve A to X and B to X. Record (Figure 1).

Design 2

- Trace patterns allowing room for the sleeve cap.
- Trace back bodice, transferring shoulder line to pattern. Trace front bodice.
- C to X = A to X
- H to X = B to X
Figure 4: Sleeve Cuff to Bodice
- Place patterns on front and back bodice with Arrows marking and cut of the cuff 1/4 inch only from the shoulder line.
- Mark 1/4 inch up from the shoulder line and draw a blending line to the shoulder line.

Figure 6: Lower Sleeve Section
- Spread 3 inches, and blend at cap and bottom.
- The shoulder line and/or hemline can be varied by gathering or pleats.

Casual Deep Shoulder
- Shoulder mark 1/2 inch to the cup and draw a blending line to the shoulder line.

Figure 7: Shoulder
- Using the deep shoulder pattern, develop Designs 1, 2, and 3.

Design Analysis
- Design 1: A dropped neckline and deep shoulder without a dart as in Figure 1.
- Design 2: A dropped neckline and pattern lines are illustrated by broken lines in Figure 1 as a guideline.
- The pattern is made from part of the lower sleeve (dotted) and spread.
- Design 3: The lower sleeve is attached to a shaped lower hemline from the existing pattern.

Pattern Plot and Manipulation
- Illustration of shoulder pattern modified for Design 1 and 2. Create other designs based on this pattern.

Designs Based on Raglan Foundation
- The sleeve designs based on the raglan foundation are generated by changing the direction of the shoulder line in the pattern. Develop patterns for different design variations.
EXAGGERATED ARMHOLES

Armholes can be exaggerated by cutting deeper and wider into the garment. The pattern is developed by attaching to the sleeve a portion cut from the bodice. Exaggerated armholes can be developed using the tips of any pattern. The themaline would work as a guide for similar designs.

Deep-Cut Square Armhole

Design Analysis—Design 1

Exaggerated Armhole Draft

Figure 1: Bodice modification
- Trace the front and back bodice. Transfer the back into the dot on the end armhole.
- Mark 2 inches from front and back shoulder line.
- Mark 2 inches down on side seam of the front and back armhole.
- Mark C 2 inches squared from B.
- Connect C with A using a slightly curved line. (bottom) arm of front and back bodice indicate original armhole. Mark armholes.
- Cut both paper. Trim & sections so complete the bodice patterns.

Figure 2: Armhole modification
- Create basic sleeve at lower edge of paper. Trace and include all markings. Label hand. Cut curves of sleeves and extend a line 4 inches out from each end for a guide.
- Square a short guideline cut from each side at the grain at shoulder level.
- Draw back and front patterns on the shaft, with C on sleeves. Guide and A touching on cap guideline.
- Draw a bodice armhole, including notches, and remove pattern. (bottom) arm of bodice indicate armhole. Mark armholes. Mark armholes.
- Reduce the front armhole curve, flattening slightly.
- Draw curved lines from A to curve level on front and back.
- The space on the front cap between the A points of cap line. If this measure more than 1/2 inch, shift the pattern at cap to, not enough, and swallow to remove unwanted excess. Tape pattern not to pattern.

Figure 3: Adding Up
- Draw curved slash line from B to the mid-point of cap line.
- Divide the pattern into three sections and draw the slash line.
- Cut the sleeves as paper. Start at point B, cut slash lines B, not through side line.
SELF-EVALUATION TEST

Circle T for "true" and F for "false." To check your answers, see page 365.

1. There are six distinct bodice sleeve constructions.
   T

2. A darts cut garment and kimono have the same silhouette.
   F

3. A straight line connects part of an armhole and shoulder.
   F

4. A deep shoulder connects all of the bodice and sleeve.
   F

5. Finess is the term that best describes comfort between seam edges.
   T

6. Lift of the armhole is raised upward.
   F

7. A high neck kimono requires a button for arm movement.
   T

8. A high neck kimono allows for many design possibilities.
   F

9. The Women kimono squares out from the shoulder neck location.
   T

10. Garments allow for a close fit under the arm.
    T

11. A lift with a high side of a kimono is a draft mistake.
    F

12. A raglan pattern makes it possible because of X point.
    T

13. The kimono originally was a kimono.
    F

14. Shoulder pads require additions at the shoulder tip.
    F

15. The cutting is based on the bodice front and back patterns.
    F
Buttons and Buttonholes

Buttons and buttonholes are both functional and decorative, but their primary purpose is to hold two layers of a garment together. Buttons are placed on one side of the garment and through a corresponding opening on the other side, either at the center front, side, or sleeves. They are usually used in sets of three or more.

Basic Types of Buttons

- Sew-Thru: These buttons have two or more holes for attachment.
  - Two-hole button
  - Three-hole button

- Shank Buttons: These buttons have a solid top and two types of shanks: one (fabric, loop, metal, or plastic) attached to the garment and the other (metal or plastic, covered or naked) attached to the button. The shank rises from the button away from the fabric surface, allowing the fabric to lie smoothly under the button when closed.

- Shank/Blanket Button: A blanket stitch is used to attach the button to the garment.

Types of Buttonholes

- Machine-Stitched Buttonholes: These can be sewn as straight or keyhole openings.
- Bound Buttonholes: The fabric is cut away from the hole, and the button is then sewn in place.

Loops

Loops are small, round or rectangular cutouts on a garment. They are used to secure the button in place. Loops can be made of fabric, beads, or other materials.

Sits

Sits are small openings in a garment where the button is secured. They can be made of fabric, beads, or other materials.
**Buttonhole Placement**

- The buttonhole placement is determined by the distance of a full button plus 1/8 inch for an elastic button. See page 364.

**Belted Garment**

- Place the garment on the worktable, with the right side facing up. Mark the position of the belt buttonhole, in the center, 1 1/2" to the right of the waist edge. The buttonhole is placed 1/2" below the waistband on the buttonhole side.

**Unbelted Garment**

- Place the garment on the worktable, with the right side facing up. Mark the position of the belt buttonhole, in the center, 1 1/2" to the right of the waist edge. The buttonhole is placed 1/2" below the waistband on the buttonhole side.

**Button Placement**

- Place the garment on the worktable, with the right side facing up. Mark the buttonhole placement in the center, 1 1/2" to the right of the waist edge. The buttonhole is placed 1/2" below the waistband on the buttonhole side.

**Diagram Buttonholes**

- The diagram shows the correct buttonhole length. Make a copy of the buttonhole placement as a guide for the buttonhole maker.

**How to Determine Accurate Buttonhole Lengths**

- To determine the correct buttonhole length for a full button plus 1/8 inch for an elastic button, place the button onto the garment, and measure the length of the buttonhole needed. The buttonhole is placed 1/2" below the waistband on the buttonhole side.
FACINGS

Stitched Facings

A stitched facing provides a neat finish at the edges of areas that are not covered by the garment. Generally, a stitched facing is more suitable for areas that are at risk of fraying, such as armholes, necklines, and seams. Stitch facings are created by stitching the facing to the garment with a neat, flat finish.

Fold-Back Facings

Fold-back facings are created by attaching the facing to the garment in such a way that it can be turned back to cover the edges. This type of facing is often used in areas where the edges might be exposed, such as necklines and armholes. Fold-back facings can be used in areas that are exposed to wear, such as seams and hems.

Facings for Cut-Out Necklines and Armholes

In the following sections, facing procedures for cut-out necklines and armholes are described. The facing procedures for cut-out necklines and armholes are similar to those for seam allowances, but the facing is applied in a different way. The facing is applied to the front of the garment, which is then cut and turned to the wrong side, and then the facing is applied to the wrong side of the garment.

VCut Neckline Facing

1. Trace the back and front patterns. Draw cut-out neckline and armhole areas indicated on front pattern. Fold upper part of both pattern and lining together.
2. Back: The depth of the back facing should be 1/8 inch at the neckline and 1 inch at the shoulder seam. Draw a line along the neckline and shoulder, as shown. Fold 1/8 inch around shoulders. Cut facings from paper.
3. Front: Mark along neckline and armhole, as shown. Fold front and turn to wrong side. Sew facings in place.

Scoop-Neckline Facing

1. After facing the pattern and drawing a scoop neckline, trim excess.
2. Remove the upper part of the pattern and draw facing mark 1 inch from neck edge. Draw a line along the neckline and shoulder, as shown in Fig. 1.
4. See back facing, see figure 1.

Cut-Out Armhole Facing

1. Mark facing the pattern and drawing the armhole, trim excess.
2. Remove the upper part of the pattern and draw facing mark 1/8 inch from armhole. Draw a line along the armhole and shoulder, as shown in Fig. 1.
4. See back pattern and facing.
Plackets and Pockets

**SELF-EVALUATION TEST**

Fill in the blanks. Check your answers on page 313.

1. **Lined** refer to buttons.

2. Buttonhole size is determined by the button's __________.

3. A facing's primary purpose is __________.

4. Two facing types are __________ and __________.

5. Continuous facing applies only to __________.

6. __________ are used before separating stitch lines ending in armhole and necklines.

7. An all-in-one facing is __________.

8. Write loop, metal, plastic at the underside in a __________.

9. Bottomless start __________ inch into an extension.

10. Vertical-V-bottoms are generally started on __________.
PLACKETS

Plackets are finished slits or faced openings designed on all types of garments - blouses, shirts, coats, jackets, pants, and skirts. They can be of any level of finish, from simple to detailed, and are often used to add a decorative or functional element. Plackets can be made from various materials, including fabric, leather, and other types of coverings.

Pattern Plot and Manipulation

Figure 1
- Fold the paper.
- Place the front face on fold and trace.

Plot Placket
A-B = placket length (example: 1 inch)
B-C = 1 inch
C-D = 3 inch

Square from 3/4 inch from R and C. Label E and F.
- Draw a line from F to the neck. Parallel to center line.
- Connect point E with D.

Plan Facing for Placket
- Draw the facing 2 inches from shoulder at neck, ending 1/4 inch from E. Cross the facing with E (indicated by broken line).
- Trace the placket and facing to underneath side.

Figure 2
- Unfold and pencil in perforated line (broken line).
- Place paper underneath pattern and trace the placket and facing for the right side of garment (shaded area).
- Remove paper and pencil in perforated line.

Figure 3
- Place paper with facing in place. Square from the side at neck, touching center line (broken line indicates original neck). Trace the placket on the shaded area. (Cross facing sections. Indicate pattern lines with a perforated line.) (The finished pattern shape is shown.)

Figure 4
- Place facing on left side. Square from the side at neck, touching center line. (Broken line indicates original neck.) Trace the facing for the right side of garment (shaded area).
- Repeat for the other side.

Figure 5
- Repeat for the other side, tracing placket across at least with point B (shaded area). Note that the point of the placket is not included.
- Remove the paper and pencil in a perforated line.

Example: Design 1

Design Analysis
The pointed placket of Design 1 is the most common. The notches are cut in at the lower edge and the points form a straight line. Design 2 is a pointed placket, and Design 3 is a narrow placket.
Wing Collar Placket

Design Analysis

Design 1: Features an all-in-one placket and collar set into a cut-out opening in front. The placket is connected halfway, ending at the shoulder neck location. The cut allowance is included because of its unique button. Design 2 is included for practice.

Pattern Plot and Manipulation

Figure 1:
- Trace front pattern on left side of the paper.
- A-B = placket length (example: 10 inches).
- A-C = depth of opening (example: 6 inches).
- Mark A-K = 1 1/2 inches below.
- Draw a curved line from A to E. Draw B-D = 1 1/2 inches, squared from B. Connect a slightly curved line from D to C.
- Place paper underneath and trace the placket (B, D, E, F, G, H). Remove paper and pencil in a perforated line.

Figure 2:
- Fold the placket with 1/4 inch seam allowance. Check the fit. Cut two pieces, self-finished placket pattern from Ch. 8.

Figure 3:
- Fold paper in center front. Add seam allowances at 1/4 inch where the placket is attached. Cut from the paper, tracing across from the placket short edge.
- Cut the base back to complete the design.
Sil Opening with Pocket

Design 1

Draw a pocket line equal to the desired width (example: 1.52 inches)
Label C and D and endpoints. Bend in self-fold. To stitch, fold the hand at point C, with points C and D matching. Stitch across the top and on one side at hand. The raw edge of the band attaches to the back edge of the slit on the garment. (The band is the part to control the opening and for button attachment. There is a loop attached to the garment, concealing all raw edges around the neck and slit.

Design 2

Draw the garment line.

Pattern Plot and Manipulation

Figure 1
- Draw a line 1/4 inch parallel for the slit, 2 inches out from center line.
- Draw another line 1/3 inch from the slit line. (This is needed for the width of the pocket and when tracing the pattern on the paper or fabric, or other cutting mats.) Cut the slit line and secure with med. Label B and D.
- Mark for seams.
- Draw facing 1/12 inch wide (indicated by broken line)
- Transfer facing by placing the paper under the pattern (from line area).
- Remove the pattern. Pinch in facing.

Figure 2
- Completed facing (as illustrated, or developed as one piece facing.
- Pocket applying board (as illustrated).
Pocket and Flap in One

Figure 5
Trace pattern on the fold. Adhere the pocket flap that is faced to the facing (dotted area). The pocket flap can also be cut twice (as shown).

Setting the Pocket

Figure 6
Fold and press the 1/2-inch seams. Place the pocket in the pattern, creating the missing. The pocket should be placed with the center front.

Pocket with Separate Flap

Figure 7
The basic pocket with a separate flap is illustrated. Follow the sewing instructions given in Figures 2, 3, and 4. See the flap instruction on page 36, Figure 8.

Figure 4
Stitch and continue stitching around the pocket, ending with a back tack.

Inserted Seam Pocket

The entry is on single row in from the side waist. To complete the part, see Chapter 25, and for the slit, see Chapter 1.

Entry Facing

Figure 12
- Stitch and press the pocket facing (dotted area).

Figure 13
- Add 1/2-inch seam to the pocket and 1/4-inch seam at entry. Label.

Cut from the paper and trace the facing pattern (Figures 26 and 36). Label.

Entry/Pocket Pouch

Figure 14 to 16
- Trace the upper part of the pattern and draw the pocket shape (Figure 14). Trace two copies.
- Draw the pocket entry on one copy of the pocket pocket (Figure 15).
- Cut from the paper. Trace entry.

Figure 11

Pocket Facing/Pocket

Figure 17 to 19
- Trace the facing for the pocket (dotted area) (Figure 18).
- Add 1/2-inch seam to the pocket pocket.
- Cut pocket from paper and trace the pocket facing (Figures 28 and 36). Label.
Jean Pocket

Design Analysis
- The pocket can be drafted from the waistline or from a lowered waistline. The style is that of a number of pocket variations. The small inside pocket is optional. Changing the style of the pocket will not affect the instruction.
- The same pocket can be drafted with an extension or a joint pocket. Refer to Chapter 2.

Pocket Entry—Facing Pattern
- Figure 2a:
  - Draw the shape of the pocket entry using measurements from point X (Figure 1).
  - Trace the pocket entry. Add 1/2-inch seams and 1/4-inch at entry (Figure 2).
- The pattern is trimmed to the entry shape. Add 1 1/4-inch at arm and 1 1/2-inch to the remaining pattern.

Pocket-In-One with the Side Seam
Design Analysis
- The pocket is drafted from a straight side seam or a side seam on any garment in slim style (Figure 1).
- Trace the pattern.
- Draw the front pocket. Fold the paper and trace.
- Divide and outline the front pocket.
- Mark 1 1/2 and 1 1/2 inches down from the waist (Figure 1). Mark 1 1/2 and 1 1/2 inches down from the fold line (Figure 1).
- Trace the front pocket to the back pattern. Draw 1 1/2-inch seams and cut from the fabric.
- Figure 1:
  - Stitch the side seams together.
  - Stitch down and up from each mark to establish the pocket.
  - Fold the pocket to the front and stitch.
**Accordion Pocket**

This pocket looks like the front of a garment. It is a utility pocket for utility or technical garments. The pocket flaps may be wider than the actual pocket, which can also be filled with a variety of items.

**Figure 1**

The pocket's width and length should be in perfect balance with the design of the garment.

- Draw the pocket rectangle 6 x 5 inches. Mark center A.
- Draw dotted line 2 inches in from A. (Depth of pocket is 3/4 inch, plus the allowance of 3/4 inch with 1 1/2 inches.)

A-B = 1 inches from point, square from A and up from B. Repeat on other side.

A-C = A-B. Square down from A, square across.

**Figure 2**

1/2 = 3/4 inch (piece width).

- Square line in from D and up from E and mark E.
- Draw line B to F and C to E into square (indicated by the dotted lines).
- Number each section as illustrated.
- Draw connecting lines from 1 to 2 to 3 to 4 to E to repeat the process on the other side of the pocket.

**Figure 3**

Draw the pocket flaps 4 x 2 inches. Add seam allowances to the pocket flaps.

**Stitching Guide**

- Turn the fabric wrong side out.
- Turn hem 1 1/2 inches and stitch.

- Trim to 1 1/2 inches and clip, cutting at J. Clip and repeat stitching on the other side. Turn the flaps to the right side.

**Figure 4**

- Add seam allowances.
- Turn the contrasting part of the piping.
- Cut the pocket and flap in fabric, interface the pocket flap.

**Figure 5**

- Edge-stitch close to the pocket edge.
- Place the piping in place and press.
- Place the piping on the garment and hold the fold allowance with it. Fold back the pocket to the garment (Figure 7). Secure the piping to the garment (Figure 8).

**Figure 6**

- Pin the piping back and stitch in place.
- Place the piping and stitch back the remainder of the piping to the garment (Figure 9).

**Figure 7**

- Place the piping on the garment and hold the fold allowance with it. Fold back the pocket to the garment (Figure 10). Secure the piping to the garment (Figure 11).
**Stylished Outside Pocket**

Outside pockets can be cut in any design. They are usually finished on top of the garment.

- Trace the garment and trace the pocket.
- Trace the pocket. Draw and tear the facing and interfacing patterns. Stitch 1 inch (2.5 cm).
- Add 1/2-inch seams. 1/4 inch at the top.
- Stitch the facing to pocket (fold seam) and press. Stitch the pocket to the garment and stitch to Y.

**Lift-Away Pocket**

A horizontal seam runs a scant 3⁄8 inch (1 cm) from the bottom of the pocket. A lift is stitched to garment

- Draw pocket width and length, as desired. Allow 3 inches (7.5 cm) for seam at the bottom end.

**Pocket with Hidden Side Seam**

- Draw a line up from the bottom curve of the front panel to waist line. Label A, B, C.
- Draw a pocket patch 1 inch (2.5 cm) from A using the measurements given.
- Trace two copies of the pocket.

**Figure 1**
- Draw a line up from the bottom curve of the front panel.
- Mark panels 1 inch (2.5 cm) from the side seam. Label A, B, C, D.
- Draw a pocket patch 1 inch (2.5 cm) from A using the measurements given.
- Trace two copies of the pocket.

**Figure 2**
- Draw a line up from the bottom curve of the front panel to waist line. Label A, B, C.
- Draw a pocket patch 1 inch (2.5 cm) from A using the measurements given.
- Trace two copies of the pocket.

**Figure 3**
- Draw a line up from the bottom curve of the front panel to waist line. Label A, B, C.
- Trace two copies of the pocket.

**Figure 4**
- Draw a line up from the bottom curve of the front panel to waist line. Label A, B, C.
- Trace two copies of the pocket.

**Figure 5**
- Draw a line up from the bottom curve of the front panel to waist line. Label A, B, C.
- Trace two copies of the pocket.
Chapter 18
Dresses Without Waistline Seams
(Based on Torso Foundation)

Torso Foundation

Measurements Needed
20
Hip: 26" CF ___ CR ___
40

Pattern Draft and Manipulation
Figure 1

Torso Draft

1. Trace the basic one-dart pattern. Cut from paper.
2. Label side waist C.
3. Draw a line from shoulder to bust point. Cut slash lines not through the bust point.
4. Trace the back pattern.
5. Label the back waist.
6. Draw a straight line, as illustrated. Do not slash until later instruction.
Figure 2: Front Lower Trips
- Square a line and mark center A. A to B = front hip plus 1/2 inches. Mark B to C = 1/2 inch up from B and squared from C to the center line (D).
- Dot mark 2 1/4 inch in from C.

Figure 3: Place the body on the square line. The center front touches B. Square.
- Close the waist dart until point (X) touches the square line. It may not touch the dot mark.
- Trace the pattern, cutting the broken line area. Remove the pattern.

Figure 4: Sleeve Lower Trips
- Square a line and mark center A.
- A to B = back hip plus 1/2 inches. Mark.
- B to C = back hip plus 1/2 inch up from A and squared from C to the center line (D).
- Dot mark 2 1/4 inch in from C. A to E = center back hip depth. Remove mark.

Version 1—Center Back Length is Increased
Figure 5: The center back pattern is placed on the vertical line, with the side waist (X) touching the C line. The pattern is traced and removed. The added length (A) is between the center back waist and over the back (D).

Version 2—Wants Across the Back is Increased
Figure 6:
- Cut a slash line or use the prestitching method.
- Extend the C line and place center back at point F.
- Trace to the curve of the armhole and point on G, the side waists touch C line. Trace remaining不满 and cut off waist. Remove the pattern.
- Draw the side seam to the waist 1/4 inch mark.

Version 3—Correct Points
Figure 7:
- Place center waist at (X). Trace to curve of the armhole.
- Place at the curve of the armhole until the side seam (X) touches the D line. Trace, not including the side seam. Remove the pattern.
Contour Guidelines

Trace a copy of the back and front shoulder dart from page 380. Transfer front shoulder dart to the side front, see Figure 19b. Draw contour guidelines on the foundation patterns by following the instructions given in Chapter 6. If the bust cup is more or less than a B, follow instructions in Figures 15a and 15b.

Figure 9 (b, c)

Contour guidelines for designs with:

1. Cut-out neckline
2. Cut-out armhole
3. Sheared neckline
4. Empire style
5. Collar
6. Slip on top (4 styles 1, 2, 3)

- Draw a line from 1 1/2 inch from the armhole to zero at the waist. Mark 1 1/8 inch at mid-shoulder and connect to shoulder tips and neck.
- Back for strapless back and low-cut necklines
- HILT = one-fourth of center back length from neck to waist mark, and square across the pattern. Mark center of each dart at waist, and draw lines up to the HILT.
- Draw lines from the waist darts to the HILT.

Decreasing and Increasing Bust Cup

- Cut the pattern from center front to base point of dart point to side seam. Mark 1/2 inch of the armhole, but do not loosen the space using the model’s bust cups, while keeping the center line aligned.

Figure 11a.b

Increasing bust cup

Decreasing bust cup

Figure 11c

Special C cup = 3/8” D cup = 3/4” E cup = 1” Center front Dart
DRESS CATEGORIES

Dresses may be grouped into two categories—those with a waistline seam and those without (unseamed). Dresses designed without a waistline seam have no waistline or any hint of the lower hip dart pattern. Dress foundations such as the dartless, waistless, and princess lines are based on the lower hip dart pattern. Other foundations such as the sheath and hourglass are based on the bust area and do not have any seams. These dress designs are based on the lower hip dart pattern.

THE THREE BASIC DRESS FOUNDATIONS

The Sheath (Fitted Silhouette)

The Shift (Semi-Fitted Silhouette)

Modify Back Pattern for Sleeveless Designs

Modify Darts Foundation for the Box Fit

1. Expose the collapse of the side seam. Insert the dart intake 1/8 inch. Draw a line to the dart point.

2. Lower the back seam to 1/8 inch and blend.

3. Mark 1/2 inch from the front and back side seams.

4. Draw a line from the original side seam to the original side seam (The shortened side seam length will not affect the balance line at the level of the hip line.)

Knit Dress Designs

Shirtmaker Dresses

To develop patterns for shirtmaker dresses, see Chapters 21 for shirtmaker skirts, slacks without pockets, and underwear. Add-dress with split back.
**PRINCESS LINE FOUNDATION**

The princess line foundation is the base for developing designs with various modifications.

**Pattern Plot and Manipulation**

**Figure 1**
- Draw the front and back from the bodice model with gathered bust, tuck in the waist by hand, and add gathers in the bodice.
- Draw the waist dart in the bodice to adjust waist size.

**Figure 2**
- Draw a waist dart in the back to adjust waist size.
- Draw the dart leg.
- Draw the skirt in line with the waist dart from the back and front marks to the hem, add adjustments as needed.
- Draw a waist dart in the back to adjust waist size.
- Draw the dart leg.

**Figure 3**
- Trace the pattern to the back pattern. Transfer the pattern to the waist after the dart leg.
- Use the front and back patterns, as illustrated.

**Figure 4**
- Square down from the hem to finished length.
- Mark point A from X to X, 3/4" of yardage. Mark point B at the point of the dart leg.
- Draw a waist dart in the back to adjust waist size.
- Draw the dart leg.

**Slightly Princess with Slanted Hem**

**Design Analysis**

- Design 1 is a fitted, princess line dress with a slanted hem. The design is based on the princess foundation pattern (page 390). Design 2 is illustrated.

**Plan the following:**
- The finished dress length, as desired.
- Allowance for biasing = 3/4" wide for pattern.
- Be sure to allow for biasing.
- Use the bias here as the bias.
- 2 to 3 inches is an average, but may be more or less depending on the weight of the fabric.
- Example: 10° hem, the pattern is added to each side of the pattern, as shown.

**Pattern Plot and Manipulation**

**Figure 1**
- Trace the back and front pattern. Transfer the pattern to the waist after the dart leg.
- Use the front and back patterns, as illustrated.

**Figure 2**
- Square down from the hem to finished length.
- Mark point A from X to X, 3/4" of yardage. Mark point B at the point of the dart leg.
- Draw a waist dart in the back to adjust waist size.
- Draw the dart leg.

**Figure 3**
- Trace the back and front pattern. Transfer the pattern to the waist after the dart leg.
- Use the front and back patterns, as illustrated.

**Figure 4**
- Square down from the hem to finished length.
- Mark point A from X to X, 3/4" of yardage. Mark point B at the point of the dart leg.
- Draw a waist dart in the back to adjust waist size.
- Draw the dart leg.

**Complete the princess line foundation:**

- Several designs are shown using the princess line as a foundation pattern.
PANEL DRESS FOUNDATION

The panel dress is a semi-detailed foundation without side seams. Designs 1 and 2 are based on this foundation. With imagination, many other variations can be created.

Pattern Plot and Manipulation

- Trace the front and back panel foundation.
- Square a straight line from top back 1/2 inch from the shoulder. Draw a balanced curve to the side seam. (Bottom line indicates original line.)
- Reproduction dots to the straight line. Use strike line from one dart, plus one half of the other. Decide equally on each side of the strike line at front and back waist.
- Draw new dart legs (shaded area).
- Draw a dash line 1 inch below the original location of the side dart, ending at dart point.
- Cut and separate pattern panels along the strike line, including unneeded section (shaded area) between dart legs.

Trim 1/8" facing from shoulder at neckline and armhole. See page 398 for guide.

Scheme: 2 pieces of paper undersized for pattern with facing on each pattern and cut if not for separate panels. Add 1/2" to all seams and 1/8" at the neckline.

Adding guide: Notch the neckline and stitch to the facing with right side facing. A facing can be placed around the biasing of the neckline.
Figure 3. Front and Back Panels
- Add 1" at center back center back.
- Draw the guideline and waist mark.
- Fold the side panel as shown.

Figure 4
- Place the top of the front and back panels on the horizontal line and the center of the abdomen
- Mark the center of the abdomen, marking line A. (The tape may touch, overlap, or be separate between them.)
- Add the desired amount as shown.

Figure 5
- Add the desired amount as shown. Mark the center back and the center front of the abdomen, marking line A. (The tape may touch, overlap, or be separate between them.)
- Label the side panel as shown.

Figure 6
- Add the desired amount as shown. Mark the center back and the center front of the abdomen, marking line A. (The tape may touch, overlap, or be separate between them.)
- The completed panel is shown in Figure 6.

EMPIRE FOUNDATION

The empire foundation is developed from the basic form and should include variations guidelines. Use an empire foundation pattern.
- The bodice of the empire jacket comes under the bust line on the front and side seams.
- The empire jacket line is lower than the waistline and a pair of darts are placed on the waistline and on the waistline below the waistline.

Pattern Plot and Manipulation

Figure 1
- For basic pattern, follow the pattern on the opposite page.
- Trace from image. Mark bust point, wrist dart, and dart line on each side of the pattern.
- Mark the center back and center front of the abdomen, marking line A. (The tape may touch, overlap, or be separate between them.)
- The completed panel is shown in Figure 6.

Figure 2
- Trace from image. Mark bust point, wrist dart, and dart line on each side of the pattern.
- Mark the center back and center front of the abdomen, marking line A. (The tape may touch, overlap, or be separate between them.)
- The completed panel is shown in Figure 6.
TENT FOUNDATION

The tent silhouette has a straight hemline created by maintaining the front and back hemlines even. This design is perfect for an A-line dress with a straight hem.

Pattern Plot and Manipulation

1. Trace front and back patterns as shown.
2. Extend to desired length by squaring down from the hip level.
3. Label the hip line A, B, C.

Contour Guidelines

Mark all contour guidelines for future reference. Complete the pattern for a dress design, modify the back pattern as shown. Figure 2, Figure 3.
EQUITING HEMLINE

The front hemline slope is greater than the back hemline. The difference is due to the amount of dart excess that has been transferred to the front. This does not create an imbalance unless additional width is added to the side seam. Test it. If the slightly longer seams fit too close or not close at points E and F, adjust. If the side seam is too loose or not enough, adjust and correct the pattern.

Figure 4 Back
- Cut slant lines from the front and side dart points to, not through, the back center.
- Stop on the paper and trace.
- Mark each point.
- Mark B 1/2 inch at each point between the side and center.
- Draw a line from the center to I and from L to D. Blend the hemline.
- Blend curved lines at points L.

Figure 4 Front
- Cut slant lines from the front and side dart points to, not through, the front center.
- Close the side dart.
- Place on paper and trace.
- Mark E 1/2 inch at each point between the side and center.
- Draw a line from the center to H and from H to G.
- Blend the hemline.
- Blend curved lines at point H.

Figure 3 Back
- Draw the dart points.
- Mark E 1/2 inch at each point between the side and center.
- Draw a line from the center to I and from L to D. Blend the hemline.
- Blend curved lines at points L.

Figure 3 Front
- Draw the dart points.
- Mark E 1/2 inch at each point between the side and center.
- Draw a line from the center to H and from H to G.
- Blend the hemline.
- Blend curved lines at point H.

Figure 2
- Draw the dart points.
- Mark E 1/2 inch at each point between the side and center.
- Draw a line from the center to H and from H to G.
- Blend the hemline.
- Blend curved lines at point H.

Figure 1
- Draw the dart points.
- Mark E 1/2 inch at each point between the side and center.
- Draw a line from the center to H and from H to G.
- Blend the hemline.
- Blend curved lines at point H.

SPECIAL PATTERNMAKING PROBLEMS

The following exercises will be your pattern development for design, featuring creative design details created through the following areas of the pattern. Design 1 has patterns and Design 2 has patterns that require a tailor's eye for detail. The examples do not represent cut and sew patterns but should be used as guidelines for creating patterns for similar garments. To complete the design, the designer will experiment with appropriate variations for each of the designs.

GATHERS CROSSING DART AREAS

For a more exaggerated effect, follow the steps.

Figure 1: The Tapered Pattern
- Draw the side dart from the dart point to the hemline, with the line straight. The center line is still a line of symmetry, extending from the dart point and to the hemline.
- Eliminate the dart excess by drawing the width and length of both dart areas.
- For wider or more exaggerated, measure an additional 1/2 inch at the center point out and with thedart rounds.
- Figure 2: The Center Pattern
- The pattern is cut from paper, with the desired pattern repeated from the pattern (shaded areas).

Figure 3: The Completed Pattern
- The pattern is similar, spread, removed, and blended.
**Stylelines Crossing Dart Areas**

Figure 1
- Draw stylelines across the open area as indicated by the design.
- Number each section.

**Design 1**

Figure 2
- For best contouring, increase the dart intake under the arm as illustrated.
- Separate patterns along the stylelines.
- Close all seams.
- Stylelines that cross open darts at an angle will not meet when darts are closed. Adjust by changing after the finish is traced.

**Figure 2 Completed Pattern**

**Stylized One-Piece Front**

Designs 3 and 4 illustrate garments created as one-piece front without side darts. The final working pattern for each design should be made with the patterns cut out at the bust point of the dart point of the side dart as indicated by the design. Stylelines that cross the side dart are closed, the pattern pieces, allowing pintucks between the stylelines to complete the details of the design (such as flare, design 5, and inset). Design 3: This would not be possible if the side dart remained as a dart. Develop the pattern for Design 4 for practice. Design other variations using this concept.

Figure 1
- Draw the styleline to bust point.
- Draw all other stylelines. Indicate width darts as indicated by the design.

Figure 2 Completed Pattern
- After the side dart is closed, complete the remaining pattern.

Allow space for seam allowances (1/4 inch can be to 1/2 inch when needed).
THE ULTIMATE TESTS

The ultimate tests cover those who are familiar and understand the foundational pattern making principles and techniques. Through design analysis, a knowledge of pattern making issues, where and how to apply the principles and techniques from the pattern shape for Design 1 and 2. Part of the challenge is to figure out the pattern shape to create under the design. For Test Design 1, it is a one-piece garment and there are no hidden boning. Break through each stage, and if you are not successful, try again before sending the answer page in. We will learn more if you solve the design patterns yourself.

Design 1 Design Analysis
What are the design?
How are the design used?
If you were to add fullness, where would you add it?
Close multiple openings, with center back entry. Other comments:

Design 2 Design Analysis
What are the design?
How are the design used?
If you were to add fullness, where would you add it?
If you were to apply contour, where would you apply it?
Close: A back, a dart, a bustier, and an underlay. Other comments: You found me.

Strapless Foundation and Interconstruction

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INTRODUCTION TO STRAPLESS GARMENTS

Strapless garments are garments that cover the bust and are held in place by one or more straps. They are often worn to enhance the appearance of the bust area. Strapless garments require special attention to fit and comfort, as they do not have the support of straps.

Three Basic Strapless Foundations

Three basic strapless foundations are:

1. Princess bodice: This foundation is used for garments that sit close to the body and do not require a strap. It is a popular foundation for bridal gowns and evening wear.
2. Structured foundation: This foundation is used for garments that require a strap and do not sit close to the body. It is a common foundation for bridal gowns and evening wear.
3. Slim foundation: This foundation is used for garments that sit close to the body and require a strap. It is a popular foundation for bridal gowns and evening wear.

Other Strapless Foundations

The following foundations are also popular:

1. Princess bodice: This foundation is used for garments that sit close to the body and do not require a strap. It is a popular foundation for bridal gowns and evening wear.
2. Structured foundation: This foundation is used for garments that require a strap and do not sit close to the body. It is a common foundation for bridal gowns and evening wear.
3. Slim foundation: This foundation is used for garments that sit close to the body and require a strap. It is a popular foundation for bridal gowns and evening wear.

Foundation 1

Figure 1
If you are not using the contour pattern, follow the instructions and measurements provided.

- Trace the pattern and cut around the outside edges.
- Make sure the pattern is cut out accurately for the bust area.
- Check the fit and make any necessary adjustments.

Foundation 2

Figure 2
If you are using the contour pattern, follow the instructions provided.

- Trace the pattern and cut around the outside edges.
- Make sure the pattern is cut out accurately for the bust area.
- Check the fit and make any necessary adjustments.
Chapter 19

**Figure 3**
- Check the contour line and trace the pattern.
- Mark 1/4 inch out from the bound paper for lining. Draw a line tangential to the bound area.
- Draw the guideline straight on the bias.

**Figure 4**
- Close the back grain line and trace the pattern.
- Place the guideline straight on the bias.
- Complete the pattern for the armhole.

**Figure 5**
- Trim the seams in a 45° angle to the bound area.
- Draw the guideline straight on the bias.

**Figure 6**
- Mark 1/4 inch out from the bound area to allow room for lining. Draw a line tangential to the bound area.
- Draw the guideline straight on the bias.

**Figure 7**
- Draw a vertical guideline on paper.
- Cut through each section of the pattern.
- Align the guideline with the vertical guideline.
- Spread each section 1 inch wide and hold it in place.
- Trace the outline of the pattern and mark the center of each section.
- The guidelines are the draft line for the dress fabric that can be drawn. They will each floor patterns and guidelines if the guidelines are used.

Follow the same procedure for a gathered back, if desired (not illustrated).

The gathered panels are stitched to the back. The lining is assembled prior to the facing. The lining is then inserted and inserted to the facing.
BRA-TOP TORSO FOUNDATION

Figure 1

1. Pin and baste front and back darts and draw dart arcs at waist line and from dart apex.
2. Transfer center guideline of 4, 5, and 6 (bust) and connect center guidelines.
3. Mark 1/2 inch above the bust and draw to waist.
4. Draw the bust line, as illustrated, or as desired.
5. The bust dart is increased to absorb the second dart.

Figure 2

1. Draw a line between the two darts.
2. Mark the center of each dart out from the line.
3. Connect the dart legs to establish the princess line. Cut and separate panels.

Bra Top

Figure 3a to 3c

1. Cut bra parts from the pattern.
2. Close darts above and below the bra and add 1/4 inch for underwarp and band.
3. Trace and add seams.

Figure 4

1. Separate princess panels and add seams.

PRINCESS TORSO FOUNDATION

The princess torso is the example of undergarment support. Other examples for cutting variations can be added. The facing, interlining, and lining instructions are included.

Figure 1

1. Trace the front torso foundation and draw the bust 3 inches above and below bust.
2. Transfer center guideline of 4, 5, and 6 to connect center guidelines.
3. Remove 1 1/2 inch from the side seam.
4. The first dart from the shoulder line along the center line of the second dart. Mark dart intake on the left dart leg of the princess line.
5. Cut the pattern from paper and separate the princess panels.

Figure 2

1. Trace the bust point to side dart point.
2. Close side dart. Mark casing notch at each dart.
3. Close the princess dart from the bust and mark notches.
Completing the Patterns

Figure 3.
- Cut, add seams, and stitch (pattern not included)

![Figure 4](image)

BACK SIDE BACK SIDE FRONT FRONT

Fitting Problems and Solutions

Garmets designed to fit the contour of the bust often require special fitting problems for the pattern-maker. A good fit allows the bust cup of the garment to fit the contour of the bust without strain, and the seams to fit comfortably on the chest area without having the center front of the garment fall away. A poor fit is one of insufficient bust cup room, bust allowance, and the pattern can also cause fitting problems.

If you wish to add interfacing to the staples foundation, see pages 417-418 for instructions. A construction map for a top should not be fit on the bust without any pattern attachment. A pattern is placed at the side stitch, or at the center back.

Good fit

![Figure 1](image)

The cups fit to the contour of the bust without strain, and the staples pattern does not fall away at the center.

Stress Around the Bust Area, or a Falling Away Between the Busts

Figure 20.
- Release stitches on the bust.
- Lower or raise the center front.
- Measure the opening and adjust the pattern.

Bust Too Large for the Bust Cup

Figure 30.
- Stitch from bust to side and to center front. The bust will push through. Tape across and measure vertical and horizontal space.
- Connect the patterns and sew.

 Tight/Loose Around Waist and/or the Bust Area

Figure 40.
- Release, pin, and sew.
- Take bust, pin, and adjust.
- Leave: Pin in requirements and stitch, correct pattern.
UNDER SUPPORT FOR STRAPLESS GARMENTS

Light Weight Interconstruction

Light weight interconstruction should be considered in designs that have a low neck, as it helps give balance. Care must be taken to choose the fabric and method. The support may be beading, boning, and a lining, and have minimal interconstruction features as necessary.

Supplies
- Fabric: cotton, rayon, organdie, light-weight cotton
- Beading: optional
- Lining: linen, cotton, China-silk, silk
- Fusible or nonfusible interfacing
- Heal tape

Heavy Weight Interconstruction

The construction is suggested for strapless designs with lining beading and multiple overplies of fabric layers, such as silk, and further for period, theatrical, and stage costumes.

Supplies
- Fusible: as for interconstruction
- Interlining: medium weight, cotton, wool, rayon, interpolated fusible layers, or heavy wool
- Excluding: side panel, interlining, and side seams of the undergarment that secures the fabric, and box-pleat backless less than 50-60, cotton, linen, or satin
- Binding: as required, woven, woven rayon blend, China-silk, linen, linen
- Side opening: given as a seam to the side fabric: 1 1/2 pleat with a facing of a stiff fabric, or lining, or interfacing

Other Over
- Grosgrain ribbon or tail 1/4 inch to hold seam at the top of strapless garments; 1/4 to 1-inch-wide grosgrain or tape to secure the garment at the waist

Types of Boning

Boning provides a lightweight, structural base that supports the garment. It ranges from thin, rolled, or interlaced plastic called Trigene, flexible, bone-like wire, to bone-like and bone-like materials of various sizes. Boning can be varied to achieve a soft, firm, or stiff appearance by varying the size, shape, and stiffness of the bones.

Figure 1: Bone (1-5)
- Bone: flexible, bone-like, and bone-like materials
- Trigene: flexible, bone-like, and bone-like materials
- Wire: flexible, bone-like, and bone-like materials
- Bone: flexible, bone-like, and bone-like materials
- Trigene: flexible, bone-like, and bone-like materials
- Wire: flexible, bone-like, and bone-like materials

Lining, Boning, and Closure

The following instructions illustrate various ways of attaching the boning. Boning sizes are generally 1/8 to 1/2 inch wide, but may be wider or narrower, depending on the desired effect. The boning is usually secured by sewing it to the garment, or it may be inserted as a separate unit. The boning is then attached to the garment using a similar method. The boning is then attached to the garment using a similar method.

Figure 2: Bone (6-10)
- Bone: flexible, bone-like, and bone-like materials
- Trigene: flexible, bone-like, and bone-like materials
- Wire: flexible, bone-like, and bone-like materials

Fold-Over Seam Boning

Figure 3: Bone (11-15)
- Bone: flexible, bone-like, and bone-like materials
- Trigene: flexible, bone-like, and bone-like materials
- Wire: flexible, bone-like, and bone-like materials

Note: Depending on the fabric and design, the boning may be adjusted as needed to achieve the desired effect.
Masking Channels for Bone Intenotions

Figure 1
Channels are spaced top stitching, making room for the location of stays or tubing in between to add additional support. Channels can be of any size. Choose locations for stays and tubing on page 474. Fitting channel is discussed on page 475.

Figure 3a: Seating
Press in one direction

Figure 3b: Assembling

Boning on the Right Side of the Garment

Figure 3c: It
- The seam is sewn on the right side of the garment. The seam is pressed in one direction and trimmed to within 3/8 inch. See Figure 3a.
- Ribbons (worn on) are pulled, centered over the seams, and tacked to the garment.
- The ribbons are eased for ease of the boning. If not supported by a boned, the ease will not be visible. In addition, the ribbons are tacked at all shoulders.
- Complete the garment with a facing at the edge for the garment (page 424), or leave (page 425), Figure 3b.

Preparing Stretchless Patterns for the Undersupport

The patterns to be used are the prototypes for the following instructions. However, the information can be applied to any foundation or design garments. Choose locations for the foundation and tubing on page 474. Fitting channel is discussed on page 475.

Figure 4

Figure 2

Figure 5
Figure 6

Figure 2 Second Cise
- Add 1/2 inch on each side of the bust seam point to allow for boning or tubing that will serve as an underlining for the design garments.
- Use 3/4-inch wide. Support the ribbon in the garment.
- Press open seams.

Figure 5a
Figure 5b
Figure 5c

Figure 5d

Figure 5e

Figure 5f

Figure 5g

Figure 5h

Figure 5i

Figure 5j

Figure 5k

Figure 5l

Figure 5m

Figure 5n

Figure 5o

Figure 5p

Figure 5q

Figure 5r

Figure 5s

Figure 5t

Figure 5u

Figure 5v

Figure 5w

Figure 5x

Figure 5y

Figure 5z

Figure 5aa

Figure 5ab

Figure 5ac

Figure 5ad

Figure 5ae

Figure 5af

Figure 5ag

Figure 5ah

Figure 5ai

Figure 5aj

Figure 5ak

Figure 5al

Figure 5am

Figure 5an

Figure 5ao

Figure 5ap

Figure 5aq

Figure 5ar

Figure 5as

Figure 5at

Figure 5au

Figure 5av

Figure 5aw

Figure 5ax

Figure 5ay

Figure 5az

Figure 5ba

Figure 5bb

Figure 5bc

Figure 5bd

Figure 5be

Figure 5bf

Figure 5bg

Figure 5bh

Figure 5bi

Figure 5bj

Figure 5bk

Figure 5bl

Figure 5bm

Figure 5bn

Figure 5bo

Figure 5bp

Figure 5bq

Figure 5br

Figure 5bs

Figure 5bt

Figure 5bu

Figure 5bv

Figure 5bw

Figure 5bx

Figure 5by

Figure 5bz

Figure 5ca

Figure 5cb

Figure 5cc

Figure 5cd

Figure 5ce

Figure 5cf

Figure 5cg

Figure 5ch

Figure 5ci

Figure 5cj

Figure 5ck

Figure 5cl

Figure 5cm

Figure 5cn

Figure 5co

Figure 5cp

Figure 5cq

Figure 5cr

Figure 5cs

Figure 5ct

Figure 5cu

Figure 5cv

Figure 5cw

Figure 5cx

Figure 5cy

Figure 5cz

Figure 5da

Figure 5db

Figure 5dc

Figure 5dd

Figure 5de

Figure 5df

Figure 5dg

Figure 5dh

Figure 5di

Figure 5dj

Figure 5dk

Figure 5dl

Figure 5dm

Figure 5dn

Figure 5do

Figure 5dp

Figure 5dq

Figure 5dr

Figure 5ds

Figure 5dt

Figure 5du

Figure 5dv

Figure 5dw

Figure 5dx

Figure 5dy

Figure 5dz

Figure 5ea

Figure 5eb

Figure 5ec

Figure 5ed

Figure 5ee

Figure 5ef

Figure 5eg

Figure 5eh

Figure 5ei

Figure 5ej

Figure 5ek

Figure 5el

Figure 5em

Figure 5en

Figure 5eo

Figure 5ep

Figure 5eq

Figure 5er

Figure 5es

Figure 5et

Figure 5eu

Figure 5ev

Figure 5ew

Figure 5ex

Figure 5ey

Figure 5ez

Figure 5fa

Figure 5fb

Figure 5fc

Figure 5fd

Figure 5fe

Figure 5ff

Figure 5fg

Figure 5fh

Figure 5fi

Figure 5fj

Figure 5fk

Figure 5fl

Figure 5fm

Figure 5fn

Figure 5fo

Figure 5fp

Figure 5fq

Figure 5fr

Figure 5fs

Figure 5ft

Figure 5fu

Figure 5fv

Figure 5fw

Figure 5fx

Figure 5fy

Figure 5fz

Figure 5ga

Figure 5gb

Figure 5gc

Figure 5gd

Figure 5ge

Figure 5gf

Figure 5gg

Figure 5gh

Figure 5gi

Figure 5gj

Figure 5gk

Figure 5gl

Figure 5gm

Figure 5gn

Figure 5go

Figure 5gp

Figure 5gq

Figure 5gr

Figure 5gs

Figure 5gt

Figure 5gu

Figure 5gv

Figure 5gw

Figure 5gx

Figure 5gy

Figure 5gz

Figure 5ha

Figure 5hb

Figure 5hc

Figure 5hd

Figure 5he

Figure 5hf

Figure 5hg

Figure 5hi

Figure 5hj

Figure 5hk

Figure 5hl

Figure 5hm

Figure 5hn

Figure 5ho

Figure 5hp

Figure 5hq

Figure 5hr

Figure 5hs

Figure 5ht

Figure 5hu

Figure 5hv

Figure 5hw

Figure 5hx

Figure 5hy

Figure 5hz

Figure 5ia

Figure 5ib

Figure 5ic

Figure 5id

Figure 5ie

Figure 5if

Figure 5ig

Figure 5ih

Figure 5ij

Figure 5ik

Figure 5il

Figure 5im

Figure 5in

Figure 5io

Figure 5ip

Figure 5iq

Figure 5ir

Figure 5is

Figure 5it

Figure 5iu

Figure 5iv

Figure 5iw

Figure 5ix

Figure 5i

Figure 5ia

Figure 5ib

Figure 5ic

Figure 5id

Figure 5ie

Figure 5if

Figure 5ig

Figure 5ih

Figure 5ij

Figure 5ik

Figure 5il

Figure 5im

Figure 5in

Figure 5io

Figure 5ip

Figure 5iq

Figure 5ir

Figure 5is

Figure 5it

Figure 5iu

Figure 5iv

Figure 5iw

Figure 5ix

Figure 5j

Figure 5ja

Figure 5jb

Figure 5jc

Figure 5jd

Figure 5je

Figure 5jf

Figure 5jg

Figure 5jh

Figure 5ji

Figure 5jj

Figure 5jk

Figure 5jl

Figure 5jm

Figure 5jn

Figure 5jo

Figure 5jp

Figure 5jq

Figure 5jr

Figure 5js

Figure 5jt

Figure 5ju

Figure 5kv

Figure 5kw

Figure 5kx

Figure 5ky

Figure 5kz

Figure 5la

Figure 5lb

Figure 5lc

Figure 5ld

Figure 5le

Figure 5lf

Figure 5lg

Figure 5lh

Figure 5li

Figure 5lj

Figure 5lk

Figure 5ll

Figure 5lm

Figure 5ln

Figure 5lo

Figure 5lp

Figure 5lq

Figure 5lr

Figure 5ls

Figure 5lt

Figure 5lu

Figure 5lv

Figure 5lw

Figure 5lx

Figure 5ly

Figure 5lz

Figure 6

Figure 6a

Figure 6b

Figure 6c

Figure 6d

Figure 6e

Figure 6f

Figure 6g

Figure 6h

Figure 6i

Figure 6j

Figure 6k

Figure 6l

Figure 6m

Figure 6n

Figure 6o

Figure 6p

Figure 6q

Figure 6r

Figure 6s

Figure 6t

Figure 6u

Figure 6v

Figure 6w

Figure 6x

Figure 6y

Figure 6z
Bras Class

Figure 4

Form the same armholes and extensions unless the pattern is stated. Mark notches, but do not clip.

Preparing the Padding for the Bra Cup

Figure 5
- Choose the fabric for best padding; see suggestions on page 414-415.
- Cut the fabric 3 inches × 20 inches.
- Fold crosswise 3/4 inch vertically through the fabric.
- Place the brassiere patterns on the padding; trace and cut.
- Mark notches, but do not stitch.

Joining Brassier Padding

Figure 6
- Join the raw edges by hand-stitching, or machine-stitch is ok.

Figure 7
- Fit padding snugly to the garment, 3 inch from the tops. Pin to hold.
- Stitch around the outer edges to secure padding to garment.

Attaching Covered Braiding

Two different versions are illustrated, braiding should and before reaching the top and bottom seams to prevent the braiding from pulling off the bra. See page 420-421 for the other alternatives.

Figure 8
- Right view. Braiding is stitched to each seam and ends 3/4 to 1 inch from the top and bottom of the garment. A 1 1/2-inch-wide piece of ribbons can be sewn to each side seam stitching 3/4 inch away between panels. Another version is illustrated on page 420, Figure 15.
- Left view. Attach braiding at the center from the right. Braiding is stitched from side seam, diagonally over the padded boning in the princess seam. For some styles, Butter, cotton, nylon, satin and Vegas cutouts braiding is extended through the waist ending just above the inner line.

Figure 9

Lined or Unlined

Figure 9
A lining is required at the raw seams of the design. In most case, raw edges of the undergarment.

Figure 10
Lining is required for the raw seams of the design garment to cover the finished side of the undergarment.
Attaching the Constructed Undergarment

Figure 11
The constructed undergarment is attached to the bodice (design seam). In one of two ways, with or without lining.

1. (...) The clipping must be done under the stitching line joints (Fig. 11). The stitching line must be positioned 1/4 inch above the stitching line joints (Fig. 12).

Controlling Ease

Figure 12
- Stitch half or 1/8 inch above the stitching line joints, starting at the center back to the side seam.
- 1/2 inch below the side seam to the center front.
- Repeat on the other side to help secure the stitching line joints.
- From the stitching line to within 1/4 inch of the seam allowances, turn to the right side and understitch.

Securing the Waistline

Figure 13
- Cut grosgrain ribbon or elastic (1/3 to 1/4 inch wide) to the waist measurement of the pattern. It can be attached in one of two ways as follows:

- Elastic
- Grosgrain ribbon

BUSTIER, CORSELET, AND WASPIE FOUNDATIONS

The bustier foundation and corset of the bustier are shaped to fit the bodice by drawing the fabric and adjustments of the size. Both are constructed with the bustiers’ foundations to the bust, as shown in Figs. 14-19. Use the support and interfacing as needed.

The foundation pattern can be adapted for the bustier, corset, and corsettes. The bustier foundation can be made in any form because it is the only fitting area.

Bustier Foundation
The bustier foundation can be shaped up or down, worn as a separate, or designed with a skirt or pant.
Completed Patterns for the Bustier
If additional boning is desired, mark the placement on the pattern. See page 424 for guide.

Completed Patterns for Bustier with Slips
If additional boning is desired, mark the placement on the pattern. See page 424 for guide.

Completed Conserv Foundation
The draper neckline comes up to the bust or just above the bust point. Under the bust is closely fit and shaped to push the bust together and up. For the foundation, cut from pattern, trace panels. See page 425 for completed foundation and silk information. Rear the panels and darts. Sketch the placements as shown or by choice of design. Back lacing instructions are on page 424.

Conserv Foundation

Completed Conserv Foundation
If additional boning is desired, mark the placement on the pattern. See page 424 for added support fabric suggestions. Shaded areas indicate extra support.

Waspie Foundation
The waspie is too fitted because it also helps to emphasize the bust by closing the waist. The wasp can be doubled using princess lines or separated into additional panels for boning (as shown). The wasp is a style for outer forms of clothing. See page 424 for added support fabric suggestions. For garments and lacing, see page 424.

Waspie Foundation
Front lacing: Remove 1" of outer front. Back lacing: Remove 1" of center back.

Completed Patterns for the Waspie
Separate the pattern parts and add lining. The center front can be faced or cut for front for the opening.
GROMMETS AND LACING

You will need the following supplies: a small hammer, a punch, a press, a punch and needle-punch setter, trim on canvas, and lining setter in leather sheathes, ribs, or cordage.

**Racing**

- Cut facing 2 to 3 1/2 inches wide.
- Press the casing, or equivalent interfacing, on wrong sides. Cover the complete facings, or in the space needed for grommets, as shown in Figure 2a.
- Place facings on design lines with right sides together and stitch them to the garment (Figure 1b).
- Stitch a 3/4-inch seam, and press the seams open. Turn and stitch a 1/8-inch seam channel for boning. Stitch another row to the width of the boning.
- Turn raw seam and edge-stitch (Figure 3a).

**Marking Grommet Placements**

- Lay garment flat and mark the grommets 1 to 2 inches apart (Figure 2b). Repeat equally on the other side and pierce through the fabric, inserting boning through channels (Figure 2c).

**Attaching the Grommets**

- The boning and eyelet hole punch will cut through the layers of the fabric's right side (Figure 3a).
- Push through the eyelets and turn the garment over. Set eyelets with the implement. The eyelets will spread the edges, clamping them securely to fabric (Figure 3a).
- Slip the boning into channels next to the grommets.

BUSC CLOSURE

Before attaching the busk to the garment, a 2-inch-wide tie-on canvas should be applied to the left side of the foyer side of the design line.

**Right Side Closure**

- Place a 2-inch-wide tie-on facing to length of the foyer side of the design line.
- Place the clasp on the facing aligned with facings' edge and stitch each end (Figure 4a).
- Place the wrong side of the facing 1 inch from the right side of the design, about 1/4-inch seam to each clasp opening and backstitch to either (Figure 4b).
- Press exposed seams open. Turn and slip the clasp into each opening. Use the upper foot to stitch close to the median's edge, hold raw seam over and stitch (Figure 4c).

**Left Side Closure**

- Place a 2-inch-wide tie-on canvas on the wrong side of the design's left side. Mark the placements to correspond with the claps.
- Use an eyelet or eyelet pick to penetrate the fabric (Figure 2d).
- Stitch facing to the outer front and press seams open. Fold over and stitch 1/4-inch seam over the fold. Place the knop snug against the stitch line (Figure 2e).
- Hold the fabric over and pin the ends through the hole, which will be the upper shoe close to the grommet edge. Hold the raw seam of the facing and edge-stitch (Figure 2f).
INTRODUCTION

Before the advent of bias-cut dresses, full-skirt garments required the use of girdles to enhance the body line. Then, the late designer Madame Vionnet (1876–1975), called the "facel of fashion," created bias-cut dresses for changing the silhouette of the figure. As the bias fell from the hip to the knee, there were styles similar to those worn in the 1980s for the same reason. Today, even though the bias cannot be straight, there is a kind of "bias" line in the form of the garment. This line is made by the bias for every form. The differences between the original lines of the pattern and the final garments are regularized from the garment when they are cut. Now, bias-cut patterns emerge from the corrections that are made and shorter than the original. When cut again for the final test fit, the bias line again (reversely) returns to fit the shape of the form. The corrections include two methods for managing bias and adjusting the pattern.

NATURE OF BIAS-CUT FABRIC

1. In bias cuts, in length, as suits
direction.
2. The thickness and quality of the material should be considered in the construction of the garment.
3. The construction lines are not located as sharply as in the straight grain cut, but more evenly on the bias.
4. Where the construction lines are not as sharply defined as in the straight grain cut, the construction lines appear longer.
5. After the bias has been worked, it does not return to its original shape.

TWO METHODS FOR REDUCING BIAS STRETCH

Method 1: The garment is cut from the design pattern and allowed to stretch to determine the pattern corrections. This step may determine the fabric and management of the cutting process.

Method 2: The stretch of the fabric is determined first and the pattern is adjusted before the pattern is cut. The all-in-one dress illustrates this method.

FABRIC SELECTIONS FOR BIAS-CUT GARMENTS

Light Weight Fabrics

Cotton

Flannel

Cupro

Denim

Vichy

Medium Weight Fabrics

Satin-back Crepe

Charmeuse

Georgette

Satin linings can also be used for the designs that follow.
SLIP DRESS WITH A SLINKY SKIRT

Design 1 is the prototype for designs with fluid bodices. Additional width is added to the arm seams for adjustment. The front has constructed darts near the dress weight along the bodice to encourage the greater amount of fabric.

Design Analysis—Design 1

This dress is designed to flatter a slinky. The dress is gathered under the bust with a princess box lining underneath it. Insert. The princess box is cut on the bias to flatter the figure. The princess box is not visible from the outside.

Pattern Plot and Manipulation

1. If you are using the contour guide pattern, follow the pattern plot instructions (see Chapter 4).
2. Trace the front and back center lines.
3. Transfer contour guidelines 4, 5, 6, and 7 back.
4. Draw the test are of 1 inch above and below the bust.
5. Connect the front and back center guidelines.
6. Draw the princess box line 1 inch above bust line.
7. Combine with shaping lines to the lower back.

Figure 1

Figure 2

1. Trace the front at bust point.
2. Make two copies.
3. Use the patterns for Figures 3 and 4.

Figure 3 Gathered Box Top

1. Close all darts except under the bust and above.
2. Extend the dart legs 1 1/2 inches below bust.
3. Draw curved lines under the bust. Mark notches.

Figure 4 Princess Underbust

1. Close the side and center front darts and trace.
2. Add 1/2 inch at back points and draw curved curved lines.

Figure 5 Back Princess Band

1. Close darts and Hems.

Figure 6 Front and Back Empire Bands

1. Measure intake of each dart, front and back.
2. Add together, plus 1 inch of band.
3. Draw guideline between the two darts, ending 2
   or 3 inches below the waist.
4. Mark one point of the measurement from each side of the front and back guidelines.
5. Connect to the dart points.

Figure 7
Preparing for Cutting

Figure 8 Patterns for final fitting

Chore line guidelines: 15" in front and back on the skirt pattern and mark the fold line guidelines. Mark lengthwise grain on this, too. Add seam only in this pattern at this time.

Lay out pieces and fabric in final Cut

To cut the fabric, cut the lining on the cutting table first. Place the fabric on top of the lining and press around the edges. Pin the pattern on the fabric with guidelines parallel to selvage from the waist to 1/4" above the hem. This pattern is to cut the amount of material needed by guidelines cut by final Cut patterns and show the center back guidelines on the front and back side when.
Preparing for the Fit

- Sew the front and back lines.
- Pin the side seams after stitching. Glue to stretch, the line will go beyond the side seams. With the hem up to the front and back lining separately.
- Place the garment on the form. Pin the center back to the center back of the form. Fold the attached outer dress to the front of the garment. Pin the back to the form.
- Tuck the form to prevent the dress from touching the floor.
- Pin the side seams (not the side edges at the side seam, ending 2 inches below the hem). Clip along side seams.
- The pattern pieces will allow the bias to stretch freely over garment. (see Chapter 15 for more information.)

Recut for Final Fit

- Trace patterns on tracing paper.
- Lay tracing on tracing, and marking paper side by side. Cut for second fit.

Adjusted Side Seam

- Measure the distance from the original side seam pattern to the chalk line.
- Use measurement to pin mark the opposite side of the chalk line at the side seam and hemline.
- Repeat for the back skirt seam areas.
- Trace and blend side seams and match biasing seams.
TWIST BODICE WITH A SLINKY SKIRT

The bodice twist closely adheres to a design by Yves Saint Laurent. The dress slips over the shoulder without a closure. The twist is also excellent for this purpose.

Design Analysis

The bodice twist is cut on the bias. The twist must be made so that the various side pieces fall side up. An open space between the darts and the twist gives freedom for the turning of the twist. The twist design is pinned on the pattern, see page 436, Figure 1, to vary the skirt design.

Pattern Plot and Manipulation

Figure 1
- Use a line from the center to bust point (X) and follow the illustration to plot the design.

Figure 2
- Mark (X), 2 inches up from the center back waist and follow the illustration to plot the design.
- To complete the skirt, see page 429, Figure 1, and page 436.

Figure 3
- Place the twist to the right shoulder and pin at the shoulder and at the side seams.
- Fold pliers in the fabric (in line with the center front) and twist the fabric under and over so that the right side of the fabric is to the left side of the form. Pin to the shoulder and side seams of the form.

Figure 4
- If the twist is too loose, reduce the amount from the center front of the pattern. Check the fit and make any additional corrections needed.

Hang skirt overnight (see Chapter 13) and adjust the pattern. Pin, trace, or stitch the skirt to the twist for a final test fit.
The second method for handling garments cut on the bias is illustrated with the all-in-one dress. However, any design cut on the bias can be adapted to this method. The difference between this method and Method 1 is that the stretch of the bias is minimized below the design pattern is developed. This does not mean that the garment will be a perfect fit. The garment must hang straight and all seams must be checked for the amount of stretch. See pages 411, 412, and 413 for guidelines in handling fabrics, cutting, and adjusting the pattern.

**Design Analysis:**
The longest dress has a flared skirt with center line seams. The bodice has a gathered and the side seam has a bias. To develop the bias cut pieces, see Chapter 14.

**Determining the Bias Stretch:**

1. **Measurement needed:** Back hip arc (2b). Example: 9 inches for front and back patterns.
   - Fold the fabric on the bias and pin mark the hip arc measurement (A to B).
   - Lay the fabric on the rule with pin mark (A) secured at the 1-inch point.
   - Smooth the bias across the rule. See Chapter 27 for additional information. Record the distance that the fabric has stretched beyond the hip measurement. This amount is to be removed from the center line of the pattern to offset the bias stretch.

The amount of bias stretch will vary according to the nature of the fabric. (For example, cotton may stretch more on the bias than on the crosswise grain.)
Pattern manipulation

Figure 2b to 2f:
1. Place the original pattern, transforming the side seam.
2. Draw a parallel line at each point.
3. Add 1 inch from the shoulder point.
4. Extend thearmhole line.
5. Draw the back neckline, eliminating unnecessary neck lines.
6. Draw dashed lines from the side seams to the trunk lines.
7. Draw the back and center center lines, as illustrated.

Adding sleeves:
- Extend armholes to the desired length.
- Add-draw starting about 2 inches below waistline at the center back, front, and side seams, and ending 3 inches out from side seams.
- Add 1 inch seam below the pattern.
- See page 450, 451, and 453 for positioning of the armhole, cutting, and draping.
- Follow illustration or see Chapter 14 for details.

DESIGN VARIATIONS

The designs sketched are for further practice and design inspiration.
Chapter 21

Shirts

SHIRT AND BLouse FOUNDATIONS

1. Basic Shirt and Blouse Draft
2. Basic Sleeveless Blouse Draft
3. Sleeveless Blouse
4. Sleeveless Blouse Variations
5. Hidden Button/Placket Blouse
6. Casual Shirt and Blouse Foundation
7. Oversized Shirt Draft
8. Oversized Blouse

PERSPECTIVE BLOUSE
Three Shirt and Blouse Foundations
Each of the foundations has distinctive features. Those differ in the following ways: the amount of fullness gives to the shirt or blouse foundations, the depth and amount of enlargement of the armholes, and the modifications to the back seams—waist tucks, shoulder and back darts, and transferred length give to the foundation for the finished product. The body starts based on the basic blouse foundation and the complete view for special shirt or blouse designs.

Basic Shirt or Blouse Foundation
The armhole is slightly lower and wider than the basic blouse and back sleeves.

Casual Dartless Shirt or Blouse Foundation
The armhole depth and fullness are much greater than the basic shirt.

Oversized Dartless Shirt or Blouse
The armhole depth and fullness are greatly exaggerated.

Basic Shirt and Blouse Draft
The shirt and blouse foundations are drafted with standard characteristics: lowered armhole and ease, added fullness, and transferred length from the back body. The blouse foundation can be modified for a shirt or blouse. The blouse draft is based on the shirt foundation. A blouse draft is based on the shirt foundation, and the fullness is added to the foundation.

Front
Figure 1
- Mark dart bases.
- Draw dart lines from bust point to mid-armhole and mid-darts.
- Square a line on paper from bust and waist line.
- Mark lines from mid-armhole and mid-shoulder to bust point.
- Align pattern in the square with front center and back dart, and transfer to pattern
- Mark 1/2 inch from the center and 1/4 inch from the armhole. Some dart nicks will be left at side seam level. Place.
- Draw dart curve or lines.
- Draw center line 7 inches square, and square up to touch Z label on front shirt pattern.

Back
Figure 2
- Take back bodice.
- Draw dart line past the dart (X). Do not come too far out to the armhole line.
- Mark 1/2 inch out from mid-armhole (Y).
- Mark 1/2 inch out from mid-armhole (Z).
- Square a line from center back touching side seam (A) and merger. Back waist line may not match square line 1.
- Continue center back line 7 inches from the square line. Draw a dart line to the bust point.
- Square across to no line and square up to (Z).
- Draw dart line, ending through (Z).
- Cut from paper label, back shirt pattern.
Basic Shirt Sleeve Foundation

Shirt and Sleeve Bevel

The sleeve darts are shaped by standard techniques. The sleeve is modified by the enlarged and lowered armhole. To select the desired sleeve ratio and relax, refer to pages 442 through 446.

Figure 1: Basic Shirt Bevel
- Trace the basic sleeve bevel line to the original pattern.
- Extend the armhole 2 inches to each side.
- Mark (2 1/4) inches from the tip of the dart. The tip of the dart will be on the front and back shoulder.
- Shape the curve using the French curve. The tip of the dart will be 2 inches from the tip of the dart.
- Add 2 inches to each side of the bevel to adjust the sleeve to the desired size.

Figure 2: Shaped Bevel
- Trace the bevel to the French curve. The tip of the dart will be 2 inches from the tip of the dart.
- Add 2 inches to each side of the bevel to adjust the sleeve to the desired size.

Front Shoulder Shape
- Trace the bevel to the French curve. The tip of the dart will be 2 inches from the tip of the dart.
- Add 2 inches to each side of the bevel to adjust the sleeve to the desired size.

Volee Shirt

Design Analysis

The sleeve design is based on the standard and modified by the enlarged and lowered armhole. To select the desired sleeve ratio and relax, refer to pages 442 through 446.

Yoke Shirt

Design Analysis

The yoke shirt design is based on the standard and modified by the enlarged and lowered armhole. To select the desired sleeve ratio and relax, refer to pages 442 through 446.

Figure 1: Basic Shirt Bevel
- Trace the basic sleeve bevel line to the original pattern.
- Extend the armhole 2 inches to each side.
- Mark (2 1/4) inches from the tip of the dart. The tip of the dart will be on the front and back shoulder.
- Shape the curve using the French curve. The tip of the dart will be 2 inches from the tip of the dart.
- Add 2 inches to each side of the bevel to adjust the sleeve to the desired size.

Figure 2: Shaped Bevel
- Trace the bevel to the French curve. The tip of the dart will be 2 inches from the tip of the dart.
- Add 2 inches to each side of the bevel to adjust the sleeve to the desired size.

Front Shoulder Shape
- Trace the bevel to the French curve. The tip of the dart will be 2 inches from the tip of the dart.
- Add 2 inches to each side of the bevel to adjust the sleeve to the desired size.

Volee Shirt

Figure 1: Basic Shirt Bevel
- Trace the basic sleeve bevel line to the original pattern.
- Extend the armhole 2 inches to each side.
- Mark (2 1/4) inches from the tip of the dart. The tip of the dart will be on the front and back shoulder.
- Shape the curve using the French curve. The tip of the dart will be 2 inches from the tip of the dart.
- Add 2 inches to each side of the bevel to adjust the sleeve to the desired size.

Figure 2: Shaped Bevel
- Trace the bevel to the French curve. The tip of the dart will be 2 inches from the tip of the dart.
- Add 2 inches to each side of the bevel to adjust the sleeve to the desired size.

Front Shoulder Shape
- Trace the bevel to the French curve. The tip of the dart will be 2 inches from the tip of the dart.
- Add 2 inches to each side of the bevel to adjust the sleeve to the desired size.
Sleeve Hemline Options

Subtract the armhole measurement from the hemline of the sloper. Choose the style preferred. Hemline varies determined equally from the underarm.

Option 1: Two Pieces

- Mark an 1 1/4 inch from the right side of the sloper. (7/8 inch)
- Mark at 1 1/4 inch from the right side of the sloper. (3/4 inch)
- Remove excess from the side seams, allowing 1/4 inch for ease. Mark a curved line to elbow.

Option 2: One Piece

- Mark at 1 1/2 inch
- Mark at 1 1/4 inch from the right side of the sloper. (3/4 inch)
- Remove excess from the side seam. Mark a curved line to elbow.

Option 3: Gathered

- For a gathered sleeve, mark hemline 1/2 inch in from underarm.

Option 4: Flat

- Allow 1/2 inch for ease. Mark a curved line to elbow, allowing 3/4 inch.
**Closure Options**

**Banded Slit Opening**
- Cut band 3 1/2 inches wide and two times the length of the slit (figure 1a).
- Use the illustration as a guide for stitching the band to the slit of the sleeve (figure 1b).

**Underarm Opening**
- Make an opening at the underarm of the sleeve, the seam is folded and top-stitched (figure 4).

**Spaced Opening**
- Space out so that the material between will fold where the cuff is hemmed (figure 5).

**Stitch-back Slit**
- Fold the slit back raw seam, overlock, or fold-over and top stitch to hold in place (figure 2).

**Shift Sleeve Cuff**
- Sew a line 2 inches up from the fold equal to the arm band measurement, plus 1 inch for extension (figure 6a).
- Complete is illustrated in figure 6b.

**Elastic Control**
- Add 2 inches to sleeve length for fold-over to hold elastic and stitching.
- Elastic should be 3 inches long or around arm measurement. Width of elastic varies (figure 3).

**Pocket**
- The KS is fused to the WS of the sleeve slit. Stitch up the entire cut and back-stitch on the KS. (figure 10).
- Fold and stitch the elastic over the raw edge (figure 11).
- Fold the pocket to WS of the pocket and stitch on the KS. (figure 12).
- Refer to page 614 to use the cuff choice and construction.
**Shirt Facing and Collar Variations**

Five variations of shirt facing, with instructions for each, are illustrated in Figure 1. Choose the one appropriate for the design. Figure 4 and 5 illustrate instructions for facing and collars. Type 1: Attached Facing

**Figure 2:**
- Trace the shoulder, neck line, extension, and hem on pattern. Use measurements given to complete facing.

**Type 2: Straight Fold-Back Facing**

- Fold pattern on extension line. With tracing wheel, trace neck line and center front, top, and bottom. Unfold and pencil in.
- The width of the facing is parallel to the extension line so that the fold line ends at the center of the shoulder and (even before hemming). This type of facing is often placed on the sleeve in the limit line.

**Type 3: Attached Facing**

- Trace the shoulder, neck line, extension, and hem on pattern. Use measurements given to complete facing.

**Type 4: Self-Faced Collar**

- Fold back the collar, extending the extension line. Unfold and pencil in.
- The width of the facing is parallel to the extension line so that the fold line ends at the center of the shoulder and (even before hemming). This type of facing is often placed on the sleeve in the limit line.

**Type 5: Self-Faced Band with Attached Facing**

- Figure 6: Facing
- Trace the pattern on facing ___ measurements given in Figure 2 and fabric facing width (center front) equal width of set in band.

**Figure 7: Band and Garment**
- Measure from center front match to width of the extension.
- Draw a line parallel to the extension line. Separate the pattern along this line. Draw patterns and add posture.
Hidden Button/Buttonhole Closure

Figure 1
Use tracing paper to develop the following pattern:
- Trace the front shirt.
- Add 1/4 inch to the extension. Draw line A.
- Add 1/2 inch to the extension. Mark B.
- Add 1/4 inch to the extension. Mark C.
- Draw line traced to the extension line from mark C.
- Add 1/2 inch at the extension. Mark D.
- Draw a line parallel to line D.
- Fold in half and mark the neckline.
- Cut the pattern from the paper.

Figure 2 How to Stitch
- Fold on line C, with the same allowances extending line A. At this point, the buttonholes may be placed on the extension.

Figure 3
- Fold on line A, placing B with A on the back side of the garment. Stitch down on the B line to form.

Figure 4
- After stitching, fold C. Stitch on line.

Figure 5 Front View
- The C fold is 1/4 inch from the extension line.
- The collar with buttonholes is the type of closure.

CASUAL SHIRT AND SLEEVE FOUNDATION

The casual shirt foundation is made by the same procedure as for the sleeve and cuff. The sleeve is longer and similar to the body shirt. The casual shirt foundation can be developed from the front waist and back dart bodice and basic back, as illustrated. This casual shirt foundation is also the base for sleeves, and in length added, it is a base for casual dresses. The basic collar on the regular and waist are illustrated in Chapter 10.

Casual Shirt Draft

Figure 1
- Trace the basic back bodice.
- Trace the shoulder and armhole seams 1 inch.
- Add 1/2 inch to the armhole (Y).
- Mark 1 1/2 inches down from the armhole.
- Square from center back, passing 1 inch at back mark (Z).
- Square a line from center back that touches the side waist.

Front Shirt
- Trace front bodice, transecting the side dart to the armhole. Mark center at the armhole (Y).
- Mark X 1 1/2 inches down from the armhole.
- Square from center back, passing 1 inch at back mark (Z).
- Continue center back length 7 to 9 inches.
- Square across the line and square up to each (Z).
- Mark 1 inch at waist level.
- Decrease side waist and shoulder darts. Draw body lines, touching X, Y, Z, as illustrated.
Figure 20.13 Adjusting Seams and Armholes
- Since 1/4 inch from around the neckline.  
- Measure front and back armhole. If they differ, decrease the armhole to the desired measurement.  
- Mark and make corrections. Shoulder pads, if needed, do not require a change to the length of the shoulder.

Figure 2
- Trace the shirt sleeve, label A and B.  
- Fold on the center line.  
- Mark 1 1/2 inches up from seam line (B) and square a line across the paper. Draw a line from A, touching the new triangle line that equals the front armhole measurement. Label C.
- Draw a line to the top of the sleeve.

Figure 3
- Divide A-C line into four fifths.  
- Squirt up 1/4 inch and square down 1/8 inch as shown. Draw a smooth and blend to top.
- Sleeve cap should measure 1/12 inch more than the front and back armhole. If not, add or subtract as needed.
- Mark sleeve notches. See Figures 24a and 28b.

Figure 5
- Draw the front and back patterns.  
- Cut the patterns apart, from mid-skirt to knee.  
- Spread desired amount (A to B).  
- Release.  
- Lower the armholes, if desired.  
- Measure the front and back armholes, add together, and divide by 3.  
- Mark armpit. See Figures 3a and 3b.  
- Topper if less fullness at arm is desired.
PEASANT BLOUSE

The peasant blouse is a traditional fabric worn in peasant countries, but its ethnic motifs can be found almost everywhere in the world.

Design Analysis
The gathered collar neckline and sleeveless can be adapted to either a casual or a formal style. The blouse can be pulled down over the shoulders, if desired. Design 2 is illustrated.

The peasant blouse is based on the basic shirt blouse foundation; see page 483.

Pattern Plot and Manipulation

Figure 1, 2
- Trace the front and back shirt blouse foundation.
- Draw some raglan shoulders just below the neckline. Label X.
- Draw a slash line from the bust point to the neck under the side seam point and from the dart point.
- Draw a slash line from the side seam to the neck. Label X.
- Draw the neckline neckline.
- Mark, preferred blouse length.

Figure 3
- Trace 2 inches below the neck or desired length.
- Cut and separate the neckline.
- Place the shoulder line of the raglan sections together and trace.
- Match notches X of the front and back inner to the armpit and end 4 1/4 inches from the shoulder by straight lines. Trace. Mark X.
- Draw slash lines B and C, as shown.
- Cut from paper.

Figure 4
- Cut slash lines. Spread each to equal half of B to C. Stitch.
- Draw bottom and waist.
- Cut from the paper.
**Inner Support—Terms and Definitions**

1. Underwires—small, flexible wires, sewn into garments at key points in the chest area, and directly to the lining. Use a light weight, narrow, flexible wire, to be inserted into a specially designed channel or grommet. Underwires are made from the jacket pattern.

2. Kicking—this layer between the garment and the lining. It is usually made of fabric, such as lining, woven, or knit, and is placed between the garment and the lining. It is made from the jacket pattern.

3. Interlining—this layer between lining and interlining in high-quality garments. It is made from the jacket pattern.

**Additional knit support fabrics**

For your sketch library, find the following inner support fabrics and add the swatches. Attach swatches to the forms below. Research the use of each fabric and record.

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Use</th>
</tr>
</thead>
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<tr>
<td>Elastine</td>
<td>Use</td>
</tr>
<tr>
<td>Bond Sheer</td>
<td>Mohair</td>
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<tr>
<td>Use</td>
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<tr>
<td>French radio</td>
<td>Belgium Linen</td>
</tr>
<tr>
<td>Use</td>
<td>Use</td>
</tr>
</tbody>
</table>

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**Basic Jacket and Coat Foundations**

The jacket and coat are based on the same foundation as the sweater. Make a full-size pattern or make a rough sketch to design the new pattern. The facial layout shown on page 74 is the final shoulder pad. Design requiring interior padding should include the additional of the padding and the lining, refer to page 141.

**Engaging the Patterns**

**Figure 1**

Trace the line from the base of the neck to the arm. Draw the pattern. Mark the center line from the waist to the shoulder. Draw a line from the waist to the shoulder line. Use this line to engage the pattern.

**Figure 2 and 3**

- **Marking the front and back neck:** Follow the directions of the arrows and measurements included for each foundation.
  - Dot marks each location. Connect lines.
  - Connect the shoulder line by adding to the armhole and draw a line to the shoulder line.
  - Draw the front and back armholes.

---

**Back Shoulder Dart**

To avoid having a shoulder dart, refer to Chapter 16. Prepare and adjust the dart measurement as follows.

**Measure the Armhole**

- Measure from shoulder.
- Measure back armhole.
- Add together.

Measurements will determine sleeve cap size. The sleeves shall fit.
THE JACKET AND COAT SLEEVES

The sleeve is the basic form for shaping the sleeve, and the armhole for the jacket and coat foundation. Prepare the measurements and pattern adjustments and the grading adjustments. This diagram illustrates the sleeve pattern layout for the jacket on page A55. The sleeve pattern is placed in the shoulder and armhole area.

**Sleeve and Armhole Pattern**

- **Pattern Layout**
  - Place the pattern on the paper, aligning the center of the pattern and the armhole.
  - Spread each section, using measurements given in the pattern.
  - Trace and transfer the pattern onto the paper. Cut from the pattern and trace a clean copy.

**Cap Ease**

- Measure the cap. Subtract the desired measurement from the sleeve cap. If the difference is less than 1 1/4 inches, add the cap. Instructions are given in Chapter 6.

**Grading the Sleeve Pattern**

- **Grading Terminology**
  - The term "grade" refers to the amount of material removed from the sleeve pattern.
  - The term "grade" refers to the amount of material added to the sleeve pattern.
  - The term "grade" refers to the amount of material removed from the sleeve pattern.

- **Grade 1/2"**
  - Add a grading line 1/2" from the line of the pattern.
  - Add a grading line 1/2" from the line of the pattern.

- **Grade 3/4"**
  - Add a grading line 3/4" from the line of the pattern.
  - Add a grading line 3/4" from the line of the pattern.

- **Grade 1"**
  - Add a grading line 1" from the line of the pattern.
  - Add a grading line 1" from the line of the pattern.

- **Grade 1 1/4"**
  - Add a grading line 1 1/4" from the line of the pattern.
  - Add a grading line 1 1/4" from the line of the pattern.

- **Grade 1 1/2"**
  - Add a grading line 1 1/2" from the line of the pattern.
  - Add a grading line 1 1/2" from the line of the pattern.

- **Grade 2"**
  - Add a grading line 2" from the line of the pattern.
  - Add a grading line 2" from the line of the pattern.
Figure 3

- Place the pattern and bag onto the pattern with the point at the bottom.
- Align the guide with number 0 and end with number 9.

Figure 4

- Place the back and front between points 6 and 9.
- Mark the back and front between points 9 and 6.

Figure 5

- Use the guide sleeve to help shape and bend the sleeve.
COLLAR/LAPEL DESIGNS

Three Standard Collar and Lapel Styles:

1. Basic notch—draped at level with the neckline.
2. Low-notch—draped at varied depths below a modified neckline.
3. Peaked—draped a distance away from shoulder seam on the shoulders.

The standard collar and lapel styles choice, how notch, and position can be varied to accommodate the design of the jacket or coat. Each collar and lapel should be draped for practice before cutting your own designs. See suggestions below,  

A complete jacket draft is shown on page 444. The sample is a guide for other designs that are based on the basic jacket and coat foundation.

Basic Notch Collar/Lapel

Design Analysis:
The collar and lapel indicate that the "notch" or "wedge" is at level with the front neck of the model. After draping the basic collar/lapel, create your own design using the formula.

Measurement Needed:
C.B. neck to shoulders
Pattern Fitting and Manipulation

Figure 1
- Trace the front and back jacket patterns, dotting the corners.
- Label the double-thick back.
- Label the center front and back 2 inches above the waistline, where the darts are placed.
- Label the center front 2 inches above the waistline, where the darts are placed.
- Draw a line from point A to point B, extending it to the waistline. Label the center back point at waist.
- A = 1 inch below waistline. Draw a line from A, extending it to the center back point at waist. Label the center back point at waist.

Figure 2
- Fold paper along the waistline and trace the shoulder line and A-C line, including dart.

Figure 3
- Label the center back point at C.
- Draw a line from C, extending it to the center back point at waist. Label the center back point at waist.
- Draw a straight line from A to B, extending it, curving slightly outward.

Figure 4
- Fold paper along the waistline, tracing a complete outline of the jacket shape.
- Crossmark points E and D on neck garment. Measure and plot them in jacket.

Figure 5a
- Draw a line from A to E. Label the center back point at C.
- Draw a line from A to E. Label the center back point at C.
- Draw a line from A to E. Label the center back point at C.

Figure 5b
- Draw a line from B to E. Label the center back point at C.
- Draw a line from B to E. Label the center back point at C.
- Draw a line from B to E. Label the center back point at C.

Figure 5c
- Draw a curved line from K to E. Label the center back point at C.
- Draw a line from K to E. Label the center back point at C.
- Draw a line from K to E. Label the center back point at C.

Figure 5d
- Draw a curved line from L to E. Label the center back point at C.
- Draw a line from L to E. Label the center back point at C.
- Draw a line from L to E. Label the center back point at C.

Figure 5e
- Draw a curved line from M to E. Label the center back point at C.
- Draw a line from M to E. Label the center back point at C.
- Draw a line from M to E. Label the center back point at C.

Figure 5f
- Draw a curved line from N to E. Label the center back point at C.
- Draw a line from N to E. Label the center back point at C.
- Draw a line from N to E. Label the center back point at C.
Low-Notch Lapel

Design Analysis
A new neckline is sketched to accommodate the low-notch lapel. If the neckline is to have a ruffle or to extend lower, the length of the lapel will be less. The lapel will be tacked and sewn to the jacket to be finished.

Measurement Needed

- C: neck to shoulder, plus 1/8 inch to compensate for thickness of fabric and seam allowances.

Pattern Plot and Manipulation

- Trace the front and back jacket pattern (not illustrated).
- Label shoulder seam and center front seam (example: at level—point where lapels overlap).
- Label: (new parallel line 1\(\frac{1}{2}\) inch from the center front, ending at level with it. Lengths should equal the diameter of the bustline.)
- A: C = 1\(\frac{1}{2}\) inch collar stand, (trace a line from C through R, ending at center front (full line), Label D (breakpoint of lapel).
- Fold paper along centerline. Draw a curved line for new neck line, point A to fold line (broken line indicates other variations... Draw a line between neck and bust level for the draft.
- Trace a new neckline and A-C line. Unfold the paper.

Color Modifications

Follow instructions in front stand and wider collar is desired. Broken lines show design variations.

Basic: (pattern may be increased for wide fold line, line for collar, standing complete pattern. To develop undercollar, see page 476, Figures 95, 96, and 97.)

- Fig. 9: To modify the collar, divide the back collar into three equal parts.
- Cut slash lines from collar edge to, not through, the neckline edge and spread.
- Fig. 10: (Gusset, Cheek Pattern) Spread = 3\(\frac{1}{2}\) inch.
- Color width = \(\frac{3}{4}\) inch (ripped at desired). Trace and cut from paper.
- Fig. 11: (Corner) Spread = \(\frac{1}{2}\) inch.
- Color width = \(\frac{3}{4}\) inch (ripped at desired). Trace and cut from paper.
Portrait Collar and Lapsel

Design Analysis
The collar lapel is placed at a chosen distance from the shoulder. The method will require drafting a new neckline. The neck can be placed at or lower than the neck level. After sketching the pattern collar lapel, create your own design.

Pattern Plot and Manipulation

Figures 1-5
- Trace the front and back jacket patterns.
- Fold the back, ending 3 in. from center back. Label 3.
- Draw the back neck, ending 3 in. from center back. Label 5.
- Measure the incision, plus 5 in.

Figures 6-9
- Draw a parallel line 1 in. from center front, cutting at level with B. (Extension should equal the diameter of the button.)
- B = 1 in. (center point). Draw line from C through 6 to D (underlapping).

Neckline
- C = 2 in. (center)
- Connect A to X. Draw a curved neckline approximately 1 in. from point, as shown.

Figures 10-13
- Add paper along the roll line and make a new neckline and a-c. line.
DOUBLE-BREASTED JACKET

Design Analysis:
A double-breasted jacket has a slight extension to accommodate the front band of buttons. It is half-lined in the center front to relax the open necklines. Follow the general instructions for collar development, with the following modifications:

- The front extension should equal at least three times the diameter of the button size (e.g., 1.5 inches). The breakpoints should be established below the collar line as shown.

Pattern Plot and Manipulation:

1. Draw the front and back pattern pieces (front not included).
2. Transfer to half the front, center back, and back pieces (marked B). The front and back pieces are included.
3. Follow instructions for the line marked B.
4. To center the front extension, draw a parallel line equal to three times the diameter of the button (approximately 1.5 inches).
5. Establish the desired break points on the extension line (multiple at waist level). Connect with C (collar line). Label D (breakpoints).
6. Complete the draft. The front pieces are placed at an equal distance from the center back, center front, and center back (center back). Chapter 26 is used for the drapes and buttonholes. Chapter 28 is used for the finish of the neckline, front opening, and sleeves.
DESIGN VARIATIONS

Other jackets or outerwear may feature collars or be collarless. The following designs are included for inspiration and as practice guidelines. The sequence is the same as in previous chapters for collar, buttonhole, pocket, and sleeve positioning. These designs should be used as a guide for developing these patterns.

- Design 1 and 2 feature collar necklines with threads.
- Design 3 features a side neck, point collar, and armhole shoulders.
- Design 4 has front panel buttoning on one side with a panel pocket, plus short collars.
- Design 5 is a double-breasted coat with lapel jacket and extended shoulder straps.

SHAWL FOUNDATION

The shawl collar is designed to go with the front jacket. The collar stands beyond the shoulder and attaches to the back neckline of the jacket. A shawl collar can be added to the necklines of coats, where the shawl collar is not part of the coat. Shown below are various shawls with the measurement between points H and J on the draft. Variations are illustrated to the letters that follow. All instructions are given in the draft foundation for the shawl style. Note that the instructions also apply to shawl collar foundations on trousers and shirts, with the shawl collar left unstitched.

Measurement Needed

- Back measurement
- Figure 1 and 2 Shoulderline Modification:
  - Trace the jacket pattern, transferring the back shoulder line to the neckline for other variations (see Chapter).
  - Adjust the shoulder line measurements given (increase the full of the collar). Label A at adjusted shoulder line.
  - Measure the back neck; add 1/2 inch to length.

Hidden Darts

- The hidden dart starts at A and the distance is about 1/2 inch (or to shorten the depth does not over). The stitches may be increased, if necessary.
- Note: The dart is not centered in foundation, dress, and buttonhole.
Winged Shawl Collar

Design 3-15

Figure 30--cont.--the winged style, as shown. Draw a line from back darts to the shoulder darts. Cut through the section of the folded dart and form the collar. Sew 1/4 inch (figure 30).

Basic Shawl Collar

Design 1

Figure 1—draw an outline curve from H to D. Figure 2—incorporate darts as desired on center line.

Built-Up Back Neck

Design 4

Figure 4—seam back neck line from shoulders. Center back collar width 1 1/2 inches. Draw collar shape on center front of fabric around the collar shape. Adjust desired shape in the neck line.

Wide Shawl Collars

Design 1-15

The technique for developing wide shawl collars requires modifying the back collar at the neck line. The collar may be extended with a 2 1/2-inch border with widths up to 3 1/2 inches along the back collar (figure 1). It may be of any width or as a folded collar of any width desired. A variety of lapel shapes can be designed from them as suggested in the collar dart indicated by broken lines. For practice, develop lapels for designs 1, 2, and 3.

Figure 1 Pattern Preparation:
- Trace the back collar of the shirt.
- Divide into four equal parts.
- Cut from paper and draft from the collar edge to, not through, neckline edge.
- Piece shawl pattern, play desired collar, and spread as illustrated in wide collar width.

Figure 2
- Spread each section 1/8 inch
- Draw width of the collar 3 1/2 inches.

Figure 3
- Spread each section 1/2 inch
- Draw width of the collar 4 inches or more.
Shawl Collar with Separated Undercollar and Facing

Instructions apply to any shaped designs. The two, shaped with both, is illustrated.

Pattern Preparation:

Figure 1
- Trace the basic pattern, include hidden dart.
- Draw a line 1/4" away from the neck line, extending 2" from the shoulder.
- Draw facing, starting 2 inches from the shoulder and ending 1 inch from center front at the dart point.

Figure 2/Pattern
- Trace the facing section from the pattern.
- Extend center back collar 1/8" inch and blend to neck at the center point.
- Add 1/8" at center back to form the dart.
- Add the facing, neck and back neck. Extend the facing and collar to the original pattern.
- Hidden dart: The hidden dart may be removed between the facing and the facing to the stitch line and cutting from the pattern. It may be stitched at the original location, or it may be folded out between the notches.

Figure 3, 4
- Shifted and separated collar. The collar becomes (undercollar). Trace pattern and (lining) in the dart.

**STYLE JACKET**

**Design Analysis**

The jacket is designed in an anachronistic queen with a square or squared back and a structured, collar. The sleeve can be one piece or two pieces. The jacket is lined in the same jacket front pattern (page 481). Instruction includes cutting and facing patterns.

**Pattern Preparation**

Figure 1a, 1b, 1c
- Trace the jacket sleeve and basic notch collar. Set neck edge to one side.
- Trace the pattern 1/4" below the neck and add 1/2" to the front points. Draw a line from the notch to the bust point.
- Draw a line from the bust point to the bust point and mark notches for one centered, as shown.
- Shape the neck line using measurements given.

**Facing and Notches**

Mark notches 1/2" inches from the facing and lining. Label A.
- Select a squared or squared facing (Figures 1a and 1b).

**Back**

Repeat the process by following the illustration (Figures 1a and 1b).
Lining Patterns

Figure 2a
- Trace shoulder 1/2 inch line. Trace the seam 1/2 inch line on the pattern.
- Draw a line from line 1 end up to the jacket line. Draw a line from the shoulder 1 end up to the shoulder line (Figure 2a).
- Make necessary adjustments as needed. Draw the lining pattern on the pattern as needed (Figure 2a).

Figure 2b
- Trace shoulder 1/2 inch line. Trace the seam 1/2 inch line on the pattern.
- Draw a line from line 1 end up to the jacket line. Draw a line from the shoulder 1 end up to the shoulder line (Figure 2b).
- Make necessary adjustments as needed. Draw the lining pattern on the pattern as needed (Figure 2b).

Figure 2c
- Trace shoulder 1/2 inch line. Trace the seam 1/2 inch line on the pattern.
- Draw a line from line 1 end up to the jacket line. Draw a line from the shoulder 1 end up to the shoulder line (Figure 2c).
- Make necessary adjustments as needed. Draw the lining pattern on the pattern as needed (Figure 2c).

Figure 2d
- Trace shoulder 1/2 inch line. Trace the seam 1/2 inch line on the pattern.
- Draw a line from line 1 end up to the jacket line. Draw a line from the shoulder 1 end up to the shoulder line (Figure 2d).
- Make necessary adjustments as needed. Draw the lining pattern on the pattern as needed (Figure 2d).

Lining—Side Darts Options

Figure 3
- Make 1/2 inch from the side points and draw the side dart line. (Figure 3)
- Make 1/4 inch from the side points and draw the edge line. (Figure 3)
- Make 1/4 inch from the side points and draw the edge line. (Figure 3)
- Make 1/4 inch from the side points and draw the edge line. (Figure 3)

Sleeve Lining

Figure 4
- Trace the sleeve with 1/2 inch from the sleeve. (Figure 4)
- Trace the sleeve with 1/2 inch from the sleeve. (Figure 4)
- Trace the sleeve with 1/2 inch from the sleeve. (Figure 4)
- Trace the sleeve with 1/2 inch from the sleeve. (Figure 4)

Completing the Collar

Figure 5a & b
- Upper collar
- Trace the collar. Add 1/8 inch at the bottom edge (Figure 5a & b)
- Trace the collar. Add 1/8 inch at the bottom edge (Figure 5a & b)
- Trace the collar. Add 1/8 inch at the bottom edge (Figure 5a & b)
- Trace the collar. Add 1/8 inch at the bottom edge (Figure 5a & b)
**ONE-PIECE JACKET/COAT FOUNDATIONS**

The one-piece foundation is the base for developing jacket designs without bodice slack. The waistcoat and three-panel jacket are somewhat similar, but the example of each design is different due to the way they are constructed. The designer must have a foundation to work with when designing each style. An introduction and overview are given in Chapter 23.

**One-Piece-Foundation Draft**

Figure 1

Back: Serge or cut back, and blend shoulder. From Trans. side dart to bodice. Total page 86 for transferring dart to neckline after collar and lapels have been drafted. The dart curve can be transferred to the armhole, increasing the armhole measurement. The sleeve gusset is affected. If insufficient gusset, see Chapter 3 for the sleeve cap.

*From the foundation guidelines on pages,

- Place the back pattern on the guideline and trace.
- Place the front pattern on the guideline, with the armhole measuring, and trace. If necessary, add the armhole tabs, equal to and blend. Mark notch U.D. (U.D.) to the front armhole to indicate the side seam.
- Combine front and back, as shown.

Note: The side seam is the seam on the neckline above the neck. If this exceeds an 1-inch, it should be made to one side, and not at the neck, unless a neck or slip is used, as shown.

**Completed One-Piece Foundation Pattern**

Figure 2

The foundation pattern is now complete. It is not separate from the foundation. The back and sleeves need a small allowance until you prefer one. The foundation is to be secured for drafting.
Color and Line Styles for the Tailored Jacket

A selection of standard tailored collars is shown below. The line styles is illustrated. Choose from among them to complete your jacket design.

Tailored Collar

Figure 1
- Trace the chosen front foundation jacket pattern.
- Draw a 1-inch extension line parallel to the center front.
- Mark a breakpoint 1/4 inch below the waist (mark A). Label A.
- Draw a 4-inch line from A to Label C.
- Draw a line from C to E, ending at the break point.

Figure 2
- Mark D and E, 1/8 inch below the neck and center front.
- Draw a line from D to E, extending 3/4 inch (G) and 2 1/2 inches (H).
- Draw a line from F to E and outline an outward curved line.
- Square a line from F to E (shoulder line) equal to the back neck, plus 1/8 inch (I).

Transformation Dart to Neckline

Transfer dart line from point to center of neckline. Snip shoulder to the bust point.

Figure 1
- Draw a line from point to center of neckline. Snip shoulder to the bust point.

Figure 2
- Mark neckline to bust point; close dart and re-draw dart leg, extending 3/12 inch from neckline.

Figure 3
- Mark 3/8 inch from I, Label I.
- Draw a line from I to I (equal to A-B). Bend as point L.
- Square up 2 3/4 inches from I, Label L, and square a short line.
- Mark 3/4 inch from I and draw line 1 1/2 inch through E from I.
- Draw the collar edge parallel to back neckline.

Completing the Collar

Follow the examples to complete the collar.

Figure 4
The Wrap-Around Style

Design Analysis
The wrap-around style is a classic choice for both casual and formal wear. The design is loose-fitting with a draped silhouette, giving it a relaxed and comfortable feel. The use of wide-set sleeves and a wrap-around front adds to the overall style.

Finished Wrap-Around Patterns
Figure 1
- Cut panels from paper. Discard excess.

The Wrap-Around Draft
Figure 2
- Place the two-piece jacket and two-piece dress.
- Mark the desired hem length, plus 1 1/2 inches for the hem allowance.
- Stitch: From the back, ending 1/2 inch from the side. Mark 2.
- Stitch: From the side, ending 3/4 inch from the back. Mark 3.
- Draw curved lines from 2 and inward curved lines from 7, ending at the waist just below the level of the dress.

The Three Panel Style

Design Analysis
The three-panel jacket is a versatile design, with the panel between the waist and the bottom of the jacket being curved, and the panels above and below being straight. The design is flattering and stylish.

Finished Panel Patterns
Figure 2
- Cut panels from paper. Discard excess.
- Refer to pages 487 and 488 for collected draft.

The Three Panel Draft
Follow instructions given for the wrap-around style, page 488. Return and continue with the draft.

Front Jacket
- Repeat the style placement on front jacket, then add the panels 1/2 inch to allow for ease and ease from bust to waist. Label. Upload 1/2 inch down from X, Mark 2. Draw curved lines from 2, ending at the armhole.
- Draw curved lines from 2, ending at the armhole.
EVALUATING THE FIT OF THE JACKET

The first fitting can be located by adjusting the design darts with shoulders, neck, and bust area. A test piece measuring inc. 3/4 is to be sewn and pinned to the shoulder, and then it should be adjusted to fit. The shoulder dart should be adjusted to fit the bust. The pattern should be adjusted to fit the bust. If the shoulder dart is adjusted, it should be adjusted to fit the bust. Adjust the pattern. 

Adjusting the Pattern for a Shoulder Pad

Figure 29, 30, 31
• Shoulder dart and other adjustments to fit. Follow Figure 31 to attach shoulder pad, follow Figure 30 to adjust the shoulder. Check the back, is it parallel to the floor? Adjust the pattern.

Shoulder Pad: Add right angle by one of the two methods shown in Figure 30.

Fitting Check Points

Figure 26, 27, 28
• Round out curves page 25. Figure 28.
• Round lower back to balance the balance line. (Figure 26).
• Round lower back to balance the balance line. (Figure 26).
• Round lower back to balance the balance line. (Figure 26).
• Round lower back to balance the balance line. (Figure 26).

Add to shoulder or adjust bust size (page 30). Figure 26, 28.
INTRODUCTION TO MEN'S WEAR

Men's wear fashions have evolved over the years, marked by consumers who demand clothes that are traditional and resistant to what they consider outdated. Designers now see men and women in the same light, creating clothing that is both stylish and practical for everyday wear. The traditional men's suit and jacket are still popular, but it is the younger, more casual designer who is influencing the market.

The classic jacket, with its tailored cut and high quality, is still present, but it is not the same jacket that was once considered acceptable. The classic jacket now comes in a variety of materials, styles, and colors, catering to the individual's needs. The casual jacket, on the other hand, is more relaxed and comfortable, often featuring a lower back and a more relaxed fit.

Forms and Their Characteristics

A concern among measurement charts and data analysis is the accuracy of measurements. Factors such as body type, height, weight, and shape can all affect the measurements taken. The most accurate and reliable data is when the measurements are taken by a trained professional.

The charts in this section are based on the New York Garment Center's Men's Wear data. The data is divided into categories such as height, weight, and body shape. The charts provide a clear indication of the body measurements and their relationship to the data. The data is also divided into categories such as height, weight, and body shape. The charts provide a clear indication of the body measurements and their relationship to the data.

Mr. Morgan (YMCA)

The measured size is a size 34. For example, size 40 has a chest of 42. The measure figure has a lower chest and a smaller body.

Mr. Smith (YMCA)

The measured size is a size 36. For example, size 40 has a chest of 42. The measure figure has a lower chest and a smaller body.
Measuring for a Personal Draft

Preparation: The model should wear a body suit, long sleeves, and long pants, and follow the instruction for the model. It will take another person to do the measuring, and try it on. Wear a belt and back center. Pin a piece of paper to the garment in the center of the front and back with the body. Figure 1 through 15:

(a) Trace a belt or elastic at C.B. waist, keeping it parallel to the floor, around the body. Do not follow the waistline slope (broken line) for the garment back. Measure and record the distance to the waist depth and to hip bone for pants draft. Pin mark or chalk mark bottom of belt or elastic. See the pattern model on page 47.

Personal Measurement Chart

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Description</th>
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<tbody>
<tr>
<td>Arm length</td>
<td>Length from shoulder to sleeve end</td>
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<tr>
<td>Shoulder tip to wrist</td>
<td>Distance from shoulder to wrist</td>
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<tr>
<td>Arm length</td>
<td>Length from wrist to cuff</td>
</tr>
<tr>
<td>Bicep</td>
<td>Distance from bicep to elbow</td>
</tr>
<tr>
<td>Elbow</td>
<td>Distance from elbow to wrist</td>
</tr>
<tr>
<td>Neck</td>
<td>Distance from neck to chin</td>
</tr>
<tr>
<td>Bust</td>
<td>Distance from bust to bust</td>
</tr>
<tr>
<td>Waist</td>
<td>Distance from waist to waist</td>
</tr>
<tr>
<td>Hip</td>
<td>Distance from hip to hip</td>
</tr>
<tr>
<td>Thigh</td>
<td>Distance from thigh to calf</td>
</tr>
<tr>
<td>Crotch</td>
<td>Distance from crotch to floor</td>
</tr>
</tbody>
</table>

Circumference Measurements

2. Waist: measure around the fullest part of the waist.
3. Hip: measure 2" below crotch on side.

Horizontal Measurements

- Personal Fit: Measure across the bust and back body, waist, and hips.
- Bust: Measure around the fullest part of the bust.
- Waist: Measure around the fullest part of the waist.
- Hip: Measure around the fullest part of the hip.

Figure 2:

- Centre depth: Two methods illustrated.

1. Measure from hip bone to hip bone on flat surface.
2. Measure from hip bone to hip bone on body.
**Vertical Measurements**

Figure IV 1.3.a and 1.3.b

1. **Center length:**
   - Measure from the bottom of the waist band to the top of the head.

2. **Full length:**
   - Measure from the center of the back to the top of the head.

3. **Shoulder length:**
   - Measure from the shoulder tip to the center of the back.

4. **Arm length:**
   - Measure from the shoulder tip to the waist band.

**Young Men’s Measurement Chart**

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<th>3rd</th>
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**Notes:**
- Figures 1 to 5 illustrate the different measurement points.
- Figures 6 to 10 show the positioning for various measurements.
- Figures 11 to 15 demonstrate the different angles and positions.
- Figures 16 to 20 provide additional visual references for the measurements.

---

**Additional Information:**
- This chart is used for grading and adjusting men’s garments to ensure accurate fit.
- The measurements are based on percentage variations from a standard size.
### Mature Male Measurement Chart—Regular 5’8”

<table>
<thead>
<tr>
<th>CHEST MEASUREMENTS</th>
<th>SIZE</th>
<th>24</th>
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### Jacket Foundation Draft

**Figure 1**

- **Back:**
  - A-B = Full length to waist, label B.
  - A-C = Across shoulder, square from A and space guideline down from C.
  - B-D = Center back length, square in C.
  - B-E = Shoulder slope, mark and add 1/2" for shoulder pad.
  - A-F = Back neck, parallel B to spine.
  - F-G = Shoulder length plus 1/2" inch (e.g., add 1/2" to point F on line F-G). If needed, D-G.
  - H-I = One half of B-A, (a 1/4" for each 1/4" to be drawn 1/4" to be drawn). If needed, D-I.
  - E-I = Check, plus E, for more guideline from E. (I-F) would add 1/4" at neckline and add.
  - B-J = B-E, squared from B.
  - B-K = Across back, plus 1/2" neck and square up to size.
  - E-L = One half from B to E.

### General Guide to Using the IM and ST Measurement Charts Tall and Short Models

When there is conflict between chest size and the model’s height measurement, use the height measurements with those outlined.

### Chest Measurements Between Whole Sizes

Example: Size A, 5’9” is between chest 38 and 40. Subtract difference, divide by 4, and round for each thousand size. These same procedures apply to bust size and jacket size for chest size 38.
Figure 3
R.C. is mark 1" up from U and connect to F.
- The neckline shape can be curved, or centered for the collar style.
- Draw front and back neckline, as illustrated.
- Draw 1 1/2" up at O and E, bending with neckline and same lines to mid-shoulder.

Use slant rule, or French curve:
- Draw a 1 1/2" diagonal line from A. Draw curve touching near X, angle mark T and L. Measure distance to Z, and record.
- Draw: Draw a 1 1/2" diagonal line from K. Draw curve touching near X, angle mark T and L. Reverse this and draw curve from G, bending with 1, for a smooth curve. Measure distance to Z, and record.
- B = W = 1" depth, extend line down to B.
- Square from B to Y and up to Z.
- Linked E and B lines to neckline.
- Waist Depth: Measure from waist (K) to waist depth mark, extend.
- Draw line to mid-seam at back.

Custom Crop Foundation
Figure 4
Trace the foundation pattern to include chest, waist, and K. Even. The pattern includes various measurements, as shown in the diagram.

Jacket Sleeve Measurement Chart

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Example: Choose your chest size and cap height from the chart. Then, use the measurements and draw the sleeve length from the center point of your pattern. Mark the desired length and adjust accordingly for personal measurements. Cap your sleeve and blend the sleeve length to the armhole. An extended amount of ease is between 3/4" and 1 1/2" inches. Be sure to follow the instructions for the sleeve and armhole on your pattern.

Basic Jacket Sleeve Draft
Figure 5

- A - B = 1/2" and draw line to Y.
- C = Cap Height, Mark on B-B line. Personalize T-B:
- D = Half B-B plus 1". Label F and square from H.
- E = One half of B-B line measurement. Personalize the second lines on the second lines:
- F - G = A-B:
- H - J = C-D:
- K - L = F-G:
- M - N = J-K:
- O - P = L-M:
- Q - R = M-N:
- S - T = N-O:
- U - V = O-P:
- W - X = P-Q:
- Y - Z = Q-R:
- Draw line to mid-seam at back.
Shaping Cap

Use French curve or straight rule.

Figure 20a. k & draw line past K.

Touch A, L, and blend with Y, line a.

Touch A, L. Hand draw line past B.

Touch F, c, and blend with H line b.

Back-strap pattern, one of G and H. 1/2" above front—nose mark at A. See Figure 3.

Walk shear from X to shoulder tips, marking neck line. Mark when shoulder tips end on the sleeve cap. The distance between the marks is cap width. Noch 1/2" across the center back. A pocket cap size is from 2-1/2" to 3-1/2". To increase or decrease cap size, see Chapter 18. Have the template for sleeve design.

Two-Piece Toured Sleeve

Figure 3

Trace the above finished. The upper and undersleeves are dopped together and then separated at the end of the draft.

Divide the neck line into four equal parts and draw lines. Label point 4 on 2 and divide panel into thirds. A P A. Pinching from A, the mark.

Figure 20a

Fold tris, e, and draw a line from 1. Tris touches center of the above cap. Mark and label Z and Y. From, draw back from 1 to Y and X. To Z. Underarm pattern at 1.

Underarm: draw lines from Z and Y to arm, and from Z to neck line.

Mark 3/8" at tris and draw a curve line from Y to arm and from Z, ending 1/2" in from front, extending 3/8" below waist line.

Sleeve

Figure 5

• Make a 2" wide garment line from Y to arm.

• Tris, draw cap to back, pinching 1" out from arm, ending 3/8" below hem. Draw line to waist of underarm.

• Cut upper sleeve from paper.

Figure 6

• Place paper under the sleeve pattern and trace the under sleeve.

• Remove paper and cut the pattern from paper. Cut paper away from the upper sleeve.

• Draw seams and blend with A, line b.

Figure 7

• Add in addition to draw tris to the sleeve, slash at their level of upper and lower sleeve.

• Spread the desired bend.

Test Fit Option

Test fit a garment to fit the arm, or a total jacket to fit, a model. Sketch lines to the jacket template before cutting using the design pattern. Trace pattern on a firm, smooth fabric, and add 1-1/2" all around the pattern. Use the shoulder pad to the front and back to the chest prior to garment foundation. See fitting guide in Chapter 3.
DESIGNING WITH THE JACKET FOUNDATION

Color and Fabric Classic Designs
The classic coat and jacket have their own individual frames and characteristics. Select the style that will complement the design of your jacket or coat. The color and fabric should be selected before beginning the draft of a pattern or coat. The jacket was designed with the suit coat in mind.

Trace the Foundation Jacket

Includes chest, waist, seat, and a and H lines. Mark X.

Add the following: Extend waist 1” (a). (b):

Mark break point between chest and waist.

Lower arm 1/4” and out 1/4” (broken line) and draw line to C.

Continue the arm curve, blending beyond 2 line to arm.

Add = 1” and draw line to C.

Figure 1

Figure 2

A = Mark 1/2”, Draw line from (b) over, Extent line slightly to back of jacket, plus 1/8”, Mark E.

+= 2 3/4” Continue line from B.

C = Draw a straight line and incise line.

Length: 1/2” and draw a line from B to C equal to 2 1/4” to E. Square a sheet of tracing paper for C.

Figure 3

Writhe the Color

Includes chest, waist, seat, and a and H lines. Mark X.

Add the following: Extend waist 1” (a). (b):

Mark break point between chest and waist.

Lower arm 1/4” and out 1/4” (broken line) and draw line to C.

Continue the arm curve, blending beyond 2 line to arm.

Add = 1” and draw line to C.

Design Analysis

The three-button style jacket has a five-button collar, a four-button, and two flap pockets. Apply this to the foundation and add special notations. A full dress may look different.

Styling the Jacket

Three panels are created: front, side, and back.

Front panel: Centred between S and C, draw line, ending at Juno on S line. Mark A below waist. Mark 1 1/2” on each point and draw connecting lines.

Long dart: Centred between S and center front ending 1 1/2” below waist.

Back panel: Begin on line and continue the waist to equal on back leg. (collar pocket)

Mark 1 1/2” and 3/4”. Connect panel lines.

Shape center back, as shown. Mark placement for buttons, pocket flap, and chest waist pocket.
Completing the Collar

Figure 5
- Upper collar
- Under collar
- Mark 1" for neck line and notches.
- Fold line: Trace a copy of the neck line pattern. Cut as indented, putting seam allowances on top edge.
- Pocket edge: Trace the upper collar to center back. Trim 1/4" on top edge. Make two copies. Draw gray line on first.

Separating Jacket Style Lines

Separate instructions from the jacket pattern. The style panels, sleeve, and collar will be the base for making all interfacing and lining. The dotted line indicates copy of the interfacing to be broadened 3/4" beyond, or to the cut lines. The facing part of the front pattern is traced to the blue line. A notch is marked on the front jacket and a notch 1/2" up from the bottom of the facing. Draw and trace a facing for extra support. The jacket front and linings are completely unlined. See page 518 for flap and pocket instructions.

Interfacing for Collar and Sleeves

Figure 6
- Collar: An interfacing sandwiched between a fusible interfacing, which is placed on the upper and under edges of the collar. The collar is notched up 1/3" along the cut line.
- Two-piece design for a 1" wide strip of fusible interfacing for the front and back.

Lining Patterns

Figure 7, 8a, 8b
- Trace the pattern sections. Draw: from lining following the dots and arrows in the previous section. Expand seams 1/2" on top and 1/2" on the bottom. This should be up to mid-shoulder to eliminate allowance for shoulder pads. Add a 1/2" for armholes. Add 1/2" to seam allowances.
- Add 1" at center back for shoulder line.
JACKET CONSTRUCTION

Jackets or coats designed with pockets and fabric styles that differ from the illustrations should be created to the same body proportions. The following instructions are just a guide for constructing a jacket and a method of design and working on a jacket. The techniques and materials used in the construction of the jacket can be varied to suit the fabric and style of the garment.

Preparing Fabric

The fabric is cut according to the jacket pattern. All seams are cut in any fabric, but some fabrics are cut with the grain line of the fabric. The grain line of the fabric is marked on the fabric pattern before it is cut. The grain line should be marked with a template or by using a sewing gauge. The template should be used to ensure that the pattern is cut in the correct direction.

Estimating Yardage

It is important to order the fabric in advance of cutting. When ordering fabric, it is a good idea to contact the manufacturer to ensure that the fabric is available. The fabric should be ordered in the same size as the jacket pattern.

Supplies Needed

- Purchase the fabric needed to cut the pattern.
- Interface: a fabric used to stabilize the fabric and provide the necessary strength.
- Interfacing: a fabric used to reinforce the fabric and provide the necessary strength.
- Buttons: a fabric used to reinforce the fabric and provide the necessary strength.
- Trim: a fabric used to reinforce the fabric and provide the necessary strength.

To find supplies and materials, shop the fabric stores and manufacturers' supply companies. The interest may lie in the fabric stores or manufacturers' supply companies. The interest may lie in the fabric stores or manufacturers' supply companies. The interest may lie in the fabric stores or manufacturers' supply companies. The interest may lie in the fabric stores or manufacturers' supply companies.
Applying Interfacing

Inside-covering has an adhesive (non-woven) backing on one side and is placed on the wrong side of the fabric. Fusible films (see the fiber when creased or torn) are ideal. The interfacing pattern can be cut to shape of the garment, or leave 1/4" to 1/2" allowance for shrinkage. Interfacing can be woven or nonwoven, with or without fusible backing.

Fusible Interfacing

Figure 1

Two pieces of interfacing where indicated. Mark button placements, and for the flap, and sketch Chalk mark line in interfacing. Cut buttonhole 1/2" inches from buttonhole on roll line. Continue line on the roll, ending at 1/2" inches past the seam at bottom.

Patterns for Chest Support

Figure 2a

Use front jacket pattern to draw three layers of interfacing pattern (a). Add seam line, draw lines (b), second layer cut from shoulder line, bottom, or between and trimmed 1/4" material allowance (c), and then line 1/2" above line to garment (d). Chest support can be purchased at some tailoring supply stores.

Color and Sewing Interfacing

Figure 3a

Sewn to bias interfacing is fused to the undercollar and topstitched in same position. Cut interfacing 1/2" below the fold of the front and back extensions. Interfacing lower interfacing ending 1/2" below the fold of the back.

Assembling the Jacket

Figure 5

The pattern can be changed if desired. Prepare the collar, the flap and with pockets, and sleeves. Set aside until ready for use.

Preparing the Collar

Figure 4

- Stitch back seams together and press open.
- Press interfacing at stitches of collar.
- Stitch two to three rows to add firmness.

Stitching the Collar

Figure 6

- Tie all the collars together.
- Stitch stitching at center back. Repeat on other side.
- Turn the collar edges after stitching.

Under-Stitching

Figure 7

- Turn collar to right side using the pattern to help push fabric to the collar points.
- Open the collar to the wrong side and hand stitch to the interfacing. Turn collar right side up and under-linse close to the seam.
Stitch Waist Darts

Figure 7

1. Stretch waist area. Place a fine strip of fabric under and stitch to dart. Press dart to one side and fold bias on other side (d).  
2. Stitch dart. Cut through fold b.  
3. Press from waist on each side.

Preparation for Flap and Welt Pockets

Figure 8

Stitch side panel to front jacket; press seams open. Instructions for marking and stitching the flap and welt pockets are on pages 118 through 121. After pockets are stitched, refer to this page.

Choose the buttonhole from the three styles. Round buttonholes are made before the facing is stitched to the garment.

Applying the Chest Piece

Figure 9

Place first layer at the stitch line of armhole, shoulder, and side. Heat to wet. Next, place lining on top of the first layer. Last layer placed to the seam allowances of shoulder, armhole, and side. Heat will fuse top layers, securing support for the front jacket. Sew panels, center back, and shoulders. Press seams open.

Preparing the Sleeve

For sleeves without worth, sew the instructions that do not apply.

Figure 10

1. Sew seam from shoulder to waist; press and stitch (5 inch) from (figure 6). Press seam open.  
2. Trim a 1/2 inch around cap and from neck to neck (figure 6) and sew (figure 6) above.  
3. Stitch flap at darts; close opening (figure 6).  

Seam and Hemline: Draw a line to be cut. Clip after tail at the vent line and close cloth open. Trim, turn, and press. Allow 1/2 inch seam.

Press seam open (figure 6).

Figure 11

Sleeve Cap

Figure 12

Cut a length of cloth that equals the distance from armhole (5 inch) to back (5 inch) plus 2 inch. From each point of cap to 1 inch at top cap and pin at each notch, allowing 1/2 inch to hang below. Pull gather threads until fullest equals the length at the tape and is distributed evenly. Knot seams. Sew tape to sleeve cap at shoulder. Comp cap fullness if desired.

Steam Cap Fullness

Figure 13

1. Place sleeve cap over the end part of the back or sleeve board. Pin to hold position.  
2. Steam the gathers with tip of the iron; press the garment part of the seam. A hand mirror helps to smooth and shape the sleeve cap.  
3. Allow to dry before finishing.

Sew Seams to Armhole

Figure 14

With right sides facing, pin or baste sleeve seam allowance, matching darts and stitch.  

Figure 15

1. Press under straights in seam.  
2. Finish the lower end of the sleeve.  
3. Pin or baste upper end of sleeve cap.  
4. Allow the hanger to fall downward.
Attaching Shoulder Pad Two Versions

1. Catch stitch along the shoulder line, fold front to back and stitch catch stitch to armhole. Repeat on other side. See Chapter 3 for details.

Stitching Lining and Facing

Stitch front facing to the armhole. Then stitch back facing to back. Stitch front and back facing together. Press seam open.

Sleeve Lining Stitched to Armhole

Two methods for attaching the sleeve:
1. Stump stitch cap at armhole, stitch cap seam down the center of the arm, and match shoulder line. Press seam open.
2. Match notches, pin, and stitch to armhole line.

Stitch Collar to Jacket Neckline

With right sides of collar and lining together, and collar front to back, sew down center back to neck facing. Repeat on other side.

Press collar and jacket together, pin, and stitch the collar to the jacket from center back neck to neck facing. Repeat on other side.

Understitching

Stitch collar to jacket, turning facing to right side of garment. Reattach faced to jacket, turn seam allowance to back. Turn underlining to jacket, understitch to jacket. Turn back to back, turn seam understitch to back. Understitch to facing. Turn back to back, turn seam understitch to back.

Sew Facing to the Jacket

With right sides together, pin or baste facing to jacket. Press facing seam allowances toward facing, press facing seam allowances toward jacket. Stitch facing seam allowances to jacket, turn to back. Sew facing seam allowances to jacket, turn back to back, stitch to collar.
Joining Lining and Jacket Hems

Figure 22: Joining the lining and jacket hems. 

Facing at the fold and stitch the lining to the outer shell of the jacket. 

Secure the hems together and begin piecing back to the facing. 

Pull Sleeves Through Opening

Figure 24: Pulling the sleeves through the opening. 

Sew the opening to the jacket and pull the lining through. 

Tack the bottom of the opening and secure to the jacket. 

Securing the Hem with the Facing

Figure 23: Securing the hem with the facing. 

Fold the facing over the lining and stitch to secure the facing. 

Finishing the Hemline

Figure 25: Finishing the hemline. 

- Lay jacket flat: fold 1.5cm hem allowance of the lining under and lay on top of the seam allowance of the jacket. 
- Handstitch carefully to catch only one layer at a time. Tack in several backstitches to secure the hem. 
- When finished, pull threads through,.resole seams using a tailor’s tape. 

Aligning Seam Lines

Figure 26: Aligning seam lines. 

Pin or baste the lining here to jacket here and then check alignment before stitching together. 

Stitch Buttons to Jacket

Figure 27: Stitching buttons to jacket. 

- Place the button and pin on the jacket. 
- Place the button on the jacket. 
- The final button is attached. 

Note: All patterns and changes have been covered, including the finishing pattern and instructions.
Pocket Flap and Welt

Flap and welt are folded in the fabric to form the pocket opening. The size of the pocket should be in proportion to the jacket and uniform. Make the pocket flap with two layers of fabric, the lining and the outer fabric. The combination of both should fit into the pocket opening. A lining or piping can be attached to the flap as required.

Figure 15 to 17

Pocket Sewing: Place pocket and welt together. Mark side and bottom edges on fabric. Stitch with a 1/4" seam allowance. Stitch around the welt and pocket, leaving a gap on one end.

Flexible interfacing: Cut flexible interfacing 1" wide and 2½" longer. Draw pencil lines through center length and mark ends of the interfacing. Draw angle lines on it, as shown. Fold to the back side, matching lines of the interfacing.

Figure 18 to 20

Draft two pocket patterns 1" wider than pocket, length and extend each as shown.

Figure 21

Mark location of welt and pocket as shown.

Figure 22

Locate point for welt and pocket as shown.

Figure 23

Pocket opening is 1½" wide. Stitch pocket and welt allowing 1½" seam allowance each side of pocket opening.

Figure 24

Figure 25

Figure 26

Figure 27

Figure 28

Figure 29

Cut off Welt

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Fitting Analysis and Corrections

The following examples are the most common points for analysis when checking the fit of the jacket. Other fitting problems may occur, but they are usually solved with these corrections.

**Rotating the Sleeve**
- Figure 1 shows the center point of a perfect sleeve, with side seam or slightly forward of the arm. If not rotate the sleeve, see Chapter 3 for guide.

**Underarm/Sleeve Corrections**
- Figure 2a. The underarm corner of the sleeve may cause the arm to be pushed upward, something with a smooth transition to a seam. Remove the center to back of the underarm, place jacket on the form or model.
- Place hands on each side of the sleeve to keep the sleeve flat to jacket. Pin to hold sleeve in place.
- Remove jacket and turn inside out. Lay flat on the table and trim the underarm at the sleeve to match armhole of the jacket. Stitch the underarm to the armhole and check the sleeves fit. Correct the sleeve pattern.

**Adjusting Shoulder Slope**
- Figure 3 shows how to adjust shoulder slope to shoulder tip. After jacket is laid flat, trim underarm to slope. Measure the space. Plot pattern on paper. Trace, highlight, and probe pattern with the required amount. Pin pattern to paper and cut to adjusted amount. Check pattern fit: Pin excess and measure. Trace front pattern, then place pattern on traced copy. Pin pattern to pattern. To change flip the traced amount and return, cut and sew to check the fit.

**Changing Armhole Depth**
- Figure 4a. Lower the armhole 1 1/2" Lower the bicep 1 1/2".
- Figure 5a. Lower the armhole 1 1/2".

**Adjusting Cap Size**
- To increase or decrease cap size, see Chapter 1. To increase and increase, see Chapter 3.
THE SHIRT FOUNDATION

The dress shirt and casual shirt are based on the shirt foundation. The shirt is 1 1/2 inches to 1 1/4 inches shorter in front and back, and 2 inches shorter in the sleeves than the body measurements. The pattern is made true against the body measurements, and then cut from the pattern to the measurements.

To make the pattern, start with a shirt that fits well. Make a pattern of the shirt, and use this as a guide for making the shirt foundation. The shirt foundation is made with the following steps:

1. **Shirt Front Foundation**
   - **A-B** = Full length of shirt.
   - **A-D** = Armhole shoulder.
   - **B-E** = Center length.
   - **B-F** = Chest plus 1/4 inch.
   - **B-G** = Shoulder length plus 1/2 inch.
   - **G-H** = Shoulder length plus 1/2 inch.
   - **H-I** = Full length of shirt.
   - **I-J** = Armhole shoulder.
   - **J-K** = Center length.
   - **J-L** = Chest plus 1/4 inch.
   - **L-M** = Shoulder length plus 1/2 inch.
   - **M-N** = Center length.

2. **Shirt Back Foundation**
   - **A-D** = Armhole shoulder.
   - **D-E** = Center length.
   - **D-F** = Shoulder length plus 1/2 inch.
   - **F-G** = Shoulder length plus 1/2 inch.
   - **G-H** = Shoulder length plus 1/2 inch.
   - **H-I** = Full length of shirt.

3. **Shirt Collar**
   - **A-B** = Neck length.
   - **B-C** = Neck width.
   - **C-D** = Neck width.
   - **D-E** = Neck length.
   - **E-F** = Neck width.

4. **Shirt Cuff**
   - **A-B** = Cuff length.
   - **B-C** = Cuff width.
   - **C-D** = Cuff width.
   - **D-E** = Cuff length.
   - **E-F** = Cuff width.

5. **Shirt Sleeve**
   - **A-B** = Sleeve length.
   - **B-C** = Sleeve width.
   - **C-D** = Sleeve width.
   - **D-E** = Sleeve length.
   - **E-F** = Sleeve width.

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   - **E-F** = Cuff width.

5. **Shirt Sleeve**
   - **A-B** = Sleeve length.
   - **B-C** = Sleeve width.
   - **C-D** = Sleeve width.
   - **D-E** = Sleeve length.
   - **E-F** = Sleeve width.
**Vest (Figure 5)**

Shine the front and back foundation patterns.

- Mark 3" above front center back neck and square across pattern to side line. Lower side line and add 1/2" for seam (if desired). Mark location of the pleat.
- Cut the pattern and square the side (if desired).

**Pants** (Figure 5)

- Draw a line 1/16" down from the front shoulder tip and draw a parallel line with shoulder to create pleat, cut pattern and separate upper part (if desired).
- Add 1/2" seam to the lower pattern and cut.

**Completing the Vest**

- Match front and back, note shoulder lines and more. Add seams, and check shoulder tip and neck.

**Pocket**

- Delineate pocket; use measurements as a guide. Draw pocket on the fabric, and mark guide marks for placement.

---

**Shirt Sleeve Measurement**

Refer to chart or personal measurements (see page 100). Width length: _______  
Cuff height: _______.

**Cuff**

- Measure hands for every measurement and add 1/2", or choose a size from the following:
  - For shoulder: _______.  
  - For sleeve: _______.  
  - For armhole: _______.  
  - For cuff: _______.  
  - For lining: _______.  
  - For neck: _______.  
  - For armhole: _______.

**Sleeve**

- Add 3" to measurement. Add 1/2" for sleeve and square out equally from 3" x 8" to 3" x 8". Draw lines from 1" x 1" and end 2" x 2".
- Then options are as in Chapter 21.
- All adjustments made in Figure 7.  
  - Add 1/2" to 2" shoulder to chest and add 1/4" on shoulder to chest and increase 1/4" to 3/4" on shoulder to bust.
  - Add 1/4" to 3/4" on shoulder to bust and 1/4" on shoulder to bust on each side.

**Additional Information**

- Pocket locations shown if a close fit on the front and back shirt is desired. Draw pocket onto the fabric, and mark guide marks for placement.

---

**Collar and Stand**

- Measure distance from C.B. neck to shoulder and to C.F. neck.  
  - To C.F. neck: _______.  
  - To C.B. neck: _______.

**Collar**

- Draw a rectangle 1 1/2" wide and length of the neck to line measurement, 2" to 3" plus 1/4". Width C.F. Square up from C.F. Mark shoulder width.  
  - Mark 1 1/2" square. Draw curves from C. to B and end at 2" to complete collar stand, cut from paper.

**Collar**

- Draw collar shape, using measurement drawn (if desired).  
  - Cut collar, stitch and spread, as shown. Trace and cut two copies, and interfecting. Repeat for collar stand.
Placket Design

Figures 1 to 6:

1. Mark cuts along A to C - D to E.
2. Mark cuts on B, C, D, E as follows:
   - A = 1". Mark at center of A - E.
   - C = 1 1/2" and label G.
   - B = 2" and label H.
   - G = D and label I.

3. Square down from X, Y, E, and G to D line as in Figure 2.
4. Mark G in pink X and mark size 1 1/4" (4).

5. Add seams as indicated, and mark butts after gluing at center between D-E back.
**THE CASUAL SHIRT**

The casual shirt is based on the classic shirt pattern.

**Figure 1**
- Adding button. Mark and spread 3/4" and lower armholes 1". Measure front and back armholes, 1½" on both sides of the neck and adjust.

**Shirt**
- Trace shape on fabric to desired length.
- Lower cap 1 ½". Bake bonds with interlining.
- Draw line from X to X on jacket line equal to armhole measurement.
- Devise in battin and interlining material.
- Bake bonds equal to the front hem angle. (Grain and front A and back open.)

**Figures 2, 3, 4**
- Collar, as illustrated, or refer to Chapter 1.

**THE VEST**

The vest is a tailored part of the suit, and it is designed in many different ways. The vest has become an essential part of the suit for those who wear the vest over any garment other than a jacket.

The vest is based on the jacket foundation. It should be made with the same materials, and the same patterns, as the jacket.

**Figure 1**
- Trace jacket foundation. 3" below waist.
- Mark back and front. Draw a line 1/4" parallel to the waist to the back neck.
- Square up from here to X and 1 1/4" to 3 1/2" out from each side of X, labelling A, B, C, D, E, F, G, and H.

A = 1 1/2" below A, B, C, and D. Mark across back.
B = 1/2" from each side on X, 2" lower.
C = Center back waist. Mark 2" down. Label D.
D = Square from center back to center front.
E = Center between B and C. Mark, and square in both directions, ending at chest. Mark 1/2" below lower mark. Draw dots from button at chest to lower mark.
F = 1 1/2" from neck, these marks are in 2" on B, touching the 2" marks and ending at B.
BASIC PANT FOUNDATION FOR TROUSERS

The pant foundation is a heavily laced panel and is drafted in the same ratio. The pant foundation is the base for the Classic Hip Flared Trouser and for the draft of the Slack Foundation. The draft depth is drafted in step 3. Then the pant foundation is drafted for creating design. Read Cooper's book for great pant understanding.

Measurements needed: the pattern or chart measurements. Place in the space.

Tab page 511 for pant pockets and Chapter 25 for wide harem and capris.

STEP 1

- A-B: Pant length
- A-C: Center back, plus 3 1/2
- A-D: Hip depth, one third of A-C
- A-E: Inner depth, minus 1 1/2 from B
- C-D: Square cut from B, C, E, B
- D-E: Back hip arc, plus 1 3/4 from D
- G-H: Hall of G-H
- D-J: Front hip arc, plus 3 1/4
- C-E and A-E: Connect with L
- G-K: Hall of E
- H-M: Mark on 1 3/4 and up 3 1/4
- M-N: Back: Waist arc, plus T includes 1 dart and 1 1/4 each.
- L-Q: Front: Waist arc, plus 1 1/4 includes 2 darts and 1 1/4 each.

Figure 1

Mark Dot Legs and Intake

Figure 2

A-B: Two half of M-N, plus F, D, Mark dot intake square down 3 1/2 from center.
L-Q: One third of C-M, Mark dot at 1/4 1 1/2 from center.

Figure 3

Mark dot from N to M and extend at M.

Figure 4

Mark dart (3 1/2 to 1/2) out from L and parallel with line to right. Draw lines slightly curving to L. Draw a line from neck, passing chest line, 3 1/4 and parallel to center front.

Figure 5

Measure between L and M, so

- M = 1 3/4 from neck
- N = between L and M.

Figure 6

Draw a line from A to B and ending at M.

- A-B: Draw slightly curved lines from A to B, and end 1 1/2 from L.
- Check point: The waist should measure 3 1/2 greater than the trouser waist. Draw a curve from center back hip arc, plus 3 1/4 and parallel to the waist line drawn, in a dart in the back dart. Draw a line to waist, and length is determined by the lining.
- Introduce the front vent and around the neck. Face the front vent if desired outlined area. Line the vent to the facing.
- Mark button placements and draw welt pockets as instructions on page 529. Cut patterns and test for the size and length of straps.
Completing Dart Leg

Draw dart leg in new location. Extend dart waist to match longer section.

- G = 1/8" from C-C
- K = 1 1/2" from C-C
- L = 1 1/2" in diagonal line
- M = 1 1/2" in diagonal line
- N = 1 1/2" in diagonal line
- O = 1 1/2" in diagonal line
- P = 1 1/2" in diagonal line
- Q = 1 1/2" in diagonal line
- R = 1 1/2" in diagonal line
- S = 1 1/2" in diagonal line
- T = 1 1/2" in diagonal line
- U = 1 1/2" in diagonal line
- V = 1 1/2" in diagonal line
- W = 1 1/2" in diagonal line
- X = 1 1/2" in diagonal line
- Y = 1 1/2" in diagonal line
- Z = 1 1/2" in diagonal line

Figure 1

- Square line from V' and W' through length of the pant crossover.
- Back dart: top center from N to Z;
- Front Dart: bottom center from Y to Z;
- Leg line: back knee is generously 1" greater than the front seam; full line suggested for ease adjustments in the fitting;
- Mark 1/2" in from S and X and draw lines to front marks;
- Insert dart: draw dart lines from N to Z and center with D, etc.
- Note: back dart band; see Figure 2, inset complete the Classic Foundation.
- Separate trouser and trace for the penciled design pattern; see page 113.
SLACK FOUNDATION

The base pattern foundation is illustrated. The black line over the base pattern foundation is the centering of back crotch point. A final base pattern that can be designed with changes includes the rear (front part), or without rear waste planning in a column of other parts. The parts can be of any length, the front and back underlap, and from the suggested measurements by the variations, back waste of any style pattern can be found in the foundation. See the base pattern foundation. For the best pattern, see the complete construction in Chapter 25. Tab pages for quick reference: front in the foundation before dropping from the pattern.

Stack Draft

Blue lined area indicate changes. Bold lines are original pattern; broken lines and shaded areas are cut away.

Figure 10D

1. Measure 1/2" at center front and up 1/4".
2. Draw line to hip level and a curved line ending 1/4" up from crotch point.
3. Mark 1/2" at side and shoulder hip. Mark center.
4. Draw two measurements and choose two for more or less and around line to crotch point.
5. Draw B and trace. Draw line to fold at.

Back

1. Center and mark 1/2".
2. Mark back at and for pocket. See page 33 for construction.
3. Staff centerline 1/4". Draw new construction through length of the pattern.
4. Draw crotch curve to blend with hip.
5. Mark back measurements and draw lines from them to make 1/2" to curved line to crotch point.

Add same and 1/2 inch foldback bind. Cut for front only. Male wearer, see page 334, Figure 2, for guide.

JEAN FOUNDATION

The jean pattern is drafted to the natural waist and modified for waist. The depth is taken from the jeans that are drafted in the figure. The jeans are 21/2" to 3 inches of the waist. 

The hip measurement is taken in the figure and figure 3 on page 334 of the guide. The front jean can be drafted into the figure and figure 3 on page 334 of the guide. The rear jean can be drafted into the figure and figure 3 on page 334 of the guide. For keep and noting guide, use Figure 3.

Figure 4

A - B: Pant length
A - C: Crotch depth, plus 1/4".
A - D: Hip depth, 1/2" from C above.
A - E: Knee depth, (1/2) of C - B, minus 1 1/2".
C - D: Front hip, plus 1/4".
C - G: and C - H: Connect G and H.
D - E: Half of C - D.
D - F: Front hip, plus 1 1/2".
C - G and C - H: Connect C for E.
E - A: Half of C - G, plus 1/2."
Figure 4:

Waistline, Waist Band, Fly, and Shield

1. The waist band can be set up or downward from the waist. A horizontal design is shown, parallel with the waistline and does not include waist band.

   - Waist band: Measure waist depth (one) plus 1" for length, the width is 1 1/2" (see fold line), (6") wide. Shirt the waist band.
   - Draw and trace fly and shield on both.

Figure 5:

Back Pocket and Vest

1. Use measurements to draw pocket. Draw pocket line. Draw side using measurements.
2. Trace pique and close armholes.

Front Pocket Backing—Lining Pattern

1. Draw front pocket (a). Base for lining pattern (c).
2. Draw the facing, facing, and back pocket using measurements given (b).
3. Trace patterns for facing (g), facing (g), and back pocket (b).
4. Trace pocket from facing measurements given.
5. Trace pocket entry from the main pattern, and trace the lining pattern.

Figure 6:

Back Pocket and Vest

1. Use measurements to draw pocket. Draw pocket line. Draw side using measurements.
2. Trace pique and close armholes.

Front Pocket Backing—Lining Pattern

1. Draw front pocket (a). Base for lining pattern (c).
2. Draw the facing, facing, and back pocket using measurements given (b).
3. Trace patterns for facing (g), facing (g), and back pocket (b).
4. Trace pocket from facing measurements given.
5. Trace pocket entry from the main pattern, and trace the lining pattern.

Figure 7:

Print leg line addition

1. Print leg line addition.

Diagram 1:

Figure 3:

Back view

- Mark 1 1/2" out from each side of C. For hip mark.
- 3 1/2" = half of M to hip mark. Mark 4.
- 4 = half of N. To hip mark. Mark 5.
- Square in both directions from 4 and 5 (see page 338, Fig. 1).
- Draw curve from P to D, hip marked and continue curve beyond.
- Draw curve from B to D by hip mark and continue curve beyond.

Diagram 2:

Front view

- Large-size leg lines are a popular choice. Consider the hip opening, arm, and leg lengths.
- Adjust when fitting the pattern. Other popular leg variations are the boot and the flat cut styles.
- The pants can be cut in any length.
- To the pant legs, see page 338, Fig. 6.
- Suggested leg measurements can be modified.

The pant leg foundation is finished when cut and separated. See page 339, Fig. 5, for possible back 3/4" length adjustment when fitted.
SPECIAL INFORMATION FOR ALL PANTS

Pants foundations are identified by three basic types of fit at each level—tapered, moderately loose, and measured. All of which are considered in a percentage of the hip measurement. This type is described in the Introduction to Chapter 25. The following information applies to the pant foundations and designs.

Walking the Seams
Walking begins at the waist, in the pocket area. Read instructions for corrections. The back is shortened and is worked into the sewing.

1. Center back seam

Figure 2

In the waist, if model has difficulty bending, or the pant has too much fabric in the back, measure amount needed and cut fabric to size. This is not new length.

2. Mark center seam

Figure 2

Place the facing on the back, and baste on top of the seam allowance. Punch marks in the facing, and then sew it on the back. Punch marks are to be placed in the facing, and then sew it on the back. Punch marks are to be placed in the facing, and then sew it on the back.

3. Mark center seam

Figure 2

Place the facing on the back, and baste on top of the seam allowance. Punch marks in the facing, and then sew it on the back. Punch marks are to be placed in the facing, and then sew it on the back. Punch marks are to be placed in the facing, and then sew it on the back. Punch marks are to be placed in the facing, and then sew it on the back.
Capes and Hoods

Chapter 24

Capes

A Line Cape Foundation

Hoods

Conventional Hood Foundation

Continuous Hood Design

Loose Hood Foundation

Patterns and Manipulations

Figure 3 Back

- Trace the back lines.
- Square a guideline from the center back, touching the armhole. Label A and B. Divide the A-B line into 20 sections.
- C = One fourth of B - 1. Extend line.
- Extend center back up to the shoulder. Label D. D-B = A-C, plus 3 inches, squared from D.
- Draw a line from E. Extend the line through C.
- Blend both 1/2 inch up at side seam.
- Mark 1 1/4 inch more shoulder tips. Label E.
- Extend line from mid shoulder through F, intersecting the A-B line. Label G.
- Draw a 2 1/2 inch diagonal line from G and draw the shoulder curve from C to G to mid shoulder.
- Cut the pattern from paper.
Figure 1: Mark 2 inches from the side seam. Mark 1 inch up and down from L (length) and width (width). The cape should be cut at least width and height above top and bottom.

Cut a valley at 10 inches x 3 inches (not illustrated). Note: the cape is lined with the lining.

Figure 2: Place back cape on top of the front cape, matching shoulder pattern with C and D (shoulder pattern should match the back cape pattern). Place the back cape at the back shoulder line. Mark, remove pattern. If the back shoulder line is higher or lower than front shoulder, adjust the difference at the shoulder tips and blend curve lines.

Figure 3: Mark center back and shoulder line short. Center dart point 1 1/2 inches up from bust point and close straight between dart top and dart point. Complete the pattern for a test fit. Shoulder seam will be adjusted on the model.

The Flared Cape Draft

Figure 4: Trace the front and back patterns, transferring shoulder and side-darts to top back, and cut front and back.

Figure 5: Square the back and front on a square line, with shoulder tips 1 inch apart and trace. Label back tips A and B. Mark the center between shoulder tips and points A and B. Draw a horizontal line, Label E.

Mark the center between shoulder tips and points A and B. Draw a horizontal line, Label F. Mark the center between shoulder tips and points A and B. Draw a vertical line from shoulder tips. Draw a curved shoulder from C to the front and back shoulder. Mark a notch at the shoulder tips. Shape the hemline between front and back patterns.

Extend the hemline to desired length. The new hemline is parallel with hip level.
HOODS

Hoods cover the head and sometimes part of the face. They can be worn separately or as part of a costume. Like all patterns, hoods come in a variety of styles and shapes.

Two hood foundations are illustrated: a contoured hood and loose-fitting hood. Other variations can be developed from the two foundations. Hoods that are fastened or attached to the garment. The hood and back neck line of the patterns are marked for the draft.

How to Measure for the Hood Draft

Figure 1 Overall Measurement

- Place a non-stretching tape at the center front neck between collar line and back end of the tape while measuring up and over the head.
- Record measurement on fabric and add 3/8 inch.

Figure 2 Horizontal Measurement

- Measure the center at the crown and measure to other side. Record overall of measurement.

Contoured Hood Foundation

Design Analysis:

The contoured hood fits the shape of the head, with control gussets at the crown and neck area. The hood is attached to the neckline of the garment, starting at the center front.

Option 1: Allover Cape

- Cape can be cut as one piece if the width of the fabric permits. Center back is folded on fold.

Option 2: Neck Seam Cape

- Add a seam at the center back seam (not illustrated).

Option 3: Separated Cape

- Cut the cape, separating on the overcast line. Over the gussets and complete pattern for a two in one shoulder cover over the hood.
- For greater flare, add to the overcast seam, ending at shoulder tip.

Cape Front

Cape Back
Pattern Plot and Manipulation

Figure 1

A-B - shoulder measurement in example 30 inches
3-C = 1/8" less 1 inch. Square from B.
3-D = 1 1/2". Square from C.
A-B = one half of A-B. Mark.
B-C = 1/4 inch, squared from E.
B-D = horizontal measurement squared from E (triangle window).
B-E = 1/8". Mark.
A-C = one half of A-C. Mark.

Figure 2

- Place back pattern on the draft, with center back on A-B line and neck at A.
- Shift back neck to center of the shoulders. Label D.
- Shift the pattern 1/4 inch, with center back parallel to the A-B line.
- Draw a line from the center of the neck to start leg. Label E. (broken lines indicate the marked pattern.)
- Remove the pattern.

Figure 3

- Extend the shoulder line (dotted line).
- Place shoulder of front pattern on guide line, with center of neck touching point E.
- Trace the front neck. Label center front neck. (dotted lines represent the marked pattern.)
- Remove the pattern.
L-M = 3/8". Mark and draw a line from H to M.
H-N = 1/4". Mark.
Square out 2 1/2" inches from both sides of N. Label O and F.
H-Q = 1/4". Mark and connect Q with G and Z.

Figure 4

- Draw the轮廓 foundation line of the front, connecting points D and E.
- Draw a straight line from D, G, to X. Blend at point C, for a continuous rounded appearance, if necessary.

Next Page
- Mark center between points I and B. Draw a 3/8" line parallel to the A-B line. Label B.
- Connect E and B with E for the dart.

Cover Page
- Mark mid-point of O-P and O-R and measure out 1 1/8" both. Mark and draw curved lines connecting points Q and G with P.
- Draw a guideline parallel to the A-B line. Complete the pattern for a test fit.

Note: Hold the neck dart with curved in direction of the A-B line.
Contoured Hood Design

Design Arcs

The contoured hood encloses the face, beginning from the crown, continuing to the side of the neck, and extending to the back of the head. The hood pattern follows the neckline and the shoulders to the side of the face. It fits the wearer and drapes over the crown and back of the hood. Design 2 is included for practice.

Figure 1
- Trace the contours hood foundation, including E-G and H-I-L, B-O-L-B. See the hood darts, pages 343 and 344.
- Draw a horizontal line from point L to line G-H (the forehead and head). Mark the neckline across from point G to the top of the pattern. For the contoured hood, see page 349, Figure 5.
- Extension at Neck
  - X-Y = 3 inches. Mark.
  - Locate 1/2 inches on a square rule and draw a line at point X, with the other line at point Y. Draw a square line, matching X at point Z. Label point Z. Back from Z to Y.
  - Draw a line horizontal with the X-Y line.
  - Connect Y and X.
  - Mark button placement (Chapter 24).
Lose Hood Foundation

Lose hoods are loose often used with coats and outerwear. The hood may be pointed or squared in back, with the back hood indented.

Design Analysis

The foundation is drafted with a fold back and fits to the height of the crown of the head, with either a point or a square across the back filling out the panel.

Pattern Fit and Manipulation

For greater looseness, add 2 inches or more to the A-B measurement. See Design 2.

Figure 1

A-B - Overhead measurement (example: 18 inches)
C-D = 2 x 2 inches
C-D = A-B, squared from C
Square down from D, as shown.
Place center back on A-C line, with corner of the neck sloping A.
Shirt the pattern 1/4 inch, keeping the center back parallel to the A-C line.
Draw the shoulder, starting at corner of the neck (l), to the dart cap.
Remove the pattern and construct doublefaced (gaided). (The broken line indicates the untraced pattern.)

Figure 2

Place front shoulder on the shoulder guideline, with center of the neck sloping point B.
Mark center from A-B (indicated by the broken line).
With a pencil, mark a point on the front pattern, being pattern 2 inches away from the dart mark.
Trace the neckline. Below the pattern, and turn center from H.
Draw the outline of the hood from point H, blending with the shoulder guide.

Figure 3

Mark center of the dart between I and J. Draw a line from point I and 3 1/2 inches. (For a darted hood, see page 187.)
To remove the point from hood, square out 1 1/2 inches from B (Label 3).
Square up from J to the C-B line.
Cut the sections from the pattern.

Note: The center back of the hood is cut on the fold.

Draw the guideline and complete for a hat back.
chapter 25

Knock-Off Copying Ready-Made Designs

INTRODUCTION

Knock-off copying is a practice widely used in the fashion industry. This is a common practice and generally happens when demand is high for a specific style. Retailers often copy designs from other brands to fill gaps in their current product line. In such cases, the designer must be proficient in sewing and pattern cutting. This is accomplished by applying a variety of short-cut methods to the pattern-making process.

KNOCK-OFF METHODS

1. The garment is laid out, the muslin is cut, and the pattern is traced with tailor's chalk.
2. The pattern is placed on the fabric, and the design is marked off with tailor's chalk.
3. The pattern is laid out on the fabric, and the design is traced with tailor's chalk.
4. The pattern is placed on the fabric, and the design is traced with tailor's chalk.
5. The pattern is placed on the fabric, and the design is traced with tailor's chalk.
6. The pattern is placed on the fabric, and the design is traced with tailor's chalk.

TOPS

Marking paper underneath is illustrated:

- Figure 1
  - Place pins at the centre of the garment.
  - Hold paper and square a line from the fold.
  - Place one of the garment on the fold and the border line on the squared line. Secure with push pins.
  - Insert the outline of the garment trace the outline, and attach the front and back necklines with a tracing wheel.
  - Trace the border and add from the copy.
  - Cut the pattern from the paper along the back neckline. Trace the copy for the black pattern.

- Figure 2
  - Trace over the shift on the fold of the paper. Smooth out the areas of the neck to enable the pattern to slip on the fold. Trace the outline, and trace the sleeve cap with a tracing wheel. Remove and trace.

- Figure 3
  - Trace the pattern on the fold of the paper. Smooth out the areas of the neck to enable the pattern to slip on the fold. Trace the outline, and trace the sleeve cap with a tracing wheel. Remove and trace.
SHIRT TYPES

Marking paper is placed on top of the garment, or on a similar form, as needed. Follow procedure:

Figure 1
- Lay the fabric on a flat surface.
- Measure the width and length of the shirt.

Figure 2
- Trace the pattern on the fabric.
- Cut along the traced lines.

Figure 3
- Pin the edges together.
- Sew the seams together.

Figure 4
- Turn the edges inwards.
- Hem the edges with a sewing machine.

Figure 5
- Complete the shirt by sewing the remaining parts together.

Preliminary Marking Paper
- Open the paper and lay it on the fabric.
- Mark the pattern on the paper.
- Trace the pattern on the fabric with a marker.

Figure 6
- Cut along the traced lines.
- Sew the seams together.

Figure 7
- Turn the edges inwards.
- Hem the edges with a sewing machine.

Figure 8
- Complete the shirt by sewing the remaining parts together.

Figure 9
- Turn the edges inwards.
- Hem the edges with a sewing machine.

Figure 10
- Complete the shirt by sewing the remaining parts together.
**PANT TYPES**

Pant with two pieces is illustrated. Marking pieces, muslin, or plastic may be used. Place on top of the pant.

**Preparing Pant for Copy**

1. Measure length and width of the belt. Measure zipper length. Push the waist band.
2. Pin mark pocket pouch.
3. Place blue:
   - Slip a ruler under the pants at the waist and measure pant length. Double each measurement and record for later use.
   - Back: Measure the dart fold and double the measurement (as illustrated).

**Figure 2**

1. Mark the other leg out of the way.
2. Place pins along the curve of the crotch.
3. Fold the crotch seam and measure and pin.
4. Pin the fold of the pant flat to zero at the front.

The pant is ready for copying.

**Figure 3**

1. Mark a line on center of the paper.
2. Lay pant on the table.
3. Place paper on top of the pant, with center guideline aligned with the first pant. Pin in place.
4. After setting the pant, remove the paper and cross all lines of the copy, including the pocket and pant location.
5. Mark X cut from the side seam equal to the intake of both pants.

**Figure 4**

1. Trace the guideline of the pants.
2. Cut the paper version of the pants.
3. Place the cut paper on the center guideline, and pin to secure.
4. Trace the pants, running from the line of the crotch seam, the bottom to the center of the back seam.
5. Place the X point.
JACKET COPY

The jacket can be copied on a table as illustrated in the example of the dress. Place it in the expert white board on the right as a frame. The tracing is taped to the table. Copying can be done with a pencil or a fine pen. The tracing is made with a fine pen to be copied. Then copy the outline and make it a copy for the jacket pattern.

Preparing the Jacket

1. Cut the front and front jacket.
2. Cut the collar and insert both the neck and shoulder around the armhole and on lower parts.
3. Cut the bias of the jacket at the underarm and pin, then repeat on the other side.
4. Fold the bias of the jacket at the underarm and pin, then repeat on the other side.
5. Fold the bias of the jacket at the underarm and pin, then repeat on the other side.
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100. Fold the bias of the jacket at the underarm and pin, then repeat on the other side.
Figure 9: Marking the outline of the underarm to the front of elbow level and back. Use this as a guide to guide points from the 6.5 inch each side. Connect with the curve until as illustrated.

Figure 10: Use the given measurements to draw lines:
A to B = Slant length (straight grain)
A to C = Hip length (twist)

Figure 11:
- Place a pencil from the A line, with the back to the point at the waistline.
- Slight and trace the outline of the shoulder and underarm (fold area).
- Mark notch for center line at the shoulder.
- Notches for knees should be marked at the time all pattern pieces are traced.
- Remove the muslin pattern.
- Draw the curve of the sleeve cap, touching point A, as illustrated.

Figure 12:
- Trace the underarm from the muslin pattern.
- Mark one control notch at elbow.

Figure 13 (continued):
- Cut out the muslin from breeder to the center of the muslin. The size between the measurements of the muslin should be 1/4 inch.
- Make sure all pieces are well drawn and adjusted for size and shape.
- Add lines and cut from the paper.

Complete the Pattern:
- Make paper patterns for all the roll-off garment parts. Do not trim the shoulder and waist portions of the garment. Add seams and guidelines. Mark sleeve cap outlines as shown. Trace around the armhole.
- Cut and stitch the final line. After the pattern has been centered, make the facing, facing, and piece construction. They are developed from the original pattern, see Chapter 22, pages 470-490, for a guide.
chapter 26

Pants

BIFURCATED—WHAT'S THAT?

Bifurcated pants have always been considered by many as odd and out of place. They are often seen as a fashion statement that is not suitable for everyday wear. However, when styled correctly, they can be a fashionable and versatile addition to any wardrobe.

To wear bifurcated pants, it is important to choose the right fit and style. They should fit comfortably and not be too tight or too loose. The length should be appropriate for the occasion and the wearer. Adding a statement top or accessories can also help to elevate the look.

Overall, the key to wearing bifurcated pants is to embrace the unique style and wear them with confidence. With the right styling, they can become a stylish and fashionable option for any outfit.
THE LEG RELATIVE TO THE PANT

The leg performs a variety of functions, such as walking, running, bending, squatting, and sitting. Changes in the leg occur at the knee, hip, and ankle. The length and shape of the leg move in response to the body's movements. The illustrations show how and when the body increases and decreases in height.

To ensure the pants hug well, measurements must be taken with care and accuracy. The measurements are taken from the waist to the hem of the pant and from the hip to the knee. The measurements should be repeated to ensure accuracy and compare them to the design requirements. The fitting process will be guided by these measurements.

PANT TERMINOLOGY

The following terms relate to the pant draft, the human figure, and the garment. The illustration links terms and locations.

**Reinforced:** Divided into two pants right and left sides.

**Crotch:** Base of tone where legs join the body.

**Crotch depth:** The distance from waist to base of crotch of the figure.

**Rise:** A color term referring to the crotch depth.

**Crotch height:** Measurable distance from the center of the waist to the center of the crotch.

**Crotch extension:** An extension of the crotch line at center front and back center lines that provides length for the inside part of the leg.

**Crotch point:** End of the crotch section.

**Crotch level:** Dividing line separating tone form front of the pant. (The total width across the pant from the front crotch point to the back crotch point.)

**Center:** Side seam joining the front and back seam.

**Seam:** Seam between the legs joining the front and back pant.

ANALYSIS OF THE PANT FOUNDATIONS

**The Principle**

Pant foundations are determined by the length of the crotch extensions. Long extensions fit loosely around the crotch level and allow the excess fabric to extend. See Figures 1, 2, 3, and 4. The foundation part of the pant covers the waist to crotch level, and the pant styles (both pieces start at crotch level and end at the hem.)

Crotch extensions provide the position of the pant that covers the inside part of the crotch. The length of the pant is determined by the foundation line. The length of the pant is determined by the foundation line. The foundation line is the upper thigh measurement. The foundation line is the upper thigh measurement.

Compare the following four pant foundations. Each pant foundation fits the abdomen and buttocks in a special way. Aside from the highest length, how do they differ?

- Figure 1: Crotch
  - Hangs every hem line and buttocks
  - Front is straight
  - Back is straight

- Figure 2: Trousers
  - Hangs straight line between crotch and buttocks
  - Front is straight
  - Back is straight

- Figure 3: Skirt
  - Hangs slightly under crotch and buttocks
  - Front is straight
  - Back is straight

- Figure 4: Jean
  - Hangs straight line between crotch and buttocks
  - Front is straight
  - Back is straight

Which pant foundation has the longest crotch extension? Which pant foundation has the shortest crotch extension? An answer: The pant has the longest crotch extension because the pant is the foundation from the figure at crotch level. The pant has the shortest because the pant fits the contour of the figure at crotch level.
SUMMARY OF THE PANT FOUNDATIONS

A pant has two identifications: foundation (the pant above the hip level) and the style below the hip level. These are four major pant foundations, characterized by the length of the pant from the abdomen and below. The foundation of a pant is controlled by the length of the front and back crotch extensions. The extensions are based on a percentage of the front and back hip measurements, with consideration of the upper thigh measurement.

**Formula for Crotch Extension**

Crotch: Back crotch length of back hip, plus 3/4 inch

Front: One-half of front hip, minus 3/4 inch

Tension: Back crotch length of back hip

Stack: Back crotch length of back hip, minus 3/4 inch

Front: One-half of front hip, plus 3/4 inch

Joint: Front crotch length of back hip for contour fit, one-third of back hip, minus 1 1/2 inch for close fit

Front: 2 inches (subtract 1/8 inch for sizes under 20 and add 1/8 inch for sizes over 34)

**Crotch Level:** The distance from the front crotch point to the side seam and from back crotch point to side seam should measure greater than the upper thigh measurement at least by the amount that follows (see page 582, Figure 1):

Tension: 3 1/2 inches more

Stack: 2 3/4 inches more

Joint: 1 1/2 inches for contour fit and about 2 inches for a relaxed fit

Crotch length: The crotch length should measure at least the same as the front or Figure 1, if it does not, add the needed amount to the chosen pattern as indicated (see page 582, Figure 1).

**Jeans:**

Pitch: Pitch the back pants. Refer to page 582, Figures 2a, 2b, and 3.

Stack: Pitch the back pants and extend the back crotch point equally. Refer to page 582, Figures 2a, 2b, and 3.

Tension: Extend front and back crotch points equally.

The test fit should be cut in a firm fabric and not in a knit. For the stitched pant on the Figure 1, or jeans with a waist band and a back upper for the foundation (3), a guide to fitting and pattern corrections starts on page 620.

MEASURING FOR THE PANT DRAFT

To draft a pant for a particular, use the instructions that follow. If the waist, hip, addendum, and hip depth measurements have already been taken and recorded on the measurement chart, use those. Otherwise, take body circumference measurements of the waist and hip. With measurements recorded by 1/4 and 1/2 inch, as follows:

- **Foot:**
  - 24" = 4 2/5 inches
  - 26" = 4 3/4 inches
  - 28" = 5 1/8 inches
  - 30" = 5 5/8 inches

**Front Crotch:**

- The measurement taken from back point to side seam should measure greater than the upper thigh measurement at least by the amount that follows (see page 582, Figure 1):
  - 3 1/2 inches more
  - 2 3/4 inches more
  - 1 1/2 inches for contour fit and about 2 inches for a relaxed fit

**Crotch Length:**

- The crotch length should measure at least the same as the front or Figure 1, if it does not, add the needed amount to the chosen pattern as indicated (see page 582, Figure 1).

**Jeans:**

- Pitch the back pants. Refer to page 582, Figures 2a, 2b, and 3.

**Stack:**

- Pitch the back pants and extend the back crotch point equally. Refer to page 582, Figures 2a, 2b, and 3.

**Tension:**

- Extend front and back crotch points equally.

**Crotch Length:**

- The test fit should be cut in a firm fabric and not in a knit. For the stitched pant on the Figure 1, or jeans with a waist band and a back upper for the foundation (3), a guide to fitting and pattern corrections starts on page 620.
CULOTTE—FOUNDATION 1

When it first became useful for women to ride bicycles, it was uncomfortable to use engagements for them to wear pants. A garment was needed that was both hip-fitted and fabricate. This led to the development of the culotte, often known as the divided skirt, which provided the wearer with maximum mobility. The bicycle pant was acceptable for the wearer of that period. So, an easy and practical was the culotte that it became a familiar item in all for both men and women garments. It continued to evolve in the years that followed.

The culotte foundation is developed from a basic skirt foundation. Any design can be adapted into a culotte pant by following the instructions given. The foundation is used as a basis for the full- length of a culotte and for designs with varying lengths and side-sweeping hems. Culotte designs are given on pages 385, 386.

Measurements Needed

- Crotch depth (use 3/4-inch paper or 2 1/4 inches. See page 370)

Culotte Draft

One half of the front and back culottes are drafted.

- Patterns model front and back have different design and want both see page 379.
TROUSER—FOUNDATION 2

The trouser is a part that hangs straight down from the center part of the abdomen and trunk. It fits close to the body. It extends from the hip to the knee. It is usually made of stretchable fabric. 

Measurements needed for the pattern are given in the diagram at the top of page 572. To make the pattern, see page 570. 

Figure 1: Front
To allow for M-inch extension, place patterns at least 8 inches from paper edge. Trace front line across back slit. Mark at all markings. 

- H = Hip depth plus 1/4 inch (20 cm)
- A = One inch (2.5 cm) from H.
- B = 1/2 inch (1.25 cm) diagonal line. 
- C = Straight line from A to B. Connect C with E.

Figure 2: Back
- D = 1/2 inch (1.25 cm) diagonal line.
- E = 1/2 inch (1.25 cm) diagonal line.
- F = C + A, squared from C. Connect J with H.
- G = D + A, squared from B. Connect H with J.
- C = 1 1/2 inch (3.75 cm) diagonal line. Draw the notch curve from the hip to the knee, ending at or near the knee. 

- Cut out a test fit.

Figure 3: Key Locations
- A: Waist
- B: Hip
- C: Front hip
- D: Back hip
- E: Knee

Trouser Draft
- A = Waist to ankle (rise length)
- B = Hip depth plus 1/4 inch (20 cm)
- C = Hip depth plus 2 1/2 inches (6 cm)
- D = 1 1/2 inch (3.75 cm) diagonal line.

Square out from both sides of A, B, C, D, and E.
SLACK—FOUNDATION 3

The slack foundation file close to the figure that does the trousers because of loose nature of slacks. The
fitted style has curves and tight fitting under the front, sliding the back towards a flat design.
The back is a simple and easy pattern that can be used for a variety of designs.

Slack Draft

- Trace the front and back pattern, marking the same size and location as the original. Add guide lines for
  measurements and adjustments as a guide.
- Shaded areas indicate parts of the pattern that are cut along.
- Broken lines indicate original pattern shape.
- Bold lines indicate slack foundation.
- Bold lines and add any desired. For instructions, see pages 363 and 364, see page 566 for each front. For
  back see pages 565.
JEAN—FOUNDATION 4

The jean foundation is drawn with a short front and back crotch extension for pants that cover the figure.

The garment extensions result in a line of crotch length measurement on page 572, figures 2a and 2b.

The jean foundation is an adaptable one for different fabric lengths in the crotch area, as well as for other part details. It can be used for short, long, or other part details, and also functions as a basic for the shape, balance, and other part details.

Measurements needed are on pages 570 and 571, 579-581. Pages 570-571.

Measurements Needed:

- (27) Neckline to waist
- (28) Crotch depth
- (29) Front Hip arc
- (30) Back Hip arc
- (31) Front waist arc
- (32) Back waist arc

Special measurement for a personal fit, on page 581:

- (281) Upper thigh plus 1-1/4" (3.1 cm)

Jeans Draft

Figure 1:

1. Ab = waist to ankle (part length).
3. A-E = hip depth. One-half of D-A.
4. B-E = one-half of B-D plus 1 inch toward D. Square out from both sides of A, B, C, D, and E.
5. C-E = one-half of E-D.

Front:

1. C-F = front hip, plus 1/2 inch (3.1 cm).
2. D-F = same as C-F.
3. A-B = same as C-F.
4. A-C = same as C-D.
5. C-B = same as C-G.
6. G - X = one-half of G-B.
7. X - M = one-half of X - C, plus 1 1/2 inch (3.8 cm). Add 1/2 inch to the measurement for a relaxed fit.

Waist and Dart Intake

If points O and R meet or overlap point X, don't be alarmed. Adjustment will be made later.

Front:

2. 3/4 = point M, plus 1 inch (39 cm). Square down 1 1/2 inches from M. Measure out 3 3/4 inches (9.5 cm) from each side of P, and mark.

Back:

1. Q-D = 1 1/2 inches.
2. Q-R = same as O-Q, plus 1/4 inch (3.1 cm). Square down 2 1/2 inches from N. Measure out 1/8 inch (3.1 cm) from each side of S and mark.
Figure A. Back
- Draw line from O through X to center level.
- Mark B, C, and D.
- Draw a curved line with a radius touching X and Y, and on X and Y, blend at X.

Front
- Draw line from O through X to center level.
- Mark E, F, and G.
- Draw a curved line with a radius touching X and Y, and on X and Y, blend at X.

Figure 6 (Back and Front)
- Draw slightly curved line from T to O and U to R.
- Draw dart legs from dart points to curve at the waistline.

Figure 5
- Draw slightly curved line from T to O and U to R.
- Draw dart legs from dart points to curve at the waistline.

Figure 4
- The dart legs by adding to the center leg. Blend with the side waist.
- Draw hip curves at above C to O and C to R.

Figure 7 (Dartless Jean Pant)
- Use the following illustration as a guide for eliminating waist darts. (shown here are original pattern.)
- Mark waist and add seam allowance. For instructions, see pages 319 and 320. For illustrations, see page 330, figure 319, and pages 319 and 320.
Figure 1

**Personal Fit**

- Measure around upper thigh and add 1/2 inch.
- Measure from bust to waist line.
- Measure from waist to hip line.

If the bust line is more or less than the upper thigh measurements, raise or lower the length of panel A so that the measurements agree. For the slacks, see Figure 3.

**Checks (Conch Level)**

Measure the conch height and compare with your personal measurement. If additional length is needed, see Figure 2. Reverse the process to reduce the conch height.

**Adjustments: Slack and Trouser Foundations**

**Slack Foundations**

- To increase the conch length, divide the needed amount equally between the back and front panels (Figure 1) and add to the back error points. Adjust the error points; see Figure 3. To decrease, reverse the process.

**Trouser Foundations**

- To increase the conch length, add the needed amount equally to the front and back conch points. To decrease, reverse the adjustment.

**Adjustments: Conch Length and Conch Level**

An example of an adjusted pattern with the grain line shifted to balance the pattern.

Figure 2

**Pitching the Back Pattern**

**Figure 2a/b**

- To increase conch length, make a line at the HRE of the side seam and pitch upward the needed amount (e.g., 3/4 inch). Add to the conch level.
- To decrease the conch level, reverse the process.

**Figure 2c**

- Add the needed measurement to all panels.

**Figure 2d**

- Add the needed measurement to all panels.

**Figure 2e**

- Add the needed measurement to all panels.

**COMPLETING THE PANT PATTERN**

Joining seams are to be worked on the pattern, extending to the edges. See Figures 3a and 3b for illustrations.

**How to Balance the Pant Pattern**

Adjust the pant pattern from the hemline or the conch point and to the waist. The pant pattern must be balanced where the side seams are made. Balance and blend the other areas of the design as necessary. These guidelines will not apply.

**Figure 3a: Matching Insers**

- Cut the front pant from paper.
- Place the front pant on top of the back pant, starting at the hemline of the vacation, and work upward to the conch point.
- The back insers may be longer than the front insers (Figure 3a).
- Stack and save the template, one line of the back in the shaded area in Figure 3a.
- Trim an additional 1/2 inch and stretch often during sewing.

**Figure 3b: Matching Outseams**

- Wash the outseam lines from the back to the waist. The side seems may not match (Figure 3b).
- To correct, add on the inners side equalizes and blend with the waistline (Figures 3b).

Go to page 564 for further instructions.
PANT DESIGNS
Box Pleated Culotte

Design Analysis
The pant has a center front box pleat, stitched approximately 1 inch below the waist. The culotte back foundation completes the design. Additional fabric is added to the center front crotch to improve the hang of the pants.

Preparing for the final fit
Add seam allowances to the traced pattern. Print guidelines. Trace, cut, and baste guidelines. For fit guide, see pages 382 to 385.

Figures 1 to 6
- Place center front box pleat over the paper. Pin and attach a guideline across the pattern.
- Draw continuous guideline down the crotch, 1 inch at the hem. Pin fabric from part of the pattern to match the final fit.

Figures 7 to 10
- Align pattern to guideline for final fit. (placket added here)
- Draw the center front, starting at the center waist. Label C. Draw aligned lines from point A to C. Transfer C with R to waist and blend the hem.
Culottes with Long, Wide-Sweeping Hemlines

Use the culottes pattern page 573. Extend the bottom to the desired length. Other styles can be adapted to this foundation:

- Rolled hem, page 240
- Gathered hem, page 247
- Cording from, pages 240-250
- Side slit, page 256
- Pleats, Chapter 17
- Pleat front, page 588
- Zipper, page 595

Pieced Trouser

The pieced and patchwork part is based on the trouser foundation. If it is not available see page 374.

Sewing instructions for the pieced, patch, and patch front follow the instructions of the pieced and patch that is used. See page 579.

Pocket Preparation

Trace the front pocket foundation from the waist to the pocket. For the pocket, follow the instructions given for the front pocket. See page 589.

Pattern Piecing

Figure 1a.

1. Trace the back and front trouser foundations. Trace the back piece on the pocket as desired. Figure 2a and 2b. 
2. Cut out patterns from fabric.

Pocket Edges

1/8" - 1/4" seam allowances. 

1. Clip seam allowance from top to bottom.

Note: The waist does not line up to line in clothes. This allows the waist to have the extra width that is needed to give it a finished look.
Pocket Draft for Trousers

Figure 4a)
- Trace the former pattern to the center line. Draw a line using the measurements given.
- Divide the waist (a) and draw a line down to form the lining (b) (Figure 4b).
- At dart point (c) 1 1/2 inches down from dart point and up form the curve a hang.
- Close the waist darts and tape to secure (Figure 4b).

Plot the Pattern
Figure 5:
- A-D = 4 1/2 inches.
- X-C = 1 1/4 inches.
- M-E = 1 1/2 inches.
- L-E = Line is parallel with C-D.
- Connect C to D.
- Trace 1 1/2 inch and blend.

Pocket Patterns
Figures 5c, d, e, f:
Trace the pocket patterns using letters from Figure 5:
- (a) Facing, (b) pouch, (c) backing, (d) full lining. Add 1 1/2-inch seams, 1/4-inch at crotch.
Cutting the Trousers Patterns

Estimate all fabric associated with the piece below cutting and stitching the trousers. The amount of fabric needed depends on the width of the fabric, size of the pattern pieces, and amount of garments to be cut.

To cut one garment, the patterns can be traced directly on the fabric, as illustrated. If the garment is to be cut out of more than one piece, the patterns are placed together to form a single pattern. The pattern placement is illustrated in the figure. If the pattern is placed on the fabric, the cutting lines are traced onto the fabric, and the remaining pieces are used to cut the additional pieces.

Fabric Width of 58 or More Inches

Figure 1

The fabric can accommodate all pattern pieces across the width of the goods. The fabric width is one piece, plus 3/8 yard. The pocket facing, facing, waist band, and back flaps are cut in "self" fabric, and the facing is part of the garment. The pocket facing and front facing are cut in the facing fabric of choice. Cut interfacing for the pocket facing, waist band, and fly.

Fabric Width of 45 to 58 Inches

Figure 2

The width of the fabric accommodates three pattern pieces across the goods. The fabric width is one piece, plus 3/8 yard. The pocket facing, facing, waist band, and back flaps are cut in "self" fabric, and the facing is part of the garment. The pocket facing and front facing are cut in the facing fabric of choice. Cut interfacing for the pocket facing, waist band, and fly.

Lining Patterns

Figure 3

The pocket facing and front facing are cut in "self" fabric, and the facing is part of the garment. The pocket facing and front facing are cut in the facing fabric of choice. Cut interfacing for the pocket facing, waist band, and fly.

Interfacing the Following Patterns

Figure 4

Cut interfacing to the肩甲 of the facing, back, and fly.
Finishing Methods

There are several finishing methods for covering raw seams. The most common and economical method used in the fashion industry is overlocking (serging). Other finishing methods are: zigzag, clean-finished seams, lap seams, flat-fell seams, and pressed seams.

Finishing the Front, Facing, and Pocket Edging Sews

Figure 12.5-6

Finish all raw edges:

- Facing and pocket—finish all raw edges (Figures 12.5 and 12.6).

Sewing Instructions for the Pocket

Sewing instruction—apply to pockets on the right and left front pant.

Stitch facing and binding to lining:

Figure 10.5-6

- With right sides together, stitch facing on the front lining (Figure 10.6) and the binding on the left lining (Figure 10.6).
**Belt Pocket Pouch to the Pant**

**Figure 21b:**
- Stitch the pocket pouch to the front of the pants with the right side facing (figure 21b).
- Pin the pocket pouch seam and edge-stitch the facing (figure 21b).

**Belt Pocket Lining**

**Figure 17b:**
- With the right side of the pouch and the lining facing each other, pin the pouch to the A and B notches and stitch (figure 17b).
- Finish the raw seams along the bottom edge of the pocket (figure 17b).

**Completed Pocket**

**Figure 18b:**
- Pin the pocket to the front and stitch across the waistline.
- Finish the seams of the front pant and pocket.
- The lining is caught in the stitch of the pocket.

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**Attaching the Zipper**

**Joining Front Pant to the Crotch**

**Figure 19:**
- Place the right side of the front pants together and (13) about 2 inches between the notches of the crotch of the seams.
- Pin the right side of the fly at center line and press to the wrong side.

**Shield**

**Figure 20:**
Fold the wrong sides of the shield together and finish the raw seams.

**Stitching Zipper to the Shield**

**Figure 21:**
Place the right side of the zipper 1/2 inch above the shield and aligned with the shield. Stitch the shield 1/4 inch from the tape edge of the zipper and inserted 1/2 inch along zipper teeth.

**Left Pant Stitched to Zipper**

**Figure 22:**
- Pin the seam of the left pant at least with the shield and aligned with the zipper.
- Stitch 3/8 inch from the tape edge (inset to the length of the zipper).

**Figure 23:**
Fold the pants right side and edge-stitch along the zipper length.
Lap Fly over the Hem

Figure 24
Fold the hem of the fly over the front of the right side of the pants. This should be done and catch only the pant lining.

Zipper Stitched to the Right Pant Fly

Figure 26
Place the right pant under the left pant except for the fly. This should be done and catch the zipper to the fly.

Thread Line Guide

Figure 28
Insert the right pant. Thread the edge of the fly through the right side pant as a sewing guide for top-stitching.

Stitching the Fly

Figure 27
Place the pant right-side-up. Stitch 1/4 inch in from the fold line; guide. If two rows of stitching are desired, stitch 1/4 inch from the first stitch. Back-stitch at the end of the curve to secure.

Joining the Front and Back Legs

Figure 29
Match the конверы and remove with the right side facing. This should be done and catch the burl of the hem.

Stitching the Crotch Curve

Figure 29
- Pin and stitch the crotch curve or pull one pant leg through the other and stitch it.
- Double-stitch or top-stitch the crotch curve for extra security.

Waist Band Loops

Figure 30
Insert the loops before stitching the waist band to the pants. Fold the loops with right sides facing. Stitch 1/4 inch from the top of the loops. Cut on loops with 1/4 inch. The loops should be placed between the plackets at the top of the back.

Stitching Guide

Figure 32
- Stitch one end of the loop on the right side of the waist of the pants.
- Stitch back stitch the loop, 1/4 inch below the waist (figure 33a).
- After the waist band is attached (see page 999), the top of the loops is folded 1/4 inch and stitched to the top of the waist band (figure 33b). Continue by page 999.
**Waist Band**

Choose one of the two methods described.

**Method 1**

- Draw an illustration shown in Figure 31a.
- Fold and stitch waist band to finish each end and back stitch, see Figure 31b.
- Fold waist band end point to right side and pin along fold line; "stitch in the ditch" on catch back side of the waist band, Figure 31c.
- Center button and button hole, see Figure 31d.

**Method 2**

- Draw an illustration shown in Figure 32a.
- Finish the top edge of the waist band by overlock or serge. Pin and stitch to the waist.
- See Figure 32b to finish the waist band ends.
- Fold bottom edge 1/2 in. below the stitch line of the back waist and pin, see Figure 32c.
- Hem and "stitch in the ditch" for catch back side of the waist band, see Figure 32d.
- Center button and button hole, see Figure 33.

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**THE DUNGAREES FOUNDATION**

The Dungarees (tall hip with cutout at front) is a simple overall for women and other bodies. The original and updated versions of the dungaree may be worn as a pair, shown in Figures 1 and 2.

The Foundation Draft

The foundation is the base for this design. hardwood is shown in Figures 1 and 2. The foundation is shown in Figure 3.

The Foundation Draft

- Draw the pattern pieces with the same measurements as shown on the patterns. Make any changes to the pattern as necessary. For example, change the layout of the pattern pieces. Add any additional information to balance the design.
Dungarees Chic

Design Analysis

The top pocket can be divided into two utility compartments. The set-in band at the waistline can be draped with an extra length for an easy-to-reach pocket. Large pockets are placed on the sides of the back. Refer to page 382 for the "split"-style pocket at the side seam pocket or page 383 for the side seam pocket at the pocket line. Also, the design shows wrap-around pockets and the best pocket side panel as an alternative.

Pattern Plot and Manipulation

Figure 2 (example)
- Pocket: width=6"; length=8"
- Draw the pocket on the pattern.

Figure 3 (example)
- Front pocket: 3-1/2" x 7" on side.
- Tunnel loop pocket: 3-1/2" inches down from side seam to hip level. Pocket width should be at waistline.
- The top 1-1/2" inches wide.
- Draw a parallel line 1-1/2" inches below the waist for the underride fitting pattern.

Figure 4
- Add the pocket: width=6"; length=8"
- Draw the pocket on the pattern.
- Tunnel loop pocket: 3-1/2" inches down from side seam to hip level. Pocket width should be at waistline.
- The top 1-1/2" inches wide.
- Draw a parallel line 1-1/2" inches below the waist for the underride fitting pattern.

Figure 5
- Add the pocket: width=6"; length=8"
- Draw the pocket on the pattern.
- Tunnel loop pocket: 3-1/2" inches down from side seam to hip level. Pocket width should be at waistline.
- The top 1-1/2" inches wide.
- Draw a parallel line 1-1/2" inches below the waist for the underride fitting pattern.

Findings

The hardware closure and buttons can be purchased at various industry supply and fabric stores. A button attachment tool is needed. Note: Be sure the loops are sewn on the front and back to match the buttons. Also, the back seam may be purchased through Dune.

Sewing Guide

Fold 1-1/2" wide seams around pockets and tool. Place two garment and double-stitch, stitch the top vertically to divide the compartments. Fold the pocket under the garment and fit the side. Fold the lining downward and run a parallel stitch along the garment to create a tailored finish. Other seams are double-stitch and double-stitched.

Figure 6
- Join the front and back seam and add 6 inches to the seam length.
- Draw a back pocket at the side seam 1-1/2" inches wide. Stitch the back pockets, insert and cut trim (hidden patterns)
- Trace a lining pattern from the unadorned waist band (hidden area)
- Sew the wings (all) seams are 1/2" inch, except where otherwise noted.
- Cut patterns from the paper. Cut back inner, top hip, and hip pockets on fold.

Supporting the Pattern

- Join the side and back seam and add 6 inches to the seam length.
- Draw a back pocket at the side seam 1-1/2" inches wide. Stitch the back pockets, insert and cut trim (hidden patterns)
- Trace a lining pattern from the unadorned waist band (hidden area)
- Sew the wings (all) seams are 1/2" inch, except where otherwise noted.
- Cut patterns from the paper. Cut back inner, top hip, and hip pockets on fold.
Baggy Pant

The baggy pant is based on the trouser foundation (page 173-174). To develop comparative pants, see the basic trouser foundation (see Chapter 23) and follow instructions.

Pattern Draft and Manipulation

Figure 1a to b:
- Place the front and back patterns on the paper, matching central lines with the guidelines. Space patterns at least 2 to 3 inches (or more) for added fullness. Trace.
- Add 1 1/2 inches length of the desired length.
- Extend center front 2 1/2 inches and square across the pattern to the center back. (When folded, it becomes a casing for a cord to pull through.)
- Mark the notch for folded 1 1/4 inches down from top.
- Mark a hemline 1 1/4 inches from center front.
- Draw the pocket, as shown, or create your own.
- Mark panels and circle for back edge down and at 1/8 inch from center for placement of pocket.

Design Analysis

The baggy pant is a loose-fitting pant that can be the basis for any hip hop outfit. The waistband will be placed to the side at the waistline, and the length of the pants will be determined by the design preference. The length and width of the pants will vary depending on the design. The hemline will be adjusted to fit and comfort.
Pull-On Pant with Self-Casing

**Design Analysis**
A pull-on pant has elastic inserted in a self-casing to create a slight gathering at the waistline that eliminates any pleats or darts. The pant should be cut in a firm knit to facilitate ease in retail stores. The pull-on pant can be developed using any basic foundation. The basic pant is illustrated.

**Pattern Plot and Manipulation**

- **Waistline**
  - **Waistline**
  - **Center Back**

- **Front**
  - **Waistline**
  - **Center Front**

- **Casing**
- Casing should be 1/4 inch wider than elastic to facilitate insertion. Use safety pin or bodkin to insert elastic.

---

High-Waist Pant

**Design Analysis**
Waistline extends above the natural waistline by 1 inch and is cut on a separate foundation. The back of the pant is a straight cut.

**Pattern Plot and Manipulation**

- **Waistline**
  - **Center Back**

- **Front**
  - **Waistline**
  - **Center Front**

- **Casing**
- Casing should be 1/4 inch wider than elastic to facilitate insertion. Use safety pin or bodkin to insert elastic.
Jean with V-Yoke

Design Analysis
The V-Yoke is based on the pant foundation. It has darts at the waist, a deep V-neckline, and a waistband. The V-Yoke is placed at varying depths below the waist.

Three Variations of Waist Band Placement
1. Variation 1: Waist band pattern; begins 3 inches above waist level.
2. Variation 2: Waist band pattern; begins 1 inch above waist level.
3. Variation 3: Waist band pattern; begins at the waist level.

Measurement Needed
- Fabric: 53 square inches
- 3/8 inch seam allowance
- 2 inches for finished waistband

Variation 1
- Waist band pattern begins 1 inch above waist level. The width of the waist band is 1 1/2 inches. Shaded area is trimmed.

Variation 2
- Waist band pattern begins 1 inch above waist level. The width of the waist band is 1 1/2 inches. Shaded area is trimmed.

Variation 3
- Waist band pattern begins 3 inches above waist level. The width of the waist band is 1 1/2 inches. Shaded area is trimmed.

Pattern Plot and Manipulation
- The waist band variation is based on the variations 1, 2, or 3 in chosen, with measurements on page and below given instructions.

Figure 1.2
- Trace the front and back pattern.
- Draft the gathered style gusset on Yoke, front, 1 1/2, and 2.
- Change the back yoke as needed.

Figure 1.3
- Trace the pattern style of choice.
- Basic layout of the pattern on fabric.
- Drafted layout as desired modification.
- Ruler to aid in desired modification.

Figure 2.3
- Shift center to the pattern.
- As a guide, use your chosen length for cutting lines.

Figure 3.3
- Draw the front by 1 1/2 inches wide. Draw slant 1 1/2 inches wide and 3 inches longer than the upper. To secure the upper, color top edge 313-356.

Remove the Pattern
- Cut the pattern along the lines drawn.
- Trace the waist band pattern from the pattern (Figure 3).
**Front Jean Pocket**

Figure 7

Draw the jean pocket as illustrated in Figures 7, 8, and 9.

**Back Pant**

Figure 9

Trim remaining dart rear at center back.

**Western Pocket**

Figure 10

Draw the pocket. Cut it out; position it on the pant. Adjust width/height. Trace the pocket on the pant and mark 1/4 inch in from the pocket center.

**Pocket Entry**

Figure 10a to 10d

- Draw the pocket entry using the measurements and illustrations as a guide. Trim the extended section (Figure 10c).
- Trace, label, and add 1/2-inch seams 1/4 inch at the entry (Figure 10d).

**Self-Facing and Hem Pocket**

Figure 10e to 10k

- Draw the pocket facing 2 inches shorter than the lining (Figure 10e).
- Draw the lining pocket, as shown.
- Trace the facing and hem pocket, label, and add a 1/2-inch seam (Figures 10h and 10j).

**Completing the Jean Patterns**

Figure 11a to 11e

- The left and right center waist band is cut first, and each side is interfaced (Figure 11a).
- Add 1/2-inch seam except where 1/4 inch is turned. Sew the gathers, pattern inseam, on the belt, and pocket seams. Sewing instructions follow (Figures 11a and 11b).
Sewing the Jean Pocket

Figure 3a.1

1. Fold the seam 1/4 inch and fold again. Press the remaining seams and double-stitch them (Figure 3a).
2. Fold the pockets to the right side of the facing, covering the pocket marks, and double-stitch them (Figure 3b).
3. Sew the facings to the pocket linings, with right sides facing (Figure 3c).

Figures 3b.1

• Fold the seam 1/4 inch and fold again. Press and double-stitch (Figure 2a).
• Fold the remaining seams 1/2 inch and press (Figure 2b).

Completing the Pocket

Figure 3c.1

1. Turn the pants away from pocket entry. Pin the pocket backing to the entry and stitch, finishing the raw edges.

A sewing guide for the jean is on page 398. The waistband is on page 508, and the jeans are on page 507.

Contour Pant with Crease Line Flare

Design Analysis

The contour pant design is achieved by removing excess fabric from the contour line and extending it to create a flare. The pants hemline is eliminated, and the hips are adjusted to create a flare at the side seam. The design is based on the bust foundation.

Pattern Plot and Manipulation

Figure 1

1. Trace the pattern back from the waist to the flare. The flare indicates the natural curve. Shift the pattern to create the desired flare. Cut the curve from the waist to create the flare. Label it 'A'.

Figure 2

1. Trace the pattern back from the waist to the flare. The flare indicates the natural curve. Shift the pattern to create the desired flare. Cut the curve from the waist to create the flare. Label it 'A'.

Cut the pattern back from the waist to the flare. The flare indicates the natural curve. Shift the pattern to create the desired flare. Cut the curve from the waist to create the flare. Label it 'A'.

Cut the jean pattern from pages 59 to 63. Blend short seams and smooth seams. Draw the waistband, and complete the pattern for a test fit.
PANT DERIVATIVES

The names and terms listed above were established in the 1930s, but the various measures used have since been standardized. The following measures are to be used on all patterns. Lengths can be varied to suit the wearer's preference. Lengths vary depending on the type of fabric, the type of activity, and the season.

**Names and Terms**

- **Short shorts**: 1 1/2 inches below the waist level.
- **Shorts**: 2 inches below the waist level.
- **Jamaica**: Between the crotch and knee.
- **Bermuda**: Between the crotch and knee.
- **Pedal pusher**: 2 inches above the knee.
- **Capri**: 1 inch above the ankle.
Developing Pant Derivatives

Pant derivatives can also be used in the fashion for other design variations. To complete the following pant derivatives, refer to pages 398 and 595 for sewing the waistbands. For sewing instructions for a zipper, refer to pages 265 and 295.

Short Shorts

Figure 1-2
- Trace parts to the photostats given. Draw slash lines to the crotch curve and cut from paper.

Figure 3-4
- Slash in curve; overlap 1/2 inch and tape.
- Trim 1/4 inch at inseams, ending at crotch point. Remove and test here.
- Add 1/2 inch to waist and 1/4 inch at entry.

Figure 5-6 Facing
- Trace each leg facing to a width of 1 inch.
- Add 1/2 inch seams and at inseam add 1/4 inch.

Short, Jamaica, and Bermuda Pants

The front of each pant is illustrated having slightly tapered legs. The instructions also apply to the back pant. The following pants can be modified by raising the waistline or lowering the crotch point, changing the length or varying the waistline. Adjust the patterns. To complete the pants, refer to page 398 for waistband instructions. For zippers, refer to pages 265 and 595.

Shorts

Figure 1
- Trace the pant to the shorts length and taper the leglines.

Jamaica Pant

Figure 2
- Trace the pant to the Jamaica length and taper the leglines.

Bermuda Pant

Figure 3
- Trace the pant to the Bermuda length and taper the leglines.
Pedal-Pushers, Toreador Pants, and Capri Pants

Pedal-Pushers
A vent is an opening at the side seam of the pant, giving ease of entry for loosely fitted leglines. The length of the waist vent should be 2 to 2.5 inches wide. This length should be 1 to 1.5 inches beyond the length of the piece. Ease can be added separately. Fold the hem upward and ease the side seams and tucks. Oversew and topstitch the seams.

Toreador
Figure 6
Trace the pant to the tummy length and tuck leglines.

Capri
Figure 6
Trace the pant to the capri length and tan leglines.

Design Variations
The following pattern designs are included to stimulate the imagination of the designer and patternmaker. Each design utilizes original designs and instructions from previously developed skirt and pant designs. For example, Design 4 is based on a flared skirt and Design 5 is based on the flared pant. Each pattern design may be modified to any length. Although the pattern looks like the sketch, the pattern was correctly developed.
**Jumpsuit Foundations**

The jumpsuit can be based on any of the four foundation patterns for any other pant designs. It can be developed as a one-piece or two-piece jumpsuit foundation (sawed or不满意) or as a combination of two. Once developed, the foundation should be altered to suit or used as a base for other designs. Jumpsuit designs are developed from the basic or altered patterns. Suggested styles are illustrated at the end of the jumpsuit section.

**Trousers/Slacks Jumpsuit Patterns**

*The following instructions pertain to both the development and pattern construction.*

1. Trace front and back tucks at the waist and hip at center front and back.
2. Trace the pant front and back on the traced tuck, matching the hip level and center lines of the tucks.
3. Important: The crease of the pant must be parallel to the center front and center back of the tucks. If not, place a pin along the pant at the crease point and pivot pant pattern until the crease line is parallel.
4. Trace the pattern lines from hip to hip. Transfer the crease of the pant is proper with a guide pin. (broken line indicates seam allowance, pattern above line.)
5. Remove the pattern; draw guideline through the pant and tuck.
6. Lower front and back tuck 1/2 inch. Blend the crease and hip line of the pant with the tuck.
7. For convenience, draw the base silhouette and continue lines on the body (see Chapter 9).
8. The hipline of the lines extending beyond the hipline of the pant is removed. Blend.
9. Complete the pattern for a test fit. (Gather, attach, and iron lines on muslin.)

---

**Great Coveralls**

Any top can be matched to any pant.

**Design Analysis**

A top shirt, with buttons, is stitched to the lower foundation pant. Shirt collar, shirt pocket, roll-up sleeves, hidden button closure, loops for a separate belt, side pant pockets, and by front complete the design. Refer to the page numbers given below for the steps to complete the design. Trousers, box is separate.

---

**Pattern Fitting and Manipulation**

1. Trace and of the tuck below waist, draw a parallel line to the front and back. Then, trace the front and back. Then, trace the front and back. Then, trace the front and back.
2. Trousers, page 573
3. Shirt, page 443
4. Roll-up sleeve, page 387
5. Long sleeve, page 444
6. Side pocket, page 385
7. Shirt pocket, page 575
8. By most sewing guide, page 584
9. Trousers pant, page 573
PANT FIT PROBLEMS/REVISIONS

Pants having fit problems are not comfortable and tend to interfere with freedom of movement. Stress lines and excess folds distort the appearance of the pant. There are number of reasons for fit problems—human variations, incorrect measurements, and pants not cut or thru, to name a few. The following fit problems, their solutions, and pattern corrections are taken from the first edition of Patternmaking for Fashion Design.

Model #1 Proper Stance
The model should:
1. stand relaxed
2. stand with weights equally distributed
3. place legs 5 inches apart
4. keep head forward
5. place arms at the side

After analyzing the fit of the pant, the model should walk, stand, and sit to determine the comfort of fit of the pant in motion.

Model #2 Fit Problems
What to look for:
6. stress lines (two-ended fold; directs tatter to problem area)
7. tightness (horizontal stress lines)
8. looseness (vertical folds)
9. creasing at hem that is not in alignment with center of shoe.

Analyzing the Fit of the Pant
Identify and mark the problem areas with a tailor’s chalk or pencil. Select the corresponding problem and solution from the following sections. Solve one fit problem at a time. It is possible that a correction in one area also solves a fit problem in another.

If the model has a high/low waistline (Problem #10), abdominal bulge (Problem #9), or prominent buttocks (Problem #12), correct these problems before proceeding.

1. Problem: Pant is too tight
   Solution: Release the side seams and elastic band if necessary. Use pins to allow pant to fall naturally. Mark and measure between stitch lines and pins.
   Pattern correction: Add the measured amount to the front and back side seams. Correct the waist band, if necessary.

2. Problem: Pant is too loose
   Solution: Pin excess fabric from the side seams and/or inseams. Include the waist band, if necessary. Do not pull the crease line. Once finished, when piecing, mark and measure between pins and seams.
   Pattern correction: Subtract the measured amount from the front and back pant (not illustrated).

3. Problem: Pulling at crotch point (inadequate crotch extension)
   Solution: Fitting under the crotch in difficult. Slash pant along crease line at the upper thigh area. Gravity bag pant leg to allow the leg to open. Measure the open spot.
   Pattern correction: Add half of the measured amount to each inseam. Blend to the knee.
10. Problem: Hip seam not aligned with shoulder line (Pattern for A-line dress, as given on page 411)
Solution: From the hip seam to the top of the front and back seams, measure the circumference of the hip. Mark the shoulder line, adding 1.5 inches for ease. Adjust the pattern accordingly.

11. Problem: Hip seam not aligned with shoulder line (Pattern for A-line dress, as given on page 411)
Solution: From the hip seam to the top of the front and back seams, measure the circumference of the hip. Mark the shoulder line, adding 1.5 inches for ease. Adjust the pattern accordingly.

12. Problem: Hip seam not aligned with shoulder line (Pattern for A-line dress, as given on page 411)
Solution: From the hip seam to the top of the front and back seams, measure the circumference of the hip. Mark the shoulder line, adding 1.5 inches for ease. Adjust the pattern accordingly.

13. Problem: Hip seam too high (Pattern for A-line dress, as given on page 411)
Solution: From the hip seam to the top of the front and back seams, measure the circumference of the hip. Mark the shoulder line, adding 1.5 inches for ease. Adjust the pattern accordingly.

14. Problem: Hip seam too low (Pattern for A-line dress, as given on page 411)
Solution: From the hip seam to the top of the front and back seams, measure the circumference of the hip. Mark the shoulder line, adding 1.5 inches for ease. Adjust the pattern accordingly.
**INTRODUCTION**

Knits are some of the most popular fabrics in the market today, partly due to the following reasons:

- Versatile: Knits are suitable for many uses, from shirts and sweaters to sportswear.
- Wearable: Knits are comfortable, soft, and stretchy.
- Profitable: Knits are popular for home use and have a high profit margin.

Many manufacturers and designers devote part of their lines to knit designs. The patternmaker should be knowledgeable about the special characteristics of knits and their stretch and shrinkage factors so that a good fit can be achieved with few corrections. This is accomplished by understanding the pattern cutting and cutting techniques.

**STRETCH AND RECOVERY FACTOR**

The stretchability of a knit fabric is measured in terms of its stretch and recovery factor. The stretch factor is the amount of stretch per inch that occurs when the knit is stretched to its maximum length and width. The stretch factor of knits range from 10 to 100 percent or more.

**Recovery Factor**

The recovery factor is the degree to which a knit will return to its original shape after being stretched. Knits with good recovery are those that return to their original length and width when released. If the fabric does not return to its original dimension, or close to it, the garment will eventually sag on the body and lose some of its original shape.

**Variance in Stretch**

There is a variation in the degree of stretch among knits and the degree of stretch between the length and width of a knit. Knits that stretch in both directions are called 4-way stretch knits. Some knits stretch only in one direction, which is designated by the stretch of the fabric. To determine the stretch of knits, use the stretch gauge on page 628. The type of knit applies to the garment view.
STRETCH AND RECOVERY GAUGE

The rule is the same for all elastomers; a thread must pass the rule test or it will not have adequate recovery. The rule test is designed to simulate the effect of a piece of fabric being pulled to extreme stress and then released. The rule is used to determine the stretch and recovery properties of elastic fibers.

Determined stretch/recovery of elastomer:

1. Place the rule under the specimen so that the center of the rule is in the middle of the specimen.
2. Apply a force of 100 grams to the rule and hold it for 10 seconds.
3. Release the force and measure the elongation of the specimen.
4. Record the elongation and compare it to the elongation of the rule.

If the elongation of the specimen is greater than the elongation of the rule, the elastic fiber has good recovery properties. If the elongation is less than the elongation of the rule, the elastic fiber has poor recovery properties.

CLASSIFICATION OF KNIT FABRICS

Knits come in many forms, such as rib, pique, and jersey. These different types of knit are identified by their stretch and recovery properties.

1. Rib knit: This is a single jersey knit with two floats of yarn. The floats are interlocked to form a ribbed pattern. Rib knits are used for items such as socks and underwear.
2. Pique knit: This is a double jersey knit with two floats of yarn. The floats are interlocked to form a pique pattern. Pique knits are used for items such as polo shirts and dresses.
3. Jersey knit: This is a single jersey knit with one float of yarn. The floats are interlocked to form a plain weave. Jersey knits are used for items such as T-shirts and sweaters.

STRETCH AND SHRINKAGE FACTORS

Knits can also be stretched and shrunk in various ways. The stretch and shrinkage factors are used to determine the amount of stretch and shrinkage that a knit will undergo.

1. Stretch factor: This is the amount of stretch in a fabric. Stretch can be measured in many ways, such as the amount of stretch in a seam or the amount of stretch in a fabric sample. Stretch factors are used to determine the amount of stretch that a fabric will undergo.
2. Shrinkage factor: This is the amount of shrinkage in a fabric. Shrinkage can be measured in many ways, such as the amount of shrinkage in a seam or the amount of shrinkage in a fabric sample. Shrinkage factors are used to determine the amount of shrinkage that a fabric will undergo.

DIRECTION OF STRETCH

Knits can be stretched in the warp or weft direction. The warp direction is the lengthwise direction of the fabric, while the weft direction is the widthwise direction of the fabric. Knits can be stretched in either direction, but the amount of stretch will vary depending on the direction.

1. Warp stretch: Stretch in the warp direction is typically greater than stretch in the weft direction. This is because the yarns in the warp direction are oriented parallel to the length of the fabric.
2. Weft stretch: Stretch in the weft direction is typically less than stretch in the warp direction. This is because the yarns in the weft direction are oriented perpendicular to the length of the fabric.
ADAPTING PATTERNS TO KNITS

There are two methods for adapting a pattern to knit fabric. The first one requires the use of a pattern that is to be enlarged, and the second one requires the use of the pattern to be reduced. The choice is determined by the type of knit and the use of the garment.

White (C) = original pattern.
White (B) = cloth pattern.

The Shrinkage Factor

For loosely knit garments, shrinkage is considered to be the most important factor. Therefore, the pattern is enlarged to compensate for shrinkage. To do this, the shrinkage factor must be known.

Enlarging the Pattern

- Cut the garment parts. (The hems and sleeves are used in the example.)
- Wash and dry the fabric. Place the cloth pattern on top of the pattern. Place it on paper, tracing the outer line and wash the cloth and the garment and then retrace the line of the sleeve. The new pattern will indicate the garment size (B) and the outside white area indicates the new pattern size (C).
- Enlarge the pattern for shrinkage. Draw guidelines from the corners of the fabric pattern and working pattern. Measure the distances from the cloth pattern and the working pattern at each guideline. Use the measurements to stretch the distances out from the working pattern to enlarge the fabric pattern. Place the new pattern on the cloth pattern. Hems and sleeves are one inch above the neck. Blend the curved lines. Mark the pattern when cut.

- Marking the pattern for shrinkage. Draw guidelines from the corners of the fabric pattern and working pattern. Measure the distances from the cloth pattern and the working pattern at each guideline. Use the measurements to stretch the distances out from the working pattern to enlarge the fabric pattern. Place the new pattern on the cloth pattern. Hems and sleeves are one inch above the neck. Blend the curved lines. Mark the pattern when cut.

- Pattern of garment parts on the pattern may look different due to shrinkage. Use the pattern for developing the enlarged pattern template for the garment.

The Stretch Factor

Knits with various degrees of stretch factor (from 1 inch to 1 inch and 1/2 inch) require different methods for tailoring the pattern. These methods are discussed.

Modifying the Pattern

To determine if a pattern is a stretch factor, measure the length and width of the pattern from the neck to the bottom of the pattern. Divide the measurements by the stretch factor (or the reverse). If the measurements are equal, the pattern is a stretch factor. If the measurements are unequal, the pattern is a non-stretch factor. The length of the pattern should be cut at the original length. The width of the pattern should be cut at the original width plus the excess needed to accommodate the stretch factor. The excess must be added to the shoulder, sleeve, and neck area. The exact amount depends on the fabric used. The exact amount depends on the fabric used. The exact amount depends on the fabric used. The exact amount depends on the fabric used.
Knit Top Foundations

Types of Knit Foundations

- Dartless Stretchy Knit—Draft 1
- Cropped Knit Top—Draft 2
- Oversized Knit Top—Draft 3
- Cropped Knit Top—Draft 4
- Knit Top

Dartless Stretchy Knit—Draft 1

Pattern Development

Figure 1: Back
- Trace the back pattern, starting at shoulder tip and ending at the armpit. Label 1 at neck.
- Skirt the pattern upward 1/2 inch and trace 4 to 5 inches of the armpit.
- Draw the side seam indenting "V" as shown.

Figure 2: Front
- S.F. = Front shoulder measurement. Follow the angle of the shoulderline and mark.
- Draw the adjusted armhole using a French curve from Y. Transfering with the original armhole. The dart is eliminated.
Figure 3A: Front pattern
- Trace front pattern on top of the back pattern, aligning up and center lines.
- Trace the necklines and label A and B (Figure 3A).
- If A and B do not align, draw a line through A and B. Make the center and neck with the back and front neck. Draw lines from the neck to the shoulder tip. (Front pattern was traced for Figure 3A.)

Figure 3B: FRONT and BACK Patterns
- Trace paper under the draft's score, and cut the back pattern. Label KIT 2.
- Measure the armhole and blend.
- Trim 1/8 inch from curve of the armhole and blend.
- Using a straight of the waist and hip measurements, draw a reference side seam. Use the line for armhole pattern cut in the straight grain fabric.

Figure 4: Front Pattern
- Fold paper. Place the basic sleeve front on the paper with center grain on shoulder and seam.
- Mark neck and shoulder. Remove. Label the pattern A. B (broken line indicates original sleeve). Measure 1/8 inch on the grain line. Mark. Square up 1/2 inch from mark and label C. Square a new line from the fold to point C.
- Blend a new armhole curve to the sleeve cap. Use a line from B to C.
- Amber from B to D. Mark 1/2 inch from the shoulder.
- Add 1/2 inch to the back side seam. Draw a line from A to C, as shown.

Sleeve
- The sleeve cap of the basic sleeve should measure 1/2 inch higher than the front and back elbows. If does not fulfill, follow the instructions given in Figures 7 and 8.
OVERSIZED KNIT TOP—DRAFT 3

Cotton Knit Top Draft
The cotton knit top is based on the oversize dressers.

Figure 1
- Squint a line on paper
- Place the front pattern on the square.
- Trace the neck and side at mid-sheath line.
- Join the pattern 1" apart or less.
- Trace the side photocopy pattern and remove.
- Draw a line from the shoulder tip to neck.
- Insert a line 1/2", or as desired.
- Draw the armhole using the chart curved.
- Measure the sleeve. Record in the space provided in the right column.

Sleeve Draft
- Measure the desired length.
- Half of armhole measurement.
- Add and hand measurement (plus 1.5"

Figure 2
- Draw a line in middle of the paper equal to the half-sleeve length, 1". Square out from A and B.
- C - F, Square out from C.
- D - A., square out from D. Fold on the A-B line.
- A - D, square out from A. Draw the line from A touching on the sheath line. Label E. Divide into spaces and follow the instructions.
- E - F, square by armhole measurement.
- Draw a line from F ending 1.2" inch in from E. Draw a curved line from E, rounding to follow.
- Complete the patterns, cut, and stitch to the knit top. The sleeve can be modified for other designs.

Completing the Patterns
- Figure 3
- Complete patterns with pattern and trace the back pattern.
- Trace the back neck from the front pattern.

Seaming
- Sewing a pattern on the back edge of the pattern, leaving, and finishing at the armhole.
- The pattern can be positioned for the length and widths of the desired pattern. The pattern should be cut from the final cart of the knit. Overcast the seams with a sewing machine.

Self-Finish Seaming
- The width of the self-finished also depends on the amount to be cut from around the neck line.
- Width - equal to the neckline plus 1/4 inch for 3/4 inch seam.
- length - equal to the finished neckline plus half inch for 3/4 inch seam.

Joining the Seams
- Figure 11 and 12.
- The joining points of the seaming can be at the shoulder line. (Figure 11) or center back (Figure 12). Pin the ribbing to the fabric using flat (Figure 11) or to the garment on the front (Figure 13) and tie.

Self-Finish Seaming
- Figure 12, 13, and 14.
- Do not trim the ribbing once until the pattern fits are determined. The garment must be sewn to fall over the ribbing. The seams are then sewn at the neck (Figure 12A). Remove the end stitch from the ribbing. Overcast the ends of the ribbing. (Figure 13). Figure 14. Sew the other side of the ribbing.
CROP TOP WITH A MUSCLE SLEEVE

Design Analysis

This is a top with a straight waistline. The short top is divided into two panels. The top is made of a cotton blend material. The sleeves have elastic at the wrist, making them suitable for wearing. The top can be made from the cotton blend material.

Figure 1

Trace the design and draw the top front and back neckline, as illustrated.

Figure 2

- Trace the sleeve to keep the sketched lines and widths.
- Draw a parallel line 2 inches up from the elbows.
- Place the sleeve on the traced copy and pivot 3 inches down from the top/bottom line, trace and indent 1/2 inch.
- Repeat for the other side of the sleeve.
- Blend the elbow and curved hemline, following the illustration.

The top should measure 1/2 inch greater than the armhole. Add to side and from the underarm equaliy.

KNIT TOP

Design Analysis

A popular shirt design is based on the original cotton knit foundation. The top has a placket on pages 3.5-3.7 for a guide.

Figure 1

- Trace the construction foundation pattern on the dot.

Placket Shirt

- Draw a 1/2" inch in from the desired length on the placket.
- Add a 1/16" seam allowance and cut out this section.
- Draw a line 1/16" wide and equal to the length of the opening. Add 1/16" seams and match 1/16" in from the line to indicate where the collar is.
- The placket is stitched from dot to dot and turned to the right side before attaching the button. The placket can be cut from knit material. To complete a non-pleat collar, see page 164 for a guide. Knit collars may be cut to the size needed from premade jersey vapor in front to spine.
Activewear for Dance and Exercise

Chapter 29

BODYSUITS AND LEOTARDS

Activewear is a classification of garments designed to allow a range of movements for physical activity and sports. The bodysuit and leotard are ideal for such activities. To be functional, the bodysuit and leotard should be cut in a stretch fabric that is soft, lightweight, and has good recovery in both directions. Suitable fabrications are those conditioned with spandex (spandex) or lycra (lycra). Popular choices are cotton/spandex, cotton lycra, and cotton lycra. Study Chapter 29 before purchasing fabric for these garments.

Additional Information

The draft includes 1/2 inch seams. If any part of the pattern does not line up with the pattern, the edge of the pattern is used as the guideline. The pattern is made as a complete unit, but necklines are usually cut away and of the pattern. The front and back are drafted together and separated at the completion of the draft.

Measurements Needed

(1) bust
(2) waist
(3) hip
(4) chest
(5) neck
(6) armhole

Figure 1:

Draw a vertical line on paper.
Place the back pattern 1/2 inch beyond the line.
Trace the neckline (a) to the back pattern (b).
Mark the outline (c) to the back pattern (d).

Figure 2:

Square a line 1 1/2 inches up from waistline and remove point C.
LYCRA SLEEVE DRAFT

The sleeve must be cut and sewn to the garment and completed, if necessary. The maximum stretch of the material should be taken into consideration when estimating the length of the sleeve. The pattern allows for a stretch of up to 2.5 inches in length.

Measurements Needed
For finished measurements, see page 247.
- Armhole measurement
- Neck measurement
- Waist measurement

Figure 1
- A = Armhole measurement. Draw line at armhole and divide into thirds. Draw a line from G to E, and a line from C to B. Draw the sleeve cap, as illustrated.
- B = Shoulder measurement. 10 inches from B, draw the armhole line and divide into thirds. Draw a line from C to D, and a line from D to E. Draw the sleeve cap, as illustrated.
- C = shoulder measurement. Draw line at armhole and divide into thirds. Draw a line from C to B, and a line from D to E. Draw the sleeve cap, as illustrated.

Figure 2
- A = Armhole measurement. Draw line at armhole and divide into thirds. Draw a line from C to B, and a line from D to E. Draw the sleeve cap, as illustrated.

One-Piece BodyVault

The one-piece BodyVault is a simple, comfortable, and versatile design that can be worn as a top or a dress. It is made from a soft, stretchy fabric and is designed to fit most body types. The pattern allows for a stretch of up to 2.5 inches in length.

Measurements Needed
For finished measurements, see page 247.
- Armhole measurement
- Neck measurement
- Waist measurement

Figure 1
- A = Armhole measurement. Draw line at armhole and divide into thirds. Draw a line from C to B, and a line from D to E. Draw the sleeve cap, as illustrated.
- B = Shoulder measurement. 10 inches from B, draw the armhole line and divide into thirds. Draw a line from C to D, and a line from D to E. Draw the sleeve cap, as illustrated.
- C = shoulder measurement. Draw line at armhole and divide into thirds. Draw a line from C to B, and a line from D to E. Draw the sleeve cap, as illustrated.
BODYSUIT DESIGN VARIATIONS

Bodysuit with Scooped Neck and Cut-Outs

Design Analysis

Design 1 has a scooped neckline with cut-out side sections (looking above and below the bust area). The front and back have the same seams. Seam allowances of 3/8 inch are included. Curves for design variations require 1/2 inch seams.

Pattern Plot and Manipulation

Figure 1
- Trace the front pattern. Mark the bust point. Draw the bust circumference.
- Draw the neckline of 1 inch above the bust circumference using the measurements given.
- Cut the pattern from the paper.
- Draw the guidelines in the direction of the greatest stretch.

Figure 2
- Mark for the back pattern.
- For elastic insertion, see Chapter 30.
- To develop the strap, see page 429.

Bodysuit with High-Neck Halter

Design Analysis

The halter top has a high neck, which extends above the natural neckline and can be held in front and back. A fabric overlay gives a two-piece effect. The back has a point, and the front is cut on the bias with the seam allowance removed. The back only has snaps and hook.

Pattern Plot and Manipulation

Figure 1
- Trace the front pattern. Mark the bust point and draw a line circumference around the bust to mark placement.
- Draw a curve line from the shoulder and neck to a point.
- Draw the seam line at a length, divided equally between the waist and chest level.
- Cut the pattern from the paper and separate at the lowest level.

Figure 2 (large)
- Add 3/8 inch to the curve point of the back pattern where needed.
- Add a 3/8 inch seam at the lowest line of the front and back pattern.

Figure 3 (large)
- Place the front and back lines on the fabric, with 3/8 inch past the fold to eliminate the seam allowance.
- Add 3/8 inch seam allowance at the lowest line.
- Complete the pattern for a basic fit. For instruction on attaching straps to a cut-out V-shape, see pages 423 and 425.
Separated Bodysuit

The bodysuit can be separated at various places along its length. The tighter can be shortened or full-length, the tightest can rotate around. The bodysuit, when separated, can also be used for movement changes. The hip and tightness can also be used to create a bag with strong legs or around the body.

Design Analysis

The bodysuit is a model with a separated bodice and skirt, and a skirt is the most significant feature of this innovation. The center back body and pant can be held as a loop for ease. To create a design with a gathers, eliminate the loop control and trim the extension at the back pant.

The Bodysuit Draft

Figure 1-2

- Trace the front and back patterns.
- Pin the desired lines, using illustrations as guides.

Figure 3-4

- The standards illustrate the use of loops for controlling patterns at the back bodysuit.
- Cut the loops 1.5 inches or 3.3/4 inches. Sew together and wrap around the corners of the garment or place the loop on the back below the seam back body. The loop at the pant should be stitched across the seam of the top part of the pant, leaving a depth of 3 to 4 inches, and wrapped around the top of the pant to the back side. Top-stitch the loops to secure.

Tights

Figure 5

- For leggings, from the bodysuit front, 2 inches above the waist is added.
- Elastic Width is 3/4 to 1 inch. Length is 1 inch less than the pant overlap 2.2 inches to 2.5 inches. Fold the waist to form a casing.
- From the points at the directional guides, stitch.
- Form for front and back are stitched. Hip elastic, and knee panels are optional.
- Note that 3/8 inch seams are included.

Straps

Figure 6

- For bodysuit designs, with straps that extend around and under body, cut off leg at ankle in shown.
- Strand each side of the front and back pant at the bottom of the front (top left).
- Note that 3/8 inch seams are included.
**Leoard Foundation**

The front of a back foundation is generally cut on the fold, so the back keeps the seam even with the front. If center front and back seams are not desired, it is recommended that the center front and center back seams be cut on the fold. The back may be seamed or cut on the fold. By seamed, the center back seam is continued from the center front. By cut on the fold, the center back seam is not continued from the center front.

**Measurements Needed**
- Bust
- Waist
- Hip
- Center back length
- Sleeve length
- Armhole
- Shoulder
- Arm
- Armhole
- Neck
- Hem
- Hem

**Figure 1**
- Draw a vertical line on the paper.
- Place the back pattern 3/4 inch beyond the line.
- Trace the neck line A to the emplike B (Figure 1a).
- Mark the waist C. Remove the pattern.

**Figure 2**
- Draw a line 1 1/2 inches up from the waistline and re-mark point C.

**Figure 3**
- Draw a line parallel to the waistline.
- Mark the waist E.

**Figure 4**
- Draw a line parallel to the center back.
- Mark the center back F.

**Figure 5**
- Draw a line parallel to the center front.
- Mark the center front G.

**Elastic Stiching Guide**
- See pages 465 and 466 for higher elastic.
Alien-One Leotard

The alien-one leotard is developed for athletic users who need the comfort of a stretchable fabric. The pattern is divided into sections, allowing for a variety of fits.

**Alien-One Leotard Draft**

- Draw the front and back, overlapping the sections at the center and side.
- Square guidelines at the bust and waist.
- Rearview: Add space between the front and back waist.
- Complete the pattern for the back.
- Add an elastic and stitching guide, see pages 663 and 664.

**Color-Block Design for Leotard**

**Design Analysis—Design 1**

The design features a color-block pattern that provides a contemporary look. The blocks are divided by a thin line, creating a modern feel. The design is simple but effective in highlighting the shape of the body.
Leotard with Raglan Sleeve
The leotard with raglan sleeves can be worn over tights or as a top to be worn with pants and skirts. It can be worn for dance or exercise. Other designs can be developed from this basic pattern. The measurements given are approximate.

Design Analysis
Design 1 is a basic raglan with three-piece sleeves. Design 2 is a four-piece raglan.

Raglan Sleeve Draft
Figures 1-2
- Trace the front and back leotard and sleeve patterns.
- 
- Trace the armhole line 1 inch from the shoulder neck.
- Use the basic or hip-exit line for page 852.
- Drop the neckline and cut patterns from paper.

The Color Block Draft
Figures 1-3
- Trace the pattern on paper.
- Shave a high neckline (1/4th of the neck circumference) from the pattern.
- Place a high-shoulder line (includes seam allowances).
- Cut the pattern from paper and unfold.

Figure 2 Placement of Color Blocks
- Place color blocks.
- Mark notches at pointed shoulders to help position the garment parts when stitching.
- Cut and separate the pattern along the notches.

Figure 3 Separated Patterns
- Add 4 inches seam allowance to the sleeves. The printed outline is in black.
- Complete the pattern for a test fit.
- For an elastic and stretching guide, see pages 853 and 856.
Basic Tank Leotard
The fabric leotard can be worn alone or over a body suit or tights. It can also be worn as a dress with a skirt or pants. The back strap placement is toward the top of the shoulder blades. The front strap is near the bust and just below the bust line. The overall fit is tailored to the body. The pattern is arranged and held in place with a piece of chalk. The strap placement is done for a flat back.

Back Strap Adjustment
The strap placement of the back strap pattern for leotard, bodice, and suit designs having a low cut out neckline should be done. Cutting back of the back strap. Cutting back of the back strap pattern, the back strap is cut and may be adjusted. The pattern is cut along the line of the dashed line, which is the back strap pattern. The shape of the back strap pattern is not through the back strap. Overlap the pattern to the front, and then adjust the back strap to fit the body. The pattern is cut along the line of the dashed line, which is the back strap pattern. The shape of the back strap pattern is not through the back strap. Overlap the pattern to the front, and then adjust the back strap to fit the body. The pattern is cut along the line of the dashed line, which is the back strap pattern. The shape of the back strap pattern is not through the back strap. Overlap the pattern to the front, and then adjust the back strap to fit the body. 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The pattern is cut along the line of the dashed line, which is the back strap pattern. The shape of the back strap pattern is not through the back strap. Overlap the pattern to the front, and then adjust the back strap to
SWIMWEAR TYPES

In the nineteenth century, swimwear covered the female figure from neck to knees, lengths that fluctuated between the long and mid lengths. These suits were not always conducive to swimming. Today’s swimwear ranges from very much less and allows complete freedom of movement. They are designed in a variety of fabric patterns, and lengths, ranging from cut-out to very full.

The best swimwear foundations are those that conform to the body and flatter it. There are a number of ways to achieve this: the type of fabric, the type of seam, the type of line, and the silhouette desired.

Mullor Foundation. The cut of the leg is created by the top starting at chest level and ends at the mid-thigh level. This pattern is usually cut in a cotton/linen and shaped closely to the figure, creating the figure rather than following it. Very little chest is necessary in the front, and the back is squared off. The suit has little or no bust support. Draft begins on page 267.

Full Figure. The suit of the two-piece bikini includes the top starting at chest level and ends at the mid-thigh level. The suit has little or no bust support. Draft begins on page 259.

SUPPLIES AND SPECIAL INFORMATION

See page 260.
MAILLOT FOUNDATION

The Mailot foundation is developed as an basic fabric having from 30 to 70 percent see more stretch with excellent recovery. Additional foundation can be found in Chapter 24. Mailot designs in right and left-fronts can be solved by adjusting their lengths and widths. The Mailot front body structure is shown in Fig. 1 and Fig. 2. The pattern and final shape is drawn on the paper. The Mailot foundation and Mailot line are shown on the paper. The final shape is drawn on the paper and the final shape is shown on the paper.

**Mailot Foundation**

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Basic Tank-Top Moltit

Two versions of the basic tank-top mollet swimsuit are given—a tank top without a bra cup and a tank with a molded cup on an allowing worn for a bra cup.

Moltit Draft Without a Bra Cup

Figure 3.
- Draw the basic front and back mollet foundation pattern. (The back pattern is the same as the front pattern.)
- Pin the design, using the illustrations as a guide.
- Cut the pattern from the fabric of choice.
- Trace the pattern onto the fabric, using the tapes and other materials.
- Transfer the pattern to the fabric, using the tapes and other materials.
- Cut the pattern from the fabric, using the tapes and other materials.
- Repeat the pattern for a test fit.
- Use a guide to fit and pattern adjustment.

Moltit Draft with Bra Cup

Figure 3.
- Plot the tank top with your measurements from the foundation patterns.
- Draw two lines from the bust point to the side seam and from the bust point to the waist point.
- Figure 4.
- Mark the side seam at point D and from the bust point to the waist point.
- Figure 5.
- Center the back pattern 1 inch from the bust point.
- Fold the pattern and remove the side seam by taking from the dart leg, adding to the other equally.
- See pages 607 and 608 for instructions on bust cup insertion and attachment to the foundation. The fit.

Moltit with Bra Lining

The mollet swimsuit is designed with a bra lining. Follow the example for other mollet designs, using inside coverage over the bust area.

Design Analysis

The styleline is across the back with garters at the side of the front garment. Lighter can be a basic cut or a high cut.

Moltit Design Draft

Figure 1. FRONT
- Measure 2 inches above the center front at the waist point. Draw a line from this point to the center back. Label A, B, C, D, E, F, G, H, I, J, and K for pattern cutting.
- Square a line from the center front 1 inch below the waist line. Label K for bra lining.
- Crossmark 1 inch below point A and 1 inch up from point F (transfers for pattern cutting).
- Figure 2. BACK
- Plot pattern for back design.
- Crossmark 1 inch from the center back. Label L.
- Measure up from the waistline 3 to 4 inches to the center back, marking the center back point.
- Mark for necks 1 inch down from K and up 1 inch from E.
Figure 3 Strap
- Measure the length of the strap, less shoulder strap allowance. Add the front and back strap lengths together.
- Draw the length of the strap and width of 1 inch.

Figure 4 Bra Lining
- Fold the paper and trace the bra section of the pattern shown (noted). Square from A to B laid out.
- Draw a line from A to B that is 2 inches above the center line and mark 1 inch from the side of the lining pattern.
- Mark gather control stitches 1 inch down from A and 1 inch up from C.
- Draw under bust shape, using the illustration as a guide.
- Mark gather control stitches under the bust, using the under bust to the original side seam as a guide.

Elastic
- Elastic is placed along the bottom of the bra lining and is extended between the stitches to finish 2 1/2 inches (5 cm) from side and underbust. The elastic is stitched into the side seam to secure. The upper edge is taken in with top gusset. Draw to top gusset. The elastic is cut from light-weight elastic or bias tape.
- Use a 5-inch-wide piece of elastic trimming at the edges of the pattern (upper C:)
- For the center lining, elastic and stretch, see page 112.
- Cut the pattern from paper.
- Complete the patterns for a cut B.

Princess Matild Draft
- Trace front and back patterns.
- Plot the pattern, using the illustration as a guide.
- The princess pattern is centered between the bust and shoulder, passing through the bust point and 1 inch from center back. Square down from center back and mark 1/2 inch from vertex line to the waist. Cut and separate patterns.

Figure 5 Front
- Add 1 inch on the bust point at front and side back panels. Start from bust to add seam and to center front and spread 1/4 to 1/2 inch or 1/2 inch or 3/4 inch.
- Mark 1/4 inch above and below the bust, using the bust, place a blending line over the bust, at 1/4 inch.
- Draw a center line on the pattern and label.

Adding Full Bust
- If the bust area is extended, mark, spread, taper, and measure. Mark, spread, and label pattern. Cut another sample.
Asymmetrical Mallot

Design Analysis

The mallot has an asymmetrical style line from the shoulders across the front to a point below the armhole. Added fullness (principle #2) is inserted into one side of the front.

Figure 1

Place a full front and full back pattern.

Plot style lines and modify the pattern.

Draw tailoring slash lines from the side seams of the front pattern.

Cut the patterns from the paper.

Figure 2

Measure side seam length and excise.

Slack and place on paper. Spread until the side seam equals 1 1/2 to 2 times the original measurement. Spread equally, if possible (triangle).

Original side length = 18 inches, spread 27 to 36 inches.

Set to paper and trace the pattern's outline. Blend a curved line at the side seam.

Add a 3/8-inch seam allowance to the asymmetrical neckline.

Remove 1 to 1 1/2 inches from the side where spreading occurred, blending to zero at the leghole.

For notch easing and elastic instructions, see pages 566 and 567.

Figure 3

Bikini Foundation

The bikini is a brief two-piece swimsuit distinguished by its low-cut neckline, high-cut legs, and low-cut back. Bikinis have evolved from modest to extreme, depending on fashion trends and personal preference. Bikini tops are available in various styles, including halter, bandeau, and string tops. Bikini bottoms can be found in the styles for beach or sportswear developed from the basic strapless. The bikini bottom is developed from the Contra Guide Pattern, see Chapter 9.

Bikini Based on Mallot or Leotard Foundation

Figure 1

Trace the front and back mallot (dress) pattern from waist to leghole (front lines show dated sections). Squash the line from center front and center back midway between waist and leghole at center back. Cut the bikini bottom from paper. Label, Knit only.

Trace another copy, adding 1/2 inch to the side seam, plus 1/4 inch for seam allowances. Label, Swimwear only (not illustrated).

Bikini Based on Front Skirt Foundation

Measurement Needed

Figure 1

(2) Garment length

(3) Garment front length

(4) Garment back length

Adjustments after Completing the Draft

Trunk 1/4 inch from the front and back sides and cut from paper. Label, Knit only.

Trace another copy 1 1/2 inch from front and back sides. Label, Swimwear only (seams are included).
BIKINI BOTTOM VARIATIONS

Pattern Plot and Manipulation

Figures 20a & 20b, Design 1
- Trace the bikini or pattern.
- Use measurements to complete the design.
A.A = on-diagonal A-C and D-E = A-B.

Figures 21a & 21b, Design 2
- Gathered Center Line
- Trace the bikini front and spread for fullness.
- Use the back part to complete the design.

Figures 22a & 22b, Design 3
- Stretch and measure the edge.

Figures 23a & 23b, Design 4
- Cut and separate bikini line from the pattern.
- Close the stitch line between the pattern to create the design.

Figures 24a & 24b, Design 5
- Cut the stitch line between the pattern to create the design.
- Fold the bikini back or adjustable banding.

Figures 25a & 25b, Design 6
- Fold the bikini back or adjustable banding.
- Use measurements to complete the design.

BIKINI TOP VARIATIONS

Pattern Plot and Manipulation

Figures 30a & 30b, Design 1
- Trace the bikini pattern.
- Use measurements to complete the design.
A.B = on-diagonal A-C and D-E = A-B.

Figures 31a & 31b, Design 2
- Gathered Center Line
- Trace the bikini front and spread for fullness.
- Use the back part to complete the design.

Figures 32a & 32b, Design 3
- Stretch and measure the edge.

Figures 33a & 33b, Design 4
- Cut and separate bikini line from the pattern.
- Close the stitch line between the pattern to create the design.

Figures 34a & 34b, Design 5
- Cut the stitch line between the pattern to create the design.
- Fold the bikini back or adjustable banding.

Figures 35a & 35b, Design 6
- Fold the bikini back or adjustable banding.
- Use measurements to complete the design.

Editions of the Bikini Top Pattern

- Use measurements to complete the design.
A.B = on-diagonal A-C and D-E = A-B.

Figures 40a & 40b, Design 2
- Gathered Center Line
- Trace the bikini front and spread for fullness.
- Use the back part to complete the design.

Figures 41a & 41b, Design 3
- Stretch and measure the edge.

Figures 42a & 42b, Design 4
- Cut and separate bikini line from the pattern.
- Close the stitch line between the pattern to create the design.

Figures 43a & 43b, Design 5
- Cut the stitch line between the pattern to create the design.
- Fold the bikini back or adjustable banding.

Figures 44a & 44b, Design 6
- Fold the bikini back or adjustable banding.
- Use measurements to complete the design.
**Bra Top for Bikini Bottoms**

The bra top is also a fashion item that goes with particular skirts. It is simple to sew and requires no lining. The bra is cut in one piece, then the back is cut in two pieces. After the front and back are sewn together, the bra is shaped by a wire frame. To assemble the bra, cut the wire frame and shape it to fit the bust. The wire frame is then inserted into the bra top, and the bra is completed.

**Design Analytic: Design 1**

The bra top is connected with a 1/4-inch elastic, which is covered with fabric. The underwire is wrapped into the finished edge of the seam allowance. See page 672, Figures 4 and 5, for closures used with woven fabrics.

**Design Analytic: Design 2**

The bra top is connected with a wire frame, which is inserted into the seam of the top. The shape of the underwire is shown in Figure 5a.

The wire frame is inserted into the seam of the top, and the bra is completed. See page 672 for types of closures desired.

**Figure 1a**

- Design Analytic: Design 1
- The bra top is connected with a wire frame, which is inserted into the seam of the top. The shape of the underwire is shown in Figure 5a.
- The wire frame is inserted into the seam of the top, and the bra is completed. See page 672 for types of closures desired.

**Figure 2a**

- The bra top is connected with a wire frame, which is inserted into the seam of the top. The shape of the underwire is shown in Figure 5a.
- The wire frame is inserted into the seam of the top, and the bra is completed. See page 672 for types of closures desired.

**Figure 3a**

- The bra top is connected with a wire frame, which is inserted into the seam of the top. The shape of the underwire is shown in Figure 5a.
- The wire frame is inserted into the seam of the top, and the bra is completed. See page 672 for types of closures desired.

**Figure 4a**

- The bra top is connected with a wire frame, which is inserted into the seam of the top. The shape of the underwire is shown in Figure 5a.
- The wire frame is inserted into the seam of the top, and the bra is completed. See page 672 for types of closures desired.

**Figure 5a**

- Design Analytic: Design 1
- The bra top is connected with a wire frame, which is inserted into the seam of the top. The shape of the underwire is shown in Figure 5a.
- The wire frame is inserted into the seam of the top, and the bra is completed. See page 672 for types of closures desired.

**Figure 6a**

- Design Analytic: Design 2
- The bra top is connected with a wire frame, which is inserted into the seam of the top. The shape of the underwire is shown in Figure 5a.
- The wire frame is inserted into the seam of the top, and the bra is completed. See page 672 for types of closures desired.
Design Analysis: Design 3

The center front is gathered and controlled at the waist for a fitted bodice.

Figure 1
- Trace the upper part of the bodice pattern.
- Place undermined on the pattern and trace its shape, the finished line of the bodice pattern as a guide for pinning the design.

Figure 2
- Trace the waist line shape as a bodice. Add for bust room and 1/4 inch seam allowance.

Back Band
- Trace back bodice pattern and develop the back band pattern. (See page 63 for developing instructions.)
- See page 67 for the closure if the bra is cut in a woven fabric.
- Draw a line 1 1/2 x 4 inches.
- Complete the pattern for a test fit.

String-Along Skirt Top

Design Analysis

The skirt top is shaped like a triangle. Shape is the most important part. The back is cut with a circular ease and set on the waist. The front is cut with a circular ease and set on the waist. The top is gathered on the back and left to the body. Top is gathered under the bust and with bound or finished.

Pattern Plotting and Manipulation

Figure 1
- Trace the front contour guide pattern.
- Draw a line 1/4 inch below the bust. Label A and B 1 1/2 inches from the side seams.
- Draw a guideline from bust point to each corner.
- Mark 3 inches up from bust point at the guide and extend out 1/4 inch on each side.
- Draw lines to A and B.
- Draw a seam curve 1 1/4 inches from bust circumference.

Figure 2
- Fold across the open edge.
- Draw a guideline. Add 1/2 inch for seam allowance. Cut from paper.
- Trace the pattern for the lining.
- Add 1/2 inch to each edge of the pattern. See page 59, Figure 9. Do not include facing.
- Draw through 3 inches x 40 inches the pattern through the center of the line and left on back. Gather edge. After lining is stitched.
Bandeau Bikini Top

Design Analysis
The bandeau bikini top is supported by a spaghetti strap pulled through a hole (or casing) at the sides. The strap goes around the neck and ties in back.

Pattern Plot and Manipulation

Figure 1
1. Trace the front Centre Guide Pattern.
2. Square a line from center front, 1 1/4 inch above the top, and 3/4 inch below the bottom and 3/4 inch out from the side of the circumference line.
3. Measure 1 inch where shown.
4. Mark.
5. Draw curved lines touching the marks.
6. Cut the band along the pattern.

Figure 2
1. Measure on the band.
2. Draw the guidelines straight or bias, Add 1/2 inch for seam allowances. All other seams are 5/8 inch.
3. Cut bias strip 1 inch x 60 inches.
4. Cut from paper and trace the pattern for a lining, if desired.

LITTLE-BOY LEGLINE FOUNDATION

The little-boy legline foundation is developed from the legline pattern (see page 671). The little-boy legline is then drawn in from the point of the crotch to the bottom of the crotch line. The little-boy legline is then drawn in from the point of the crotch to the bottom of the crotch line.

Little-Boy Draft
Figure 1
1. Trace the basic pattern 1/2 inch.
2. Measure 1/2 inch at side seams.
3. Draw the leg and crotch area.

Figure 2
1. Figures show complete foundation. (Cut in a fold, and sew 1/2 inch from the side and 1 inch from the main.)
2. Figures show complete foundation. (Cut in a fold, and sew 1/2 inch from the side and 1 inch from the main.)
3. Figures show complete foundation. (Cut in a fold, and sew 1/2 inch from the side and 1 inch from the main.)
4. Figures show complete foundation. (Cut in a fold, and sew 1/2 inch from the side and 1 inch from the main.)
Little-Boy Line Variations

The designs that follow show the versatility of this foundation. The foundation can also be used to develop novels, romantic comedies, and comedies. Design A features a highline on the leg, while Design B features a paisley-like pattern. In Design C, the leg is gathered and used as a coverlet. Design D is a practice design.

Little-Boy Draft

Design Analysis

The little-boys design (Design 1) is cut in cotton and blend. It features an empire cut with side pleats, set-in or darted jacket, and a cuffed back. The button front suit can be optional with a fully lined front that is worn over the top. The little-boys suit is a front and back pattern. Steps have been adjusted on the pattern.

Pattern Plot and Manipulation

Figure 1, 2

- Trace the front and back contour guide patterns. See Chapter 9.
- Make the front and draw the line horizontally across the armhole. Use a suitable template.
- Use a sketchbook to make the guide in the contour, 4 parallel lines between the bust. Connect guidelines to the bust point.
- Use personal measurements or those given.
- Place the shoulder as illustrated from bust front and back.
- Complete the dart intake (if fewer lines), starting at the waist dart, doubling the dart pattern on both sides.
- Transfer the dart to the remaining front and back dart, trace to center front and back. Trace the side.
- Remove an additional 1/2 inch at center back, including to arm cutout, for a tighter fit.
- Cut and arrange the pattern. Cut slash lines to bust point.

Figure 3

- Close the side dart and pinch back and 4, then back and 4, then both. Mark 3 inch dots on each side of dart point. Draw dart point on dart points. Label 3 and 4. Mark center of the open dart. Label C.

Figure 4, 5

- Clip the pattern and make a gusset dart to point C. Draw dart points to marks A and B. Figure 4c. Use a tracing wheel to transfer the guide to the finished pattern. Outline and pencil in the pocket line. See Figure 4a (see dart shape). Figure 4.
- Trace a pattern on both sides.
- For box patterns, see pages 448, Figures 1, 2, 3, and 4.

Figure 5

- Close the pattern for the lining. For the lining, draw a line 1 inch above the line, as indicated by broken lines. Trace the lining to the paper. Add seams, facial and necklines, as shown.
FULL-FIGURE SWIM FOUNDATION

The full-figure foundation is used for women's garments cut in stretch fabrics or knits such as latex and spandex. When cut in knit, the pattern is modified. Dart points need to control the fit of the garment through the waist and bust area, and darts give extra support for the bust. A traced copy should be used to develop design patterns from this foundation. The pattern is seamless.

Full-Figure Swim Draft

Measurement Needed
- Chest length, ___

Patterns Needed
- Front and back patterns, with legine instructions from the lanted draft.

Pattern Plot and Manipulation
- Trace the front pattern.
- Mark the bust point and bust circumference. Use a push out or transfer guidelines 1 (over-bust contour), 2 (under-bust contour), and 3 (contour between the bust). Connect guidelines to bust point.
- Measure cut 1/4" in front hip. Draw a new legine for front and back tunic, ending at the waist (broken line indicates original legine).
- Label the center front width, ___.
- Use the instructions given for the lanted draft, page 441. Figures 4, 5 starting with c-d, chest length, and 5. Use 1/2" inch for reduction of the overall length and legine area.
- After the legine is complete, cut the pattern from the paper.

Figure 1: Front Foundation
- Trace the front pattern.
- Place the inner edge of the two patterns, matching hip levels and center front and back.
- Trace the back legine. Remove pattern and cut the back from paper.

Figure 2: Back Foundation
- Trace the back pattern.
- Place the inner edge of the two patterns, matching hip levels and center front and back.
- Trace the back legine. Remove pattern and cut the back from paper.

Figure 3: Front Foundation
- Trace to the front legine.

Figure 4: 5 legines for Skirt Swimwear
- Measure from center front and center back at hip and crotch level equal to legine measurement. Label C. Square up from C to the side legine.
- Draw the legine as shown (broken line indicates original legine).

Figure 5: Swim with Belt
- Trace the legine as shown, label (broken line indicates original legine).

Reduction of the Full-Figure Foundation
- Use reduction instructions when cutting in firm knits.

Design 1: Swim with Belt
- Trace the front and back patterns.
- Measure 1 to 2 inches at the side and at the center bust. The bust point is supported for bra cups, and the center bust section is determined. The additional section is added to the side or power form, while the center bust section (label on the right side) is cut.

Design 2: Swim with Belt
- Trace the front and back patterns.
- Measure 1 to 2 inches at the side and at the center bust. The bust point is supported for bra cups, and the center bust section is determined. The additional section is added to the side or power form, while the center bust section (label on the right side) is cut.
Pattern Plot and Manipulation

- Trace the modified front and back full-figure templates and include all markings. Use the directions for the modified figure for all designs.
- Use personal measurements for centering or size changes.
- Trace sections and blend as shown. Thickened lines indicate original pattern outline.

Supplies and Special Information

The following general information and illustrations should be used to complete patterns for various garments. It is included to provide information on the general construction for an accurate pattern.

Supplies needed include:

- Thread: Use a fine thread to match the fabric. Use a fine thread to match the fabric.
- Elastic: Use a fine thread to match the fabric. Use a fine thread to match the fabric.
- Sewing: Use a fine thread to match the fabric. Use a fine thread to match the fabric.
- Elastic: Use a fine thread to match the fabric. Use a fine thread to match the fabric.

Elastic: Use a fine thread to match the fabric. Use a fine thread to match the fabric.

Elastic Guidelines:

- Use a fine thread to match the fabric. Use a fine thread to match the fabric.
- Use a fine thread to match the fabric. Use a fine thread to match the fabric.
- Use a fine thread to match the fabric. Use a fine thread to match the fabric.

Elastic Measurements:

- Use a fine thread to match the fabric. Use a fine thread to match the fabric.
- Use a fine thread to match the fabric. Use a fine thread to match the fabric.
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Elastic Measurements:

- Use a fine thread to match the fabric. Use a fine thread to match the fabric.
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Elastic Measurements:

- Use a fine thread to match the fabric. Use a fine thread to match the fabric.
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Elastic Measurements:

- Use a fine thread to match the fabric. Use a fine thread to match the fabric.
- Use a fine thread to match the fabric. Use a fine thread to match the fabric.
- Use a fine thread to match the fabric. Use a fine thread to match the fabric.
Finishing Crotch and Shoulder

Crotch Sizing Pattern
- Trace the front pattern from the crotch to approximately 6 inches up (1 inch past crotch level).
- Remove the pattern. Draw a curved line to the leg, as shown.

Figure 4
- Cut the elastic 3 1/2 inches less than length of the typic, trimming 1/2 inch under the back and 1/4 inch along the remaining stitch line.
- Shape: Cut the elastic using a 3/4 curve.

Shoe:
- Cut off the piece on the fold, and remove the pattern shown.
- Cut in at the ankle or as shown.
- Place the inner side of the pattern and stitch with the hipline style.

Interval between
- Cut the pattern along the dotted line.

Figure 5
- Mark: Cut elastic 3 1/2 inches less than the total width.

Finishing Crotch and Shoulder

Bra Cups for Swimwear
Two types of bra forms are illustrated. Instructions are given for attaching each to the garment. Bra Form 1 should be used for garments without symmetrical crossing under the bust (some examples: the emerald, purple and blue.) Bra Form 1 is attached to the garment, except at the top and sides. Bra Form 2 is used for garments with a single bra form. The bra form is pinched under the bust, and the bra form is also used. The complete bra is attached to the garment.

Bra Cup Size

Figure 1
- Cut pieces to within 1/2 inch from around the bra cups. Place on the piece of fabric and adjust cup pattern, if necessary. Stitch around edge of the bra cup, as shown.

Figure 2
- Check that the bust line is drawn 1/2 inch from the bust level. Check that the bust line is marked correctly. Stitch along the edge of the bra cup, as shown.

Figure 3
- Bra Cup Attachment Guidelines
  - Mark 1/2 inch from the bust line. The bust line should be parallel to the front of the garment.
  - Cut 1/2 inch from the bust line of the bra form. Stitch along the edge of the bra form, as shown.
  - The bra form is attached to the garment. Stitch along the edge of the bra form, as shown.

Figure 4
- Bra Cup Attachment Guidelines
  - Mark 1/2 inch from the bust line. Stitch along the edge of the bra form, as shown.
  - The bra form is attached to the garment. Stitch along the edge of the bra form, as shown.
**Bra Frame 2**

1. Trace the pattern of the bodice front section for bra inserts.
2. Cut it from and match, (see with pattern stitches as shown in the example.)

**Figure 1**

3. Then stitch each frame on left or figure.
5. Cut the edges of the pattern. Remove belt, cup point, and cup from the fabric.

**Figure 2**

6. Remove the dart stitches from the frame, and join pattern sections of the bra cup. Allow 1/4 inch for attaching the bra cups. Cut the pattern paper.
7. Cut to pattern each rib of wire, or stretch fabric.
8. Join the frame where it is not to be used. Follow instructions given for the bra (cut attachment for bra step 1). No back elastic can be attached along the top, or the comfort.

**Figure 3**

9. Bra Frame 3: the Free Hanging Linen

1. Trace the top part of the design bra.
2. Square a line from center front, measuring 1/4 inch below bust arc.
3. Mark side seam with according to the design.
4. Monogram 1/2 inch above the under bust curve.
5. Follow instructions given in this illustration.
6. The lining is stitched into the top with elastic. (elastic is sold.)
7. Notches are marked 1 inch from the front and side for finishes under the bust.

**Figure 4**

8. Attached Straps to Swim portrayed

The following instructions apply to both materials, and free tops.

**Figure 5**

1. Mark 1 inch from the sides of the top, front and back of the bra.
2. Start zigzagging from the armhole, with thread applied to the wrong side. Include the bra lining with this process.

**Figure 6**

1. Fold the strap with right sides together. Stitch using 5/8 inch seams.
2. Turn right side out and (stitch seam)
3. Attach the strap to the garment.
4. Fold back the bra lining and clip the strap through. Fix the strap so that it is centered.
5. Stitch across to hold (figure 2a).
6. Turn the point to within 1/8 to 1/4 inch from cross stitch (figure 2a).
7. Pull the strap through and turn garment to the right side. A stitch across the strap are finishes and strengthens the pull on the strap (see illustrated).
Introduction to Childrenswear

Childrenswear Challenges
Creating childrenswear often poses some new challenges to the designer and patternmaker. Children, which reflect growth, proportion, and function, is somehow even more important than other categories. Childrenswear comprises activities, which are often different and sometimes even contradictory to the activities children pursue. The behavior of children is also unique. In many cases, they are more aware of the world around them, and their cognitive and emotional development is ongoing. Children may be more conscious of the changing world around them, and at the same time, they are more independent, making decisions.

Color and Functional Clothing
One of the most satisfying aspects of children’s clothes is the primary color that remains the favorite of children. However, this is not to say that colors should be functional or that children’s clothing should be limited to primary colors only. Although primary colors and strong, bright colors are a part of children’s clothing, they are not the only colors available in children’s wear.

Representative Sizes
The discussion of the sizes and shapes of children’s figures includes statures, weights, and heights, as well as head and arm lengths, arm girths, and chest girths. These critical measurements are proportional to the overall body proportions.

Size Grouping
Sizes for children’s clothing are grouped according to body proportion and proportion. Changes between toddler and children’s sizes are significant proportions and heights vary within the age range. Size groupings reflect changes in the proportions of children as they grow (ages 3, 4, 5, 6, 7, 8, 9, to 10, 11, and 12 years old). These changes are age-related, and the body and growth changes are reflected in the patterns and fabrications.

Observable Differences
Boys’ size groups’ figures have longer forearms through children’s size groups. Boys’ size groups and girls’ size groups are more distinguishable in clothing, regardless of body size. This becomes more noticeable as boys’ and girls’ clothing becomes more alike.
SIZE CATEGORIES FOR CHILDRENSWEAR

Infants or Babies
Size 1 month to 12 months, 18 months, and 24 months. Sizes may be labeled as Small (S), Medium (M), Large (L), or Extra Large (XL). Sample size 12 months or 24 months.

Physical Observations: Newborns do not begin the growth cycle.

Toddlers
Size 2T, 3T, 4T, and 5T (and 6T) may also be considered in this age range.

Sample size 5T.

Physical Observations: Child is walking by this time. Head seems to sit on shoulders now and is developed. Shoulders are rounded and have almost no width. Ocular regions of maturity are prominent features. Boys' and girls' sizes are relatively indistinguishable, and size for color difference and design is common.

Children
Since being for children within this group is limited, they are considered to be either 3T or 4T, and size is determined by age and height.

Sample size 3T.

Physical Observations: There is rapid growth in this period. Proportions differ greatly as the bones grow at various rates. The waistline is defined; boys and girls have different shapes at this age, and the waistline, as yet, is not defined. Boys and girls need to be measured at age seven.

Boys and Girls (Preteen)
Size 7 to 14. Size recommendations for boys and girls are based on age and height. Sample size 10.

Physical Observations: Figures change when boys and girls reach age seven. Major changes are taking place. Boys' bodies are being developed with muscle tissue. Slower growth is occurring in the lower extremities. Girls' bodies are being developed with muscle tissue in the lower extremities.

Young Juniors
Size 10 to 14.

Physical Observations: There is a rapid growth in this age group. The trunk is longer, the shoulders develop, and the waistline is defined. Boys have more hipline spreading into the waistline. For both boys and girls, this is an important period when the figure matures at varying stages. Garments within this upper size range do not always fit the figure well, and a better fit may be found in the junior department. The waistline is well defined, and the figure is more mature.

Sample size 10.

Physical Observations: The young woman's figure is developed to adult maturity with a well-defined waistline, high, rounded bust, and shapely hips. The model is now ready for wear garments of the junior line. As long as the fit is correct, the figure is developed almost to maturity. Muscle in the shoulders and hips is seen, and the waistline is well defined.

Sample size 8.

Physical Observations: The young woman's figure is developed to adult maturity with a well-defined waistline, high, rounded bust, and shapely hips. The model is now ready for wear garments of the junior line. As long as the fit is correct, the figure is developed almost to maturity. Muscle in the shoulders and hips is seen, and the waistline is well defined.

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Sample size 8.
MEASURING THE FORM—
CHILDREN, 3 TO 6X; GIRLS, 7 TO 14; AND BOYS, 7 TO 14

All measurements must be taken carefully to avoid errors and fit problems. With the exception of circumference measurements, only one half of the front and back form is measured, using the same half throughout for consistency. All measurements are taken at the level of the chest, waist, and hip, using a measuring tape. For sizes 1 to 14, front and back patterns are symmetrical; giving the figure a balanced look. The 3 to 6X forms do not have process symmetries.

To measure the form, place the tape at the level of the neck and across the back. Width: Measure around the waist.

* Hip: Measure around the widest part of the hips, holding the measuring tape parallel to the floor. This measures the location at the side seam.

**Torsio Circumference Measurements**

Measurements do not include one:

- Front or chest (1): Measure over the chest, waist, and across the back.

- Waist (2): Measure around the waist.

- Hip (3): Measure around the widest part of the hips, holding the measuring tape parallel to the floor. This measures the location at the side seam.

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Form Preparation

- Place pins through the form to mark the following locations:
  - Roll line at shoulder line.
  - Roll line at front and back at mid-chest level with pins on the side seams.
  - Armhole depth: Place a pin in the center of the form, using the measurements indicated by the dressmaker.

**Armhole Depth Chart Suggested Measurements**

<table>
<thead>
<tr>
<th>Armhole Depth</th>
<th>Suggested Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Beneath Points</td>
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<tr>
<td>1/2 to 2/3</td>
<td>1 1/2 to 2 1/2</td>
</tr>
<tr>
<td>1/2 to 1/2</td>
<td>1 1/2 to 2 1/2</td>
</tr>
<tr>
<td>1/2 to 3/4</td>
<td>1 1/2 to 2 1/2</td>
</tr>
<tr>
<td>1/2 to 1</td>
<td>1 1/2 to 2 1/2</td>
</tr>
</tbody>
</table>

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**Vertical Measurements**

- Center line (6): Measure across and then to the bottom of the neck (from shoulder to waist). (from pin in)

- Long line (1): Measure from shoulder neck to the waist. (The measurement is held parallel to the center line of the dressback and front."

- Shoulder drop (7): Measure from shoulder (pin in) to the center line of the bottom of the neck (before the pins in) of the shoulder line and front back.

**Horizontal Measurements**

- Neck (8): Measure between the shoulder line and the shoulder line (pin in). (The measurements are taken across the form, aligned to both.

- Shoulder line (9): Measure from pin marks, shoulder line (pin in) to shoulder line.

- Armhole depth (10): Measure from pin marks, shoulder line (pin in) to armhole line.

- Back (11): Measure from pin marks, side seams to armholes.

- Waist (12): Sizing 1 to 6X: Measure from side seams to take measurements. Size 7 to 14: Measure center front to back parallel line for back measurements.

- Hip drop (13): Measure from pin marks, side seams to side seams, with measuring tape held parallel to the floor.

- Back (14): Measure between shoulder line (pin in) to shoulder line (pin in).

- Armhole depth (15): Measure from pin marks, shoulder line (pin in) to armholes.

- Shoulder line (16): Measure from pin marks, shoulder line (pin in) to shoulder line (pin in).

- Armhole depth (17): Measure from pin marks, shoulder line (pin in) to armholes.

- Shoulder drop (18): Measure from pin marks, shoulder line (pin in) to shoulder line (pin in).

- Armhole depth (19): Measure from pin marks, shoulder line (pin in) to armholes.

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Leg Measurements

Figure 3: (The form is length, second measurement number 2 from the left.) Measure front in the same manner as described in measurements 1, 2, and 3 of Figure 4.

Figure 5: Upper thigh (20). Measure from above the knee to the point where the hip joint begins.

Figure 6: Thigh (21). Measure from above the knee to the point where the hip joint begins.

Figure 7: Calf (22). Measure from the front of the knee to the point where the thigh begins.

Figure 8: Front (23). Measure from the front of the knee to the point where the thigh begins.

Figure 9: Heel height (24). Measure from the bottom of the heel to the top of the arch in the foot.

Figure 10: Calf circumference (25). Measure from the front of the knee to the point where the thigh begins.

Figure 11: Crotch depth (26). Place a square rule between legs of the form, with the edge of the rule arm touching the abdomen and crotch. Measure from below waist to the top edge of the rule arm at crotch level.

Arm Measurements

Measurements used for the sleeve are given on page 85.
### Standard Measurement Chart for Girls

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<th>Size</th>
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</tr>
</tbody>
</table>

### CIRCUMSTANCES MEASUREMENTS Grade

1. Breast or chest
2. Waist
3. Hip
4. Chest length
5. Front
6. Back
7. Full length
8. Shoulder:
9. Side length:
10. Across shoulder:
11. Front:
12. Back:
13. Acne:
14. Waist:
15. Hip:
16. Bust:
17. Side waist:
18. Side waist:
19. Upper thigh:
20. Knees:
21. Ankles:
22. Foot:
23. Hand:
24. Front:
25. Back:
26. Chest:
27. Waist:
28. Shoulder:
29. Front:
30. Back:
31. Arm:
32. Hip:
33. Bust:
34. Side waist:
35. Side waist:
36. Upper thigh:
37. Knees:
38. Ankles:
39. Foot:
40. Hand:

### BASIC PATTERN SET FOR GIRLS AND BOYS

The basic patterns are designed for all sizes and genders. Boys' basic pattern is a men's size. Girls' basic pattern is a women's size.

#### Front Bodice Draft

- **A-B**: bust length (inches) plus half (inches)
- **A-C**: across shoulder (inches)
- **B-D**: center front length (inches)
- **B-E**: chest length (inches)
- **B-F**: shoulder length (inches)
- **B-H**: bust length (inches)
- **B-I**: back length (inches)
- **B-J**: arm length (inches)
- **B-K**: hip length (inches)
- **B-L**: waist length (inches)

#### Drafting the Basic Pattern Set

1. **Measurements**

2. **Drafting**
   - **Step 1**: Mark center points on the draft paper.
   - **Step 2**: Connect the points to form the basic pattern.

---

*Copyrighted children's patterns are available for purchase. Send inquiries to patternstore.com*
Back Bodice Draft

Figure 3

A = back length (B) + 1/4". Mark and square off from C.
B = back neck length (B) + 1/4". Mark and square off from C.
C = center back length (C). Mark and square off 1" from C.
D = back arm (D) + 1 1/4". Square off from F and up from E.
E = back arm (E) + 1 1/4". Touch C guideline.
F = shoulder length (F) + 1 1/4". Touch C guideline.
G = shoulder length (G) + 1 1/4". Touch C guideline. Lines should meet with D line.
H = back arm (H) + 1/4". Mark and square off from A.
I = back arm (I) + 1/4". Mark and square off from A.
J = back arm (J) + 1/4". Mark and square off from A.
K = back arm (K) + 1/4". Mark and square off from A.
L = back arm (L) + 1/4". Mark and square off from A.
M = back arm (M) + 1/4". Mark and square off from A.
N = back arm (N) + 1/4". Mark and square off from A.
O = back arm (O) + 1/4". Mark and square off from A.

Figure 4

Figure 5

Figure 6

Basic Skirt Draft

The basic skirt is part of the basic pattern set and is drafted in the bodysuit for the second section. It can be added as a separate skirt with a wide band and should always be drafted for fit.

Measurements Needed
- Waist measurement
- Hip measurement
- 1/6 of bust measurement
- 1/6 of bust measurement
- 1/6 of bust measurement

Figure 1

- Front arm (a)
- Back arm (b)
- Shoulder length (c)
- Center back length (d)
- Back neck length (e)
- Front neck length (f)
- Waist measurement (g)
- Hip measurement (h)
- 1/6 of bust measurement (i)
- 1/6 of bust measurement (j)
- 1/6 of bust measurement (k)
- Front arm (l)
- Back arm (m)
- Shoulder length (n)
- Center back length (o)
- Back neck length (p)
- Front neck length (q)
- Waist measurement (r)
- Hip measurement (s)
- 1/6 of bust measurement (t)
- 1/6 of bust measurement (u)
- 1/6 of bust measurement (v)
- Front arm (w)
- Back arm (x)
- Shoulder length (y)
- Center back length (z)
- Back neck length (aa)
- Front neck length (bb)
- Waist measurement (cc)
- Hip measurement (dd)
- 1/6 of bust measurement (ee)
- 1/6 of bust measurement (ff)
- 1/6 of bust measurement (gg)

Drafting the Basic Pattern Set

- Waist line connects between points B and C. Label side D and E.

Draft Placement
- Front arm (a)
- Back arm (b)
- Shoulder length (c)
- Center back length (d)
- Back neck length (e)
- Front neck length (f)
- Waist measurement (g)
- Hip measurement (h)
- 1/6 of bust measurement (i)
- 1/6 of bust measurement (j)
- 1/6 of bust measurement (k)
- Front arm (l)
- Back arm (m)
- Shoulder length (n)
- Center back length (o)
- Back neck length (p)
- Front neck length (q)
- Waist measurement (r)
- Hip measurement (s)
- 1/6 of bust measurement (t)

Pyramid
- Front arm (a)
- Back arm (b)
- Shoulder length (c)
- Center back length (d)
- Back neck length (e)
- Front neck length (f)
- Waist measurement (g)
- Hip measurement (h)
- 1/6 of bust measurement (i)

The pattern is assembled for pattern development. Add seams to complete the final skirt. For more information, see page 398.
Basic Sleeve

The draft applies to both sleeve gauges and patterns. The markings are as given, 2 1/4" (2.25") on the back, and 1 1/4" (1.25") on the front. The sleeve cap can be altered; see Chapter 3. Choose measurements for your model size from the sleeve draft measurements chart. The detailed sleeve draft is on Chapter 32.

Sleeve Draft

Figure 1

Sleeve Draft Measurements

The standard sleeve draft measurements apply to the sizes given.

<table>
<thead>
<tr>
<th>Size</th>
<th>B</th>
<th>A</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3 1/2</td>
<td>2 3/4</td>
<td>3 1/4</td>
<td>2 1/2</td>
</tr>
<tr>
<td>4</td>
<td>3 3/4</td>
<td>2 7/8</td>
<td>3 1/8</td>
<td>2 3/4</td>
</tr>
<tr>
<td>5</td>
<td>4 1/4</td>
<td>3 1/8</td>
<td>4 1/4</td>
<td>3 3/8</td>
</tr>
<tr>
<td>6</td>
<td>4 3/4</td>
<td>3 5/8</td>
<td>4 5/8</td>
<td>3 7/8</td>
</tr>
</tbody>
</table>

The cap height is 2 1/4" (2.25") on the back, 2" (2.0") on the front.

B = cap height
A = one-half of B
C = one-half of B minus 1/4"
D = one-fourth of B minus 1/4"

For sizes 3 and 4, use the measurements given.

For sizes 5 and 6, use the measurements given with the addition of 1/2" on the front and back.

Preparing Sleeve Cap for Shaping

Follow the instructions in Figure 1 as a guide:

- Square one from B, I (back sleeve) and J, K (front sleeve) to the amount given.
- Square in G and H (front sleeve) and J, K (front sleeve). Choose the amount for the size being drafted.

Figure 2

Figure 3

Shaping the Sleeve Cap

- Place a French curve touching A, J, K. Continue the line past K. Place the curve touching L, M and blend with A line (Figure 3a).
- Place a French curve touching A, J, K. Continue the line past K, Place the curve touching L, M and blend with A line (Figure 3b).

Figure 4

Elbow Dart Placement

- D = 1/2" (0.3") for dart in use.
- E = 1/2" (0.3") for dart in use.
- F = 1/2" (0.3") for dart in use.
- G = 1/2" (0.3") for dart in use.
- H = 1/2" (0.3") for dart in use.

Figure 5

Skirt Notes

- Back above black mark G and another 1/2" (0.3")
- Front above Mark one notch at L. Center notch is place of where the arm is turned.
- Mark on the front and back above cap where the shoulders (top of the arm) meet.
- Left curve approach in the direction of the pattern piece to equalize the curves (if necessary).
Collars, Sleeves, and Skirts

Chapter 3

Collars

Collar Designs

1. Collar Color
2. Stand Collar
3. Peter Pan Collar

Collar Designs

1. Shirt Collar—page 205
2. Sailor Collar—page 208
3. Peter Pan Collar—pages 206-207
4. Collar and Stand—page 209

Other collar designs include:

1. Blouse Collar—page 205
2. Shirt Collar—page 208
3. Peter Pan Collar—pages 206-207
4. Collar and Stand—page 209
DARTLESS SLEEVE FOUNDATION

The dartless sleeve is derived from the basic sleeve. The dartless sleeve is used to make sleeves that fit closely to the body, not requiring an elbow dart. Two types of dartless sleeve variations are illustrated: the bell sleeve and the half sleeve. The bell sleeve, shown in Figure 1, is designed to fit closely to the arm, with extra fullness at the shoulder and sleeve cap. The half sleeve, shown in Figure 2, is designed to fit closely to the arm, with extra fullness at the shoulder and sleeve cap.

Dartless Sleeve Draft

1. Trace the basic sleeve pattern (Figure 1).
2. Extend the pattern to fit the arm and continue the line across the pattern (broken lines indicate the original hemline).
3. Square lines down from the armholes. (The elbow dart is eliminated.)

Figure 2

1. Measure and mark one, half of every measurement line from each side of the grainline and draw lines to armholes for reference.
2. Divide the sleeve into four equal parts and draw lines through the pattern.
3. Divide the cap into four equal parts.
4. Cut the sleeve from paper.

Figure 3

1. Trace the back sleeve to the grainline, include lines 1 and 2.
2. Mark for darts.
3. Place the front sleeve on top of the back sleeve and trace over the sleeve. (Gray area separates front from back sleeve.)

SLEEVES

Sleeves that are shown follow the same instructions given for adult sleeves of the same design.

1. Puff Sleeve—pages 377-378
2. Leg-o-Mutton Sleeves—page 378
3. Bell Sleeves—pages 378-379
4. Bell Sleeves—page 378

Other sleeve designs follow.
SLEEVE DESIGN VARIATIONS

The four sleeve designs are illustrated, with Design 1 presented as a thought problem.

Design 1

Cap Sleeve—Design 1
The sleeve cap fits close around the upper arm area and outside the basic sleeve.

- Trace the upper part of the dartless sleeve.
- Trace the curved baseline, as shown.
- Mark the slash line.

Figure 1

1/2" to 1"

Figure 2

- Cut the pattern from paper, slash, and place on fold of paper.
- Overlap slash line, trace, and trace the sleeve.
- Fold and place the pattern to fit back in place.
- Complete the pattern for a test fit.

Sleeve Designs

Ruffled Sleeve—Design 2
The ruffled sleeve is stitched to the armhole, to match. To determine the fabric, measure the front and back bodice area from armhole to end and add two times the measurement. The sleeves can be stitched past the armhole notch, if desired.

- Fold the paper, mark the center, and square a line up 1/2" and 1 1/2" above the center.
- Cut the dart, measure out from the center to the amount of fabric needed.
- Draw a curved line to the mark on each side of the dart.
- Complete the pattern for a test fit.

Figure 1

Bustline: 2" to 3" No. 2

Saucer Sleeve—Design 3
The sleeve fits directly into the armhole and can be useful for certain effects.

- Trace the sleeve cap, mark the illustration in a guide for stitching the pattern.
- Cut from paper. The sleeve should be self-lined, with same instructions to fold for darts.

Figure 2

- Mark sleeve along the bustline equal to bustpoint for darts.
- Place a pin at the center and give the pattern down from the bustpoint, 1" below the square line.
- Place the center point to the square line from the bustpoint. (1" from bustline to the position of the sleeve when pinned.)
- Complete the pattern for a test fit.
DRAWING SLEEVE

The sleeve with a pull-up type is based on the basic or the dolman sleeve pattern.

Figure 1
- Trace half sleeve 1 inch below hips. Label X.
- Plot the sleeve align lines. Label A, B, C. It is finished at hipline. It is echoed at C, C, C. Cup one line is fitted out 1/4 inch, is inscribed from the shoulder. The width between point A and C either the arm to sew through. Mark and cut slash lines, as illustrated. Trim sleeve from A to C.

Figure 2
- Draw a square line and spread the slashed lines to fit the square line. The letters A, B, and C indicate their locations on the pattern.

Figure 3
- Add seam allowances.
- Trace two copies of the sleeve and turn the curve at the front sleeve. Note the locations of the letters and their relationship to the planned pattern (Figure 1).
- Complete the pattern and test in paint. Add "A" to "B" together.

SKIRTS

The skirt terminology, fold construction, and other skirt designs, see Chapter 21. Skirts for sizes 4 to 8X may be sewn without elastic. However, waist bands generally have elastic. Sewed edges are across the back pockets or completely around the waist band. See pages 755 and 770 for guidance. For waist band and zipper, see Chapter 13.

Other Skirt Designs:
1. Tiered Skirts—pages 279-279
2. Cascades and partial circles—pages 279-286
3. Gored Skirt—pages 280-286
4. Pleated Skirt—pages 277
5. Bell circle skirt—pages 286-289
Flored Skirt
Design Analysis: Designs 1 and 2
Design 1 is a flored skirt. Design 2 is a back flored skirt. Design 3 is a back flored skirt style. Design 1 has a center seam. Design 2 is a gathered skirt with a gathered waist band. Design 3 is an aplophenic pattern, size 7 to 14.

Figure 1 and 2: Patterns the waist starts closed, narrowing to the hipline, with at least 1 1/2 inches added to the side seam for an Allow 3 feet.
• Complete patterns for a bust size, either as a good skirt with center front and center back seams or as a bust skirt. Cut on fold.
• For want band and upper construction, see pages 395 and 396.

Gathered Skirt with Stylized Waist Band
Design Analysis: Design 3
Waist bands that are designed to close the waistline of the design must take the body shape from the dress. Before the patterns is constructed. The length of the dress is equal to the waist and lower back.

Figure 2: Draw the waistline on the back pattern and cut from paper.

Figure 3: (On fold of the paper, trace waist band and place a copy of the dress to section to the band.)

Figure 4: Stash and spread to the desired amount of fullness. Follow the curves of the spread sections when drawing the waistline of the dress.

Complete the pattern for a total fit.
Yoked Circular Skirt
The skirt is designed for sizes 5 to 6X and 7 to 14. Elastic can be inserted into the waistband, leaving the back dart open to be gathered into the band.

Design Analysis
The yoked skirt is designed and separated from the skirt section below the lower skirt section is manipulated. For waist band and zipper construction, see pages 301 and 303.

Yoked Skirt Draft
Figure 1
• Trace the basic skirt front.
  • Plot the pattern, using the illustration, design, size, and height of the model as a guide. Skirt can be any length desired.

Figure 1
- Length
- Yoke

Figure 2
- Cut yoke from the pattern and trace on fold of the paper, closing the waist dart. (Do not close the dart if elastic is used in the waist band.)

Figure 3
- Cut across, place the skirt on fold of the paper, and spread for hemline sweep. Add to the side seam as illustrated.
  • Repeat for the back skirt.
  • Complete the patterns for a test fit.
The shift draft is based on the basic bodice patterns. The shift foundation is the base for designs such as the princess, Empire, and non-length dresses to which gathered or pleated skirts are attached.

**Shift Draft**

* Figures 1 & 2
  * Place front and back pattern and all markings, including darts.
  * Extended center front line to the desired length and square across and up with the darts.
  * Square across the side and up to center back.
  * Mark 1/2 to 3/4 inch in from mid-point of the 1/4 inch. Label X.
  * Add 1 1/2 to 2 inches in at the side seams for an A-line silhouette. Mark a point 1/4 inch up and draw a curved line.
  * Draw side seam from here to Point X, and connect to the center, as illustrated. Blend at X.
  * Cut the front shift from paper.
  * Darts. Extend lines through center of the darts as length enclosed. Draw dart leg to waistline.
  * Cut the patterns from the paper.
  * Complete the pattern for the test fit.
  * The basic dress completes the pattern set (see pages 704 and 705 for sleeve draft).

**Princess Styleline**

The princess styleline is an appropriate foundation for sizes 5 and 7 to 14.

**Design Analysis**

The princess styleline is used when the desired fit is a straight-line or a straight-line dress. For princess-style dresses, a full bust is required. The princess styleline is used when the desired fit is a straight-line dress. For princess-style dresses, a full bust is required.

* Figure 1
  * Place the sleeve pattern and all markings, including darts.
  * Extended center front line to the desired length and square across and up with the darts.
  * Square across the side and up to center back.
  * Mark 1/2 to 3/4 inch in from mid-point of the 1/4 inch. Label X.
  * Add 1 1/2 to 2 inches in at the side seams for an A-line silhouette. Mark a point 1/4 inch up and draw a curved line.
  * Draw side seam from here to Point X, and connect to the center, as illustrated. Blend at X.
  * Cut the front shift from paper.
  * Darts. Extend lines through center of the darts as length enclosed. Draw dart leg to waistline.
  * Cut the patterns from the paper.
  * Complete the pattern for the test fit.
  * The basic dress completes the pattern set (see pages 704 and 705 for sleeve draft).

**Princess Draft**

* Figure 1
  * Place the sleeve pattern and all markings, including darts.
  * Extended center front line to the desired length and square across and up with the darts.
  * Square across the side and up to center back.
  * Mark 1/2 to 3/4 inch in from mid-point of the 1/4 inch. Label X.
  * Add 1 1/2 to 2 inches in at the side seams for an A-line silhouette. Mark a point 1/4 inch up and draw a curved line.
  * Draw side seam from here to Point X, and connect to the center, as illustrated. Blend at X.
  * Cut the front shift from paper.
  * Darts. Extend lines through center of the darts as length enclosed. Draw dart leg to waistline.
  * Cut the patterns from the paper.
  * Complete the pattern for the test fit.
  * The basic dress completes the pattern set (see pages 704 and 705 for sleeve draft).
Darts and Dart Equivalents

The basic front and back blouse pattern contains darts, which provide excess, or dart and tuck, ease in forms other than stitched darts for children sizes 3 to 14. The dart is to be cut on the fold, leaving a small opening or not to help offer the darts and their position, and eliminate unnecessary darting of a waddler or billow. (See Design 1 and 2.)

Seam allowances should be small enough so that the fabric can be shaped in keeping with the pattern and the design. Designs 3 and 4, Darts are primarily used in dresses to help define the bodice in sizes for girls sizes 3 to 14. (See Design 3 and Design 4.)

Empire with flange and elastic or ruffle trim.
Empire with Flare

The style illustration is the basic for designs with a flare or puffing under the bust line and for those not having a waistline. The bodice darts are generally not stitched for empire designs for sizes A through C (see page 722, Designs 3 and 4).

Design Analysis

Designs 3 and 4 are for sizes 7 to 14. The empire styleline is pivoted through an open dart. Mark lines are added on the lower pattern where flat and a dart gives the arm a fuller look. For sleeve options, see Chapter 31.

Empire Draft

Figure 3-1.5.5.6.5

• Trace the front shift pattern. Mark darts.

Figure 3-1.5.5.6.5

• Plot the pattern using illustrations, design, size, and height of the model as a guide.

Empire Styleline

1. Mark bust point (under bust point) and mark half the dart length to the waist. Label X. Figure 2. a) Draw a guideline from center front to side seam, touching X.

2. Draw the empire curved guideline about one-third the distance between neck and waist. Start at the center front and up to the dart leg X. Continue the empire styleline from the center dart leg (at the same length/distance), moving the styleline to side seam. (b) Take line 1/2 to 1/2 at the side seam.

3. Measure out 1 1/2" from each dart leg at the empire styleline (slant line) and mark dart leg to dart point.

4. Measure bust dart below styleline (broken lines).

Back

1. Trace the back pattern and mark 1 1/4" (eliminating shoulder ease) from shoulder line. Add 1/2" at the center back.

2. Plot the pattern as illustrated (b).

3. Add 1/4" at armhole curve.

4. Cut and separate front and back patterns.

Figure 3-2.4.8

• Trace the front and back empire bodice. The seam is a folding guide.

Figure 4.3.9.2

• Prepare paper for the folded pattern. Square a line representing the waist and hemline. Draw a curve from the waist point. Draw a curve from the side seam and up to the bust point X. Add 1 1/4" to 2 1/2" to the hemline. Draw another curve from the bust point down to the hemline, 1/2" below the bust point.

5. Place the lower pattern on the foldline of the Empire pattern. Note the dart dart leg at the Empire pattern.

6. Complete the pattern and test fit.

7. Add seams to all patterns.

Figure 4.3.9.2

• Place the pattern on the foldline of the Empire pattern. Note the dart dart leg at the Empire pattern.

8. Complete the pattern and test fit.

9. Add seams to all patterns.
**Tent Foundation**

The tent foundation is appropriate for girls’ sizes 3 to 6X and 7 to 14. The basic tent is based on the shift foundation (page 278).

**Tent Draft**

1. Trace the front and back shift. Mark dart for reference of the bust point and waist line for use as guidelines for possible style placement.
2. Mark waistline from bust to waistline of the garment.
3. Cut sides in the same manner. Cut darts in the same manner. Spread the dart from 3 to 5 inches.
4. Remove and add lines to the side seam that is the half, or one-third of the spread area. Draw the side seam, blending just above the waistline.
5. Repeat instructions for the back patterns.

**Assignment Suggestion**

Create a block design for the front and back tent foundation. An example is shown, but this design can be varied using circles, rectangles, abstract shapes, appliques, ties, lace inserts, fabric trims, hand painted designs, etc. Sleeves and collars can be added. Display the tent designs for class discussion. What made each design work and what could be improved?
Tasha Jumper

The sleeveless pattern is based on a dress for children. It is appropriate for sizes 3 to 6 and 7 to 10.

Design Analysis

Design has low-cut simulates and neckline. The waist is fitted in the front pattern. It could be inserted, so the front pattern is drawn on the back, and it could be

Tasha Jumper Draft

- Trace the pattern from the pattern, using the illustration, design, size, and height of the model as a guide. Follow the blue lines.
- Mark size and size lines.
- Add size to the skirt for gatherings, as desired.
- Cut patterns from paper and separate the pattern parts of the upper torso and lower body.

Figure 1
- Trace front and back pattern for back jumper, shifting the shoulder strap across the back (broken line).
- Complete the pattern for a test fit.

Tops

Chapter 35

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#35 Tops

Chapter 45

#35 Tops

Chapter 46

#35 Tops

Chapter 47

#35 Tops

Chapter 48

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Chapter 93

#35 Tops

Chapter 94

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#35 Tops

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#35 Tops

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DARLESS TOP FOUNDATION

The Darless top foundation is appropriate for sizes 3 to 16, for boys' and girls' sizes. The Darless is based on the basic foundation and bust ease for sizes, page 270. It is important to note that the development of the pattern can be simplified by following the instructions in the book. This line art illustrates the steps in the foundation. The shoulder seam can be modified to suit the individual needs.

The Darless Foundation

Figure 1: Front
- Place a fine marker on the center line of the paper, with the side seam line at the center line. Trace the front and back pattern segments.
- Draw a straight line from the center front to the bottom of the pattern.
- Extend a line from the center back to the bottom of the pattern.
- Draw a straight line from the center front to the bottom of the pattern.
- Draw a straight line from the center back to the bottom of the pattern.

Figure 2: Back
- Place a fine marker on the center line of the paper, with the side seam line at the center line. Trace the back pattern segments.
- Draw a straight line from the center back to the bottom of the pattern.
- Draw a straight line from the center front to the bottom of the pattern.
- Draw a straight line from the center back to the bottom of the pattern.

Figure 3: Skirt
- Place a fine marker on the center line of the paper, with the side seam line at the center line. Trace the skirt pattern segments.
- Draw a straight line from the center back to the bottom of the pattern.
- Draw a straight line from the center front to the bottom of the pattern.
- Draw a straight line from the center back to the bottom of the pattern.

BASIC SHIRT AND SLEEVE FOUNDATION

The basic shirt is based on the Darless pattern. The shirt is for boys' or girls', size 3 to 16, and is based on the Darless pattern set. The basic shirt is designed with a collar. The basic sleeve is modified for the shirt pattern. The shirt front has a collar and sleeves, but any other con can be designed.

Shirt Draft

Figure 4: Front
- Fold paper and draw a line 3/4 in. from fold for the collar
- Trace shirt pattern on the center front line and trace the pattern.
- Fold tracing sheet, trace each piece, part of shoulder and arm.
- Outline pencil in reddish, draw a pattern for front shoulder neck to form for the extension line. Trace center front, as shown.
- Extend shoulder to equal back shoulder, lower armhole 1/2 in. for outer armhole.
- Draw curved back neck, as shown.

Figure 5: Back
- Trace the back pattern. Lower armhole to match front armhole, and blend.
- Do not cut the back pattern from paper.
**SELF-EVALUATION TEST**

Design analysis. There are 9 changes between the basic shirt and the design shirt. Name the area(s) that will change the basic pattern into a design pattern.

1.  
2.  
3.  
4.  
5.  
6.  
7.  
8.  
9.  

The back view is next shown. How would you design the back?

Drawing this design by tracing the basic shirt patterns. Plot the design lines and determine how to create other views. Use the existing design line. Cut and adjust and have a test fit. Find the answer on page 733.
OVERSIZED SHIRT AND SLEEVE

The oversized shirt is based on the basic shirt on p. 729-731.

Oversized Shirt Draft

* Trace a copy of the shirt pattern (see page 729-731).
* Cut through the corner of the front and back at shoulders.
* Draw a horizontal line on paper.
* Place the front of the pattern on this line and spread 1 to 1 1/2 inches or more.
* Trace the pattern. Lower the sleeve 1/2 to 1 inch.
* Match the shoulders. Trim back shoulder, if necessary.
* Draw the pocket placement.
* Measure the front and back armholes. Add together. Divide in half. 
  Extend for casual shirt sleeve (3 1/2 to 4 inches of the oversized shirt sleeve draft on next page).

Figure 1

* Trace the yoke and cut on the fold.
* Complete the pattern for a test fit when the sleeve is drafted.

Figure 2

* Measure and mark seam allowances.

Figure 3

* Draw the sleeve and add 1/2 inch, plus seam allowance. Stitch with 1 1/2 inches.
KNIT FOUNDATION AND SLEEVE

The age draft is based on the dress pattern pattern. It is a casual garment and is developed over-size. If necessary it should be sewn into the dress pattern as the size for design. A special sleeve is needed for this type of garment. (See Chapter 27 for information.)

The front and back patterns are joined together and separated at the completion of the draft. Add a 3/8 inch seam allowance.

Knit Draft

- Trace the dress front pattern.
- Place the back pattern on top of the front pattern, matching hip levels and shoulder neck points. (If shoulder and neck do not meet, equalize the difference and mark.)
- Trace the back neckline and center line.
- Square out 1 inch below the armhole. Label A and draw a parallel line to them.
- External shoulder 1 1/2 to 2 inches. Draw a line from shoulder neck to C.
- Draw adjusted seamline from Y to X and measure. Record (A-E) measurement on the sleeve draft.

Figure 1

- Add 1/2 inch to A-E.
- 2 inches to B-C measurement.
- 2 inches to C-D measurement.

Figure 2

- Cut pattern from paper and trace for the back pattern. Add 1 1/2 inches to the pattern at the neckline.
- Turn to front neckline and center line for the front pattern.

Figure 3

- Stitching pattern around the neckline, hemline, and waist to a common pattern of the knit foundation. (Any one an amount equal to the width of the rib, plus 1/2 inch. Some allowance: Stitching should be used to sew the fabric as the garment. See page 257.)

Knit Sleeve Draft

Short and Long Sleeve

Measurements Needed

- See measurement chart, page 731.
- Armhole measurement (A-B)
- Hand entry measurement (C-D)

Figure 1

- A-E = shoulder length. Draw a line to the middle of the pattern and fold.
- B-C = 3 inches above elbow.
- C-D = one half of B-C (below elbow)
- E-F = one half of the total armhole measurement.
- Draw a line touching the shoulder line. Divide the line into three.
- Using the measurements given, draw the sleeve cap.
- (B-G) = one half of hand entry measurement plus 1/2 inch. (G-F) = (B-G) plus 1/2 inch. (H-F) Add a 3/8 inch seam allowance.}

Figure 2

- Cut pattern from paper and trace for the back pattern. Add 1 1/2 inches on the pattern at the neckline.
- Turn to front neckline and center line for the front pattern.

Figure 3

- Stitching pattern around the neckline, hemline, and waist to a common pattern of the knit foundation. (Any one an amount equal to the width of the rib, plus 1/2 inch. Some allowance: Stitching should be used to sew the fabric as the garment. See page 257.)

Knit Sleeve Draft

Short and Long Sleeve

Measurements Needed

- See measurement chart, page 731.
- Armhole measurement (A-B)
- Hand entry measurement (C-D)

Figure 1

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- Turn to front neckline and center line for the front pattern.

Figure 3

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Knit Sleeve Draft

Short and Long Sleeve

Measurements Needed

- See measurement chart, page 731.
- Armhole measurement (A-B)
- Hand entry measurement (C-D)
Modified Knit Top
This design illustrates how the dartless knit pattern can be adjusted to eliminate the looseness gripping of the front armhole.

Design Analysis
The knit top design can be used as a base for other designs.

Modify the Side Seam
Figure 1
- Trace the dartless knit pattern.
- Use the envelope, using the illustration as a guide.
- The armhole is modified by raising the armhole 1.8 inches and trimming 3/8 inch from the front near the side seam. The armhole and hemline are blended for a smooth transition line.
- Remove 1.8 inches or more along the side seam for a closer fit, if desired.
- Add 3/8 inch seams.
- Cut from paper and complete the pattern for a test fit.

RAGLAN FOUNDATION
The raglan sleeve will not show at the sides and above the elbow. The raglan sleeve can be graded on the basic pattern, with dartless pattern, and the basic foundation. The raglan line should be used only for casual patterns with deep armholes. The basic raglan pattern page 736 is illustrated.

Raglan Draft
Figure 1
Dartless Pattern Modification
- Trace the dartless basic pattern and sleeve.
- Mark notches 1/2 inch up from the front and back, and 1/2 inch down from the neckline to half the armhole for foundation dart. Lower the armhole 1/4 to 1 inch. Label Y.
- Draw new armholes from Y to X.

Figure 2
Sleeve Modification
- Follow instructions for the sleeve notches (Y). Lower armhole, Label 2, or shown, spread the notches on the center guidelines.
- Figure 3
- Raglan Line Suggestion
- Draw a straight line from X to the neck and shoulder by drawing a slightly curved line for the yoke raglan (shaded area).
JACKET AND COAT FOUNDATIONS

The jacket and coat foundations are based on the dartless foundation (see pages 729 and 730) and are approximately the same size as the dartless foundation pattern (see pages 731 and 732). The jacket, coat, and dress are made from a fabric of choice for the outer garment. The foundation can be modified to suit the individual's body type, style, and personal preferences.

Figure 43 shows the jacket and coat foundations for a dartless garment. The jacket and coat are constructed using the same pattern and foundation. The jacket is designed for a straight or slightly flared silhouette.

For a dartless coat, follow the steps outlined in Figure 44. The coat is designed for a straight or slightly flared silhouette. The coat is constructed using the same pattern and foundation as the jacket.

The back jacket and coat foundations are shown in Figure 45. The back is designed for a straight or slightly flared silhouette. The back is constructed using the same pattern and foundation as the jacket.

The measurements needed for the dartless jacket and coat foundations are shown in Figure 46. The measurements are taken at the bust, waist, and hip and are used to determine the size of the jacket and coat.

The front and back dartless foundations are shown in Figure 47. The foundations are designed for a straight or slightly flared silhouette. The foundations are constructed using the same pattern and foundation as the jacket and coat.

The front and back dartless foundations are shown in Figure 48. The foundations are designed for a straight or slightly flared silhouette. The foundations are constructed using the same pattern and foundation as the jacket and coat.

The front and back dartless foundations are shown in Figure 49. The foundations are designed for a straight or slightly flared silhouette. The foundations are constructed using the same pattern and foundation as the jacket and coat.
Sleeve Draft for Jacket and Coat

Record sleeve measurements for jacket or coat on the pattern paper.

Go to page 462 for instructions on drafting the jacket or coat sleeve. After completing the draft, use page 463 to add the two piece sleeve.

For personal fit, follow this formula:

- Sleeve length: appropriate
- Measure jacket or coat armhole, add together, and record
- Cap height:
  - Divide A by 3
- Biceps:
  - Divide (X) by 2 and add 3/8 inch

1/2 in the 0-1 measurement in the dress instruction.

Fitting Problems and Solutions

- Increase jacket, front and back (a).
- Decrease jacket, front and back (b).
- Decrease cap fullness (c).
- Increase cap fullness (d).
- Shorten or increase (f) armhole.
- Adjust sleeve by equal amounts (g).

Sleeve Measurement Chart for Jacket and Coat

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Coat

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Jacket with Notched Collar

The jacket design is appropriate for sizes 3 to 4X and 7 to 14 boys' and girls'. The basic jacket pattern is based on the jacket foundation pattern. The sleeve pattern for the jacket is the same. In developing the low-waist and personal jacket continue for girl, see Chapter 22.
Jacket with Notched Collar

Figure 1
- Trace the back pattern. Use illustration to plot the pattern and facing.

Figure 2 front
- Trace the jacket pattern.
- Add 1/4 inch for extension. Draw the line from front to break point.

Label
- Draw a 1/4 inch line out from center front neck.
- Mark a notch 1 1/2 inch past center front neck.
- Draw an outlined curved line to break point neck and draw a curved line at the end of the neck.
- Draw the facing 1 1/4 inch from neck, 2 1/2 at horn.
- Add a 1/4 inch from allowance, extending 1/4 inch past facing.

Collar
- Measure 3 1/2 inches from shoulder neck. Label X.
- Draw a straight line from center of mid neck to X and continue to equal back neck measurement of the jacket, plus 3/4 inch. Label Y.
- Mark 1/2 inch down from X. Label Z.
- Draw a curved line from X to Z.
- Draw a 2 1/2 inches from the X-Z line. From this point, draw a short line. From the collar parallel to neckline, ending 1/2 inch or more from the lapel.

Figure 3
- Trace the front facing.
- Place pattern paper under the back pattern and transfer the facing.

Figure 4
- Mark the shoulder and transfer the center back to neckline.

Figure 5
- Trace the collar in paper and cut out the collar itself.

Cardigan Jacket

The cardigan design is appropriate for sizes 3 to 14 and 3 to 14, boys' and girls'. The cardigan jacket is based on the basic jacket template. The basic jacket sleeve is used with this design.

Figure 1 front
- Trace the front and back collar pattern.
- Add to the shoulder tip if shoulder pads are desired.
- Pull the shoulder and facing, using same amounts as a guide. Mark buttonhole placements.
- To add a facing and interconnection to the garment, use Chapters 22 and 23.
Vest
The design is appropriate for sizes 3 to 6X and 7 to 14, boys' and girls. The vest can be lined on the inside front, the jacket pattern, skirt or jacket pattern. The pattern pieces are used in the illustrations.

1. The vest can be lined or lined, then the edges can be overlapped and stitched...

NAVY PEA COAT

Design Analysis
The pea coat is the traditional coat design for the navy. The double-breasted coat is featured with an overcoat for women and men.

Pea Coat Draft

Figure 1. Layout

1. Trace the front and back coat pattern, extending to length desired. Label B:
2. Choose an extension from the chart and draw a line parallel to the center back.
3. Square a line 3 inches from the center line at level with the shoulder seam. Mark back seam. Label C.
4. Extend a line 1/2 inch past A. Label D.
5. Draw a line from B to C.
6. Label E at the collar line and neck.
7. Continue the neckline curve 3 inches past A. Label F.
8. Draw a line to the extension. Label G.

Figure 2. Color

A - F 1/4 inch
B - 3/4 inch
C - 3/4 inch
D - 3/4 inch
E - 1/4 inch
F - G - back neck allowance (plus 1/8 inch)

The edge of roll or notch turn of v-neck and neck binding B. From E to G and continue to the center of the neckline, mark and trim. Mark the point between F and G.

Mark 1/2 inch down from B, and square the line from B to F, using 1/4 measurement taken from the guide chart. Draw the collar parallel to neckline.
Chapter 26

Figure 3a & b
- Draw back lining (Figure 3a).
- Trace back paper to the back and trace the lining right side out.

Figure 4: Pocket and Button Placement
- Place the pocket pattern with pocket lining for stitching guide. See Chapter 23 for guide.

Figure 5: Collar
- Place folded paper under the front dress to measure the collar. 1/2" of the collar to 1" and reman 2 lines of collar to 1". Label placement. Mark a notch at point 2 for shoulder guide.

Figure 6: Upper Collar
- Cut the collar from paper.

Figure 7: Under Collar
- Between the upper collar and collar for the undercollar. Add 1/2" for a seam at the center back or cut on fold.

Pocket Welt, and Pocket Lining and Basting
Figure 8, 9, & 10
- Heat paper under the front jacket and trace the pocket lining around 3/8" smaller than the pocket slit line. See Figure 4 on page 746.
- Leave a gap for the pocket backing extruding 1/2" on this.
- Follow instructions for the welt on. See sewing guide in Chapter 23.
Pants and Jumpsuits

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INTRODUCTION TO PANTS

The theory, terminology, and other design variations for pants are found in Chapter 26.

The part foundations are illustrated in this chapter. Consider the height, and use of the model before deciding the design. The back part can be finished with a thin band, elastic, or a combination of both. The trouser foundation is shown on the top of the left page. The back foundation is shown on the top of the right page. The pants foundations are divided for waist 3 to 6x and 7 to 14x (in) for boys and girls.

TROUSER FOUNDATION

The trouser is a loosely fitted pant that hangs below the knees. The pattern of the trouser and baggy-style pants are based on this foundation. For additional options, see pages 736 and 737.

Measurements Needed:
- (10) Waisted in, plus 1/2 inch
- (12) Hip girth + 1/2 inch
- (14) Hip at, plus 1/2 inch
- (16) Hip full
- (18) Hip full
- (20) Hip full
- (22) Hip full

Trousers Draft

Figure 1

<table>
<thead>
<tr>
<th>BACK</th>
<th>FRONT</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
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</tr>
<tr>
<td>U</td>
<td>C</td>
</tr>
<tr>
<td>F</td>
<td>C</td>
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</tbody>
</table>

G - C = 1/2 inch, squared on 1/4 inch.

Draw a straight line from C to exactly 1 inch, marked with a dash, from the end of the line. This is the pant length.

A - B = 1/2 inch.

A - C = 1/2 inch.

B - C = 1/2 inch.

Figure 2

Figure 3

Figure 4

Figure 5

The finished pattern is shown. The body is cut in a waist band and applied to the elastic.
SLACK FOUNDATION

The slack draft is based on the trouser foundation. It is an appropriate draft for sizes 8 to 20 and 7 to 14 for girls and boys. The slack pants closer than does the trouser. The slack pants is applicable for many designs and dimensions.

**Slack Draft**

Figure 1

- Trace the front and back trouser pants. The center back is added 3/8 inch and the pants leg is tapered.

Figure 2

- Trace the front and back trouser pants. The center back is added 3/8 inch and the pants leg is tapered.

JEAN FOUNDATION

The jean foundation is to the centerline of the figure. Slight variations are included to account for left or right. The jean pants is applicable for boys and girls, 3 to 18 for girls and 3 to 20 for boys. For various options, see pages 763–765 for additional options.

Figure 1

- A = pant length.
- B = crotch depth
- C = pocket length
- D = pocket depth
- E = pocket depth
- F = front hip measurement
- G = front crotch measurement
- H = front rise measurement
- I = front welt measurement
WAIST OPTIONS

The pant or skirt can be accented with the waist in one of four ways. Models 7 to 8 generally have part or all of the waistline accented with elastic. Sacks 7 to 8 models may desire a regular waistband attached to the garment.

Waist Band Draft

- Draw line equal to waist measurement, plus button extension.
- Fold paper square down 1 inch for width of band.
- Add seam allowance notch for extensions. Cut boat neck.

Waist Band Controls the Waist

Waist bands are used when the garment has to be tensioned at the waistline or when a garment like the pants is developed without a bust. See page 754.

Elastic Controls the Waist

The front and back waistline is eased 2 1/4 inches as a rule for the majority of 1 couch dams. The elastic should measure the same as the model's waistline. The elastic is cut 1 inch. This leaves the elastic enough to hold garment securely to the waist. For a pour-in front, add to the side seam of the front and back part, or add only to the back part, see Figure 5a.

Figure 2

1/2 inch square 3 to 7
square up 1/8 inch
1 inch square 7 to 16
square up 1/4 inch
Draw a straight line from 1 to center front, through hip line.

L-M = waist arc, plus 1/4 inch. For a pocket to complete back half of 16 overlap A.

Draw a line from L to M for waist.

X-N = 1/4 inch and squared up 1/4 inch.

N-O = waist arc, plus 1/4 inch. Mark.

Draw line from N to O.

N-O = center back from A to hip line.

Grading

- Mark 1/4 inch in from each side of C, B, and C, B (front). Square up and down through front and back patterns for grading.

Legline

- Draw lines up from heel to knee to F and E using the measurements given.
- Draw inward curve from knee to H and E.
- Draw an outward curve from D and blending with an inward curve from knee. Blend with hip line even.
- If M and O overlap, place paper under the pant draft and draw either the front or back pants before cutting pants apart.

Figure 3

If the design is more feminine in nature, the fly can be extended from the front or a separate fly can be stitched to the front. The width is twice the width of the fly and 1 inch longer. Follow the sewing instructions by stitching the fly, waist band with loops (tabs page 753, 596, and 597), and front pocket (page 763).

Figure 4
**Pant's Waist Band and Elastic**

Figure 42-5-6:
The elastic is placed in the back with a partial waistband in the front. This elastic can also extend at the side seam on the side seam of the garment as shown in figure 45. The back waistline is eased 2-3 inches at a diagonal for a comfortable fit. The front waistband pattern measures one-half of the waist circumference, with one seam line stitched. The elastic and waistband are stitched on the side seams. Add the side seam for a more casual fit.

**Grunge Pant**

The trouser foundation is raised and modified to create a Grunge pant. The Grunge pant has a deep crotch and wide legs that can be of any length. Cropped or boot styles can be created on this foundation. Follow the illustration and measurements to develop the pattern.

**Pant Variations**

**Flared Trouser Draft**

- Trace the front and back trouser pant.
- Wash at garment line and spread 1/2 to 2 inches for flat pattern.
- For the fly front, add 1/4 to 1 inch to pant front; the length of the fly should be at least 1 inch longer than the upper. For sewing instructions, see Chapter 26.

**Waist Band Options**

Decide which waist band best suits the design. See pages 736-739.
Baggy Pant

The loose fit pant is the base for pants that are very full through the legs. The design is suitable for sizes 3 to 6X and 7 to 14, for boys or girls.

Design Analysis

This is a loose pant to be made as full as desired and cut to any length. Fullness is added through the sides of the pattern.

Design 1

The pant is gathered at the waist and the hemline of the pants is secured with elastic or may be sewn to a band at waist and ankle. Design 2 is a thought problem.

Baggy Draft

Figure 3

- Trace front and back pattern, spacing the patterns to the amount of fullness desired.
- Extend the waistline 2 3/4 inches for 1-inch elastic.
- Cut 1/2-inch elastic equal to the waist measurement. One inch is used for lapping and stitching together.
- Cut 1/2-inch elastic equal to foot length measurement plus 1 inch. One inch is used for lapping and stitching together.
- Lower the length to the desired length (or may be lower for a more exaggerated look).
- Extend the pant length for bloomer.
- Taper the hem to control fullness.
- Complete the pattern for a test fit.

Western Jean

The standard jean pattern is based on the jean foundation. The design is for 3 to 6X and 7 to 14, for boys and girls. The Py front for girls must be cut on both sides.

Design Analysis

The traditional western jean pattern can be developed with a tapered legline or designed as a boot pant. Determine the type of waistline best suited to the design. See pages 755-756.
Bel-Bottom Pants

The bell-bottom pants are based on the seam COMD front pattern for sizes 6 to 10, and sizes 12 to 16, for boys and girls.

Design Analysis

The flare legs can be added or omitted and can start from any point along the figure. The attachable opening two buttons and pockets for closure. Determination of waistline length varied on the design. See pages 756 and 757.
GUIDELINE MARKING FOR PAIN DERIVATIVES

- Measure at 1.5 to 2.5 inches above and below each
- Continue for 3 to 5 inches above and below each
- Mark the waistline levels and indicate:
- Measure:
- Pin 1.5
- 2.5 inches above and below each
- Mark the waistline levels and indicate:
- Continue for 3 to 5 inches above and below each
- Number and identify:

Definition:

- Mark for:
- Pin 1.5 to 2.5 inches above and below each
- Continue for 3 to 5 inches above and below each
- Mark the waistline levels and indicate:
- Measure:
- Pin 1.5
- 2.5 inches above and below each
- Mark the waistline levels and indicate:
- Continue for 3 to 5 inches above and below each

Figure 1: Waistline levels and indicators

Figure 2: Marked levels and measurements

Figure 3: Detailed view of marked areas

Figure 4: Completed marking process
Flared Shorts

The flared shorts draft can be based on the rear or front part. The designs are drawn for 3 to 4 and 7 to 14.

Design Analysis—Design 2

Two examples are illustrated for the flared short; a basic flare and added flare for greater flare length. The flare is added to the side curve of the hip line to balance the flounce.

Wasteline Options

To decide the type of waistline best suited to the design, see pages 15 and 756.

Basic Flared Shorts

Figure 1:

- Trace the front and back part and draw pant length.
- Mark slash lines from dart points to hem of the pants. Join dots.
- Spread the flare at curve of the dart legs.

Figure 2:

- Scoop pattern through waist and through dart points. Spread for added flare to the desired amount.
- Add flare to the side seams of the pattern equal to one-half the space of a-b.

Shorts with Added Flare

Figure 3:

- Use the knee length measurement plus an extra 1/4 to 1/2 inch to develop the length.
- The width of the flare can vary for different design effects. The average flare is 1 inch.
- Complete the pattern for the new fit.

Shorts—Design 1

The high-cut short is for sizes 7 to 14 and is based on either the leg or front part.

Design Analysis—Design 1

The length is plotted above waist level at the side seams and is tightened at the inside curve of the legs where it is evenly balanced around the opening.

Wasteline Options

To decide the type of waistline best suited to the design, see pages 15 and 756.

Figure 1:

- Trace the front and back patterns and mark (a) 1 1/2 to 1 1/2 inches.
- Mark slash lines and draw curve of the pants. Join dots.
- Trim pattern, balancing the inside and outside curve.
- Trace the circumference. For the lining, match the pattern curve before placing 3/4 inch.

Knickers—Design 3

The knicker comfort is a pant derivative and can be drafted from the rear or front part for sizes 3 to 6X and 7 to 14, for boys or girls.

Design Analysis

The knicker comfort is generally placed just below the knees. The bottom is gathered into a band and is buttoned for fit control.

Waist Band Options

To decide the type of waistband best suited to the design, see pages 15 and 756.

Figure 1:

- Trace the front and back patterns.
- Plot the pattern using illustration and design as a guide.

Figure 2:

- Use the knee thickness measurement plus an extra 1/4 to 1/2 inch to develop the length.
- The width of the band may vary for different design effects. The average band is 1 inch.
- Complete the pattern for a new fit.
JUMPSUIT FOUNDATION

The front and back basic bodice is centered with the pant foundation to develop the jumpsuit pattern. The front, back, or both can be used for the jumpsuit. However, if the pant is used in a bias for a jumpsuit, the pant leg must be cut in a stretch fabric and straightened. The pant legs can be developed off the body. It can be developed with the front shown with the front and the back with a waistline seam connecting the bodice and the back. A straight line can be used with the pant foundation. The bodice can be lowered for a more casual fit.

Jumpsuit Draft

1. Trace the front bodice.
2. Place the front part on the draft, matching center front body, placing the stick of jeans foundation. The front will sit on center line of bodice by 3/4 inch. Place the pant legs on the guidelines, when extended, parallel to the center line of the back.
3. Trace the pant legs, extending the guidelines, when extended, parallel to the center line of the back. Draw the outline and center line of the back. Complete the pattern for a front.
4. Trace the basic sleeve.

Jumpsuit with Blouson

5. Add space between shoulders of the front and back patterns.

Over-sized Jumpsuit

6. Add space between the shoulder lines of the front and back patterns, and lower the armhole. To modify the sleeve figures 5 and 6, lower the keep the equal amounts.
Tank Top Jumpsuit

The tank top jumpsuit is based on the trouser jumpsuit pattern and can be drafted for sizes 3 to 6X and 7 to 14.

Tank Draft

Figures 1 to 2
- Piece the front and back trouser jumpsuit (Fig. 3) for the lower jumpsuit part.
- Use the illustration and design as a guide for drafting the pattern. Design 1 is illustrated.
- Cut and separate the pattern.
- Complete the pattern for a test fit.

Overall

The overall is based on the trouser pattern (see page 78). The design is suitable for sizes 3 to 6X and 7 to 14.

Overall Draft

Figures 1 to 3
- Piece the front and back jumpsuit patterns.
- Piece the pattern, using the illustration, design, and size of the model on a guide.
- Trace the shoulder seam and join at the shoulder (Fig. 4). Trace the pockets from pattern (Fig. 4).

Note: On the bottom half, the pocket is made with a pocket facing. The facing can be reversed as illustrated.
Bodysuits, Leotards, Maillots, and Swimwear

**Bodysuit**

The bodysuit is an activewear garment cut in a two-way stretch Lycra fabric for comfort and maximum body movement (for more information about busts, see Chapter 37). A seam allowance of 0.5 in (1.2 cm) should be included in the draft.

The draft is based on the duster pattern. Two bodysuit drafts are illustrated: a sleeveless bodysuit and the bodysuit with sleeves.

The maximum stretch of the front band runs through the length of the garment. The front and back bodysuit are drafted together and separated at the center of the draft.
BODYSUIT WITH SLEEVES

The armhole of the bodysuit pattern is modified for a sleeve. Measurements needed:

- Sleeve length (S)
- Cape height (C)
- Underarm (U)

Bodysuit Draft

If notched knit is used, subtract 1 inch from measurements where arrow (A) is marked.

Figure 1
- Place the front pattern. Label the neck A. Raise the neck 1/2 inch and label B.
- A-C = one half of B-C. Mark.
- B-D = one half of B-E. Mark.
- D-E = one half of D-F. Mark.
- E-F = one half of E-G. Mark.
- G-H = one half of G-J. Mark.
- J-K = one half of J-L. Mark.
- L-M = one half of L-N. Mark.

Notching Guide (Two Types of Notching Used for Knit)

- Cut pattern from paper.
- Front pattern, for back pattern.
- The back edge slants toward the neck line.

Figure 2
- Cut pattern from paper.
- The back edge slants toward the neck line.
- Draw the back neckline.

Figure 3
- Cut pattern from paper.
- The back edge slants toward the neck line.
- Draw the back neckline.
TIGHTS WITH TOP

To develop tights, the bodysuit part is traced to allow for ease in the leg. The waist area is fitted for comfort, and the leg is fitted for the leg opening. The waist area is fitted for the leg opening, and the leg is fitted for comfort. The bodysuit part is traced to allow for ease in the leg. The waist area is fitted for comfort, and the leg is fitted for the leg opening.

Figure 1

Top and Bottom Patterns

- Trace bodysuit pattern
- Trace pattern, using illustration, design, size, and height of model as a guide.

Figure 2

- Trace pattern, using illustration, design, size, and height of model as a guide.

Figure 3

- Trace pattern, using illustration, design, size, and height of model as a guide.

Elastic Content

Elastic should be measured the same as the pattern at the waistline to 7/8 inch. The measurement includes 1 inch for overlap to stitch the elastic together. See Chapter 26 for stitching and elastic instructions.

TANK-TOP LEOTARD

The leotard is a slim-fitting layer, often made of stretch fabric. It is designed to be fitted close to the body, providing a fitted silhouette. The bodice is fitted for comfort, and the leg is fitted for the leg opening. The bodice part is traced to allow for ease in the leg. The waist area is fitted for comfort, and the leg is fitted for the leg opening.

Figure 1

Leotard Draft

- Trace front pattern, using illustration, size, and height of model as a guide.

Figure 2

- Trace front pattern, using illustration, size, and height of model as a guide.

Figure 3

- Trace front pattern, using illustration, size, and height of model as a guide.

- Trace pattern, using illustration, design, size, and height of model as a guide.
LEOTARD WITH SLEEVE

If and when it is used, subtract 1 inch from measurements when arms are at sides. (a) is indicated.

Figure 4.2
- Trace front pattern. Raise the waist 1/2 inch and label A-B.
- C = end (left) of A-B. Mark.
- D-E = waist at 1/2 front, less 1/2 inch, squared from E.
- F-G = side length is squared up from D; 1/2 inch less armhole level, and squared out 1/2 inch.
- Draw the seam with a slight inward curve.
- Draw the armhole curve parallel to the original armhole.
- Draw the neckline as illustrated, or modify the shape as desired.

Annotate:
- Measure armhole and record for use in developing the sleeve. See page 773 for sleeve draft (long, or topreferred length).

Figure 3
- The completed patterns are illustrated.

MAILLOT FOUNDATION

The maillot foundation is based on the leotard pattern with basic armhole (see page 798). Once accuracy of fit is achieved, the armhole is squared (see Figure 1). The foundation pattern in this example is indicated by the dashed line and the weak line.

Mailot Draft
- Trace front and back foundation. Modify the pattern as illustrated. Two variations are shown for design variations.
- Extend the armhole line if a higher neckline is desired. (See pages 688-689 for stitching and elastic guidelines.)
- The waistline is matched to the bottom of the armhole (rather than the mesh).
- Cut and test fit.
- For guidance in pattern adjustments, see Chapter 29.
### DECIMAL CONVERSION CHART

For use in converting fractional measurements to decimal measures. With a calculator it is done (next page) faster than by a protractor scale. Measure your line and with a calculator find the decimal measure. Measure again if you have a percentage reduction or enlargement.

**Example:**

The measurement you want to find is 3/4. You have 2.4. 1/2 = 1.2 - 0.2 = 2/10 (3/10th in) = 1/5 (1/25th in).

<table>
<thead>
<tr>
<th>DECIMAL</th>
<th>EQUIVALENT FRACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>0/1000</td>
</tr>
<tr>
<td>0.001</td>
<td>1/1000</td>
</tr>
<tr>
<td>0.005</td>
<td>5/1000</td>
</tr>
<tr>
<td>0.01</td>
<td>1/100</td>
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<td>5/100</td>
</tr>
<tr>
<td>0.1</td>
<td>1/10</td>
</tr>
<tr>
<td>0.5</td>
<td>5/10</td>
</tr>
<tr>
<td>1.0</td>
<td>10/10</td>
</tr>
<tr>
<td>1.5</td>
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<tr>
<td>2.0</td>
<td>20/10</td>
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<tr>
<td>2.5</td>
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<tr>
<td>3.5</td>
<td>35/10</td>
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<tr>
<td>4.0</td>
<td>40/10</td>
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<tr>
<td>4.5</td>
<td>45/10</td>
</tr>
<tr>
<td>5.0</td>
<td>50/10</td>
</tr>
<tr>
<td>5.5</td>
<td>55/10</td>
</tr>
<tr>
<td>6.0</td>
<td>60/10</td>
</tr>
</tbody>
</table>

**EQUIVALENT VALUES**

1 inch = 12 points
6 points = approx. 1 inch (99.86 inches)
1 point = 0.138 inch
**FORM MEASUREMENT CHART**

<table>
<thead>
<tr>
<th>Circumference Measurements</th>
<th>Lower Torso (Skirt/Pant)</th>
<th>Personal Figure Variations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. bust</td>
<td>22. abdomen arc</td>
<td>A. Skirt length relationship</td>
</tr>
<tr>
<td>2. neck</td>
<td>23. hip arc</td>
<td>B. Waist</td>
</tr>
<tr>
<td>3. waist</td>
<td>24. crotch depth</td>
<td>C. Hip length</td>
</tr>
<tr>
<td>4. billet</td>
<td>25. hip height</td>
<td>D. Arm length</td>
</tr>
<tr>
<td></td>
<td>26. side hip breadth</td>
<td>E. Abdominal height related to:</td>
</tr>
<tr>
<td></td>
<td>27. waist to ankle</td>
<td>- 1.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 0.500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 0.250</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 0.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 0.050</td>
</tr>
</tbody>
</table>

**Upper Torso (Bodice)**

| 5. center back length       | 28. shoulder length       |
| 6. back length              | 29. back length           |
| 7. shoulder width           | 30. back length           |
| 8. sleeves                  | 31. back length           |
| 9. bust depth               | 32. back length           |
| 10. side length             | 33. back length           |
| 11. shoulder length         | 34. back length           |
| 12. across shoulder         | 35. back length           |
| 13. across back             | 36. back length           |
| 14. back arc                | 37. back length           |
| 15. bust arc                | 38. back length           |
| 16. waist arc               | 39. back length           |
| 17. raw material            | 40. back length           |
| 18. raw material            | 41. back length           |
| 19. bust placement          | 42. back length           |
| 20. bust placement          | 43. back length           |

**Arm Measurements (for Sleeve Dart)**

<table>
<thead>
<tr>
<th>Form</th>
<th>Lower Torso (Skirt/Pant)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Lower Torso (Skirt/Pant)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Special Information*

Set form to desired height and measure the following:

- C.C. waist to floor
- C.R. waist to floor
- C.B. neck to floor

---

**PERSONAL MEASUREMENT CHART**

<table>
<thead>
<tr>
<th>Circumference Measurements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. bust</td>
</tr>
<tr>
<td>2. waist</td>
</tr>
<tr>
<td>3. hip</td>
</tr>
<tr>
<td>4. upper hip</td>
</tr>
<tr>
<td>5. center back length</td>
</tr>
<tr>
<td>6. back length</td>
</tr>
<tr>
<td>7. shoulder length</td>
</tr>
<tr>
<td>8. sleeves</td>
</tr>
<tr>
<td>9. bust depth</td>
</tr>
<tr>
<td>10. side length</td>
</tr>
<tr>
<td>11. shoulder length</td>
</tr>
<tr>
<td>12. across shoulder</td>
</tr>
<tr>
<td>13. across back</td>
</tr>
<tr>
<td>14. back arc</td>
</tr>
<tr>
<td>15. waist arc</td>
</tr>
<tr>
<td>16. bust placement</td>
</tr>
<tr>
<td>17. bust placement</td>
</tr>
<tr>
<td>18. waist arc</td>
</tr>
<tr>
<td>19. bust arc</td>
</tr>
<tr>
<td>20. waist arc</td>
</tr>
</tbody>
</table>

**Personal Arm Measurements**

<table>
<thead>
<tr>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. arm length *</td>
</tr>
<tr>
<td>2. elbow length</td>
</tr>
<tr>
<td>3. elbow bent angle</td>
</tr>
<tr>
<td>4. wrist radius</td>
</tr>
<tr>
<td>5. hand span</td>
</tr>
<tr>
<td>6. shoulder width</td>
</tr>
</tbody>
</table>

*Measuring the Arm*

- Upper arm measurement shown be taken at the back of the neck. Measure at 1.000, 0.500, and 0.250. For the bent arm, measure at the same time as the straight arm, or use the formula to determine the length.
# Children's Measurement Recording Chart—3 to 6x and 7 to 14

<table>
<thead>
<tr>
<th>Size</th>
<th>Height</th>
<th>Weight</th>
<th>Head circumference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Circumference Measurements (Ease Not Included)

1. Inseam (cm)   
2. Neck        
3. Bicep       
4. Center length  
5. Full length  
6. Shoulder slope 
7. Side length  
8. Shoulder length 
9. Across shoulder  
10. Across chest  
11. Rise of shoulder arc  
12. Across back  
13. Back arc  
14. Waist arc  
15. Hip arc  
16. Waist to hem  
17. Waist to inseam  
18. Waist to waist  
19. Waist to hips  
20. Upper height  
21. Jumper  
22. Coat  
23. Skirt  
24. Foot encry  
25. Trunk length  
26. Center length  
27. Center depth  
28. Overarm sleeve length  
29. Beads  
30. Wrist  
31. Cap height  

Note: Measurements are taken from pages 749-789.
SIZE B
BACK SKIRT
HALF SIZE

CONTOUR PATTERN
(HALF SIZE)
SIZE B
Answers to Self-Evaluation Tests

Test 1. Chapter 1. p. 51. A is B = written, or
1. 1/2" = written, or
3. 1/4" = written, or
5. 1/4" = written, or
7. 1/4" = written, or
9. 1/4" = written, or
B is A = written, or
2. 1/2" = written, or
4. 1/4" = written, or
6. 1/4" = written, or
8. 1/4" = written, or
10. 1/4" = written.

Test 2. Chapter 1. p. 51. A = 1/4".
A is B = written, or
B is A = written, or
C is A = written, or
D is A = written, or
E is A = written, or
F is A = written.

Page 52: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21.

Page 64: Matching test: 1, 9, 11, 5, 8, 10, 1, 2, 7, 13, 8, 7, 15, 17, 12, 15, 14, 16.


Page 100: Matching test: 7, 12, 7, 1, 3, 14, 18, 9, 1, 2, 1, 3, 1, 4.

Page 229: 2, 4, 6, 10, 16, 17, 20, 25, 29, 43.

Page 300: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 17, 13, 14, 15, 16, 17, 17, 16, 17, 17, 20, 3.

Page 333: 3. Draw 60° and 120° angles.
4. Write the equation for the line.
5. Draw a circle with a radius of 2 units.
6. Draw a square with sides of 4 units.
7. Draw a triangle with sides of 3, 4, 5 units.

Page 367: 3. Label the parts.
4. Identify the parts.
5. Label the parts.
6. Identify the parts.
7. Identify the parts.
8. Identify the parts.
9. Identify the parts.
10. Identify the parts.

Page 511: Sketch the pattern, showing all parts.

Page 721: Sketch the pattern, showing all parts.

Solution to Design 1. On page 404.
Answer for Design 2, page 404

1. Plot overlay
2. Mark contour areas
3. Mark draft locations
4. Trace front ruffle frame
5. Trace back ruffle frame
6. Side seam

Remove unwanted pattern parts. Transfer excess fabric above and below the bust point to the new location of center front. Make a copy of the back shape and place it on the left side or make a mirror image by folding the pattern at center front. Add extension for button and button hole.

Ruffle frame combined

After the drapes have been transferred, attach the A/B frame to the open draft leg. Draw a 1-inch underlay.

Solution from page 404

Stitch and spread to create the ruffle. Trace the pattern for the right part. Stitch the other side over the unstitch of center front. Binding finish the new seam; add 1/4" and 1/2" seam allowance. C attaches to D.