LES 1-4-4

DEVELOPMENT OF A MEASUREMENT METHOD OF FITTING COMMERCIAL PATTERNS AND A COMPARISON OF THIS METHOD WITH PIN FITTING

By

Rita Janice Adrosko

A THESIS

Submitted to the College of Home Economics of Michigan State University of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

Department of Textiles, Clothing and Related Arts

1957

9-14-57
L 3408

ACKNOWLEDGMENTS

The writer wishes to express her sincere appreciation to Miss Evelyn A. Mansfield, Associate Professor of Clothing, Textiles and Related Arts, for her inspiration and guidance; to Miss Hazel B. Strahan, Head of Textiles, Clothing and Related Arts, for her interest in the study; to the faculty members, graduate students and undergraduates who assisted in various phases of the study.

The writer wants especially to thank the twenty undergraduates who generously gave their time and interest. Their assistance was essential to the success of the study.

****

TABLE OF CONTENTS

CHAPTER Page

I DEFINITIONS AND SPECIFIC OBJECTIVES..... 1

II METHODS AND PROCEDURES..... 4

III PRESENTATION OF DATA..... 23

I. Definitions of Terms Used in Presentation of Data.. 25
II. Figure Characteristics..... 27
III. Diagrams and Discussion of Pin Fitted and Measurement Fitted Bodices..... 29

IV COMPARISON OF RESULTS OF MEASUREMENT AND PIN FITTING RESULTS..... 115

I. Method Which Produced the Better Fitting Garment... 115
II. Method Which Required More Skill..... 119
III. Time Required by Each Fitting Method..... 123
IV. How Each Method Could be Used to Fit Different Figure Variations..... 125
V. Suggestions for Further Study..... 131

BIBLIOGRAPHY..... 133

APPENDICES..... 134

Appendix A -- Forms and Measurements Used in Measurement Fitting..... 134

Appendix B -- Measurement Fitting Procedures for Twelve Typical Figures..... 139

Appendix C -- General Fitting Suggestions..... 151

LIST OF TABLES

TABLE		Page
I	Body Measurement Points Illustrated in Figure 2.....	9
II	Body Measurements with Corresponding Pattern Measurements Illustrated in Figure 3.....	12
III	Figure Types Represented in This Study.....	28
IV	Fitting Faults in Muslin Proofs.....	132

LIST OF ILLUSTRATIONS

FIGURE Page

1. Commercial Pattern Used in the Study..... 5
2. Body Measurement Points..... 8
3. Body Measurements with Corresponding Pattern Measurements.. 11
4. Pattern Measurements with Corresponding Body Measurements.. 17
5. Measurement Fitting Procedure 12-1..... 139
6. Measurement Fitting Procedure 12-2..... 140
7. Measurement Fitting Procedure 12-4..... 141
8. Measurement Fitting Procedure 12-5..... 142
9. Measurement Fitting Procedure 14-1..... 143
10. Measurement Fitting Procedure 14-3..... 144
11. Measurement Fitting Procedure 16-1..... 145
12. Measurement Fitting Procedure 16-4..... 146
13. Measurement Fitting Procedure 18-1..... 147
14. Measurement Fitting Procedure 18-2..... 148
15. Measurement Fitting Procedure 18-4..... 149
16. Measurement Fitting Procedure 18-5..... 150
17. Front to Back Balance Differences..... 153

CHAPTER I

DEFINITIONS AND SPECIFIC OBJECTIVES

Every clothes-conscious woman, whether she buys or sews her own clothes, can appreciate the value of a well-fitted garment. It not only looks attractive and feels comfortable, but gives good service, because there is sufficient ease at points of strain.

Many women who sew would like to have perfectly fitted garments. However, their figures are so different from commercial pattern sizes that their patterns must be altered before they fit perfectly.

There are two major stages in the construction of a garment at which fitting faults may be altered. The pattern tissue can be altered before it is cut out of fabric, or the garment can be altered after it has been cut out and basted. The more practical method--from the standpoint of accuracy and economy of time and fabric--is the method by which commercial pattern tissue is altered before being cut. This method allows an opportunity for any type of alteration, careful checking of grain accuracy, and adequacy of seam allowances.

I. DEFINITIONS

Many methods of altering commercial patterns have been devised--some more successful than others. One of the most accurate methods of fitting commercial pattern tissues is pin fitting. In this method the

commercial pattern tissue is pinned together (on all markings for darts and seams) and tried on the figure, pinned at the center front and center back to ribbons placed horizontally around the figure. Any excess fulness is pinned out exactly where it is located on the figure. To allow for inadequate ease the tissue is slashed and spread exactly where it is needed.

A rather widely used, but less accurate method of altering commercial patterns is measurement fitting. In this process the pattern and figure are measured. Common measurements of both the pattern and figure are compared and differences adjusted without trying the pattern on the individual until the garment is cut out and basted.

The first method provides an accurate way of fitting, but one which requires assistance. The second method, which can be done without assistance (after body measurements are taken), is not as accurate as pin fitting. Not all figure variations can be detected through measurement fitting. Most important, it is difficult to determine exactly where pattern changes are needed.

II. SPECIFIC OBJECTIVES

Development of a Method of Measurement Fitting

Previous methods of measurement fitting--comparing body and pattern measurements then adjusting the pattern tissue according to differences--have often been unsuccessful where unusual figure variations were present. (1) Many figure variations could not be detected through measurements. (2) Undesirable body proportions could not be

detected through measurement fitting. (3) It was difficult to obtain accurate measurements because of the difficulty of locating standard landmarks. (4) Easy allowances differ with each style of pattern and, to some extent, with the individual's build.

A newly devised method of measurement fitting would attempt to overcome these drawbacks by (1) taking a very complete set of measurements; (2) by planning landmarks according to underlying bone and muscle structure; (3) by observing outstanding figure characteristics, then using these observations, plus the measurements to make pattern alterations.

Comparing Results of Pin Fitting and Measurement Fitting

The newly devised measurement fitting method would be compared to the standard pin fitting method (1) to decide if satisfactory fit could be obtained through measurements and figure observations alone; (2) to discover which figure variations could and could not be successfully detected and corrected through measurement fitting; (3) to compare differences in amount of time required for measurement fitting and pin fitting; (4) to decide, by comparing both methods, which one would be most valuable for the seamstress with a minimum of alteration experience; (5) to find, if measurement alone was not completely satisfactory, a way of combining the best features of both methods for an accurate, efficient method of fitting pattern tissues.

CHAPTER II

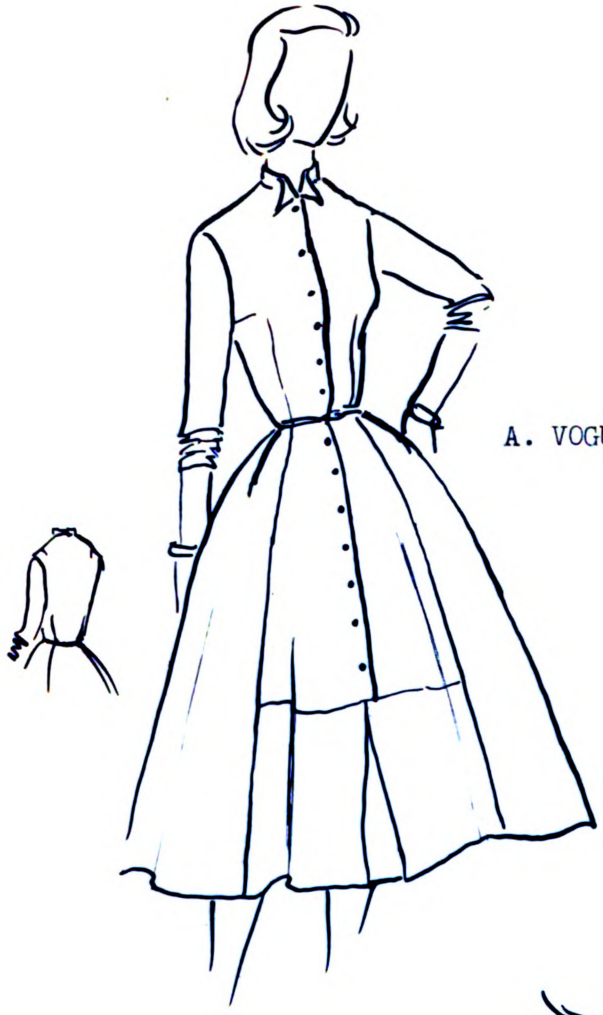
METHODS AND PROCEDURES

This report on investigation procedures has been divided into three parts. The first includes the steps used in developing the measurement fitting method, up to the point at which the measurement fitted pattern tissue was made into a muslin bodice proof. The second gives a description of pin fitting procedures. The final section explains how the measurement fitting method was compared to the pin fitting method.

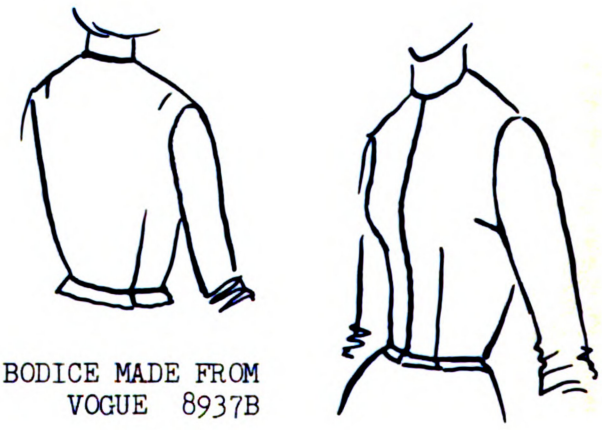
I. DEVELOPMENT OF A MEASUREMENT METHOD OF FITTING COMMERCIAL DRESS PATTERNS

Subjects Chosen

Twenty subjects were chosen from among students in the beginning clothing construction course at Michigan State University. This group included girls between the ages of 17 and 24. Five girls in each of the most commonly used sizes--12, 14, 16, 18--took part in the study. Each subject was selected because her figure required more than the usual number of pattern alterations. Each figure also differed in type from the others within the same size, therefore these subjects represented a range of size and figure variations wide enough to cover many common fitting problems. It also provided a sufficient number of variations to test the effectiveness of the measurement fitting method



A. VOGUE PATTERN 8937B



B. MUSLIN BODICE MADE FROM VOGUE 8937B

FIGURE 1. COMMERCIAL PATTERN USED IN THE STUDY

for figures with a greater-than-average number of pattern alterations.

Selection of the Pattern

One pattern was selected for all experimentation. It was decided that the pattern chosen should be from one of the major pattern company's recent counter catalogues. It was to be a regular stock pattern made according to the newly revised commercial pattern size standards. Style requirements were limited to certain bodice features since this study would deal with the fitting needs of the upper half of the figure. The pattern was to have a basic neckline, normal armscye with set-in long or three-quarter length sleeves, a normal waistline seam, and a single waist dart on either side of both front and back. The three-quarter sleeved version of Vogue Pattern 8937, sketched in Figure I, page 5, fulfilled all of these requirements.

Establishing Measurement Points

Key points on the body were pencil marked to guide measurement lines. These marks, based on bone or muscle structure, were called "measurement points." These measurement points had to be clearly defined and easy to locate, for accuracy in measuring depended to a great extent on the correct location of these points. Measurement points were planned so that the least possible judgment was needed to locate them. (Figure II, page 8) This meant that a person who could follow directions could take body measurements, even though he had little knowledge of body structure.

In spite of this planning, some difficulties were encountered in locating measurement points. For example, these landmarks were often hidden by layers of flesh. When this occurred, or when the subject's posture made standard seam locations unattractive, judgment was required to adjust measurement points to suit the individual's needs.

These measurement points were bases for the body measurements illustrated in Figure III, page 11. Each body measurement had a corresponding measurement on the pattern bodice, as indicated in Figure IV, page 17.

Although there were 44 body measurements originally, this number was reduced to include only 31 body measurements. It became apparent that some measurements, although valuable for a particular style (e.g., a rib cage measurement would be useful for a smooth-midriff Empire dress), were not necessary for fitting a basic bodice. However, if measurement fitting was used on differently styled garments, extra measurements might be necessary to fit special style features.

Measuring Equipment

All measuring instruments were commonly used items. The only "unusual" piece of equipment was a thin cotton knit "vest," which all subjects wore for measuring, (and later fitting) appointments. This vest was especially helpful in keeping measuring tapes (and later, horizontal pinfitting ribbons) securely fastened. Because these "vests" came in small, medium and large sizes, they did not bind or distort body measurements.

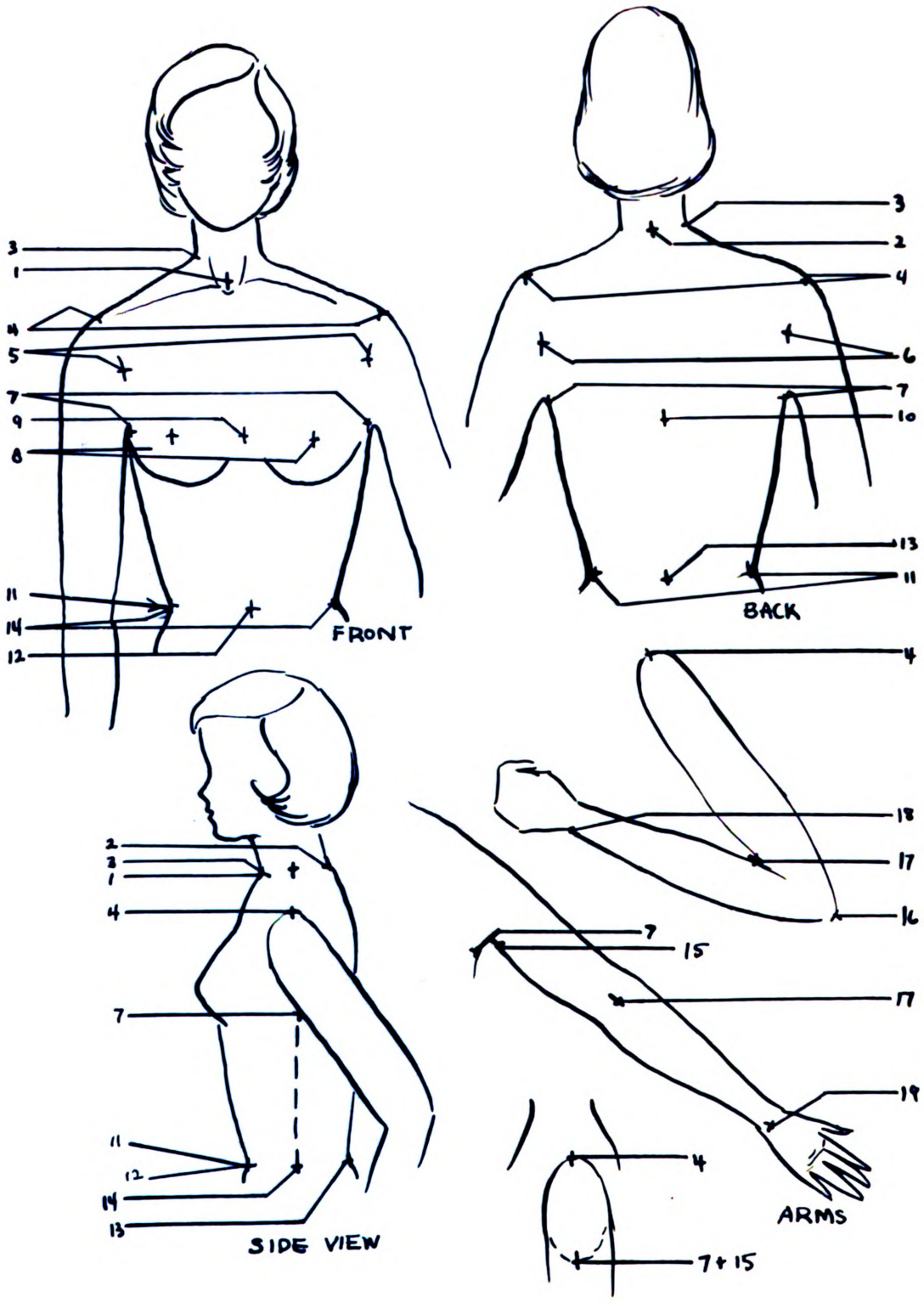


FIGURE 2. BODY MEASUREMENT POINTS

TABLE I

BODY MEASUREMENT POINTS ILLUSTRATED IN FIGURE II

1. NECKBASE - front: Point on the upper part of the hollow at the base of the throat, on a line with the upper edge of the horizontal bones.

2. NECKBASE - back: Point at center of the vertebra most prominent when head is bent forward (mark this point with the head in an upright position).

3. NECKBASE - sides: Point on the shoulder seam as high as, or lower than the back neckbase landmark (located by connecting front and back neckbase landmarks with measuring tape).

4. SHOULDER TIP: Dent between shoulder bone and arm bone at the edge of the shoulder line (can be located when the upper arm is raised and lowered).

5. ARMSCYE AT NARROWEST PART OF FRONT: Point 3" below the CF neck-base, drawn in a horizontal line to armscye, on a line with the crease formed when the arm is down.

6. ARMSCYE AT NARROWEST PART OF BACK: Point 4" below the CB neck-base, drawn in a horizontal line to armscye, on a line with the vertical back muscle located when the subject moves her arm forward.

7. UNDERARM: Point where the top of the side seam would normally fall, half way between the front and back, a half inch below the armpit when arm is down. (A plumb line dropped along the body from this point should not be conspicuous either from front or back.)

8. BUST POINT: Tip of the bust.

9. CF - on bust line: Midpoint of the front at bust level (check verbally with the subject).

10. CB - on bust line: Midpoint of the back at bust level (can be checked by locating the center of a coinciding vertebra).

11. WAISTLINE: Line where the body creases when bent forward or backward (check verbally with the subject).

12. CF - on waist line: Midpoint of the front on the waist line (check verbally with the subject).

13. CB - on waist line: Midpoint of the back on the waist line (can be located at the center of a coinciding vertebra, but also check with the subject).

14. SIDE SEAM - on waist line: Point on the waist line half way between front and back (located visually).

15. UNDERARM - on arm: Point on the arm corresponding to the body underarm -- 1/2" below the crease formed by the arm when it is down.

16. ELBOW POINT: Center point of the bone tip when the arm is bent.

17. INSIDE ELBOW: Hollow point on the inside of the elbow.

18. WRIST POINT: Center of the prominent bone on lower side of wrist.

19. INSIDE WRIST: Center of wrist directly above palm of hand.

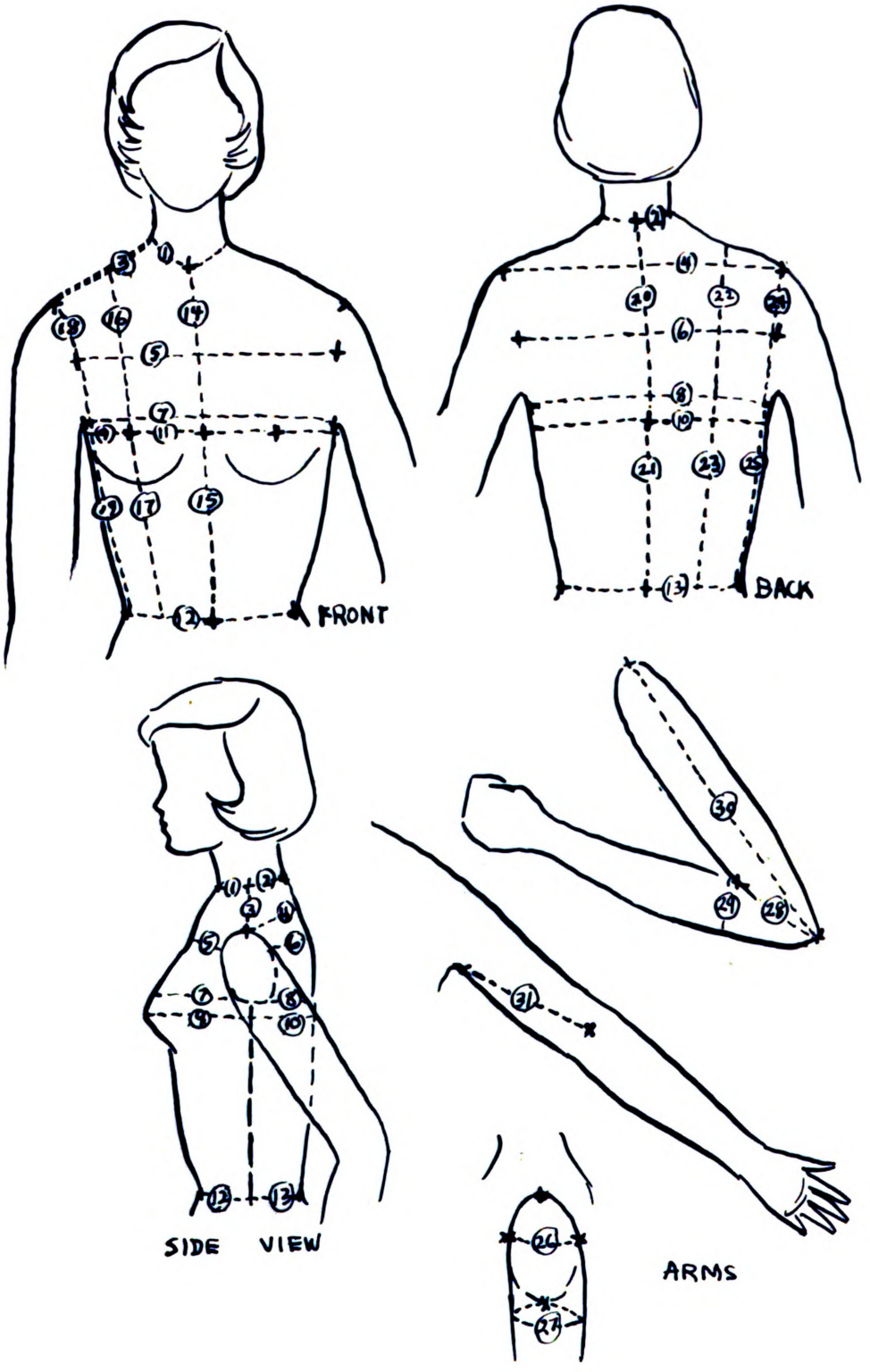


FIGURE 3. BODY MEASUREMENTS WITH CORRESPONDING PATTERN MEASUREMENTS

TABLE II

BODY MEASUREMENTS
WITH CORRESPONDING PATTERN MEASUREMENTS
ILLUSTRATED IN FIGURE III

NOTE: All measurements are for right side unless otherwise indicated.

Horizontal Measurements

1 & 2. NECKBASE - front and back: Line from the topmost vertebra at the CB to the side of the neckbase at the shoulder to the CF at the base of the throat.

3. SHOULDER LENGTH: Line from side of the neckbase to the shoulder tip (measured with arm down).

4. SHOULDER TIP TO TIP - back: Horizontal line between right and left shoulder tip points.

5. NARROWEST PART OF FRONT: Horizontal line 3" below the neckbase, connecting the left and right front armscye points.

6. NARROWEST PART OF BACK: Horizontal line 4" below the neckbase connecting the left and right back armscye points.

7 & 8. SCYELINE - front and back: Body circumference at the scye level, 1/2" below the underarm; measurement taken from right underarm, across front to left underarm, across back in one line (though separate front and back measurements are recorded).

9 & 10. BUSTLINE - front and back: Body circumference of bust line (on a level with the fullest part of the bust; measurement procedure same as for scyeline).

11. BUST POINT TO CF: Line from the bust point to the CF at bust level.

12 & 13. WAISTLINE - front and back: Line formed where the body creases when bent forward or backward (check verbally with the subject; measurement procedure same as for scyeline).

Vertical Measurements

14. CF NECKBASE TO CF BUSTLINE
15. CF BUST TO CF WAIST

Measured in one motion from CF neckbase to CF waist. Distance from neckbase to bust point and from bust point to the lower edge of waist tape are recorded separately (check verbally with the subject for exact CF bust and waist).

16. MIDSHOULDER TO BUST POINT
17. BUST POINT TO SIDE WAIST

Measured in one motion from the mid-shoulder to the side waist, after the midpoint of the shoulder seam and a point on waistline half way between CF and side seam are established. Distances to the bust-point are recorded separately.

18. SHOULDER TIP TO FRONT BUST LEVEL
19. FRONT BUST LEVEL TO WAIST

Measured in one motion from shoulder tip to waist, after establishing a measurement point on the waist 1" in front of the side seam. Distances to the intersecting point at bust level are recorded separately.

20. CB NECKBASE TO CB BUST LEVEL
21. CB BUST LEVEL TO CB WAIST

Measurement procedure same as for 14 - 15 above.

22. MIDSHOULDER TO SIDE BUST LEVEL
23. SIDE BUST LEVEL TO SIDE WAIST

Measured in one motion from shoulder to side waist, after establishing points at bust and waist levels, half way between the CB and side seam. Distances to bust level recorded separately.

24. SHOULDER TIP TO BACK BUST LEVEL
25. BACK BUST LEVEL TO WAIST

Measurement procedure same as for 18 - 19 above.

Arm Measurements

26. CAP WIDTH (UPPER ARM WIDTH): On a level half way between shoulder tip and girth, from front to back armscye points (armscye points are also used for narrowest part of front and back measurements).

27. GIRTH: Circumference of the fullest part of the upper arm at a level established by the underarm point. (Measured with the tape held loosely while the arm is perpendicular to floor).

28. ELBOW: Measured around fullest part of the elbow over the bone when the elbow is bent.

29. SLEEVE LOWER EDGE: For the three-quarter length pushup sleeve this measurement was the circumference of arm was on a level with inside part of the bent elbow as shown in Figure III. (For a long-sleeved garment this measurement would be a wrist measurement.)

30. OVERARM, SHOULDER TO ELBOW: Shoulder tip to elbow bone (measured with arm bent).

31. UNDERARM, ARMPIT TO INSIDE ELBOW: Underarm point to inside part of elbow.

NOTE: For a long-sleeved garment 30 and 31 measurements would have been extended as far as the wrist (to points 18 and 19 shown in Figure II) using one motion of the tape for both the upper arm and lower arm measurements.

Among other instruments used were: a flexible metal tape measure, 1/4" black cotton twill tape (for marking bust, waist and side seam measurement lines), straight pins, and a soft greased pencil (for marking measurement points on the skin).

Measurement Process

1. The knit "vest" was placed over regular undergarments.

2. Black twill tape, with a light weight at one end, was pinned to the underarm position (on each side) where side seam normally starts. Its lower end was pinned to the "vest" at the waistline in a position perpendicular to the floor.

Tapes were placed around the bust line parallel to the floor. These were secured to the "vest" with pine placed at the bust point, side seams, CB and CF.

The waist tape was pinned smoothly (but not tightly) around the waist circumference. Pins were placed at all measurement points at the waist level.

3. All the body measurements (illustrated in Figure III, page 11 and explained in Table II, pages 12-14) were taken and recorded to the nearest eighth of an inch. Body measurements taken with a metal tape tended to be slightly shorter than those which might be taken with a linen tape. For that reason it was found best to take circumference measurements "slightly loose" rather than "slightly tight."

All vertical measurements were taken to the middle of the bust tape, but to the lower edge of the waist tape, to allow adequate waist length.

It was important that the subject stand as straight, but as relaxed, as possible. A "slumping" subject could make vertical measurements too short, while a very stiff subject (e.g., one who held her breath while her waist was being measured) could increase the bust measurement and decrease the waist measurement.

4. After all measurements were taken each subject's weight and height were recorded and her individual figure characteristics were observed and recorded. The characteristics checked included points of posture, bone structure and flesh distribution.

Translating Measurements into Pattern Alterations

1. Correct pattern size was determined by trying on fitting jackets made from standard basic patterns. Each pattern was measured in the areas which corresponded to the body measurements shown in Figure IV, page 17.

2. Each set of body measurements was then subtracted from its corresponding set of pattern measurements to obtain the difference between them.

3. Standard ease allowances[1] were subtracted from the differences between measurements when there was a "plus" difference (e.g. when the pattern measurement was larger than the body measurement in that area). Ease allowances were added to the differences between measurements when there was a "minus" difference (e.g. when the pattern measurement was

---

[1] Marion S. Hillhouse and Evelyn A. Mansfield, Dress Design, Draping and Flat Pattern Making, (New York: Houghton Mifflin Co., 1948), pp. 24-27, 113-116.

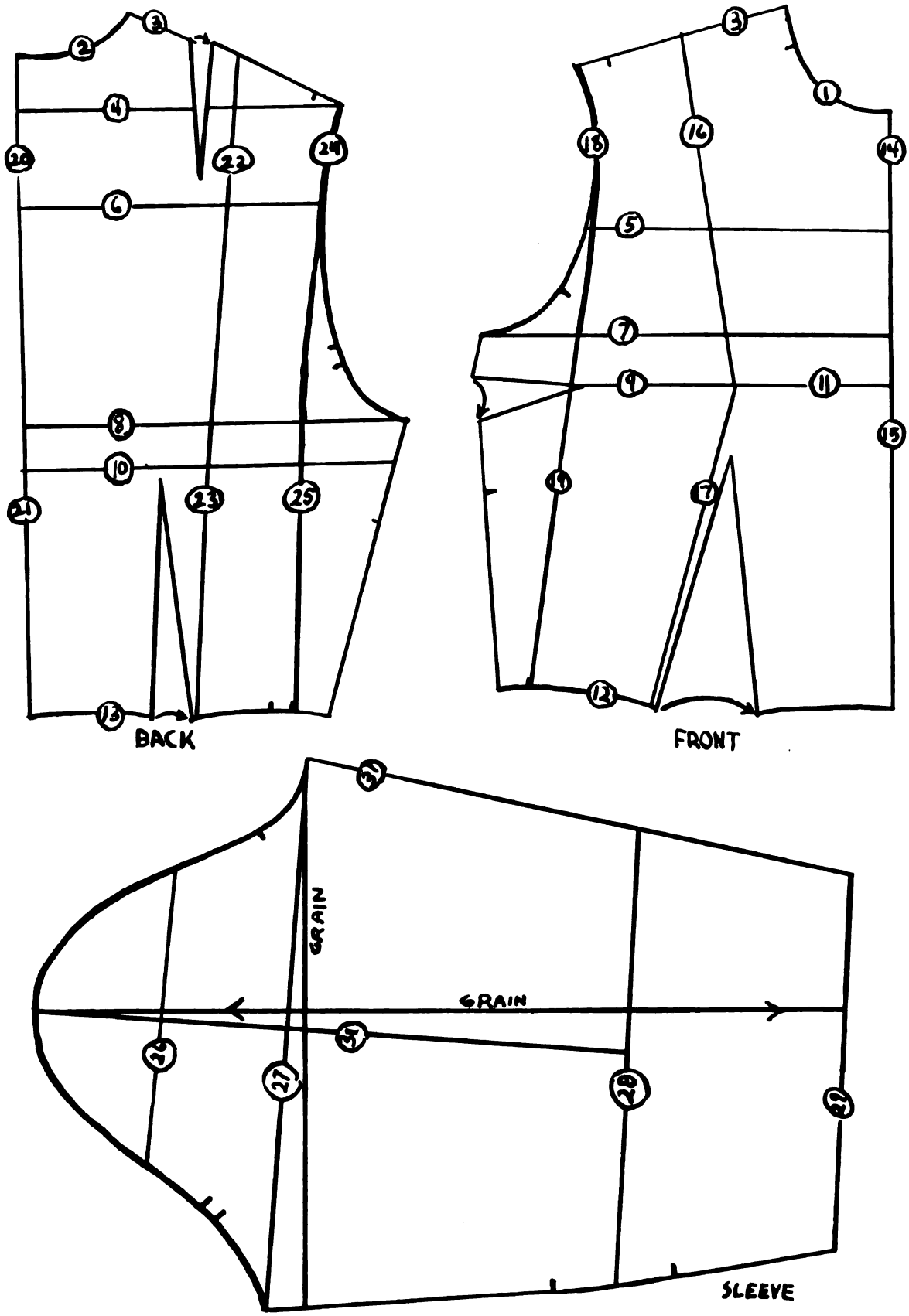


FIGURE 4. PATTERN MEASUREMENTS WITH CORRESPONDING BODY MEASUREMENTS

smaller than the body measurement in that area). Ease allowances were made only in areas where they were needed for ease of body movement.

4. When measurements were too short or too long these differences were noted. The exact amount to be added or subtracted was then written directly on the pattern at its exact location.

5. When all pattern differences were written on each pattern tissue, these differences were checked in this order:

a. All vertical measurements to bust line - front, then back.
b. All vertical measurements to waist - front, then back.
c. All horizontal measurements on the same level (e.g. bust or waist), starting at the top of the pattern, progressing downward.
d. All sleeve measurements - horizontal, then vertical

Note that all changes in armhole size also require adjustments in sleeve ease (and vice versa). Therefore, both armhole and sleeve measurements were checked against each other as the last step before the fitted pattern was ready to be laid on the fabric. Sleeve ease was then reduced or increased accordingly, so that there would be the correct amount of ease in the front and back sleeve cap.

6. Related alterations were combined as often as possible.

7. Observations of figure characteristics were compared to numerical changes indicated. These figure observations were often useful in deciding at which point on a specific line an alteration should be made.

8. All alterations were planned before any single part of the pattern was changed.

9. Closely related measurements (e.g., scye and bust) often served as checks against each other in making certain that planned alterations were correct. This check was especially necessary if changes were very great or if they did not seem to coincide with figure characteristics.

10. The complete measurement plan was then rechecked and carried out. First, corrections within the pattern were made, then darts and seam lines were corrected and trued (or "smoothed out," where overlappings or slashes did not coincide exactly). For a detailed account of the procedures used to translate measurements into pattern alterations see Appendix B.

Making Altered Patterns into Muslin Proofs

1. The pattern was laid out and pinned to the muslin.[1] All seams, darts and notches were traced on to the muslin in contrasting-colored carbon paper.

2. These pattern pieces were cut out with one inch seam allowances all around, except the lower edge, which was given an inch and a half allowance.

3. These muslin proofs (consisting of fronts and a back with a separate right sleeve) were sewn together with a long machine stitch (6 stitches per inch) on the traced lines.

4. All seams and darts were pressed, but no seam edges were finished.

---

[1] Evelyn A. Mansfield, Clothing Construction, (New York: Houghton Mifflin Company, 1953) pp. 115-119.

II. PIN FITTING PROCEDURES

Use of Subjects and Pattern

The same subjects who were measurement fitted were also pin fitted. The same pattern, Vogue 8937, was likewise used in both cases, so that the only foreseeable variation would be in the fitting methods. In order that transference of ideas from pin fitting to measurement fitting might be avoided, the two methods were never compared, and the two separate sets of pattern tissues were not placed side by side until they were cut out in muslin.

Pin Fitting Procedures

Standard pin fitting procedures were used (as discussed in detail in Evelyn A. Mansfield's Clothing Construction[1]). Pattern tissues were pressed and pinned together as indicated, then placed on the subject and pinned to horizontal ribbons at CF and CB neckbase, bustline, and waist. Again, the knitted cotton "vest" was used to support the horizontal ribbons.

Excess ease was pinned out with wedges or overlappings; areas with inadequate ease were slashed and spread, with spread areas pinned to an extra piece of tissue underneath. These correction wedges, overlappings and slashes were then transferred to existing seams and darts, or created new darts.

---

[1] Evelyn A. Mansfield, Clothing Construction, (New York: Houghton Mifflin Company, 1953) pp. 54-76; 83-94.

Making Altered Patterns into Muslin Proofs

This procedure exactly duplicated the one used for the measurement fitted muslins described on page 19.

III. COMPARISON OF BOTH FITTING METHODS

The Perfectly Fitted Garment

Before the success of the measurement fitting method could be evaluated, it was necessary to compare the results of both methods. First, standards for judging both methods were set up. These standards consisted of all the features that should be found in a perfectly fitted garment. They include:

1. COMFORT. Sufficient ease for comfortable body movement.
2. APPEARANCE. Smooth fitting appearance with no excess fabric held in bulges or wrinkles (except for ease).
3. CAMOUFLAGE. Concealment of figure irregularities caused by a variation in posture, bone structure, or flesh distribution.
4. STYLE. Helped to carry out design effect (a blousy bodice should have sufficient ease to create the effect desired, but not so much that it would be uncomfortably loose; a princess line dress should be smooth, but not too tightly fitted).

Comparing Results

The measurement and pin fitting methods were compared on the following basis:

1. The number of fitting faults that showed in the muslin proof.
2. The importance of each fault--whether it could be corrected without making a major change in the structure of a pattern section (e.g., if a bulge indicated that the entire upper back section had to be redraped, it was considered a major

change) or whether the fault required a simple edge correction (e.g., raising or lowering shoulders, increasing or decreasing waist circumference).

3. Each measurement fitting fault was analyzed to determine whether it was caused by incorrect ease allowance, incorrect placement of body landmarks, or whether the fault was caused by an unusual body contour which could not be located with the measurements available.

4. The comfort of each bodice was judged by the individual on whom it was fitted.

CHAPTER III

PRESENTATION OF DATA

This chapter is divided into three sections. The first includes definitions of many terms used in a specialized way in the discussions of the fitting methods.

The second section consists of a brief discussion of figure types as they were used in this study, and a chart showing the figure type of each individual in the study.

The third section contains detailed diagrams and a discussion of each of the twenty figures used in the study. Each individual figure was given a code number. The first number of each figure represents its pattern size. The second number indicates the order in which the figure was fitted. All figures are arranged in numerical order, with size 12-1 followed by 12-2, to 12-5. The size 14's, 16's and 18's followed the same pattern.

The report for each figure includes:

1. Figure Analysis
   a. Size of the figure
   b. Figure characteristics

2. Pin Fitting Data
   a. Diagram of alterations in the pin fitted bodice
   b. Tissue overlay of changes needed in the muslin proof of the bodice
   c. Detailed explanation of each pattern fault and its alteration technique

3. Measurement Fitting Data
   Same as for pin fitting

4. A comparison of the results of measurement and pin fitting for the individual figure

In the diagrams solid lines represent the original pattern outline; broken lines indicate pattern revisions. Shaded areas indicate overlapped areas where pattern size was reduced. Although each quarter size diagram was drawn to scale as closely as possible, some alterations were exaggerated to show them more clearly.

I. DEFINITIONS OF TERMS USED IN PRESENTATION OF DATA

BALANCE - A balanced relationship between the front and back of the bodice above and below an imaginary line drawn through the fullest part of the bust, parallel to the floor (Appendix C, figure 17, page 153.

BELOW SCYE LINE - Refers to a line across the back of the bodice, between the waist dart point and scye line.

BULGE - A large definite fold at a seam edge, tapering off within the pattern; caused by excessive fulness held in one area.

CB - Center back.

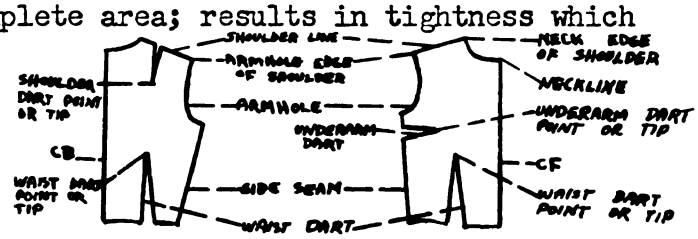
CF - Center front.

EASY - Having more than average ease (usually desirable).

EXCESS - More ease than needed for comfortable movement; results in unflattering wrinkles or bulges.

INADEQUATE - Insufficient ease for comfortable movement; insufficient amount to cover the complete area; results in tightness which pulls adjacent areas.

LOCATION OF FITTING AREAS IN QUARTER SIZE DIAGRAMS



MASTER PATTERN - Basic pattern with no special style features; has minimum darting required to shape the garment to the figure; used in pattern drafting as a foundation from which more intricately designed styles are developed.

MUSLIN PROOF - The muslin bodice made from each pattern tissue that was pin fitted and measurement fitted. Each individual in the study had one pin fitted and one measurement fitted muslin proof.

OVERLAP - Alteration to shorten an area between two pattern edges; the slashed edge is laid over the corresponding edge to eliminate excess length or width.

PROMINENT - Bone or flesh area outstanding enough to cause a wrinkle or bulge to radiate from it.

PUFF - A small raised area of excess fulness concentrated at a dart tip; caused by a too sharply tapering dart or a dart which ends over a flat area.

REDRAPING - Procedure used to correct fitting faults of a garment that has been basted together; it requires shifting of the faulty pattern piece(s) and adjustment of related dart and seam edges until a good fitting effect is achieved.

SCYE - The balance line of the bodice--a level line a half inch below the armpit when the arm is down at the side; the lowest part of the armhole.[1]

SLIGHT - (referring to a correction) An amount small enough to be eased or simply eliminated in a seam or dart edge.

SMOOTH FITTING - Having a small amount of ease (sometimes, but not always desirable).

WEDGE - Triangular overlap, eliminating excess at one end (at a dart or seam edge), tapering off to nothing at the other end; very often a wedge tapers off within the pattern, and a slash is then introduced to flatten the pattern and transfer ease to another edge.

WRINKLE - A small fold (or group of small parallel folds) indicating too much ease or too little ease between two points within the pattern piece.

---

[1] Marion S. Hillhouse and Evelyn A. Mansfield. Dress Design, (Houghton Mifflin Company, New York, 1948), pp. 193-4.

II. FIGURE CHARACTERISTICS

To give a clear picture of the general build of each individual in the study, each figure was "typed." Individual height-weight relationships were established by comparing them with tables of average height and weight relationships for specific age groups.

Since the tables set up by two authorities[1] differed slightly, each figure on both tables was averaged to obtain the average weights used.

Heights were arbitrarily described as "short" for figures 5'1" to 5'4", "medium" for figures 5'4" to 5'7", and "tall" for figures 5'7" to 6'.

Weight descriptions were classed differently. Each classification was based on the number of pounds it differed from the established average weight for its height. Weight classes included:

Extremely slender	- more than 10, but less than 20 lbs. lighter than average
Very slender	- more than 5, but less than 10 lbs. lighter than average
Slender	- less than 5 lbs. lighter than average
Average	
Average full	- less than 5 lbs. heavier than average
Slightly full	- more than 5, but less than 10 lbs. heavier than average
Very full	- more than 10, but less than 20 lbs. heavier than average
Extremely full	- more than 20 lbs. heavier than average

---

[1] Grace MacLeod and Clara Mae Taylor, Rose's Foundations of Nutrition (Macmillan Company: New York, 1944), p. 571; Harry Hansen, ed., Average Height and Weight (Equitable Life Assurance Society, 1940), The World Almanac and Book of Facts for 1957 (New York: New York World-Telegram and the Sun, 1957) p. 376.

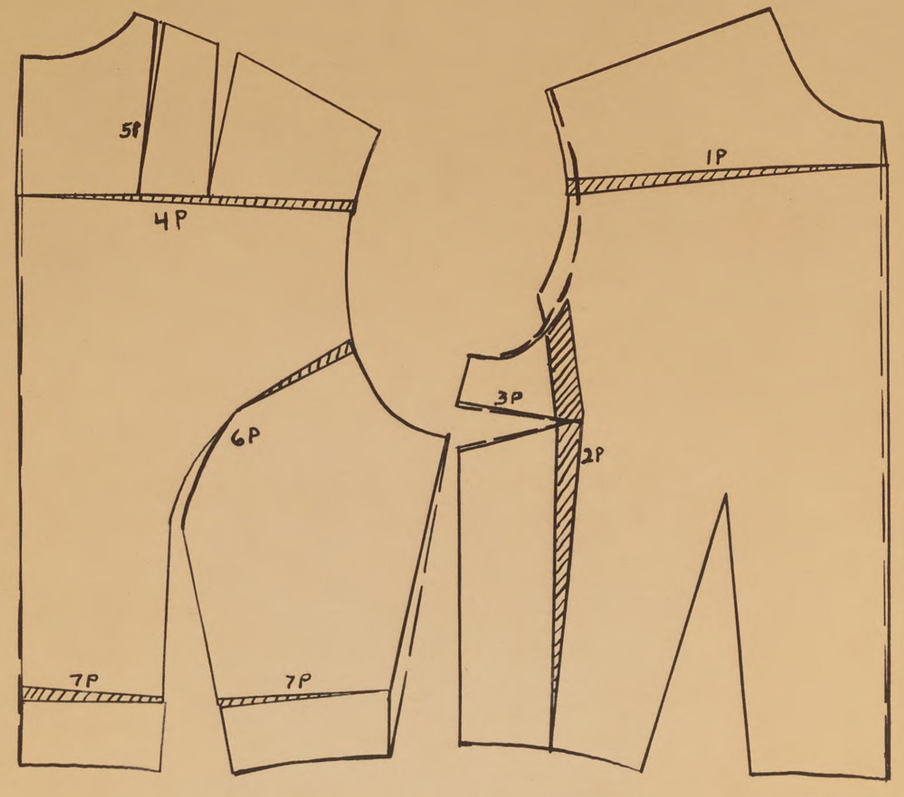
TABLE III

FIGURE TYPES REPRESENTED IN THIS STUDY

	SHORT				MEDIUM				TALL			
	12	14	16	18	12	14	16	18	12	14	16	18
Extremely slender					X				X			
Very slender					X					X		
Slender												
Average	X				X	X						
Average full		X				X	X					X
Slightly full		X										
Very full							X				XX	
Extremely full								X			X	XXX

III. DIAGRAMS AND DISCUSSION OF PIN FITTED AND MEASUREMENT FITTED BODICES

Pattern Fault	Pattern Alteration
FRONT	
1P - Horizontal wrinkle - CF neck-base to armhole	Horizontal wedge - CF (0") to armhole (3/4")
2P - Excess side width - armhole to waist	Vertical wedge - armhole (1") to waist (1/8")
3P - Underarm dart puffy (due to excess depth)	Horizontal overlap through dart to 2P correction reducing dart depth (1/8")
BACK	
4P - Horizontal wrinkle - armhole to CB below neckbase	Horizontal wedge - CB (0") to armhole (3/4")
5P - Inadequate ease over shoulder blade	Vertical slash-spread shoulder (1/8") to 4P alteration
6P - Diagonal bulge - armhole to waist dart point (due to in-adequate ease over lower part of shoulder blade)	Curved diagonal wedge - armhole (1/4") to side back, spread at dart point (1/4"); resulted in deeper waist dart
7P - Bodice too long at CB	Horizontal overlap - CB (3/8") to side seam (0")



PIN FITTING

12-1 FIGURE SIZE

PATTERN SIZE 12

BUST 32

WAIST 24 3/4

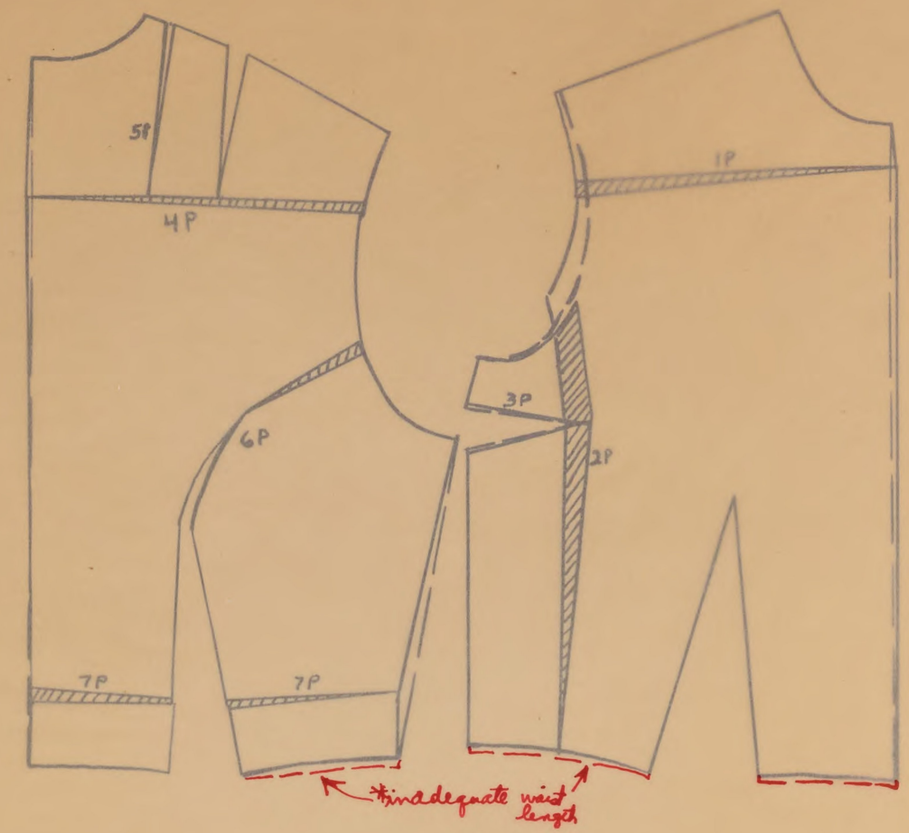
HIPS --

HEIGHT 5'4"

WEIGHT 120 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Horizontal wrinkle - CF neck-base to armhole	Horizontal wedge - CF (0") to armhole (3/4")
2P - Excess side width - armhole to waist	Vertical wedge - armhole (1") to waist (1/8")
3P - Underarm dart puffy (due to excess depth)	Horizontal overlap through dart to 2P correction reducing dart depth (1/8")
BACK	
4P - Horizontal wrinkle - armhole to CB below neckbase	Horizontal wedge - CB (0") to armhole (3/4")
5P - Inadequate ease over shoulder blade	Vertical slash-spread shoulder (1/8") to 4P alteration
6P - Diagonal bulge - armhole to waist dart point (due to inadequate ease over lower part of shoulder blade)	Curved diagonal wedge - armhole (1/4") to side back, spread at dart point (1/4"); resulted in deeper waist dart
7P - Bodice too long at CB	Horizontal overlap - CB (3/8") to side seam (0")

* easy to correct
x difficult to correct



PIN FITTING

12-1 FIGURE SIZE

PATTERN SIZE 12

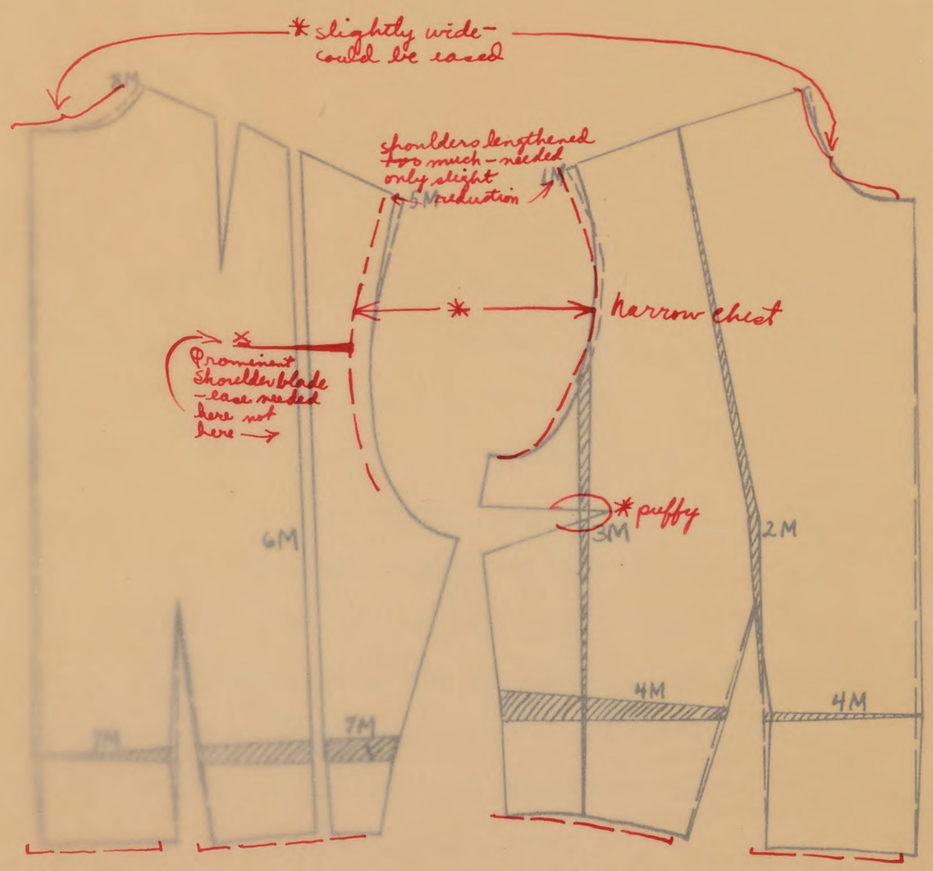
BUST 32

WAIST 24 3/4

HIPS --

HEIGHT 5'4"

WEIGHT 120 lbs.



MEASUREMENT FITTING

II-1 FIGURE CHARACTERISTICS

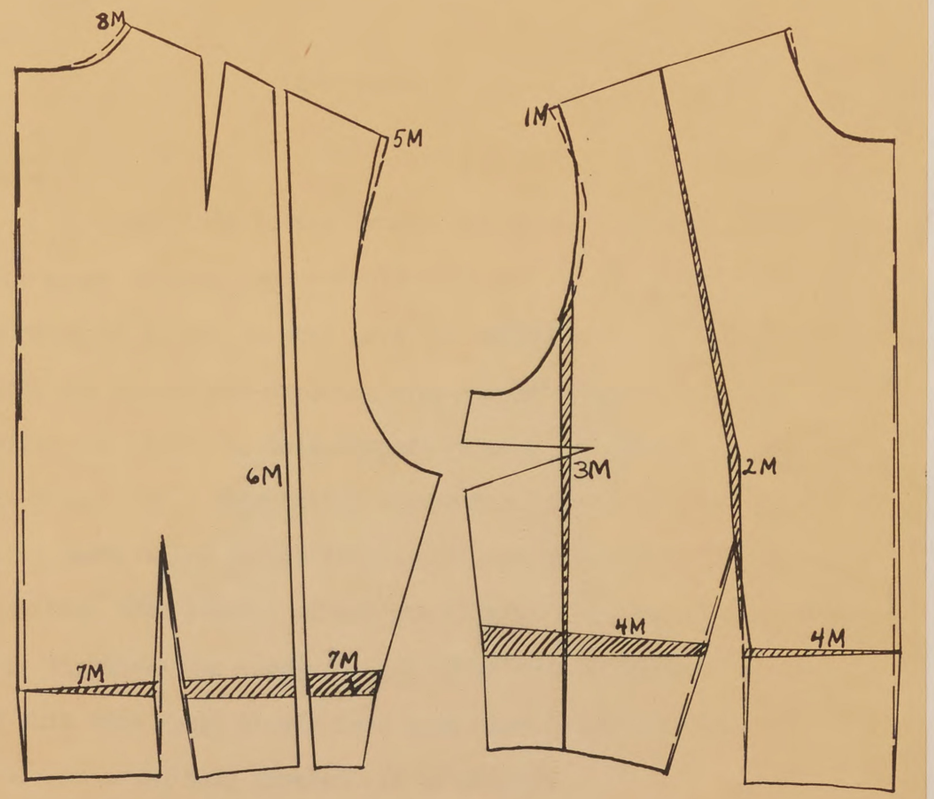
Average stature, average weight

Medium length and thickness
Prominent shoulder bone
Prominent chest cones

Head and neck thrust forward
Long, bony, slightly prominent shoulder blades
Average height bust

Medium
Small to medium bust
Front midriff slightly fleshy.
Shoulder line--bony
Arm girth--medium

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder seam lengthened - at neck edge (1/8") and armhole edge (1/4")
2M - Excess bust width	Vertical wedge - shoulder (0") to waist dart point, reducing bust width (3/8")
3M - Excess side width	Vertical wedge - armhole (3/8") to waist (0")
4M - Excess side seam length	Horizontal wedge above waist - side seam (1") to CF (0")
BACK	
5M - Inadequate shoulder length	Shoulder seam lengthened - at neck edge (1/8") and armhole edge (1/4")
6M - Inadequate width - shoulder to waist	Vertical slash spread evenly - shoulder to waist (1/4"); shoulder addition was eased
7M - Excess side seam length	Horizontal wedge above waist-side seam (1") to CF (0")



MEASUREMENT FITTING

12-1 FIGURE CHARACTERISTICS

FIGURE TYPE: Average stature, average weight

BONE STRUCTURE: Medium length and thickness
Prominent shoulder bone
Prominent chest cones

POSTURE: Head and neck thrust forward
Long, bony, slightly prominent shoulder blades
Average height bust

FLESH DISTRIBUTION: Medium
Small to medium bust
Front midriff slightly fleshy
Shoulder line--bony
Arm girth--medium

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder seam lengthened - at neck edge (1/8") and armhole edge (1/4")
2M - Excess bust width	Vertical wedge - shoulder (0") to waist dart point, reducing bust width (3/8")
3M - Excess side width	Vertical wedge - armhole (3/8") to waist (0")
4M - Excess side seam length	Horizontal wedge above waist - side seam (1") to CF (0")
BACK	
5M - Inadequate shoulder length	Shoulder seam lengthened - at neck edge (1/8") and armhole edge (1/4")
6M - Inadequate width - shoulder to waist	Vertical slash spread evenly - shoulder to waist (1/4"); shoulder addition was eased
7M - Excess side seam length	Horizontal wedge above waist-side seam (1") to CF (0")

12-1 Comparison of Results

FRONT:

Although both bodice fronts fitted well after initial alterations, some minor fitting improvements were made in the muslin proof. The measurement fitted garment gave the bustline a flat appearance because width was lapped out directly over the bust point. The pin fitted bodice was better in this respect because excess was removed only at the side front. This latter correction did not change the size of the waist dart; thus, in pin fitting, the original amount of bust ease was retained. The armhole of the pin fitted bodice was tight, though. This tightness was caused by the large side front overlap (2P). Part of this wide wedge should have been directed to the shoulder seam, where it could have tapered off to nothing.

The tip of the underarm dart in the measurement fitted bodice was puffy. This was remedied by lengthening the dart slightly.

BACK:

A typical difficulty of measurement fitting was brought out in the measurement fitted back. Measurements indicated that additional ease was needed at the upper back, scye level and waist. To provide additional width a straight vertical slash was made and spread through the side back. The muslin proof fitting showed that the alteration did not increase back ease where it was needed most. More back ease was needed nearer CB, over a prominent shoulder bone, rather than at the side back.

In the pin fix

the shoulder bone

[redacted]:

The position o

decreased front whic

in redistributing wi

mens indicated that

where the change sho

[redacted]

The unaltered

altered in the pin f

there was a deep fu

after back armhole;

In the pin fitted pattern the required width was directed over the shoulder bone (4P), and above the waist dart (5P).

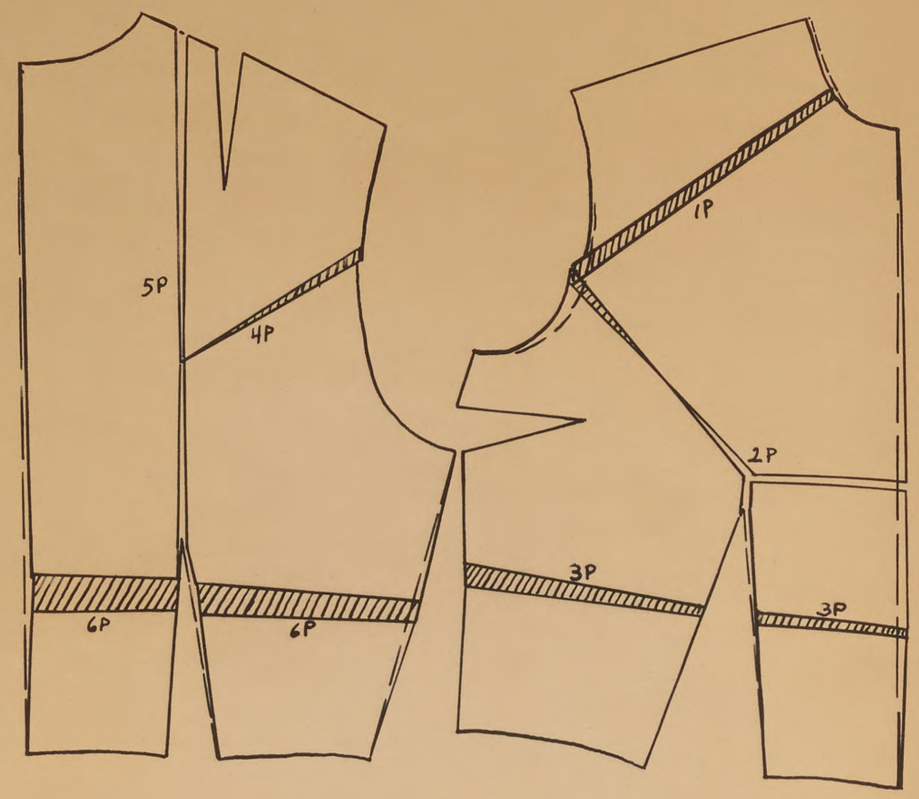
COMMENT:

The position of the alteration which increased back width and decreased front width was different in each bodice. Pin fitting helped in redistributing upper back ease exactly where it was needed. Measurements indicated that more width was needed, but could not tell exactly where the change should be made.

THE UNALTERED MUSLIN:

The unaltered muslin bodice revealed the same faults as those altered in the pin fitted tissue. The shoulder seam was too long; there was a deep front armhole bulge; there was also a bulge at the upper back armhole; and the entire bodice was long waisted.

Pattern Fault	Pattern Alteration
FRONT	
1P - Diagonal wrinkle - neck to armhole	Diagonal overlap - neckline (1/4") to armhole (1/2")
2P - Bulge - armhole to bust point (due to inadequate length and width over bust point)	Diagonal slash - overlapped at armhole (1/2") and spread at bust point (1/2"); even horizontal spread to CF (1/2")
3P - Bodice too long	Horizontal overlap - side seam (5/8") to CF (1/4")
BACK	
4P - Bulge - armhole to side back (due to inadequate ease held over prominent shoulder blade)	Diagonal wedge - armhole (1/4") to side back, transferring ease into vertical spread 5P
5P - Inadequate ease across back, shoulder to waist	Vertical slash to wedge 4P adding ease at shoulder (1/8") and above waist dart (1/4")
6P - Bodice too long	Horizontal overlap - side seam (5/8") to CB (1-1/2")



PIN FITTING

12-2 FIGURE SIZE

PATTERN SIZE 12

BUST 33

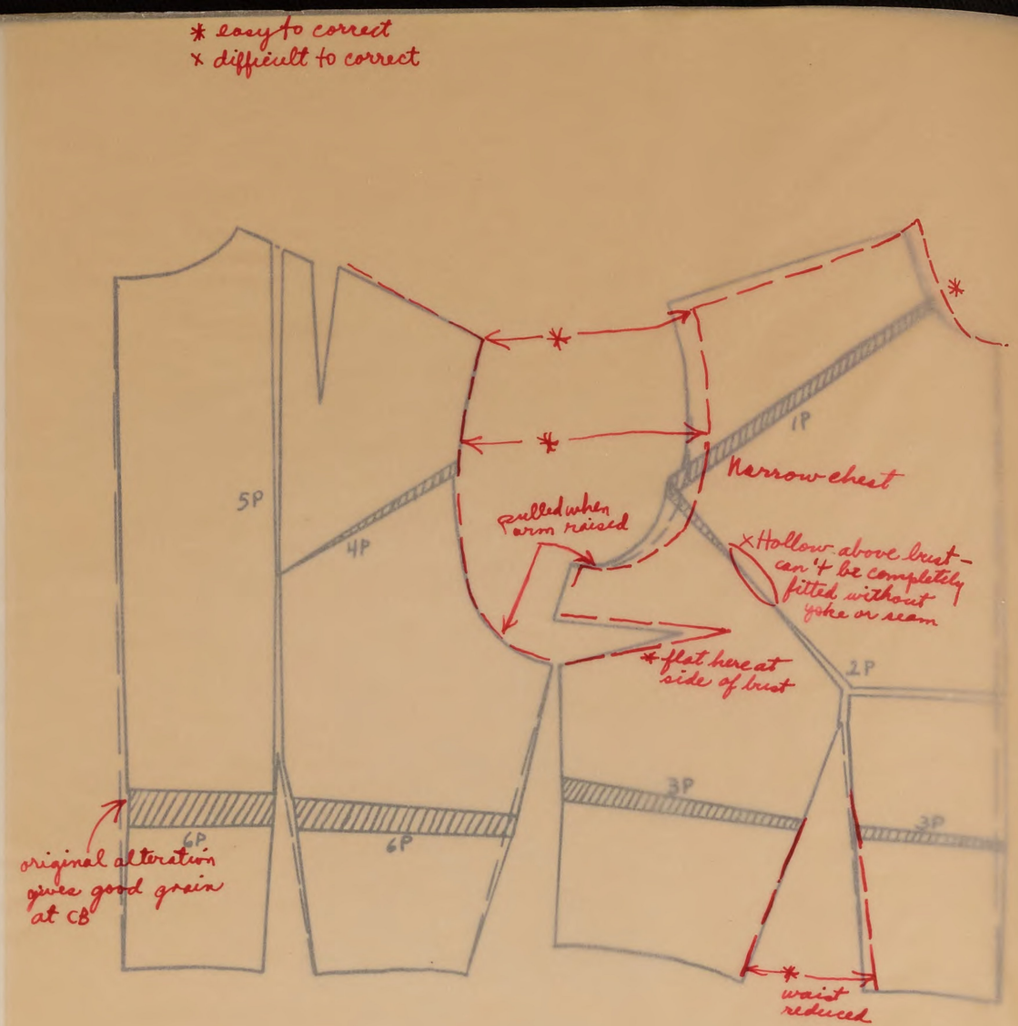
WAIST 23

HIPS --

HEIGHT 5'1"

WEIGHT 112 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Diagonal wrinkle - neck to armhole	Diagonal overlap - neckline (1/4") to armhole (1/2")
2P - Bulge - armhole to bust point (due to inadequate length and width over bust point)	Diagonal slash - overlapped at armhole (1/2") and spread at bust point (1/2"); even horizontal spread to CF (1/2")
3P - Bodice too long	Horizontal overlap - side seam (5/8") to CF (1/4")
BACK	
4P - Bulge - armhole to side back (due to inadequate ease held over prominent shoulder blade)	Diagonal wedge - armhole (1/4") to side back, transferring ease into vertical spread 5P
5P - Inadequate ease across back, shoulder to waist	Vertical slash to wedge 4P adding ease at shoulder (1/8") and above waist dart (1/4")
6P - Bodice too long	Horizontal overlap - side seam (5/8") to CB (1-1/2")



PIN FITTING

12-2 FIGURE SIZE

PATTERN SIZE 12

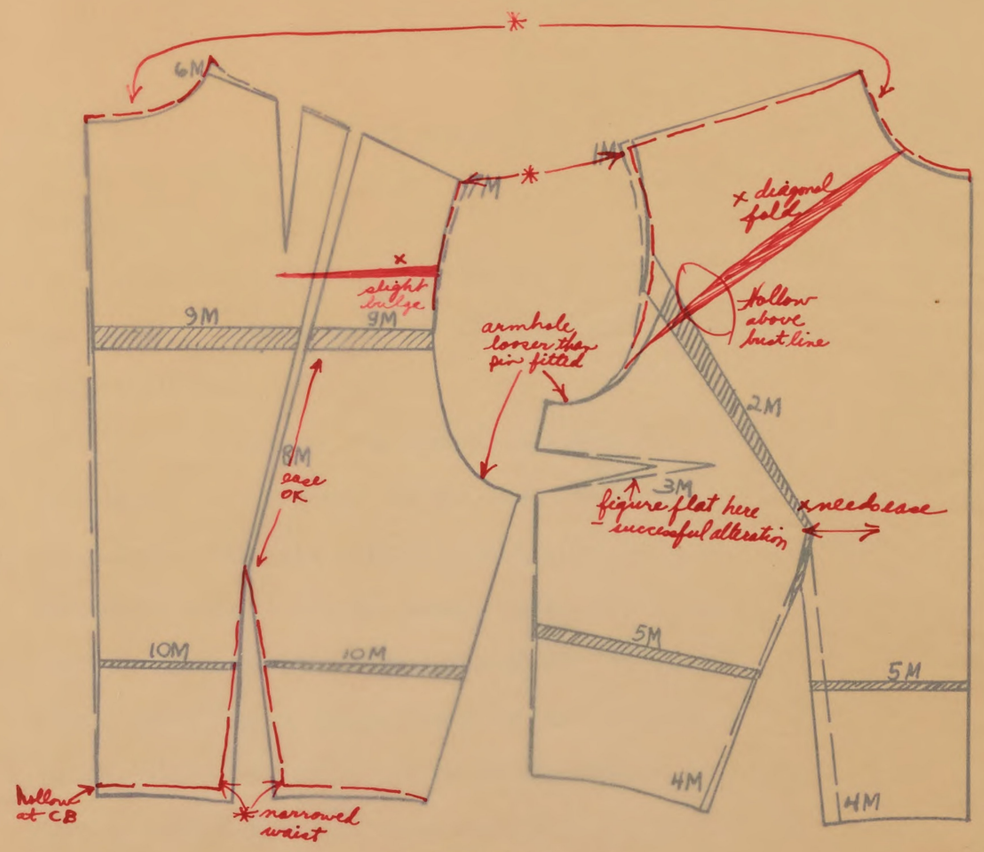
BUST 33

WAIST 23

HIPS —

HEIGHT 5'1"

WEIGHT 112 lbs.



MEASUREMENT FITTING

12-2 FIGURE CHARACTERISTICS

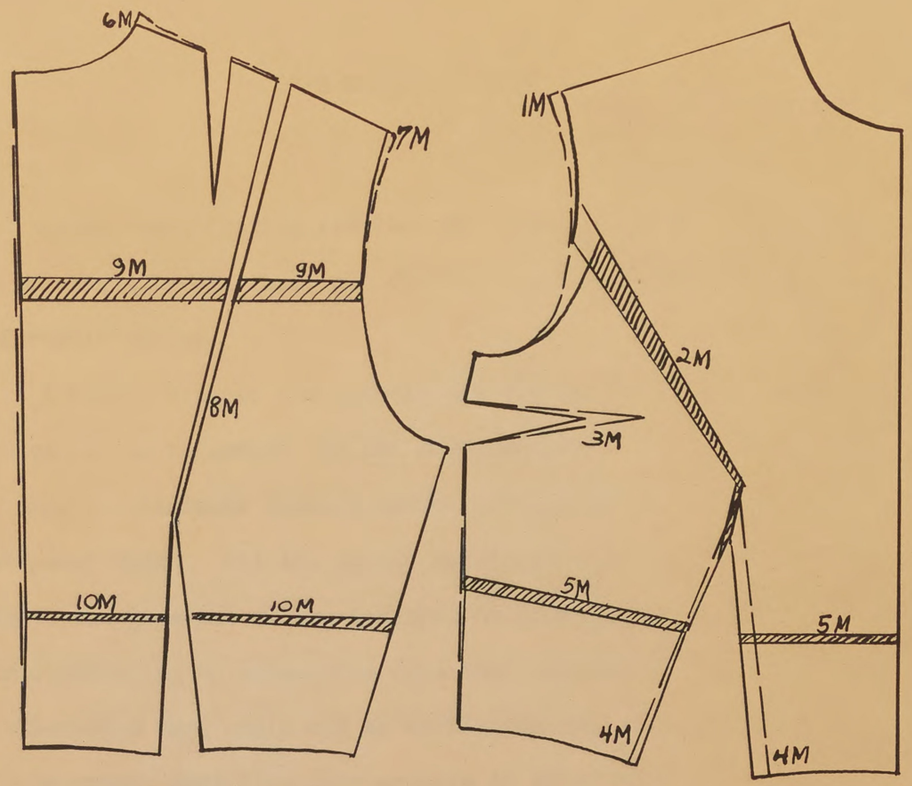
FIGURE TYPE: Short stature, average weight

BONE STRUCTURE: Short length, medium thickness
Narrow chest but slightly prominent chest bones

POSTURE: Shoulders held back, but there is very noticeable hollow in small of back
Chest held forward
Bustline very high

FLESH DISTRIBUTION: Medium
Medium full bust
Flat at side of bust
Midriff front slightly fleshy
Shoulder line--smooth
Arm--medium girth

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder seam lengthened at armhole edge (5/8")
2M - Excess side length and width between armhole and waist dart point	Diagonal overlap - armhole (1") to waist dart point (1/4")
3M - Excess side fulness at bust level	Underarm dart redrawn longer (1-1/2"); this reduced side length
4M - Waist too loose	Entire waist dart deepened (1/2")
5M - Bodice too long	Horizontal overlap - side seam (3/8") to CF (1/4")
BACK	
6M - Neck too tight	Neckline lengthened (1/8") at shoulder edge
7M - Inadequate shoulder length	Shoulder seam lengthened at armhole edge (5/8")
8M - Back too narrow	Diagonal slash - spread shoulder (1/4") to waist dart point (1/8")
9M - Upper back too long	Horizontal overlap - CB (1") to armhole (7/8")
10M - Lower back too long	Horizontal overlap - CB (1/4") to side seam (3/8")



MEASUREMENT FITTING

12-2 FIGURE CHARACTERISTICS

FIGURE TYPE: Short stature, average weight

BONE STRUCTURE: Short length, medium thickness
Narrow chest but slightly prominent chest bones

POSTURE: Shoulders held back, but there is very noticeable hollow in small of back
Chest held forward
Bustline very high

FLESH DISTRIBUTION: Medium
Medium full bust
Flat at side of bust
Midriff front slightly fleshy
Shoulder line--smooth
Arm--medium girth

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder seam lengthened at armhole edge (5/8")
2M - Excess side length and width between armhole and waist dart point	Diagonal overlap - armhole (1") to waist dart point (1/4")
3M - Excess side fulness at bust level	Underarm dart redrawn longer (1-1/2"); this reduced side length
4M - Waist too loose	Entire waist dart deepened (1/2")
5M - Bodice too long	Horizontal overlap - side seam (3/8") to CF (1/4")
BACK	
6M - Neck too tight	Neckline lengthened (1/8") at shoulder edge
7M - Inadequate shoulder length	Shoulder seam lengthened at armhole edge (5/8")
8M - Back too narrow	Diagonal slash - spread shoulder (1/4") to waist dart point (1/8")
9M - Upper back too long	Horizontal overlap - CB (1") to armhole (7/8")
10M - Lower back too long	Horizontal overlap - CB (1/4") to side seam (3/8")

12-2 Summary of Results

FRONT:

Measurement fitting resulted in a bodice with a long-waisted back and too-tight front, while pin fitting produced an easy fitting, comfortable bodice.

A hollow between the armhole and side bust caused the major fitting problem for this figure. In the measurement fitted bodice an attempt was made to eliminate fulness caused by this hollow in an armhole-to-bust point wedge. All the excess could not be eliminated, however, because the greatest excess occurred half way between armhole and bust point, producing an alteration dart that tapered at either end. Such an alteration dart could not be overlapped and transferred out unless a yoke or French dart line from armhole to waist were used. Introduction of an alteration dart (larger at the armhole than at bust point) still left some puffiness over the hollow area of the figure.

In the pin fitted front the alteration dart from armhole to bust was also used, but was shorter than in the measured version. The wedge tapered off and caused the pattern to spread above the bust point, thus introducing more length and width over the fullest part of the bust. An additional neck-to-armhole wedge in the pin fitted front eliminated puffiness between the shoulder line and chest level (the figure required less length in this area than the pattern provided). This excess length between neck and armhole showed up in the muslin proof made from the

measurement fitted pattern. (Measurements did not indicate that this alteration was needed.)

BACK:

The pin fitted back fit very smoothly. The measurement fitted back did not fit as well, since its upper ease was not distributed evenly. A horizontal bulge (from armhole to upper side back) pointed up this fault. Correction of the fault (which could not be predicted by measurements) would require redrawing of the entire back shoulder area.

The back waist dart of the measurement fitted bodice was deepened to accommodate a small waist. The CB of the pin fitted bodice was too long, therefore the waist was redrawn higher.

COMMENT:

Again it was shown that upper back ease could not be redistributed correctly by measurements; although upper back roundness was great enough to cause a bulge, it was not obvious enough to be noted among figure characteristics. Also, the amount of ease needed over the bust point was sometimes difficult to determine by measurements. In this case side seam landmarks may have been incorrectly placed. This error, very easy to make, resulted in an increase of back ease, and a decrease in front ease.

Although it was easy to shorten the CB of the measurement fitted muslin by redrawing the waist higher, CB grain would have been improved

if bodice length

was done in the pi

THE UNALTERED VIEW

The unaltere

design effect. Or

point that did not

was present. A bl

and diagonal wrin

front was too long

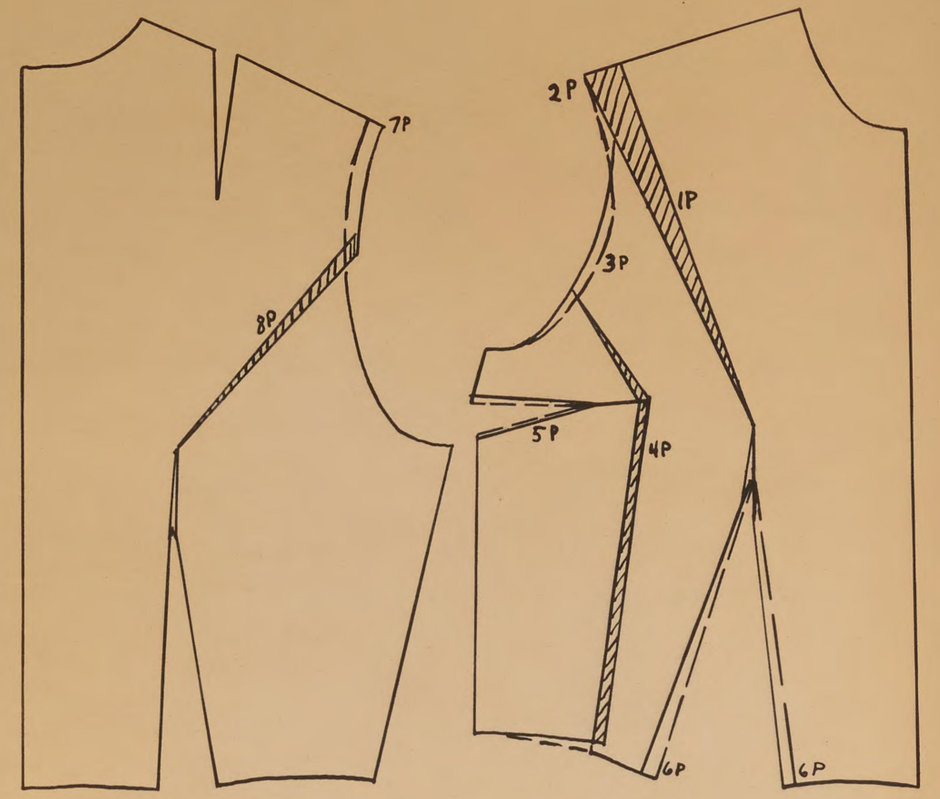
across the entire

if bodice length had been reduced in the original pattern tissue, as was done in the pin fitted bodice.

THE UNALTERED MUSLIN:

The unaltered bodice very definitely lost all of its intended design effect. CF length was almost the only original front bodice point that did not need altering. A diagonal neck-to-armhole wrinkle was present. A blade of excess was held at the armhole at chest level, and diagonal wrinkles appeared from underarm to bust point. The side front was too long, and there was a deep fold directly above the waist across the entire back. Pin fitting eliminated all these faults.

Pattern Fault	Pattern Alteration
FRONT	
1P - Deep fold - shoulder edge to bust point	Diagonal wedge - shoulder edge (1") to bust point (0")
2P - Excess shoulder length	Armhole edge of shoulder shortened (5/8") by wedge 1P
3P - Excess chest width	Armhole curved inward (3/8")
4P - Excess width at side, from bust level to waist	Wedge - armhole (0") to waist (1/4"), touching underarm dart tip
5P - Underarm dart too puffy	Wedge through underarm dart to 4P, decreasing dart depth (1/4")
6P - Waist dart position unattractive (made CF panel appear wide)	Waist dart position shifted (1/2") closer to CF
BACK	
7P - Excess shoulder length	Shoulder seam shortened at armhole edge (5/8")
8P - Bulge - armhole to side back	Diagonal wedge - armhole (3/8") to scye line (0")



PIN FITTING

12-3 FIGURE SIZE

PATTERN SIZE 12

BUST 32 5/8

WAIST 24 5/8

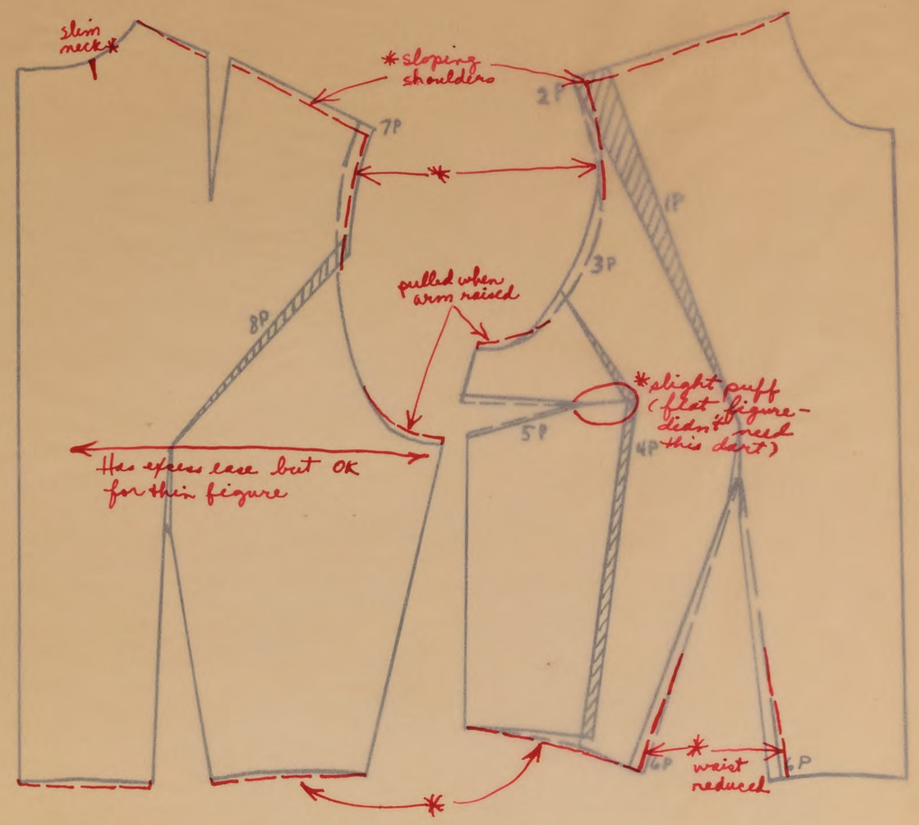
HIPS --

HEIGHT 5'7 1/2"

WEIGHT 120 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Deep fold - shoulder edge to bust point	Diagonal wedge - shoulder edge (1") to bust point (0")
2P - Excess shoulder length	Armhole edge of shoulder shortened (5/8") by wedge 1P
3P - Excess chest width	Armhole curved inward (3/8")
4P - Excess width at side, from bust level to waist	Wedge - armhole (0") to waist (1/4"), touching underarm dart tip
5P - Underarm dart too puffy	Wedge through underarm dart to 4P, decreasing dart depth (1/4")
6P - Waist dart position unattractive (made CF panel appear wide)	Waist dart position shifted (1/2") closer to CF
BACK	
7P - Excess shoulder length	Shoulder seam shortened at armhole edge (5/8")
8P - Bulge - armhole to side back	Diagonal wedge - armhole (3/8") to scye line (0")

* easy to correct
× difficult to correct



PIN FITTING

12-3 FIGURE SIZE

PATTERN SIZE 12

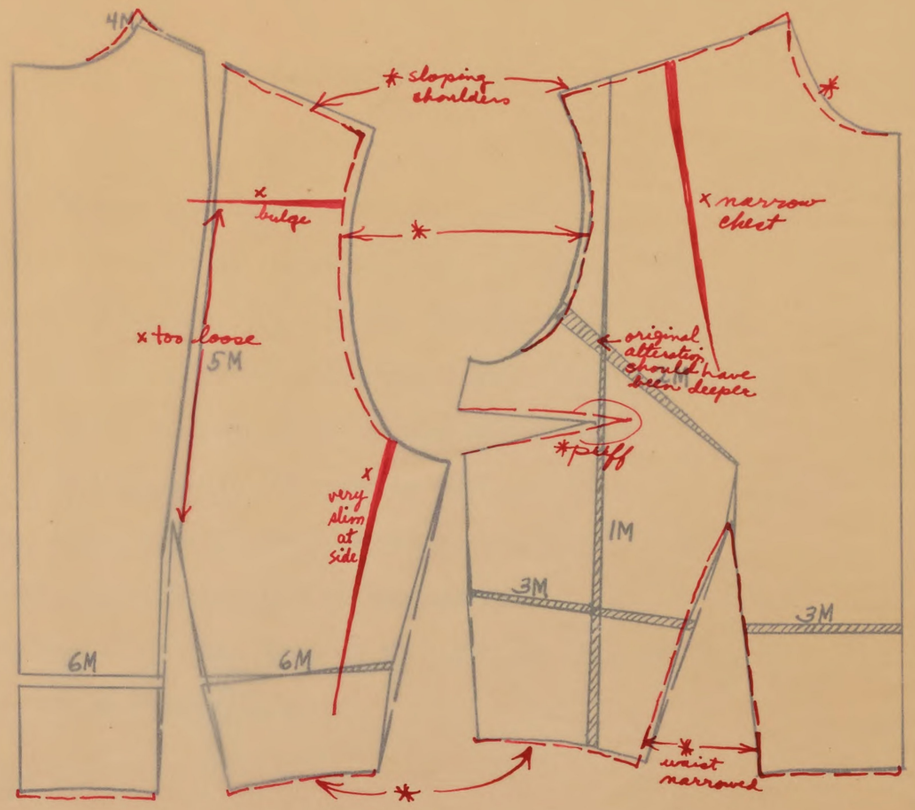
BUST 32 5/8

WAIST 24 5/8

HIPS --

HEIGHT 5'7 1/2"

WEIGHT 120 lbs.



MEASUREMENT FITTING

12-3 FIGURE CHARACTERISTICS

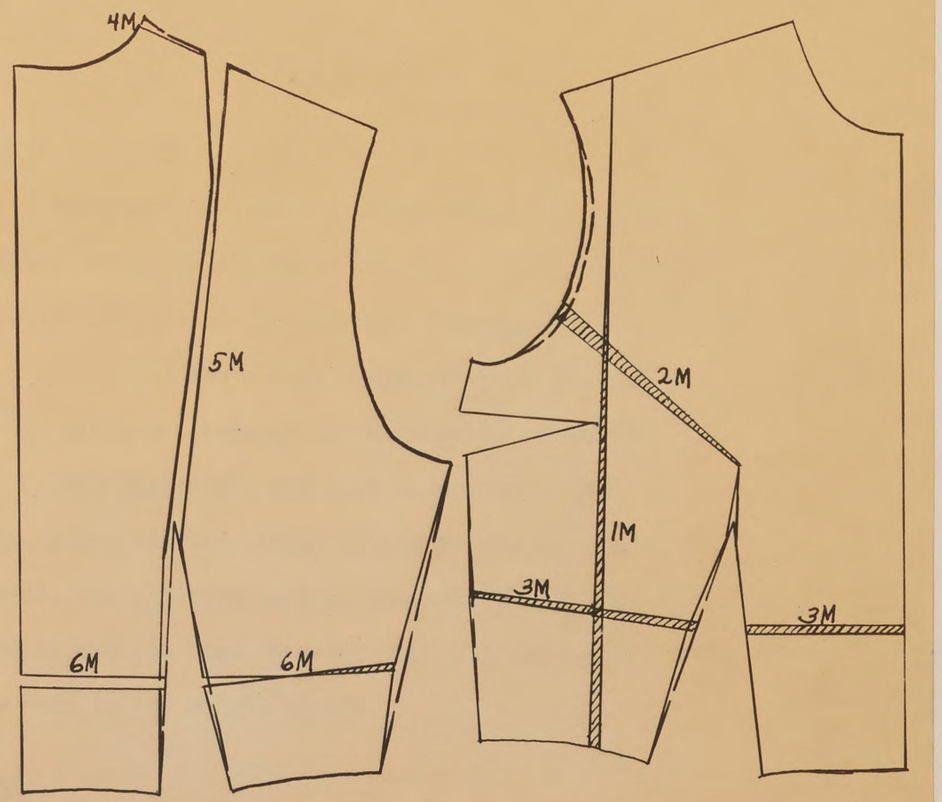
FIGURE TYPE: Tall, extremely slender

BONE STRUCTURE: Long, fine to medium thickness
Prominent elbow joints
Very sloping narrow shoulders
Narrow chest

POSTURE: Head and shoulders thrust forward slightly
High bustline

FLESH DISTRIBUTION: Slender
Small bust
Slightly fleshy at side of bust
Should line--smooth
Arm girth--slim
Slight fleshiness across upper back

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess side width (including too much width at the waist)	Vertical wedge - shoulder (0") to waist (1/4")
2M - Bulge - armhole to bust point	Diagonal wedge - armhole (3/8") to bust point (0")
3M - Bodice too long	Horizontal overlap - side seam (1/4") to CF (1/2")
BACK	
4M - Neck too tight	Neck lengthened (1/8") at shoulder edge
5M - Upper back too tight	Vertical slash spread between shoulder dart (1/8") to waist dart (5/8")
6M - CB too short but side seam was too long	Horizontal slash - spread evenly (1/2") CB to waist dart; tapered from waist dart and overlapped (1/4") at side seam



MEASUREMENT FITTING

12-3 FIGURE CHARACTERISTICS

FIGURE TYPE: Tall, extremely slender

BONE STRUCTURE: Long, fine to medium thickness
Prominent elbow joints
Very sloping narrow shoulders
Narrow chest

POSTURE: Head and shoulders thrust forward slightly
High bustline

FLESH DISTRIBUTION: Slender
Small bust
Slightly fleshy at side of bust
Should line--smooth
Arm girth--slim
Slight fleshiness across upper back

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess side width (including too much width at the waist)	Vertical wedge - shoulder (0") to waist (1/4")
2M - Bulge - armhole to bust point	Diagonal wedge - armhole (3/8") to bust point (0")
3M - Bodice too long	Horizontal overlap - side seam (1/4") to CF (1/2")
BACK	
4M - Neck too tight	Neck lengthened (1/8") at shoulder edge
5M - Upper back too tight	Vertical slash spread between shoulder dart (1/8") to waist dart (5/8")
6M - CB too short but side seam was too long	Horizontal slash - spread evenly (1/2") CB to waist dart; tapered from waist dart and overlapped (1/4") at side seam

12-3 Comparison of Results

FRONT:

Neither measurement fitting nor pin fitting perfectly solved the problem of narrow shoulders and chest on this figure with forward-set head and shoulders. Through pin fitting, too much width was removed in a deep shoulder-to-bust wedge; through measurement fitting, not enough width was removed in the shoulder-to-waist wedge.

This figure did not need an underarm dart to hold fulness at the side, since the side front of the figure was extremely flat. As a result, the underarm dart of the measurement fitted bodice held puffiness beyond its tip. Some of this puff was eliminated by lengthening the dart in the muslin proof.

BACK:

The pin fitted bodice looked and felt comfortable. Too much width added to the lower back of the measurement fitted bodice made it too large. Although there was also extra ease in this part of the pin fitted back, there was not enough ease to make the back of the pattern appear too large. The small amount of extra fulness helped this slender figure appear slightly fuller.

COMMENT:

Two apparently contradictory aspects of fitting were considered in altering the bodices for this slender figure. One, that the garment should not appear too large (too much ease would cause this); the other--

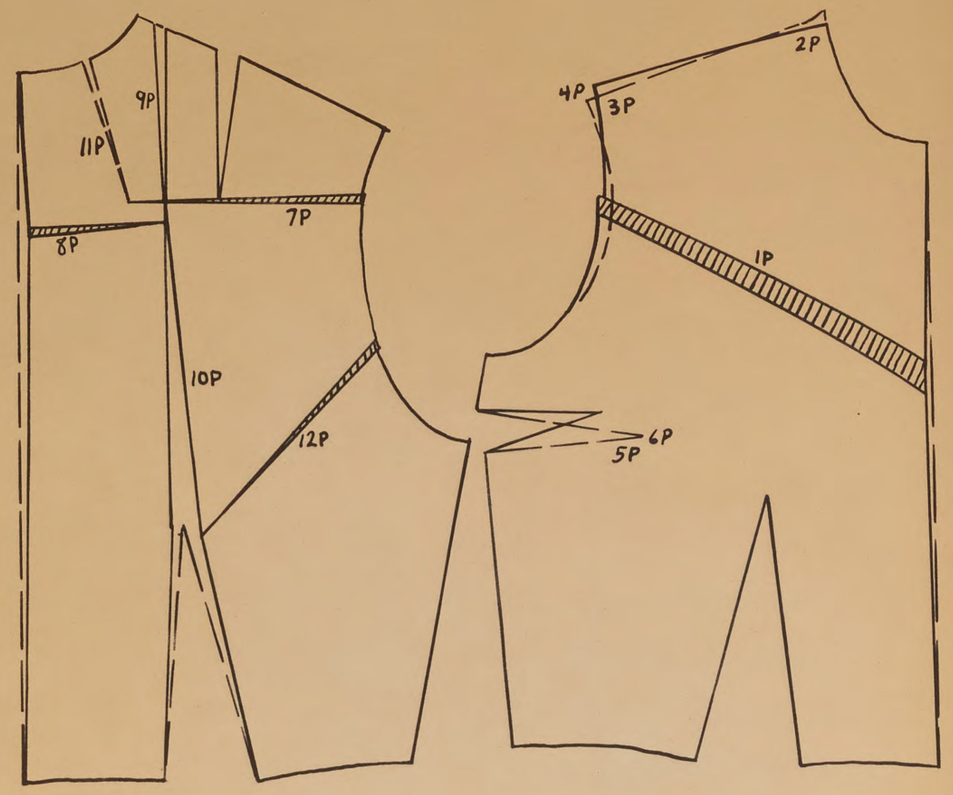
that the garment should create the illusion of a fuller figure (more than the normal amount of ease could accomplish this). It was quite difficult to fulfill both these requirements through measurement fitting, since there was no way of knowing exactly how the rounded body contours would distribute ease throughout the bodice. During the pin fitting the fulness of the tissue could be observed, and an extra ease allowance could be made readily if it were necessary.

THE UNALTERED MUSLIN:

The unaltered muslin front was too wide from shoulder to waist (this width was eliminated in vertical side front wedges in pin fitting). This bodice was shortwaisted in front and back. Excess shoulder height, seen in the unaltered muslin, did not appear in the pin fitted tissue (the large shoulder edge correction obscured this fault in pin fitting).

The lower back fit well--only a small diagonal wrinkle appeared in the upper back just below the shoulder. Pin fitting improved these fitting faults.

Pattern Fault	Pattern Alteration
FRONT	
1P - Deep diagonal fold across chest armhole to CF	Diagonal overlap - armhole (1/2") to CF (3/4")
2P - Inadequate neck length and height at shoulder edge	Neck edge of shoulder raised (1/4")
3P - Armhole edge of shoulder too loose	Armhole edge of shoulder lowered (3/8")
4P - Shoulder too short	Armhole edge of shoulder lengthened (1/4")
5P - Underarm dart too short	Underarm dart redrawn longer (1-1/4")
6P - Underarm dart pointed too high	Underarm dart redrawn pointing lower
BACK	
7P - Horizontal bulge - armhole to side back	Horizontal wedge - armhole (1/4") to upper side back (0")
8P - Excess length below CB neckbase	Horizontal wedge - CB (1/8") to upper side back (0")
9P - Inadequate ease below shoulder at side back	Vertical slash - spread shoulder (1/8") to side back at tip of 7P
10P - Inadequate ease at lower edge of shoulder blade	Vertical slash - spread from upper back at tip of 7P (0") to waist dart point (1-1/8")
11P - Inadequate ease held over fullness below neckbase	New neck dart formed - result of 7P overlap
12P - Diagonal bulge - armhole to waist dart point (due to inadequate ease at lower edge of shoulder blade)	Diagonal wedge - armhole (1/16") to waist dart point (0")



PIN FITTING

12-4 FIGURE SIZE

PATTERN SIZE 12

BUST 32 5/8

WAIST 24

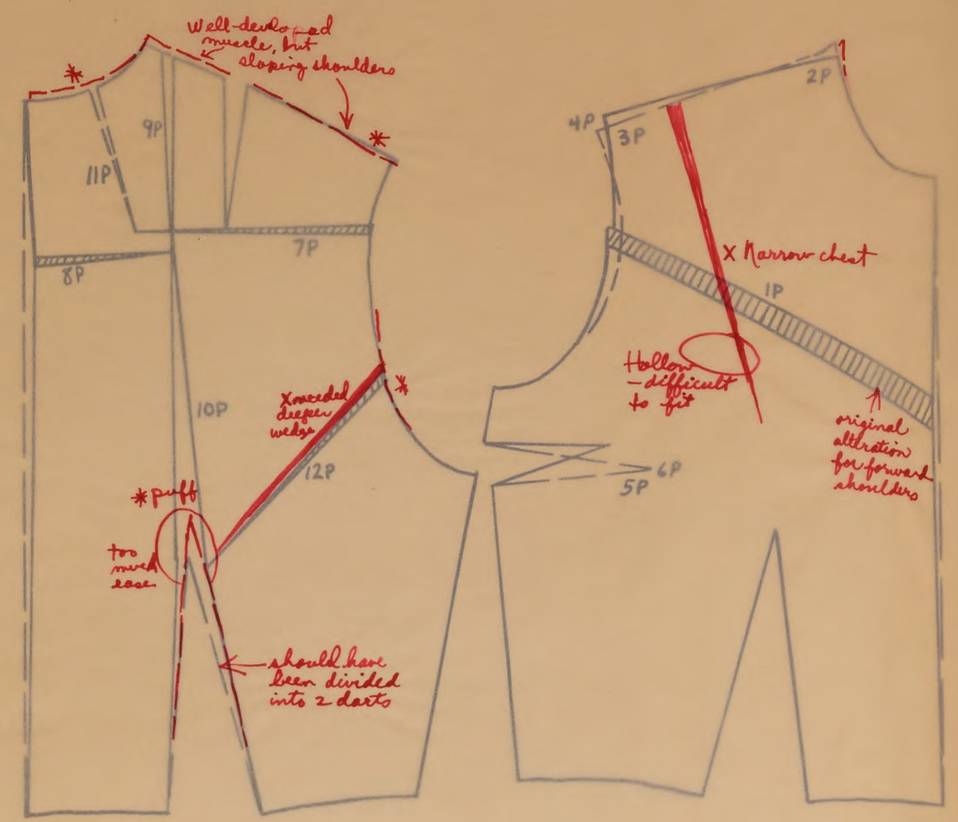
HIPS --

HEIGHT 5'4"

WEIGHT 110 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Deep diagonal fold across chest armhole to CF	Diagonal overlap - armhole (1/2") to CF (3/4")
2P - Inadequate neck length and height at shoulder edge	Neck edge of shoulder raised (1/4")
3P - Armhole edge of shoulder too loose	Armhole edge of shoulder lowered (3/8")
4P - Shoulder too short	Armhole edge of shoulder lengthened (1/4")
5P - Underarm dart too short	Underarm dart redrawn longer (1-1/4")
6P - Underarm dart pointed too high	Underarm dart redrawn pointing lower
BACK	
7P - Horizontal bulge - armhole to side back	Horizontal wedge - armhole (1/4") to upper side back (0")
8P - Excess length below CB neckbase	Horizontal wedge - CB (1/8") to upper side back (0")
9P - Inadequate ease below shoulder at side back	Vertical slash - spread shoulder (1/8") to side back at tip of 7P
10P - Inadequate ease at lower edge of shoulder blade	Vertical slash - spread from upper back at tip of 7P (0") to waist dart point (1-1/8")
11P - Inadequate ease held over fullness below neckbase	New neck dart formed - result of 7P overlap
12P - Diagonal bulge - armhole to waist dart point (due to inadequate ease at lower edge of shoulder blade)	Diagonal wedge - armhole (1/16") to waist dart point (0")

* easy to correct
x difficult to correct


Well-developed muscle, but sloping shoulders
9P
11P
7P
8P
10P
x needed deeper wedge
12P
*puff
too much ease
should have been divided into 2 darts
4P
3P
2P
x Narrow chest
1P
Hollow - difficult to fit
original alteration for forward shoulders
6P
5P

PIN FITTING

12-4 FIGURE SIZE

PATTERN SIZE 12

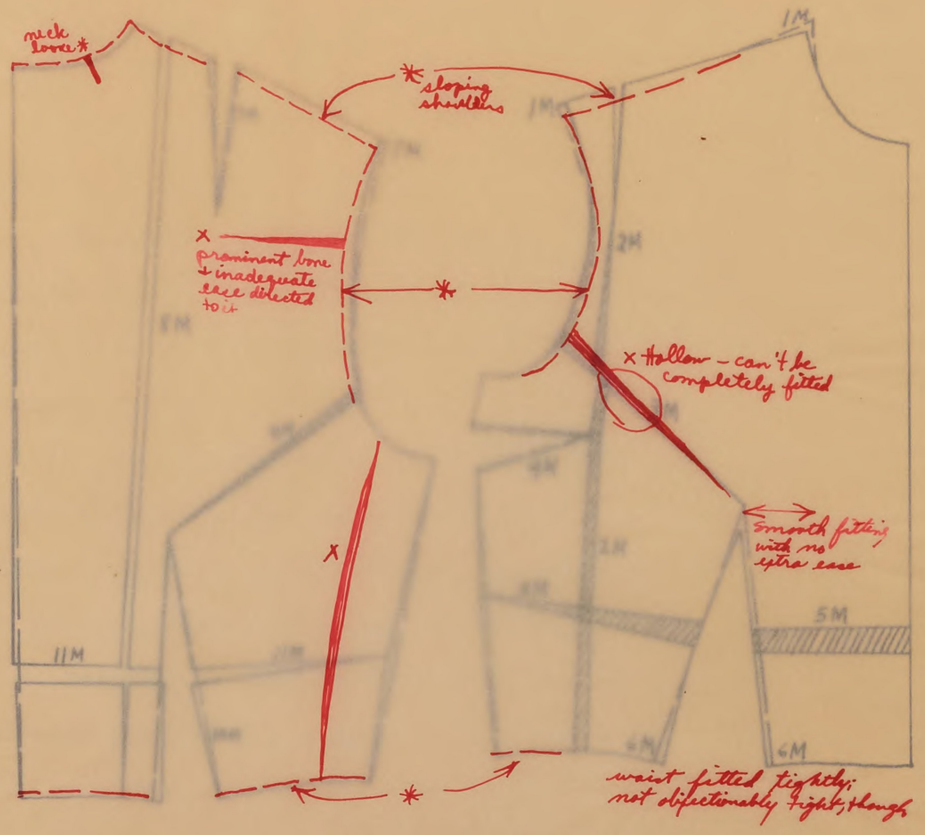
BUST 32 5/8

WAIST 24

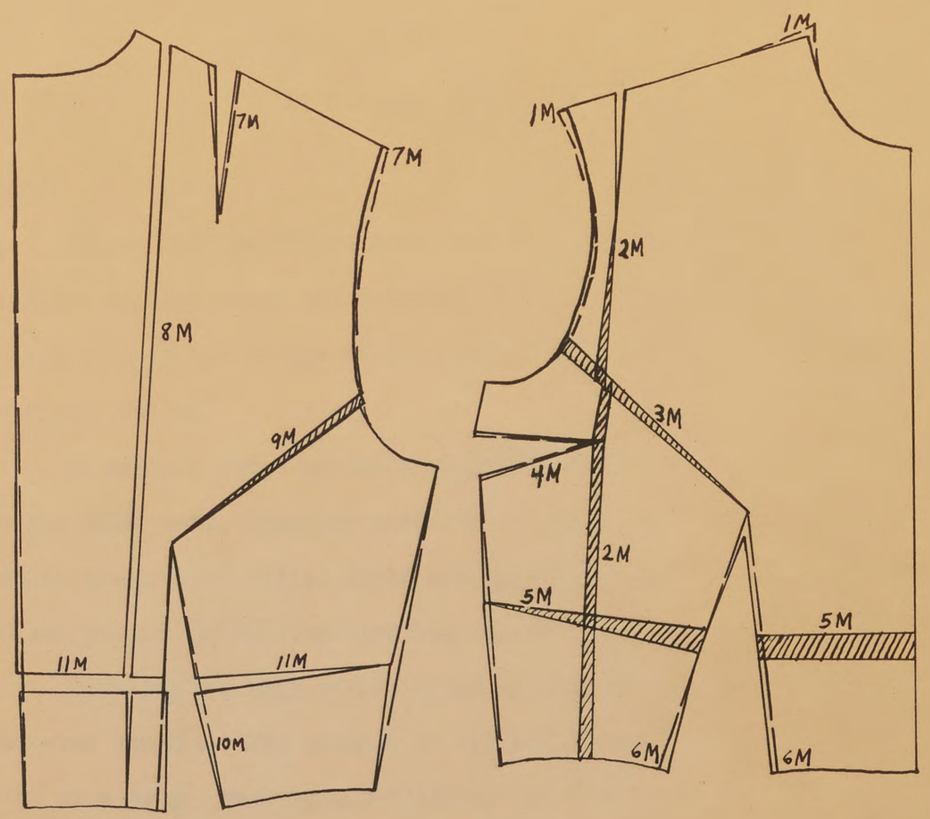
HIPS --

HEIGHT 5'4"

WEIGHT 110 lbs.



Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder length increased in three areas: at neck edge (1/4") and shoulder edge (1/4"); vertical slash 2M increased length (1/4")
2M - Excess width at side - chest level to waist	Vertical slash - spread at shoulder (1/4"), but overlapped from chest (0") to waist (3/8")
3M - Excess length and width between armhole and bust	Diagonal wedge - armhole (1/2") to waist dart point (0")
4M - Excess side front length (figure flat at side of bust)	Horizontal wedge through underarm dart to slash 4M - reduced underarm dart depth (1/8")
5M - CF and side too long	Horizontal wedge-even overlap CF to waist dart (1") tapering off at side seam (0")
6M - Waist too wide	Waist dart deepened (1/4"); waist also reduced in slash 4M
BACK	
7M - Inadequate shoulder length	Shoulder length increased in three areas; shoulder dart deepened (1/4"); vertical slash 8M added (1/4"); armhole edge lengthened (1/4")
8M - Back too tight	Vertical slash - spread shoulder (1/4") to waist
9M - Bulge - armhole to waist dart point (due to back tightness)	Diagonal wedge - armhole (1/4") to dart point (0")
10M - Waistline too loose	Waist dart deepened (1/8")
11M - CB too short; side seam length adequate	Horizontal slash - spread CB (5/8") to side seam (0")



MEASUREMENT FITTING

12-4 FIGURE CHARACTERISTICS

FIGURE TYPE: Average stature, extremely slender

BONE STRUCTURE: Short to medium length, except lower arm and hands which are longer proportionately
Very prominent chest bones, narrow across chest
Very prominent shoulder bones
Sharply sloping shoulders because of well developed muscle below neckbase

POSTURE: Erect
Head slightly forward
Shoulders slightly forward
High bust

FLESH DISTRIBUTION: Slender
Full bust for remainder of flesh distribution
Slightly fleshy at side of bust
Hollow between armhole and bust
Slim midriff
Arm girth--not fleshy, but upper muscle is very well developed

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder length increased in three areas: at neck edge (1/4") and shoulder edge (1/4"); vertical slash 2M increased length (1/4")
2M - Excess width at side - chest level to waist	Vertical slash - spread at shoulder (1/4"), but overlapped from chest (0") to waist (3/8")
3M - Excess length and width between armhole and bust	Diagonal wedge - armhole (1/2") to waist dart point (0")
4M - Excess side front length (figure flat at side of bust)	Horizontal wedge through underarm dart to slash 4M - reduced underarm dart depth (1/8")
5M - CF and side too long	Horizontal wedge-even overlap CF to waist dart (1") tapering off at side seam (0")
6M - Waist too wide	Waist dart deepened (1/4"); waist also reduced in slash 4M
BACK	
7M - Inadequate shoulder length	Shoulder length increased in three areas: shoulder dart deepened (1/4"); vertical slash 8M added (1/4"); armhole edge lengthened (1/4")
8M - Back too tight	Vertical slash - spread shoulder (1/4") to waist
9M - Bulge - armhole to waist dart point (due to back tightness)	Diagonal wedge - armhole (1/4") to dart point (0")
10M - Waistline too loose	Waist dart deepened (1/8")
11M - CB too short; side seam length adequate	Horizontal slash - spread CB (5/8") to side seam (0")

12-4 Comparison of Results

FRONT:

The looser pin fitted front was more comfortable and flattering than the tighter measurement fitted front. The more-than-adequate amount of ease in the pin fitted front helped this very slender figure to appear fuller.

An armhole wedge in the measurement fitted front transferred ease to the waist dart, thus increased the depth of the dart. Since the entire measurement fitted front was generally tight, it was difficult to see whether this alteration had improved the fit of the bustline.

Reducing the size of the front armhole in the pin fitted bodice improved its fit. The armhole of the measurement fitted bodice, reduced once by a wedge, was again reduced at the muslin proof fitting.

BACK:

The back necklines of both muslin bodices were raised because well-developed neck and shoulder muscles added length in these areas.

The upper back of the measurement fitted bodice was widened; however, this addition did not help to redistribute ease over a prominent shoulder blade. The prominence of this bone caused an armhole bulge which could be removed only by redrawing the entire upper back section. This armhole bulge was wedged out of the pin fitted back and transferred to the waist dart. This resulted in puffiness at the tip of the dart (caused by too much ease held at the scye line, compared to the amount of ease held across the upper back).

COMMENTS:

Fittings for this figure brought out several points. A side front hollow could best be fitted by using a design having a seam crossing the hollow area. The excess could then be removed at the seam. An unflattering effect might be produced, however, if this area were fitted too tightly, for then the fitting would emphasize, rather than disguise the hollow.

The measurement fitted bodice was generally tighter than the pin fitted bodice. This tightness of fit (especially unflattering for very slender figures) might be considered an unavoidable drawback of measurement fitting. It was impossible to learn from measurements the location and amount of extra ease that could be added for the most flattering effect.

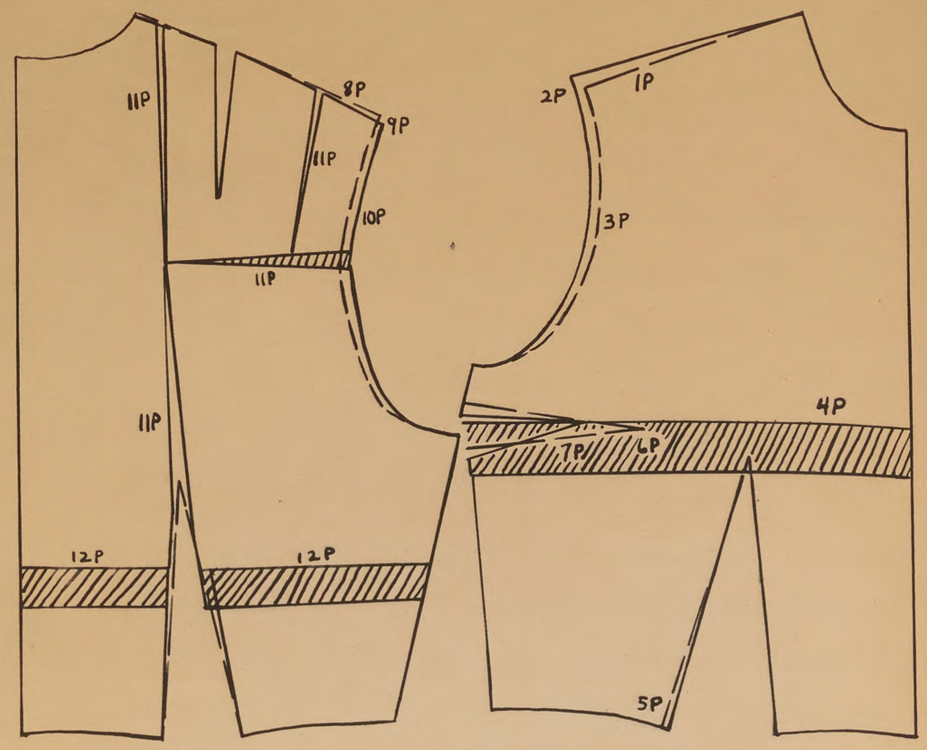
THE UNALTERED MUSLIN:

The main alteration in the pin fitted bodice was a deep diagonal overlap from armhole to CF. The extra length this overlap removed was very noticeable in the unaltered muslin, giving the shoulders undesirable looseness. There was a deep fold across CF below the neckbase. A small armhole bulge was also present in the unaltered front.

The underarm dart did not absorb sufficient side fulness; therefore, the side below the armhole was very loose. This was corrected in the pin fitting.

There was a diagonal bulge at the back armhole, as well as excess length in the bodice back. The armhold bulge was corrected in the pin fitted back, but the bodice was only partially shortened by the CB wedge.

Pattern Fault	Pattern Alteration
FRONT	
1P - Armhole edge of shoulder too high for flattering line	Armhole edge of shoulder lowered (1/4")
2P - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
3P - Excess width at chest level	Armhole curved in (1/4") at chest level
4P - Bodice too long	Even horizontal overlap (1") CF to side seam
5P - Waist too wide	Waist dart deepened (1/4")
6P - Underarm dart pointed too high	Underarm dart redrawn pointing lower
7P - Underarm dart too short	Underarm dart redrawn longer (1-1/2")
BACK	
8P - Armhole edge of shoulder too low for flattering line	Armhole edge of shoulder raised (1/8")
9P - Excess shoulder length	Armhole edge of shoulder shortened (1/8")
10P - Excess back width near armhole	Armhole curved in (1/4")
11P - Horizontal bulge - armhole to side back	Horizontal wedge - armhole (3/8") to side back redistributed ease through two vertical slashes - one spreading at shoulder (1/8"), the other spread through the waist dart (3/8")
12P - Bodice too long	Even horizontal overlap - CB to side seam (1")



PIN FITTING

12-5 FIGURE SIZE

PATTERN SIZE 12

BUST 32 1/8

WAIST 25 5/8

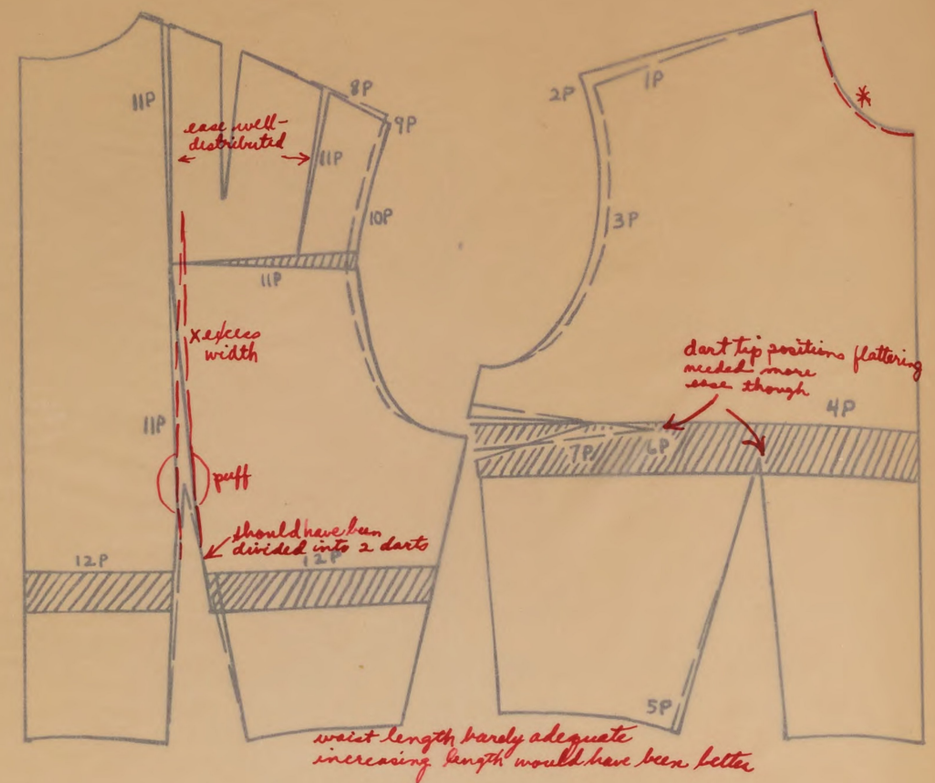
HIPS --

HEIGHT 5'4"

WEIGHT 115 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Armhole edge of shoulder too high for flattering line	Armhole edge of shoulder lowered (1/4")
2P - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
3P - Excess width at chest level	Armhole curved in (1/4") at chest level
4P - Bodice too long	Even horizontal overlap (1") CF to side seam
5P - Waist too wide	Waist dart deepened (1/4")
6P - Underarm dart pointed too high	Underarm dart redrawn pointing lower
7P - Underarm dart too short	Underarm dart redrawn longer (1-1/2")
BACK	
8P - Armhole edge of shoulder too low for flattering line	Armhole edge of shoulder raised (1/8")
9P - Excess shoulder length	Armhole edge of shoulder shortened (1/8")
10P - Excess back width near armhole	Armhole curved in (1/4")
11P - Horizontal bulge - armhole to side back	Horizontal wedge - armhole (3/8") to side back redistributed ease through two vertical slashes - one spreading at shoulder (1/8"), the other spread through the waist dart (3/8")
12P - Bodice too long	Even horizontal overlap - CB to side seam (1")

* easy to correct
× difficult to correct



PIN FITTING

12-5 FIGURE SIZE

PATTERN SIZE 12

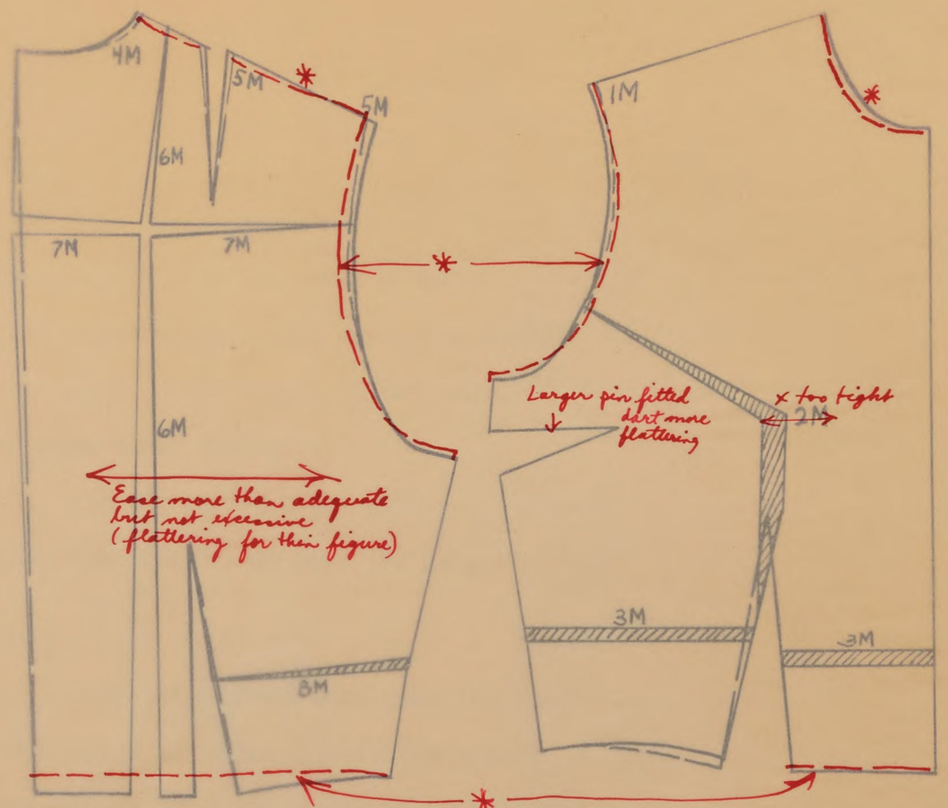
BUST 32 1/8

WAIST 25 5/8

HIPS --

HEIGHT 5'4"

WEIGHT 115 lbs.



MEASUREMENT FITTING

12-5 FIGURE CHARACTERISTICS

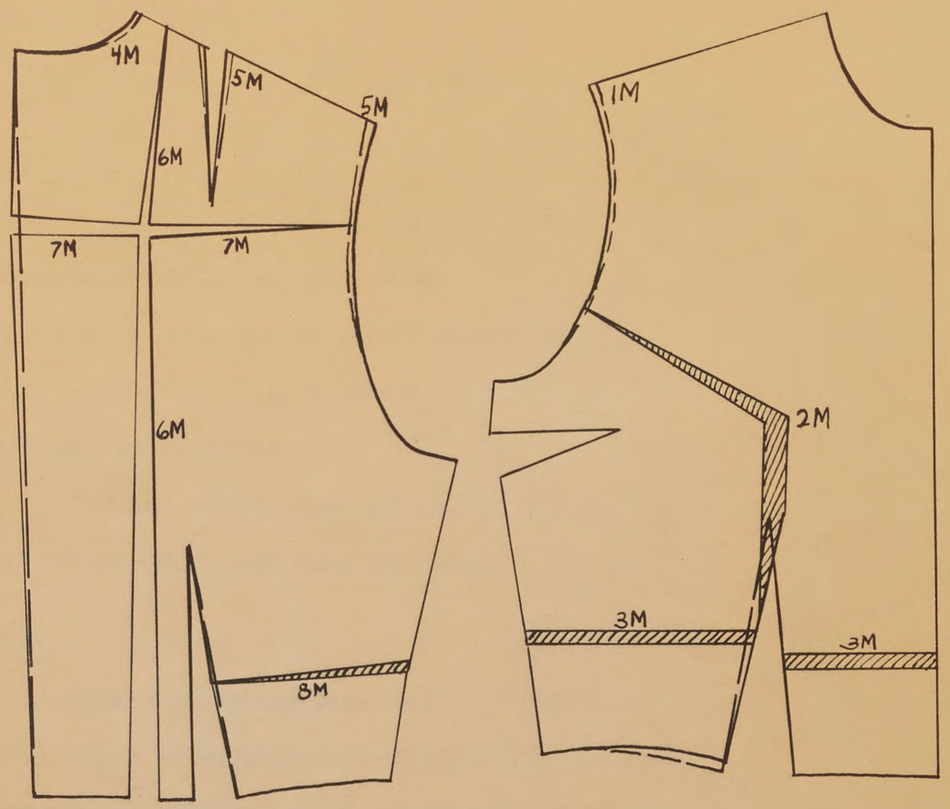
FIGURE TYPE: Average stature, very slender

BONE STRUCTURE: Short length, medium thickness
No prominent joints
Shoulder slope--medium

POSTURE: Erect
Small hollow at the waist back
Slightly forward head and sloping shoulders
Slightly forward abdomen

FLESH DISTRIBUTION: Slender to medium
Small to medium bust
Shoulder line--very smooth
Arm girth--medium

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
2M - Excess width across bust point	Wedge - armhole (0") to bust point (1/2") overlapping through waist dart point
3M - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
BACK	
4M - Neck too high at shoulder seam	Neck raised (1/16") (also decreased shoulder length)
5M - Excess shoulder length	Armhole edge of shoulder shortened (1/8"); shoulder dart deepened (1/16")
6M - Tightness across back and waist too narrow	Vertical slash - spread shoulder (0") to waist (3/8")
7M - Upper back too short	Horizontal slash - spread CB (3/8") to armhole (0")
8M - Side seam too long	Horizontal wedge - side seam (1/2") to waist dart (0")



MEASUREMENT FITTING

12-5 FIGURE CHARACTERISTICS

FIGURE TYPE: Average stature, very slender

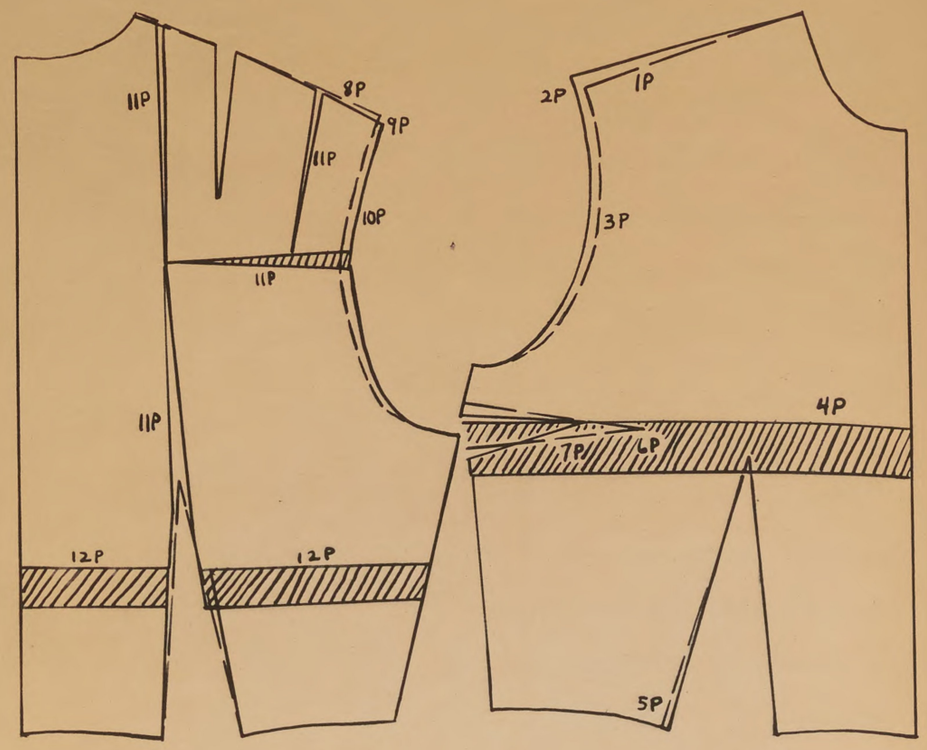
BONE STRUCTURE: Short length, medium thickness
No prominent joints
Shoulder slope--medium

POSTURE: Erect
Small hollow at the waist back
Slightly forward head and sloping shoulders
Slightly forward abdomen

FLESH DISTRIBUTION: Slender to medium
Small to medium bust
Shoulder line--very smooth
Arm girth--medium

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
2M - Excess width across bust point	Wedge - armhole (0") to bust point (1/2") overlapping through waist dart point
3M - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
BACK	
4M - Neck too high at shoulder seam	Neck raised (1/16") (also decreased shoulder length)
5M - Excess shoulder length	Armhole edge of shoulder shortened (1/8"); shoulder dart deepened (1/16")
6M - Tightness across back and waist too narrow	Vertical slash - spread shoulder (0") to waist (3/8")
7M - Upper back too short	Horizontal slash - spread CB (3/8") to armhole (0")
8M - Side seam too long	Horizontal wedge - side seam (1/2") to waist dart (0")

Pattern Fault	Pattern Alteration
FRONT	
1P - Armhole edge of shoulder too high for flattering line	Armhole edge of shoulder lowered (1/4")
2P - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
3P - Excess width at chest level	Armhole curved in (1/4") at chest level
4P - Bodice too long	Even horizontal overlap (1") CF to side seam
5P - Waist too wide	Waist dart deepened (1/4")
6P - Underarm dart pointed too high	Underarm dart redrawn pointing lower
7P - Underarm dart too short	Underarm dart redrawn longer (1-1/2")
BACK	
8P - Armhole edge of shoulder too low for flattering line	Armhole edge of shoulder raised (1/8")
9P - Excess shoulder length	Armhole edge of shoulder shortened (1/8")
10P - Excess back width near armhole	Armhole curved in (1/4")
11P - Horizontal bulge - armhole to side back	Horizontal wedge - armhole (3/8") to side back redistributed ease through two vertical slashes - one spreading at shoulder (1/8"), the other spread through the waist dart (3/8")
12P - Bodice too long	Even horizontal overlap - CB to side seam (1")



PIN FITTING

12-5 FIGURE SIZE

PATTERN SIZE 12

BUST 32 1/8

WAIST 25 5/8

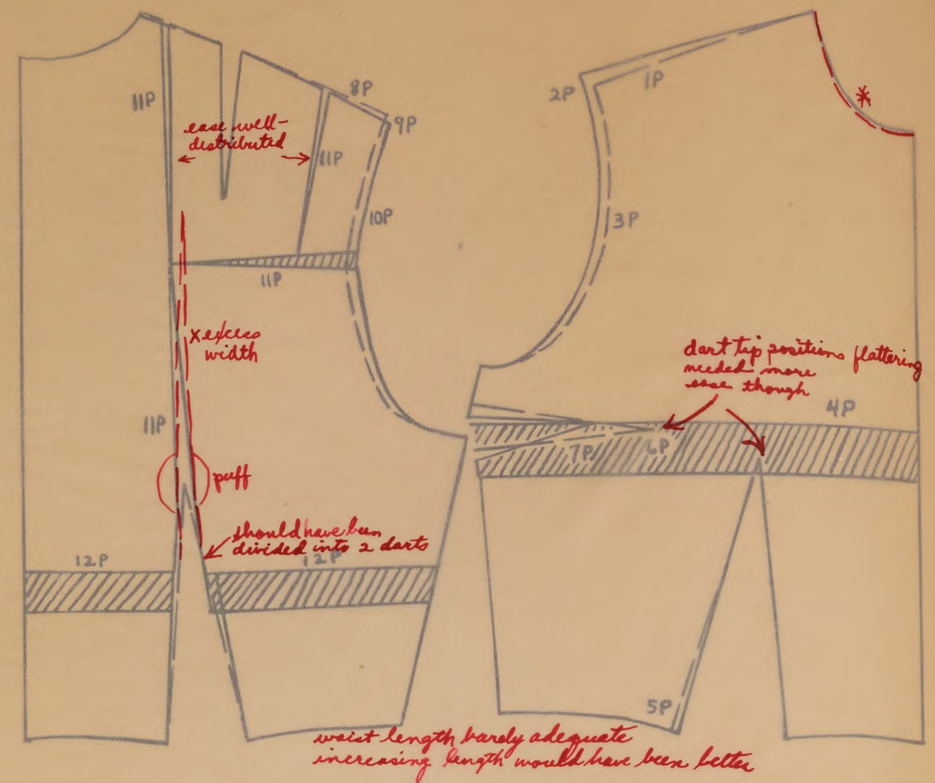
HIPS --

HEIGHT 5'4"

WEIGHT 115 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Armhole edge of shoulder too high for flattering line	Armhole edge of shoulder lowered (1/4")
2P - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
3P - Excess width at chest level	Armhole curved in (1/4") at chest level
4P - Bodice too long	Even horizontal overlap (1") CF to side seam
5P - Waist too wide	Waist dart deepened (1/4")
6P - Underarm dart pointed too high	Underarm dart redrawn pointing lower
7P - Underarm dart too short	Underarm dart redrawn longer (1-1/2")
BACK	
8P - Armhole edge of shoulder too low for flattering line	Armhole edge of shoulder raised (1/8")
9P - Excess shoulder length	Armhole edge of shoulder shortened (1/8")
10P - Excess back width near armhole	Armhole curved in (1/4")
11P - Horizontal bulge - armhole to side back	Horizontal wedge - armhole (3/8") to side back redistributed ease through two vertical slashes - one spreading at shoulder (1/8"), the other spread through the waist dart (3/8")
12P - Bodice too long	Even horizontal overlap - CB to side seam (1")

* easy to correct
× difficult to correct



PIN FITTING

12-5 FIGURE SIZE

PATTERN SIZE 12

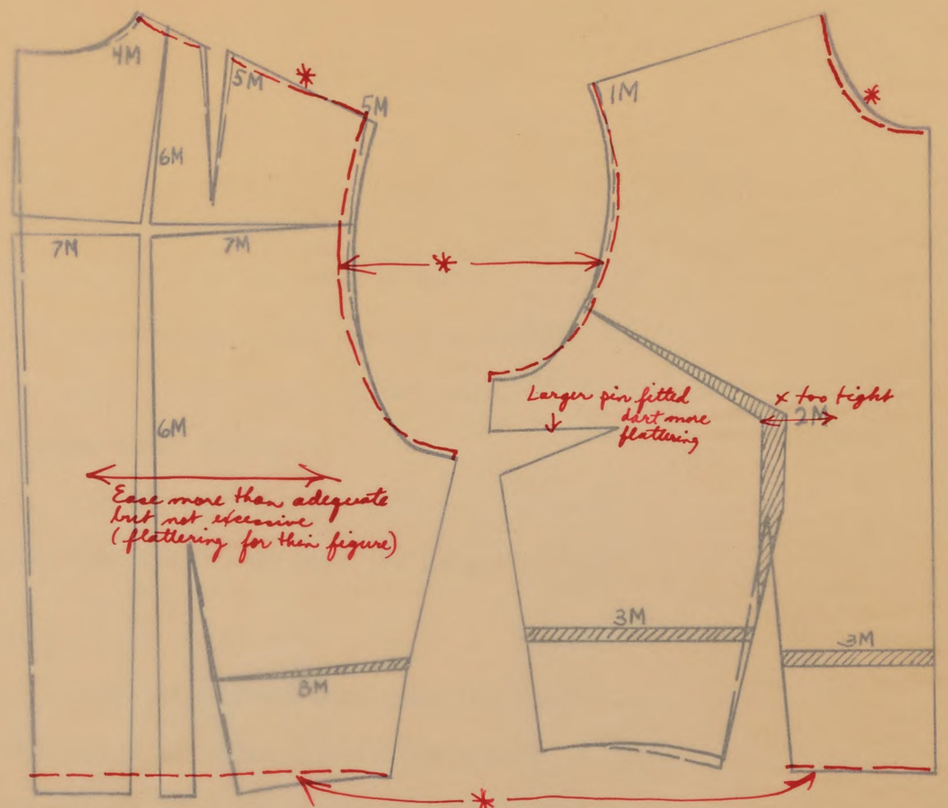
BUST 32 1/8

WAIST 25 5/8

HIPS --

HEIGHT 5'4"

WEIGHT 115 lbs.



MEASUREMENT FITTING

12-5 FIGURE CHARACTERISTICS

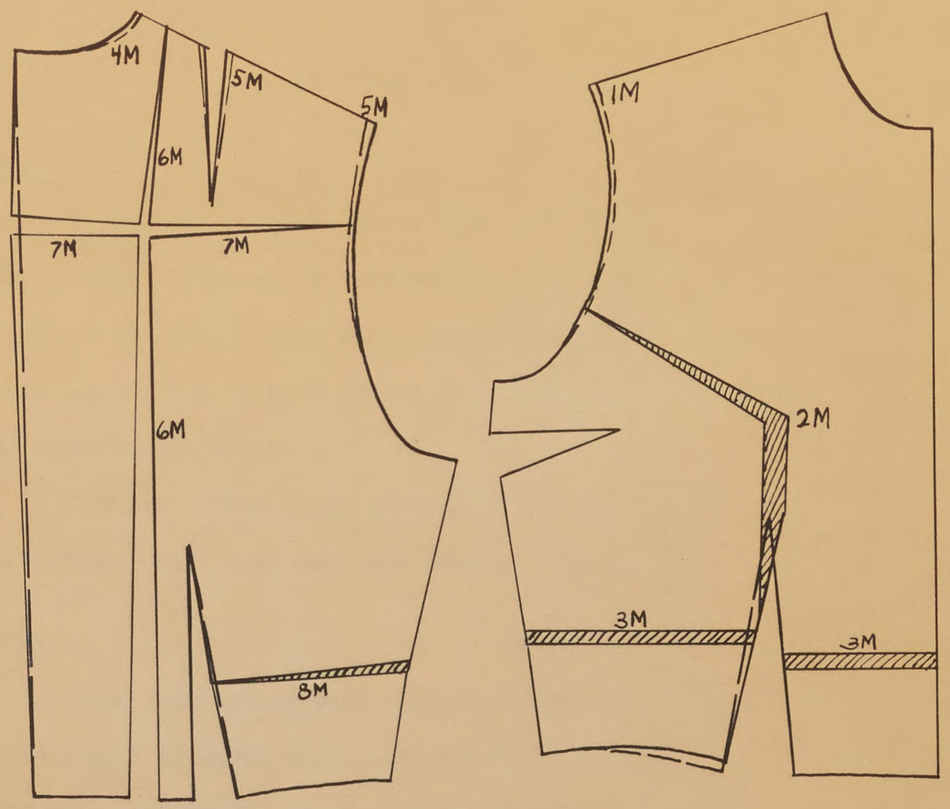
FIGURE TYPE: Average stature, very slender

BONE STRUCTURE: Short length, medium thickness
No prominent joints
Shoulder slope--medium

POSTURE: Erect
Small hollow at the waist back
Slightly forward head and sloping shoulders
Slightly forward abdomen

FLESH DISTRIBUTION: Slender to medium
Small to medium bust
Shoulder line--very smooth
Arm girth--medium

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
2M - Excess width across bust point	Wedge - armhole (0") to bust point (1/2") overlapping through waist dart point
3M - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
BACK	
4M - Neck too high at shoulder seam	Neck raised (1/16") (also decreased shoulder length)
5M - Excess shoulder length	Armhole edge of shoulder shortened (1/8"); shoulder dart deepened (1/16")
6M - Tightness across back and waist too narrow	Vertical slash - spread shoulder (0") to waist (3/8")
7M - Upper back too short	Horizontal slash - spread CB (3/8") to armhole (0")
8M - Side seam too long	Horizontal wedge - side seam (1/2") to waist dart (0")



MEASUREMENT FITTING

12-5 FIGURE CHARACTERISTICS

FIGURE TYPE: Average stature, very slender

BONE STRUCTURE: Short length, medium thickness
No prominent joints
Shoulder slope--medium

POSTURE: Erect
Small hollow at the waist back
Slightly forward head and sloping shoulders
Slightly forward abdomen

FLESH DISTRIBUTION: Slender to medium
Small to medium bust
Shoulder line--very smooth
Arm girth--medium

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
2M - Excess width across bust point	Wedge - armhole (0") to bust point (1/2") overlapping through waist dart point
3M - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
BACK	
4M - Neck too high at shoulder seam	Neck raised (1/16") (also decreased shoulder length)
5M - Excess shoulder length	Armhole edge of shoulder shortened (1/8"); shoulder dart deepened (1/16")
6M - Tightness across back and waist too narrow	Vertical slash - spread shoulder (0") to waist (3/8")
7M - Upper back too short	Horizontal slash - spread CB (3/8") to armhole (0")
8M - Side seam too long	Horizontal wedge - side seam (1/2") to waist dart (0")

12-5 Comparison of Results

FRONT:

This figure required more bust ease than the pattern allowed; measurements which called for reduction of bust ease were wrong. Either bust measurements were incorrectly taken (wrong landmarks for side seam) or the figure needed more than the standard bust ease provided by measurement fitting.

The pin fitted front gave a satisfactory appearance, but it, too, needed more bust ease than the pattern allowed.

BACK:

Back alterations were handled differently in each bodice. An uneven amount of width distributed between the upper and lower back created the major difficulty in the pin fitted back. Transference of ease from an armhole wedge to the upper back resulted in well-distributed shoulder ease. However, transferring the remainder of the armhole ease to the lower back, forced too much width into the waist dart, creating a large puff at the waist dart tip.

Upper back width was evenly distrubuted in the measurement fitted back. In spite of its slightly excessive amount of ease the measurement fitted back looked better than the pin fitted version.

The back armhole of the measurement fitted bodice was somewhat low and long for this slender figure with small bone structure. It did not fit as well as the armhole of the pin fitted bodice, which had been shortened by the large horizontal armhole wedge discussed above.

COMMENTS:

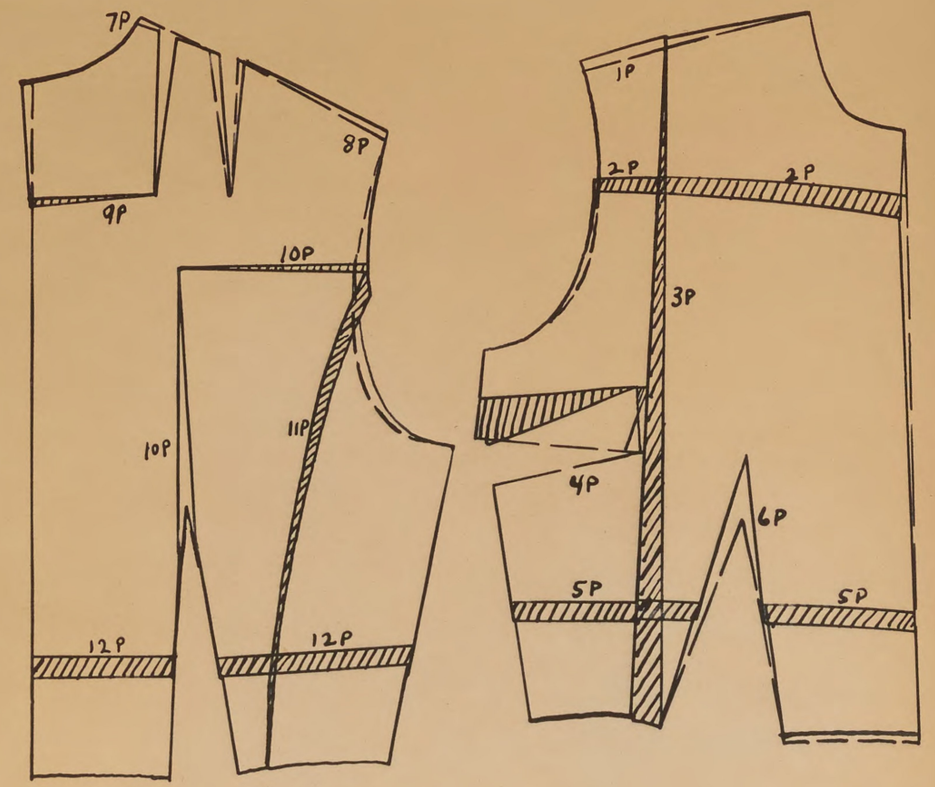
This measurement fitting resulted in a generally comfortable, easy fitting back. Since the measured front lacked ease, however, it is possible that inaccurate placement of side seam landmarks resulted in measurements that were too small for the front and too large for the back.

A concentration of ease at the back waist dart point (seen in the pin fitted bodice back) is often the result of a common pin fitting fault. When puffing occurs above scye level, as at the armhole, it is often due to inadequate width over body bulges (e.g., shoulder blades). If width is not increased and the large bulge is merely pinned out and transferred below, the tightness that lifted the pattern, (thus causing it to bulge) still remains, while an unattractively large amount of ease is held directly above the waist dart.

THE UNALTERED MUSLIN:

The unaltered bodice was not wearable. Excess length did not settle directly above the waistline. Instead, it was held above the bustline by the tightness over the bust. The back armhole lines extended beyond the normal armscye and the underarm area drooped. Pin fitting eliminated bodice length and raised the armhole to remove underarm folds.

Pattern Fault	Pattern Alteration
FRONT	
1P - Shoulder too high for round-shouldered figure	Armhole edge of shoulder lowered (1/4")
2P - Horizontal fold across chest - armhole to CF	Horizontal overlap - armhole (5/8") to CF (1")
3P - Excess width at side (to waist)	Vertical wedge - shoulder (0") to waist (1")
4P - Underarm dart too high	Underarm dart lowered (2")
5P - Bodice too long	Even horizontal overlap CF to side seam (1")
6P - Waist dart too long for low bust level	Waist dart redrawn shorter (3/4")
BACK	
7P - Shoulder too low at neck edge	Shoulder raised at neck edge (1/8")
8P - Shoulder too high for round-shouldered figure	Armhole edge of shoulder lowered (1/8")
9P - Excess length at upper CB	Horizontal wedge - CB (1/8") to upper back (0"), resulting in a spread increasing shoulder ease
10P - Horizontal wrinkle - armhole to side back	Horizontal wedge - armhole (1/4") to side back resulting in a spread increasing ease above waist dart
11P - Diagonal wrinkle - armhole to waist	Curved diagonal wedge - armhole (5/8") to waist (0")
12P - Bodice too long	Even horizontal overlap - CB to side seam (1")



PIN FITTING

14-1 FIGURE SIZE

PATTERN SIZE 14

BUST 31 5/8

WAIST 26

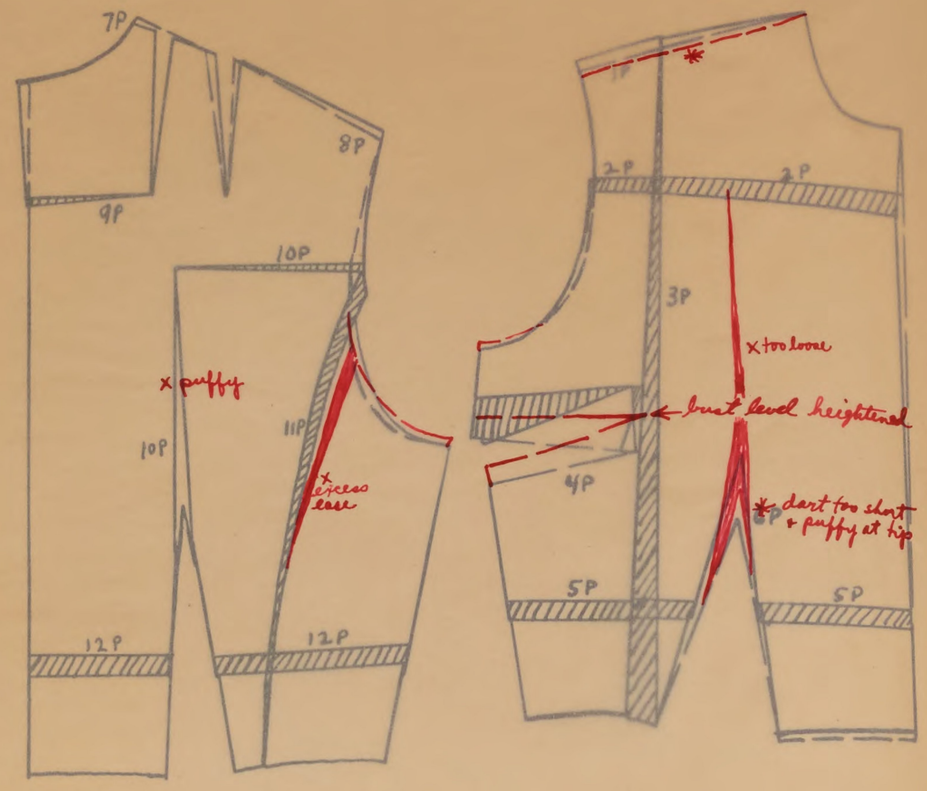
HIPS 35 1/2

HEIGHT 5'5"

WEIGHT 130 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Shoulder too high for round-shouldered figure	Armhole edge of shoulder lowered (1/4")
2P - Horizontal fold across chest - armhole to CF	Horizontal overlap - armhole (5/8") to CF (1")
3P - Excess width at side (to waist)	Vertical wedge - shoulder (0") to waist (1")
4P - Underarm dart too high	Underarm dart lowered (2")
5P - Bodice too long	Even horizontal overlap CF to side seam (1")
6P - Waist dart too long for low bust level	Waist dart redrawn shorter (3/4")
BACK	
7P - Shoulder too low at neck edge	Shoulder raised at neck edge (1/8")
8P - Shoulder too high for round-shouldered figure	Armhole edge of shoulder lowered (1/8")
9P - Excess length at upper CB	Horizontal wedge - CB (1/8") to upper back (0"), resulting in a spread increasing shoulder ease
10P - Horizontal wrinkle - armhole to side back	Horizontal wedge - armhole (1/4") to side back resulting in a spread increasing ease above waist dart
11P - Diagonal wrinkle - armhole to waist	Curved diagonal wedge - armhole (5/8") to waist (0")
12P - Bodice too long	Even horizontal overlap - CB to side seam (1")

* easy to correct
× difficult to correct



PIN FITTING

14-1 FIGURE SIZE

PATTERN SIZE 14

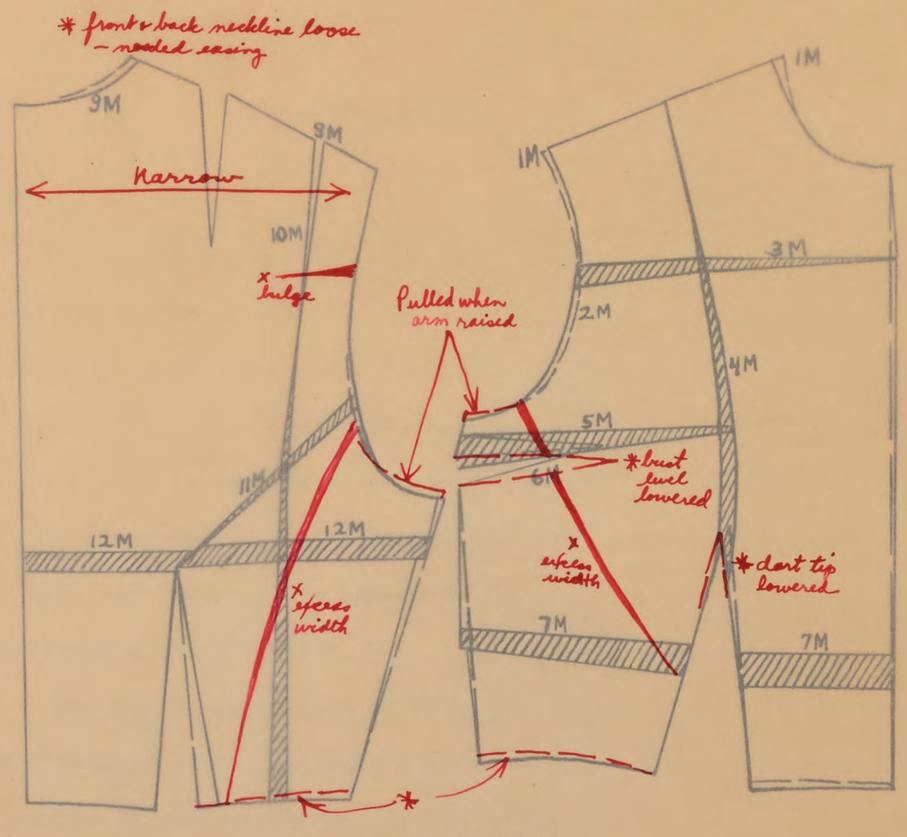
BUST 31 5/8

WAIST 26

HIPS 35 1/2

HEIGHT 5'5"

WEIGHT 130 lbs.



MEASUREMENT FITTING

14-1 FIGURE CHARACTERISTICS

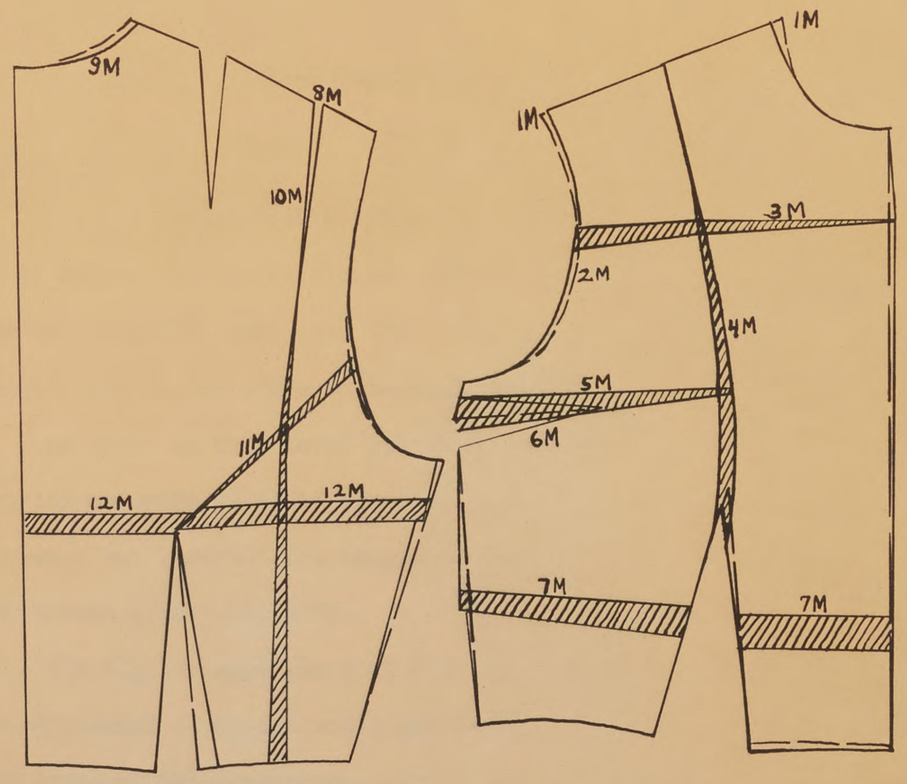
FIGURE TYPE: Average stature, average weight

BONE STRUCTURE: Medium length, medium to heavy thickness
Angular overall build
Prominent chest bones

POSTURE: Head definitely forward, neck forward
Forward abdomen
Slightly forward rounded shoulders
Fleshy shoulder blades
Bust low

FLESH DISTRIBUTION: Small to medium for bone structure
Slightly fleshy at side of bust and back at bust level
Slightly fleshy midriff, front and back
Flesh across upper back of shoulder bones
Bony shoulder line
Arm girth--medium

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder lengthened at neck edge (1/4") and at armhole edge (1/4")
2M - Excess chest width	Armhole curved in at chest level (1/4")
3M - Excess length at side above bust level	Horizontal wedge - armhole (5/8") to CF (0")
4M - Excess width over bust point	Vertical wedge - shoulder (0") through waist dart point (5/8")
5M - Side of bodice too long (at bust level)	Horizontal overlap - side seam (7/8") to bust point (1/4")
6M - Underarm dart too deep for figure with flat side	Underarm dart redrawn narrower (1/2")
7M - Bodice too long below bust level	Horizontal overlap - CF (1-1/4") to side seam (5/8"); CF panel further shortened by drawing waist higher (1/8")
BACK	
8M - Inadequate shoulder length	Shoulder edge of 10M slash spread (1/4")
9M - Inadequate shoulder length; neck slightly loose	Neck edge of shoulder lengthened (1/4"); also reduced size of neck curve (1/16")
10M - Upper back (below shoulders) too narrow; mid-back, above and below scye too wide (no excess waist length)	Vertical slash - spread at shoulder (1/4"), overlapped at waist (5/8")
11M - Excess length and width between lower armhole and waist dart	Diagonal wedge - armhole (3/8") to waist dart point (0"); waist dart narrowed to restore waist length eliminated in 10M
12M - Bodice too long	Even horizontal overlap - CB to side seam (7/8")



MEASUREMENT FITTING

14-1 FIGURE CHARACTERISTICS

FIGURE TYPE: Average stature, average weight

BONE STRUCTURE: Medium length, medium to heavy thickness
Angular overall build
Prominent chest bones

POSTURE: Head definitely forward, neck forward
Forward abdomen
Slightly forward rounded shoulders
Fleshy shoulder blades
Bust low

FLESH DISTRIBUTION: Small to medium for bone structure
Slightly fleshy at side of bust and back at bust level
Slightly fleshy midriff, front and back
Flesh across upper back of shoulder bones
Bony shoulder line
Arm girth--medium

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder lengthened at neck edge (1/4") and at armhole edge (1/4")
2M - Excess chest width	Armhole curved in at chest level (1/4")
3M - Excess length at side above bust level	Horizontal wedge - armhole (5/8") to CF (0")
4M - Excess width over bust point	Vertical wedge - shoulder (0") through waist dart point (5/8")
5M - Side of bodice too long (at bust level)	Horizontal overlap - side seam (7/8") to bust point (1/4")
6M - Underarm dart too deep for figure with flat side	Underarm dart redrawn narrower (1/2")
7M - Bodice too long below bust level	Horizontal overlap - CF (1-1/4") to side seam (5/8"); CF panel further shortened by drawing waist higher (1/8")
BACK	
8M - Inadequate shoulder length	Shoulder edge of 10M slash spread (1/4")
9M - Inadequate shoulder length; neck slightly loose	Neck edge of shoulder lengthened (1/4"); also reduced size of neck curve (1/16")
10M - Upper back (below shoulders) too narrow; mid-back, above and below scye too wide (no excess waist length)	Vertical slash - spread at shoulder (1/4"), overlapped at waist (5/8")
11M - Excess length and width between lower armhole and waist dart	Diagonal wedge - armhole (3/8") to waist dart point (0"); waist dart narrowed to restore waist length eliminated in 10M
12M - Bodice too long	Even horizontal overlap - CB to side seam (7/8")

14-1 Comparison of Results

FRONT:

The pin fitted bodice fit more comfortably than the measurement fitted bodice, though it did not look as trim as the latter. Its more than adequate bust ease gave this slender figure a fuller appearance (which could not be achieved through measurement fitting).

An error in bust level placement gave the pin fitted front a very low underarm dart; it also resulted in a puff at the tip of the shortened waist dart. The length of this dart had been reduced to accommodate a low bust line.

The tighter appearance of the measurement fitted front was mainly due to removal of excess width and length directly over the bust. The bust level of the measurement fitted bodice was too high--probably caused by a literal interpretation of shoulder-to-bust measurements. Although in measuring, the entire front was allowed one inch of vertical ease, some of this ease should have been allowed above, as well as below the bust line.

The armholes of both bodices were slightly tight, not allowing enough ease for arm movement. Most likely this tightness was caused by the wedges which shortened the armholes too much.

BACK:

Neither the measurement nor pin fitted back was completely satisfactory. The measurement fitted version was tight across the upper

back due to poor distribution of ease, while the lower back of the pin fitted bodice was puffy above the waist dart. This puffiness resulted from transference of a large horizontal wedge (10P back) to the waist dart (some of the ease should have been transferred to the shoulder; see page 62). The extreme slenderness of this figure at the side caused excess fabric in this area to bulge from the lower armhole to the waist even though some side width had been removed from the pattern.

COMMENT:

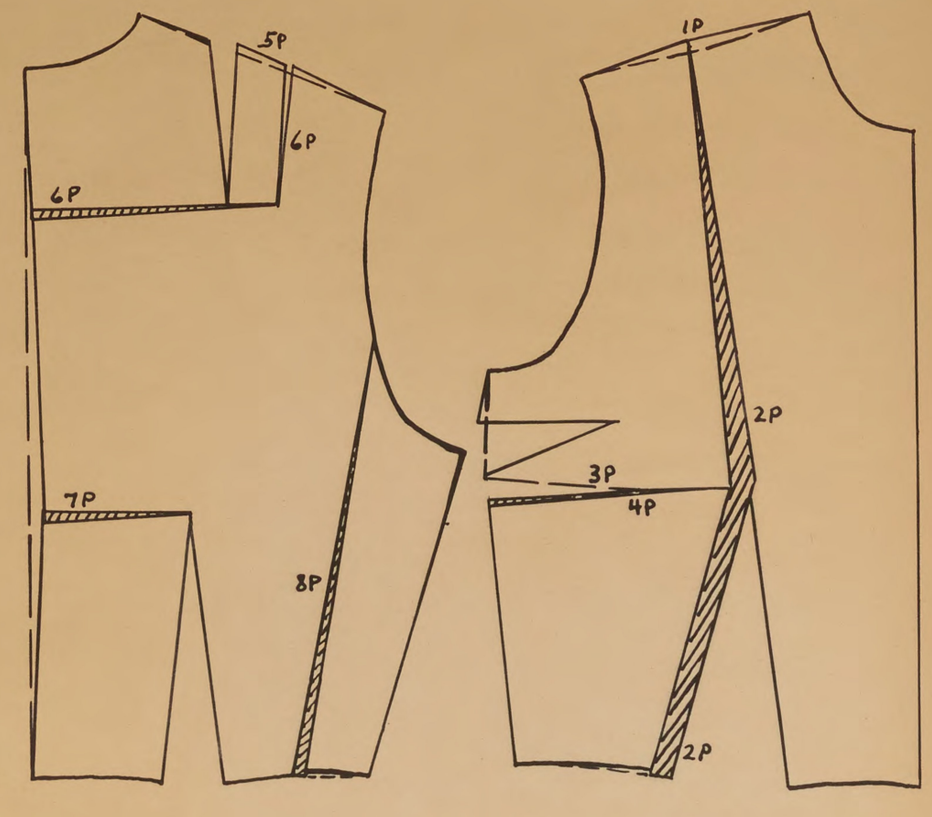
After quickly surveying the alterations required in the original size 14, one might think that a smaller size pattern would have provided a better fitting garment. Two points negate this idea, however. The bust, waist and hip circumferences called for a size 14; more important, the bone structure (indicated by shoulder width) required the larger pattern size (shoulder length and shoulder ease were increased in both cases).

Most of the fitting difficulties in this pattern were caused by stooping shoulders and a forward-set head. A lack of balance resulted in the pattern (front to back, and CB to side back) since the upper back absorbed more fulness than the pattern allowed. The figure was also less rounded in front than allowed for in the pattern. When a pattern needs as many adjustments as this one, more than one fitting is often necessary to give perfect fitting results.

THE UNALTERED MUSLIN:

The unaltered muslin fit unattractively, appearing too long and wide at the sides of the bodice in front and back. Excess front length (which was eliminated above the bust in the pin fitted pattern) simply hung below the bust, pulling CF grain down. This drooping bodice illustrated how some faults can be more difficult to analyze in fabric than in the tissue, since the fabric can mold to parts of the figure, obscuring the true cause of the fitting problem.

Pattern Fault	Pattern Alteration
FRONT	
1P - Shoulder seam loose over mid-shoulder hollow	Shoulder curved lower (1/4") at mid-shoulder
2P - Excess width at side - chest to waist	Vertical overlap - shoulder (0"), over bust point, to waist (1/2")
3P - Underarm dart too high	Underarm dart redrawn lower (1")
4P - Underarm dart too deep	Underarm dart redrawn narrower (1/2") Horizontal wedge from side to 2P through dart further reduced dart depth (1/8")
BACK	
5P - Shoulder seam loose over mid-shoulder hollow	Mid-shoulder lowered (1/4"); no change at neck or armhole edges
6P - Excess length - upper CB	Horizontal wedge - CB (1/4") to side back, resulting in increased shoulder ease
7P - Excess length - lower CB	Horizontal wedge - CB (3/8") to waist dart point (0"), resulting in increased waist dart depth
8P - Excess width at side, including excess waist length	Vertical wedge - armhole (0") to waist (1/2")



PIN FITTING

14-2 FIGURE SIZE

PATTERN SIZE 14

BUST 32 1/8

WAIST 23 1/2

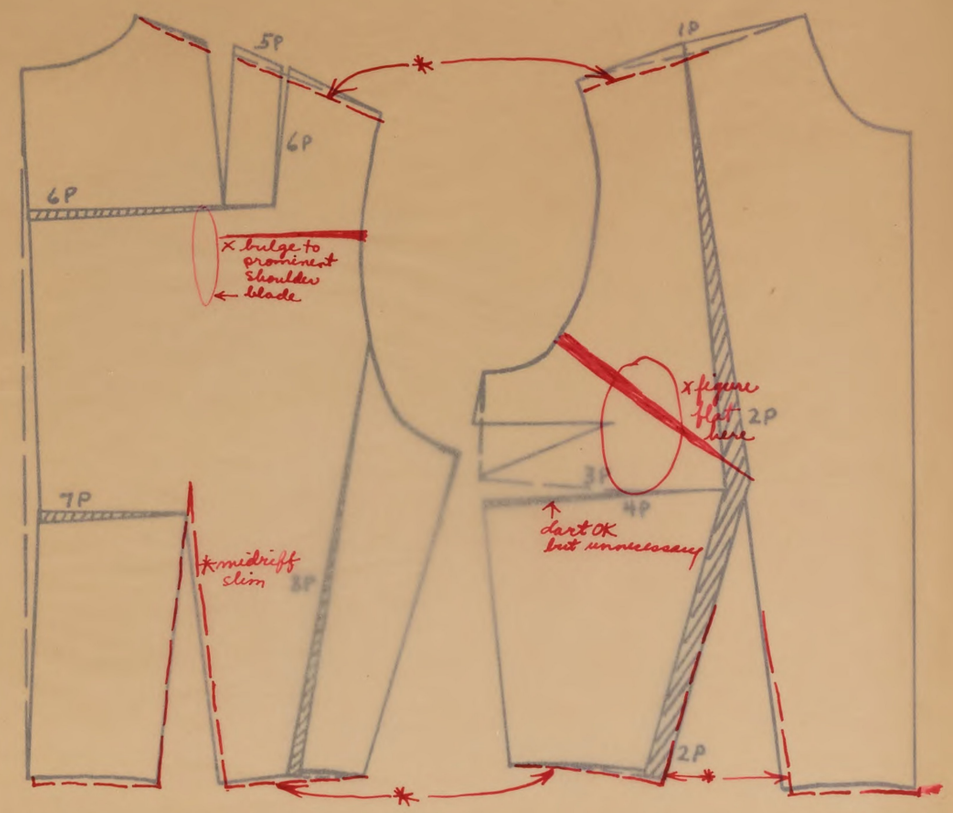
HIPS --

HEIGHT 5'6 1/2"

WEIGHT 113 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Shoulder seam loose over mid-shoulder hollow	Shoulder curved lower (1/4") at mid-shoulder
2P - Excess width at side - chest to waist	Vertical overlap - shoulder (0"), over bust point, to waist (1/2")
3P - Underarm dart too high	Underarm dart redrawn lower (1")
4P - Underarm dart too deep	Underarm dart redrawn narrower (1/2") Horizontal wedge from side to 2P through dart further reduced dart depth (1/8")
BACK	
5P - Shoulder seam loose over mid-shoulder hollow	Mid-shoulder lowered (1/4"); no change at neck or armhole edges
6P - Excess length - upper CB	Horizontal wedge - CB (1/4") to side back, resulting in increased shoulder ease
7P - Excess length - lower CB	Horizontal wedge - CB (3/8") to waist dart point (0"), resulting in increased waist dart depth
8P - Excess width at side, including excess waist length	Vertical wedge - armhole (0") to waist (1/2")

* easy to correct
x difficult to correct



PIN FITTING

14-2 FIGURE SIZE

PATTERN SIZE 14

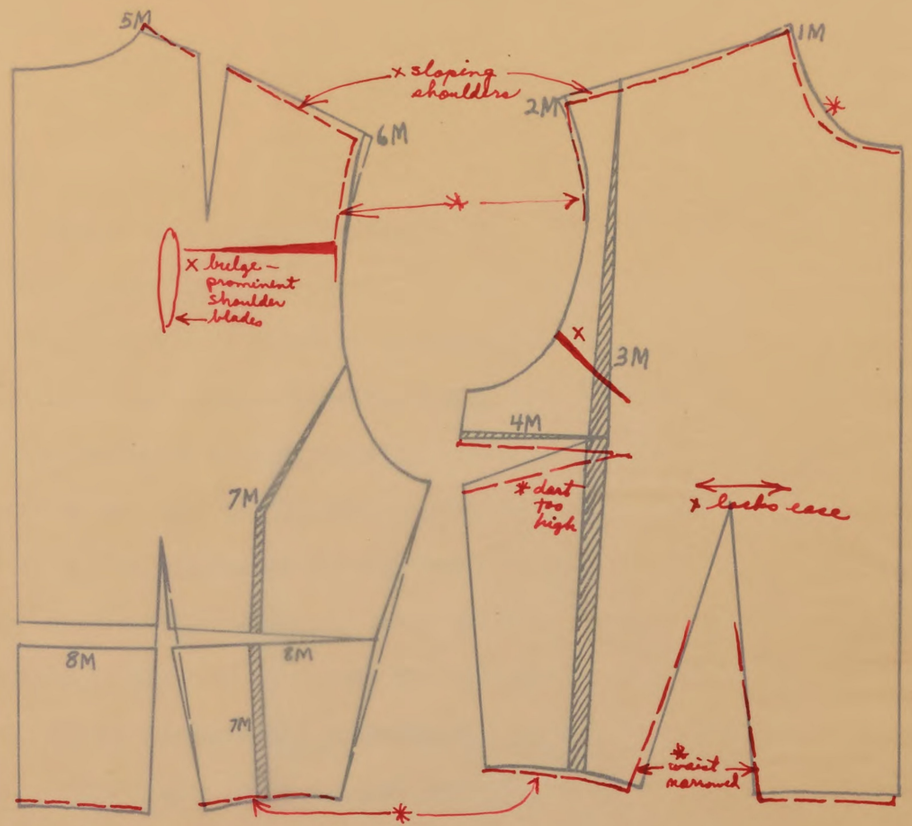
BUST 32 1/8

WAIST 23 1/2

HIPS --

HEIGHT 5'6 1/2"

WEIGHT 113 lbs.



MEASUREMENT FITTING

14-2 FIGURE CHARACTERISTICS

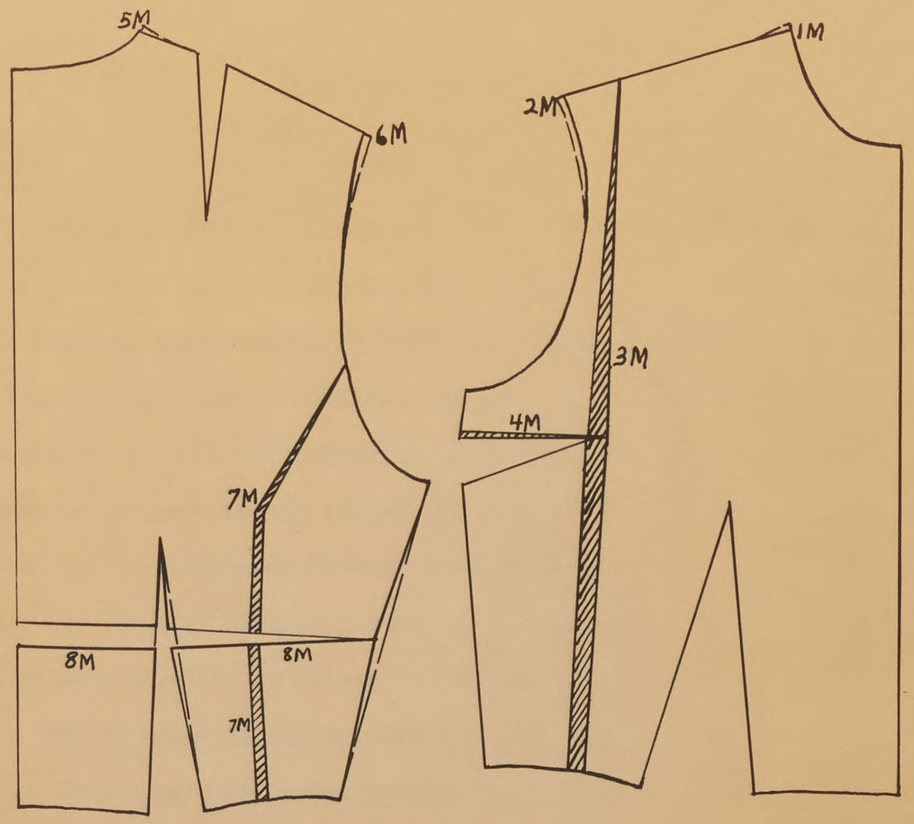
FIGURE TYPE: Tall stature, very slender

BONE STRUCTURE: Long and of medium thickness
Prominent shoulder bones
Prominent chest bones
Shoulders square

POSTURE: Erect
Bustline at average height
Bony shoulder blades and bone near back shoulder tip

FLESH DISTRIBUTION: Very slender
Small to medium bust
Flat at sides of bust
Very slim midriff
Shoulder line--bony
Arms--very slim

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate neck height at shoulder edge	Neck edge of shoulder drawn higher (1/8") also increased shoulder length (1/8")
2M - Inadequate shoulder length	Shoulder lengthened at armhole edge (1/8") and neck edge (1/8")
3M - Excess width from chest level to waist	Vertical wedge - shoulder (0") to waist (3/8")
4M - Underarm dart too keep for figure with flat area between bust and side seam	Horizontal wedge - side seam (1/8") to 2M
BACK	
5M - Inadequate neck height at shoulder edge	Neck edge of shoulder drawn higher (1/8"); also increased shoulder length (1/8")
6M - Inadequate shoulder length	Shoulder lengthened at armhole edge (1/8") and neck edge (1/8")
7M - Excess side width - scye to waist	Vertical wedge - armhole (0") to waist (3/8")
8M - CB too short, but side seam length adequate	Horizontal slash - spread evenly CB to waist dart (5/8"), tapering off at side seam (0")



MEASUREMENT FITTING

14-2 FIGURE CHARACTERISTICS

FIGURE TYPE: Tall stature, very slender

BONE STRUCTURE: Long and of medium thickness
Prominent shoulder bones
Prominent chest bones
Shoulders square

POSTURE: Erect
Bustline at average height
Bony shoulder blades and bone near back shoulder tip

FLESH DISTRIBUTION: Very slender
Small to medium bust
Flat at sides of bust
Very slim midriff
Shoulder line--bony
Arms--very slim

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate neck height at shoulder edge	Neck edge of shoulder drawn higher (1/8") also increased shoulder length (1/8")
2M - Inadequate shoulder length	Shoulder lengthened at armhole edge (1/8") and neck edge (1/8")
3M - Excess width from chest level to waist	Vertical wedge - shoulder (0") to waist (3/8")
4M - Underarm dart too keep for figure with flat area between bust and side seam	Horizontal wedge - side seam (1/8") to 2M
BACK	
5M - Inadequate neck height at shoulder edge	Neck edge of shoulder drawn higher (1/8"); also increased shoulder length (1/8")
6M - Inadequate shoulder length	Shoulder lengthened at armhole edge (1/8") and neck edge (1/8")
7M - Excess side width - scye to waist	Vertical wedge - armhole (0") to waist (3/8")
8M - CB too short, but side seam length adequate	Horizontal slash - spread evenly CB to waist dart (5/8"), tapering off at side seam (0")

14-2 Comparison of Results

FRONT:

The muslin fitting indicated that shoulder seam length, which had been increased in measurement fitting, needed to be reduced again to its original size. Although the muslin proofs of both the measurement and pin fitted bodices required shoulder height adjustments, this correction occurred more frequently in the measurement fitted muslin. Whenever an upper bodice length adjustment was required, this alteration could not be determined through measurement fitting, since there was only one vertical measuring level above the bust. Thus, though the adjustment might be at either the shoulder or chest level, one could not rely on measurements to determine which area needed adjusting.

This figure had prominent shoulder bones which formed a hollow at the midpoint of each shoulder. It was difficult to determine how closely one should fit this area to obtain a smooth effect. If too closely fitted, the hollow would become very obvious. This problem was not satisfactorily solved by either the measurement or pin fitting methods. Only trying the muslin proof on the figure gave the complete fitting effect of the shoulder area. This particular shoulder line was best fitted in fabric, where its effect could be observed and changed if necessary.

Vertical front wedges similar in shape, but differently located in each bodice, reduced width in different areas. Although each front had some ease, neither had enough ease to achieve the most flattering

effect possible. (A very slender figure usually looks better when a garment is not too closely fitted--so that the figure looks fuller than it actually is.)

BACK:

The pin fitted back fitted more loosely and comfortably than the measurement fitted back. In the pin fitted version some CB ease had been transferred to the shoulder line. (This shifted, but did not add, more ease.) If upper back ease had been added, however, the horizontal bulges that appeared at the measurement and pin fitted armholes might have been eliminated.

COMMENT:

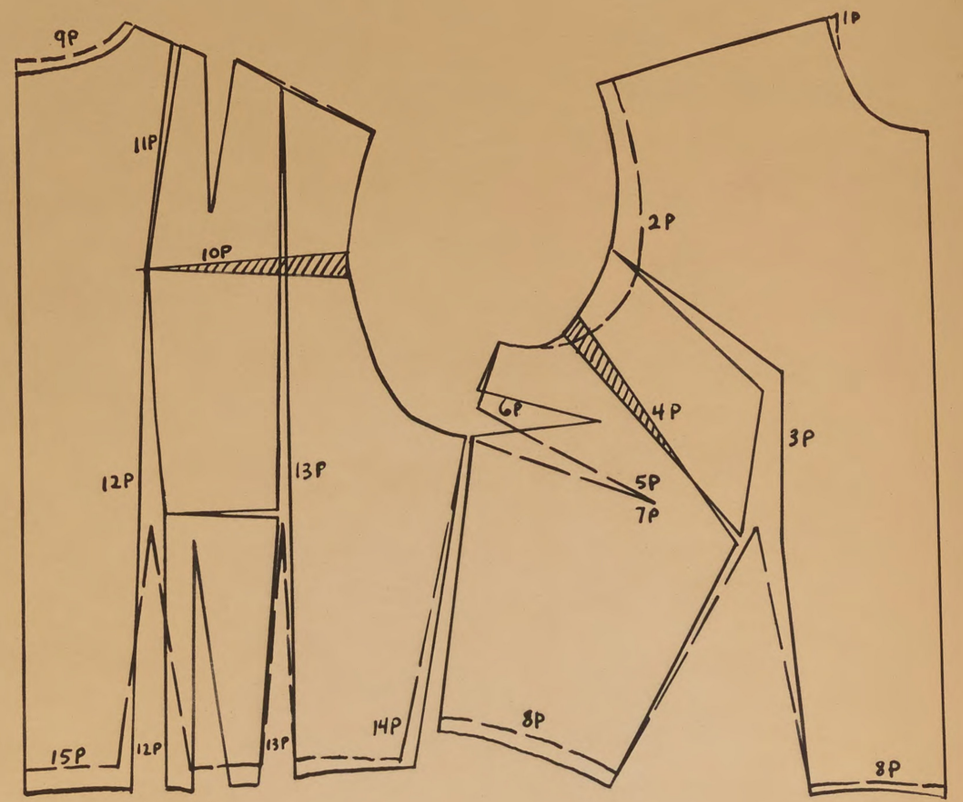
This extremely slender figure with long, prominent bones, presented several problems. The first, dealing with correct size, was solved by buying a pattern large enough to fit bone structure, rather than small enough to fit the bust, waist, and hip circumference.

Shoulder length and slope are very difficult to plan by measurement fitting, although both can usually be accurately adjusted by pin fitting. The shoulder tip is an especially difficult landmark to locate because in measuring, its relationship to the armhole line cannot be seen. Although bone structure can be used as a guide in locating this point, it is difficult to know if the shoulder line will look well when placed at the exact landmark point, or if its placement will require shifting to create the illusion of better posture (or different flesh distribution) in this area.

THE UNALTERED MUSLIN:

The unaltered bodice did not fit the figure perfectly, but could have been worn comfortably. Pin fitting improved its appearance, however--especially at the shoulder line and underarm dart. Some excess side front and back fulness were also eliminated, to give the bodice a smooth appearance.

Pattern Fault	Pattern Alteration
FRONT	
1P - Neck low at shoulder edge	Neck drawn higher (1/4") at shoulder
2P - Excess width at chest level	Armhole curved in (1/2") at chest level
3P - Inadequate length and width over bust point	Slash - armhole (0") bust point (3/4"), resulting in increased waist dart depth
4P - Bulge - armhole to bust point	Diagonal slash - overlapped at armhole (1/2"), spread at dart point (1/8")
5P - Underarm dart high	Underarm dart drawn lower (3/8")
6P - Underarm dart too deep	Underarm dart narrowed (3/8")
7P - Underarm dart pointing too high	Underarm dart pointed lower
8P - Bodice too long	Waist edge drawn higher - CF (1/4") to side seam (1/2")
BACK	
9P - Neck too low and wide	Neck drawn higher (1/4"); this reduced the length of the neck curve
10P - Horizontal bulge - armhole to side back	Horizontal wedge - armhole (5/8") to side back, resulting in 11P and 12P spread
11P - Inadequate ease across upper back	Vertical slash from 10P (0") to shoulder (1/8")
12P - Inadequate ease across lower back (near CB)	Vertical slash spreading from 10P (0") to waist (1"), resulting in new waist dart, replacing original one
13P - Inadequate ease at side back	Vertical slash - spread shoulder (0") to waist (1"); a horizontal spread between 12P and 13P above the waist dart evenly divided width of increases; a new waist dart absorbed added waist width and helped divide lower back ease more evenly
14P - Waist too wide	Side seam drawn in (1/2"); new waist dart also reduced waist width
15P - Bodice too long	Waist drawn higher - CB (3/4") to side seam (1/4")



PIN FITTING

14-3 FIGURE SIZE

PATTERN SIZE 14

BUST 36 5/8

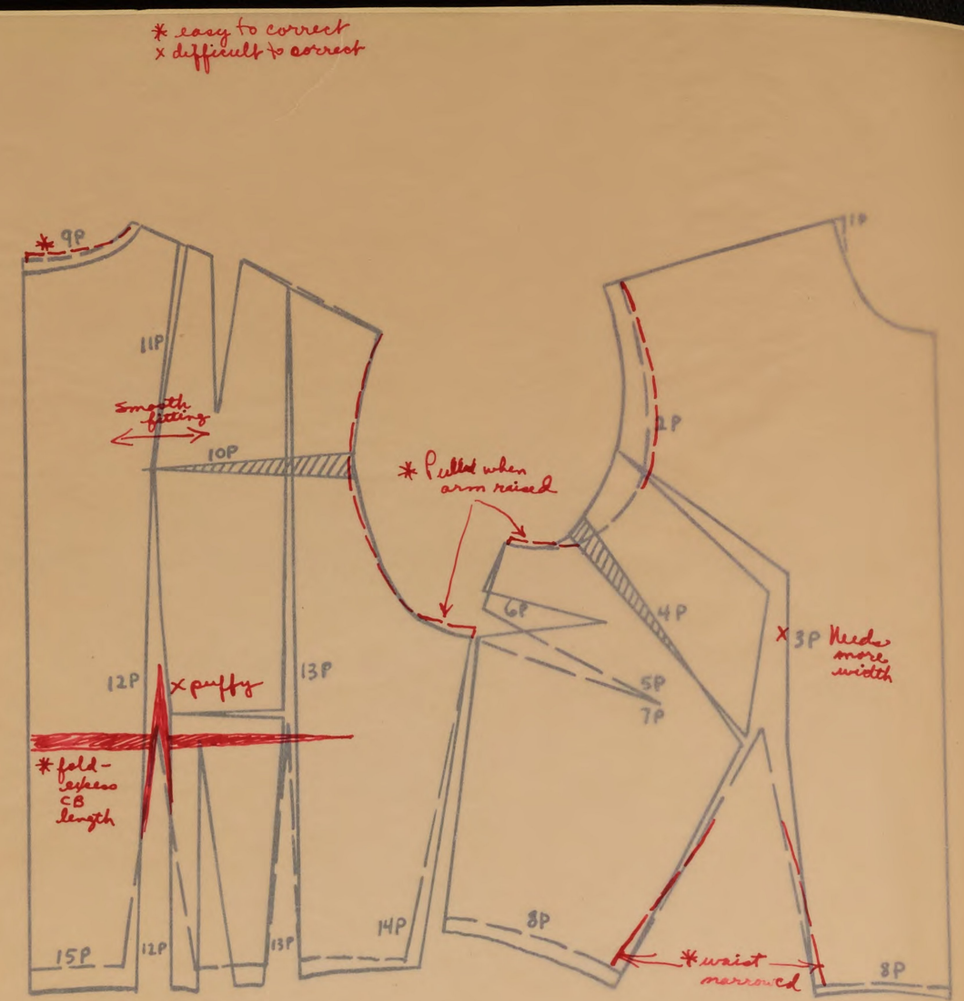
WAIST 25 1/8

HIPS --

HEIGHT 5'3 1/2"

WEIGHT 128 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Neck low at shoulder edge	Neck drawn higher (1/4") at shoulder
2P - Excess width at chest level	Armhole curved in (1/2") at chest level
3P - Inadequate length and width over bust point	Slash - armhole (0") bust point (3/4"), resulting in increased waist dart depth
4P - Bulge - armhole to bust point	Diagonal slash - overlapped at armhole (1/2"), spread at dart point (1/8")
5P - Underarm dart high	Underarm dart drawn lower (3/8")
6P - Underarm dart too deep	Underarm dart narrowed (3/8")
7P - Underarm dart pointing too high	Underarm dart pointed lower
8P - Bodice too long	Waist edge drawn higher - CF (1/4") to side seam (1/2")
BACK	
9P - Neck too low and wide	Neck drawn higher (1/4"); this reduced the length of the neck curve
10P - Horizontal bulge - armhole to side back	Horizontal wedge - armhole (5/8") to side back, resulting in 11P and 12P spread
11P - Inadequate ease across upper back	Vertical slash from 10P (0") to shoulder (1/8")
12P - Inadequate ease across lower back (near CB)	Vertical slash spreading from 10P (0") to waist (1"), resulting in new waist dart, replacing original one
13P - Inadequate ease at side back	Vertical slash - spread shoulder (0") to waist (1"); a horizontal spread between 12P and 13P above the waist dart evenly divided width of increases; a new waist dart absorbed added waist width and helped divide lower back ease more evenly
14P - Waist too wide	Side seam drawn in (1/2"); new waist dart also reduced waist width
15P - Bodice too long	Waist drawn higher - CB (3/4") to side seam (1/4")



PIN FITTING

14-3 FIGURE SIZE

PATTERN SIZE 14

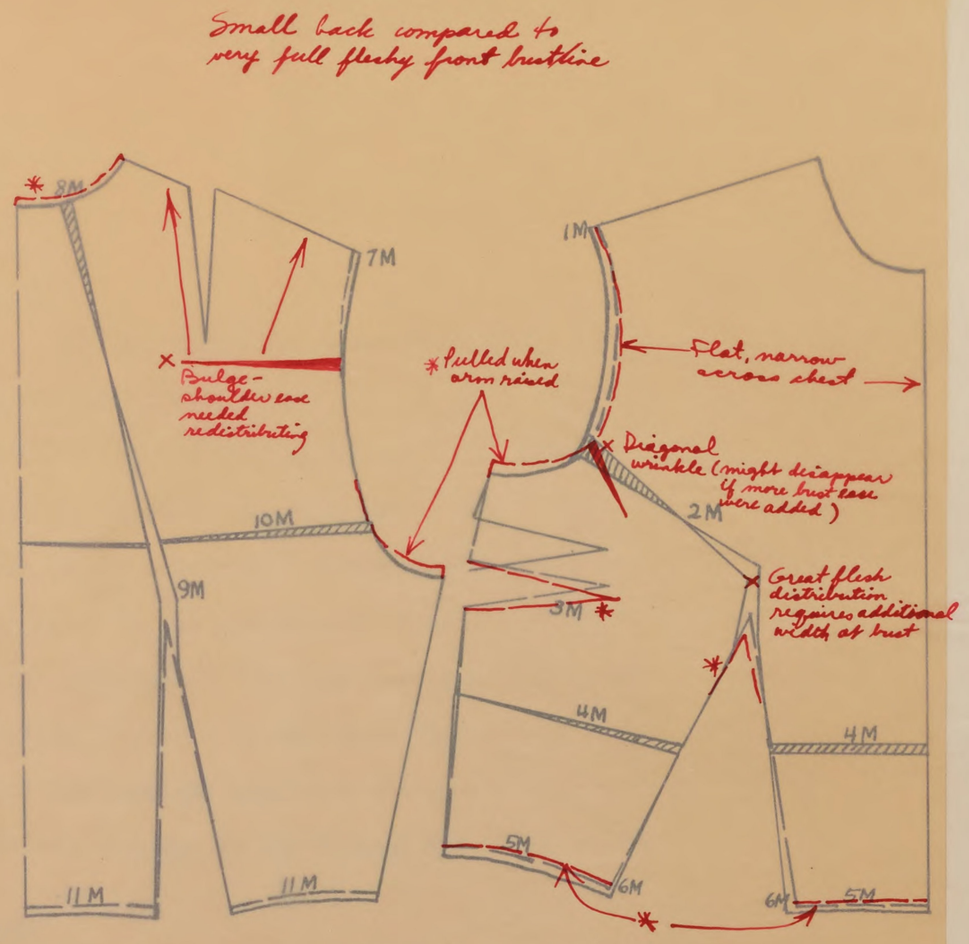
BUST 36 5/8

WAIST 25 1/8

HIPS --

HEIGHT 5'3 1/2"

WEIGHT 128 lbs.



MEASUREMENT FITTING

14-3 FIGURE CHARACTERISTICS

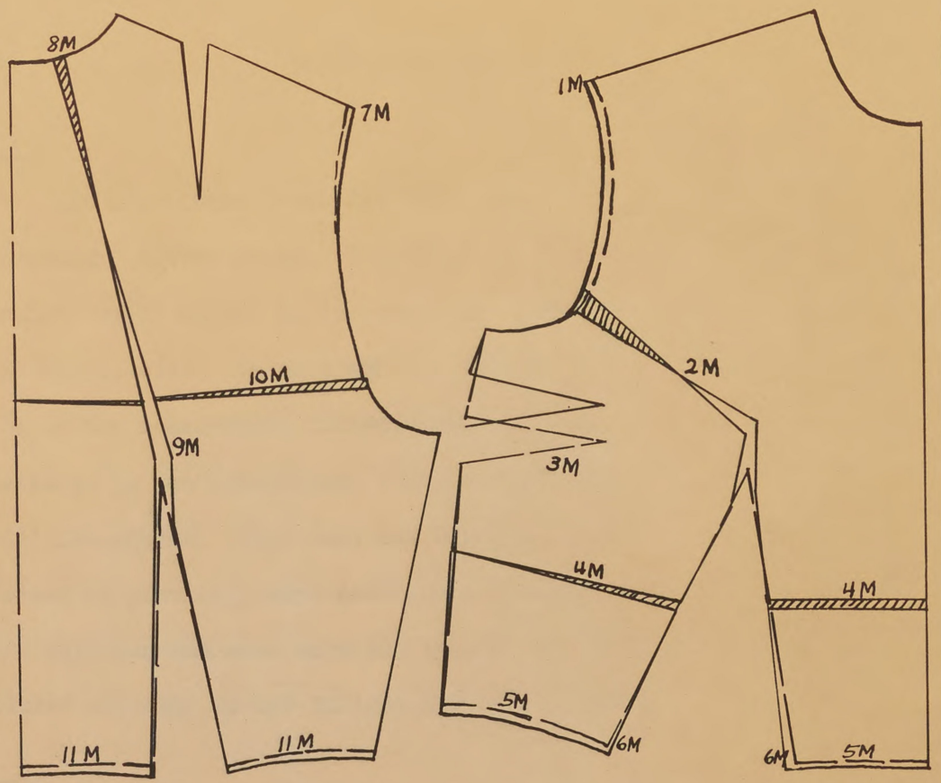
FIGURE TYPE: Short stature, slightly full figure

BONE STRUCTURE: Medium length and medium to heavy thickness
Prominent back shoulder bones
Prominent slightly bony shoulder blades
Shoulder slopes sharply--well developed muscle on shoulder below neck base

POSTURE: Erect
Low bust line
Shoulders slightly forward
Flat hollow along backbone

FLESH DISTRIBUTION: Medium to full generally
Very full bust (2M) and narrow waist
Fleshy along side of bust and at bust level in back
Midriff medium fleshy
Shoulder line smooth
Arms--medium full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
2M - Excess length at side near lower armhole but inadequate length and width over bust point	Diagonal slash - overlapped at armhole (1/4"), spread at bust point (3/8"), resulting in deeper waist dart
3M - Underarm dart too high	Underarm dart drawn lower (7/8")
4M - Bodice too long at CF	Horizontal wedge - side seam (0") to CF (1/2")
5M - Bodice length needs further reduction	Waist edge drawn higher - side seam (1/2") to CF (3/8")
6M - Waist too wide	Waist dart deepened (1/4")
BACK	
7M - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
8M - Neck too wide 9M - Inadequate width at scye	Diagonal slash - overlapping at neck (1/8"), spread above waist dart (3/8"), resulting in deeper waist dart
10M - Excess length near lower armhole	Horizontal wedge - CB (0") to armhole (3/16")
11M - Bodice too long	Waist edge drawn higher - side seam to CB (1/2")



MEASUREMENT FITTING

14-3 FIGURE CHARACTERISTICS

FIGURE TYPE: Short stature, slightly full figure

BONE STRUCTURE: Medium length and medium to heavy thickness
Prominent back shoulder bones
Prominent slightly bony shoulder blades
Shoulder slopes sharply--well developed muscle on shoulder below neck base

POSTURE: Erect
Low bust line
Shoulders slightly forward
Flat hollow along backbone

FLESH DISTRIBUTION: Medium to full generally
Very full bust (2M) and narrow waist
Fleshy along side of bust and at bust level in back
Midriff medium fleshy
Shoulder line smooth
Arms--medium full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
2M - Excess length at side near lower armhole but inadequate length and width over bust point	Diagonal slash - overlapped at armhole (1/4"), spread at bust point (3/8"), resulting in deeper waist dart
3M - Underarm dart too high	Underarm dart drawn lower (7/8")
4M - Bodice too long at CF	Horizontal wedge - side seam (0") to CF (1/2")
5M - Bodice length needs further reduction	Waist edge drawn higher - side seam (1/2") to CF (3/8")
6M - Waist too wide	Waist dart deepened (1/4")
BACK	
7M - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
8M - Neck too wide 9M - Inadequate width at scye	Diagonal slash - overlapping at neck (1/8"), spread above waist dart (3/8"), resulting in deeper waist dart
10M - Excess length near lower armhole	Horizontal wedge - CB (0") to armhole (3/16")
11M - Bodice too long	Waist edge drawn higher - side seam to CB (1/2")

14-3 Comparison of Results

FRONT:

The pin fitted front fit more easily and smoothly than the measurement fitted front. The wedge which reduced armhole ease and another, which spread to increase the length and width held over the bust curve, were both successful. There was still a bulge at the armhole in the measurement fitted muslin. Although bust ease had been increased in the measurement fitted front, the ease allowance was still inadequate. This ease was concentrated at the bust point, instead of providing more ease above and below the bust. The underarm dart position was more accurate in the pin fitted muslin, since it pointed directly to the fullest part of the bust.

BACK:

The back neckline, too low in both versions, was simply drawn higher. The measurement fitted back fit better generally than the pin fitted back, since it had a moderate amount of lower ease, compared to the excess held in the lower back of the pin fitted bodice. Good redistribution of shoulder ease in the pin fitted back (not found in the measured version) was obscured by the puffiness of the lower back.

COMMENT:

When a large armhole bulge in the pin fitted back was pinned out and transferred to the waist dart, a large puff formed at the tip of the waist dart. The effect would have been improved if the entire upper

back had been spread to distribute fulness more evenly (see 12-5 page 49).

Measurement fitting cannot predict the correct size and placement of an underarm dart. In contrast, the pin fitting tissue, which can be seen on the figure, can point up the exact location of the bust level and corresponding underarm dart level.

One difficulty in pin fitting was clearly demonstrated in this bodice. The great strain caused by inadequate bust fulness distorted the fit of the entire bodice. It created back bulges that would not have appeared if the bodice had not been strongly pulled towards the front. These bulges were pinned out and resulted in too much lower back fulness. If the tissue had been removed from the figure, increased in bust, width, then replaced on the figure, some of these back bulges might have disappeared when there was no longer strain across the back.

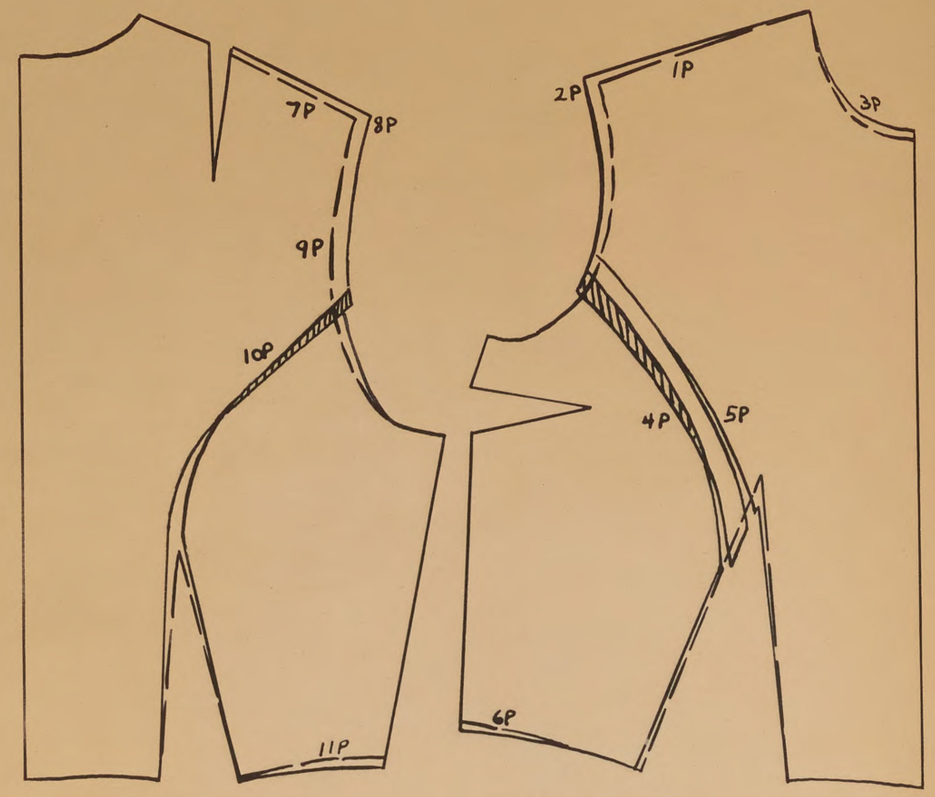
THE UNALTERED BODICE:

This bodice could not be worn without some alteration to increase bust width, since the lines were completely distorted by wrinkles radiating from the very full bust. There was an armhole bulge, diagonal wrinkles above the bust leading toward the neckline, and a diagonal wrinkle leading to the CF waist. The back was pulled forward, too, with wrinkles radiating from the underarm area. The bodice was also long waisted in front and back.

The appearance of the bodice was greatly improved by the pin fitting. Bust width was increased in front (and back) so that the

front opening would not gap. General fulness was increased so the bodice could also be worn comfortably.

Pattern Fault	Pattern Correction
FRONT	
1P - Looseness at armhole edge of shoulder	Armhole edge of shoulder drawn lower (1/4")
2P - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
3P - Neck too tight	Neck redrawn slightly deeper - shorter (0") to CF (1/4")
4P - Diagonal bulge - armhole to waist dart	Curved diagonal slash - overlapped at armhole (1/2"), spread at waist dart (1/4")
5P - Inadequate length and width below bust	Diagonal curved slash - armhole (0") to dart (1/4")
6P - Bodice too long at side seam	Side seam drawn higher (3/8") at waist
BACK	
7P - Looseness at armhole edge of shoulder	Armhole edge of shoulder drawn lower (1/4")
8P - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
9P - Excess width across back	Armhole curved in (1/2")
10P - Diagonal bulge - armhole to scye level above waist dart (due to inadequate ease above dart)	Diagonal wedge - overlapped at armhole (3/8") but spread at dart point (3/8")
11P - Bodice too long at side seam	Side seam drawn higher (3/8") at waist



PIN FITTING

14-4 FIGURE SIZE

PATTERN SIZE 14

BUST 34 3/4

WAIST 26 1/4

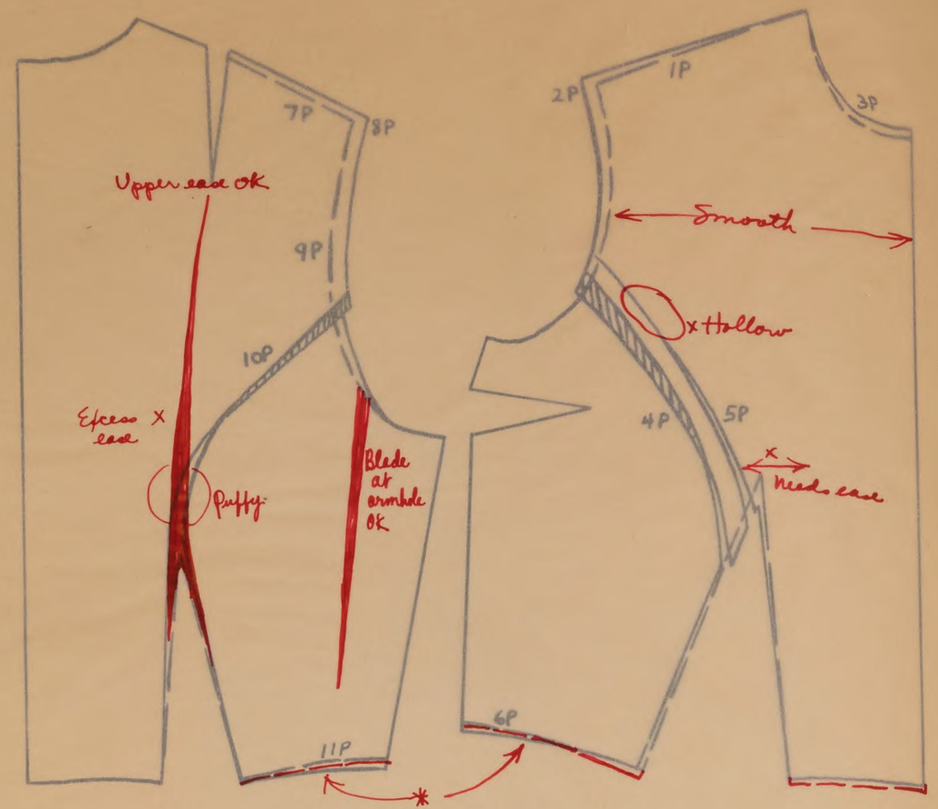
HIPS --

HEIGHT 5'4"

WEIGHT 124 lbs.

Pattern Fault	Pattern Correction
FRONT	
1P - Looseness at armhole edge of shoulder	Armhole edge of shoulder drawn lower (1/4")
2P - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
3P - Neck too tight	Neck redrawn slightly deeper - shorter (0") to CF (1/4")
4P - Diagonal bulge - armhole to waist dart	Curved diagonal slash - overlapped at armhole (1/2"), spread at waist dart (1/4")
5P - Inadequate length and width below bust	Diagonal curved slash - armhole (0") to dart (1/4")
6P - Bodice too long at side seam	Side seam drawn higher (3/8") at waist
BACK	
7P - Looseness at armhole edge of shoulder	Armhole edge of shoulder drawn lower (1/4")
8P - Excess shoulder length	Armhole edge of shoulder shortened (1/4")
9P - Excess width across back	Armhole curved in (1/2")
10P - Diagonal bulge - armhole to scye level above waist dart (due to inadequate ease above dart)	Diagonal wedge - overlapped at armhole (3/8") but spread at dart point (3/8")
11P - Bodice too long at side seam	Side seam drawn higher (3/8") at waist

* easy to correct
× difficult to correct



PIN FITTING

14-4 FIGURE SIZE

PATTERN SIZE 14

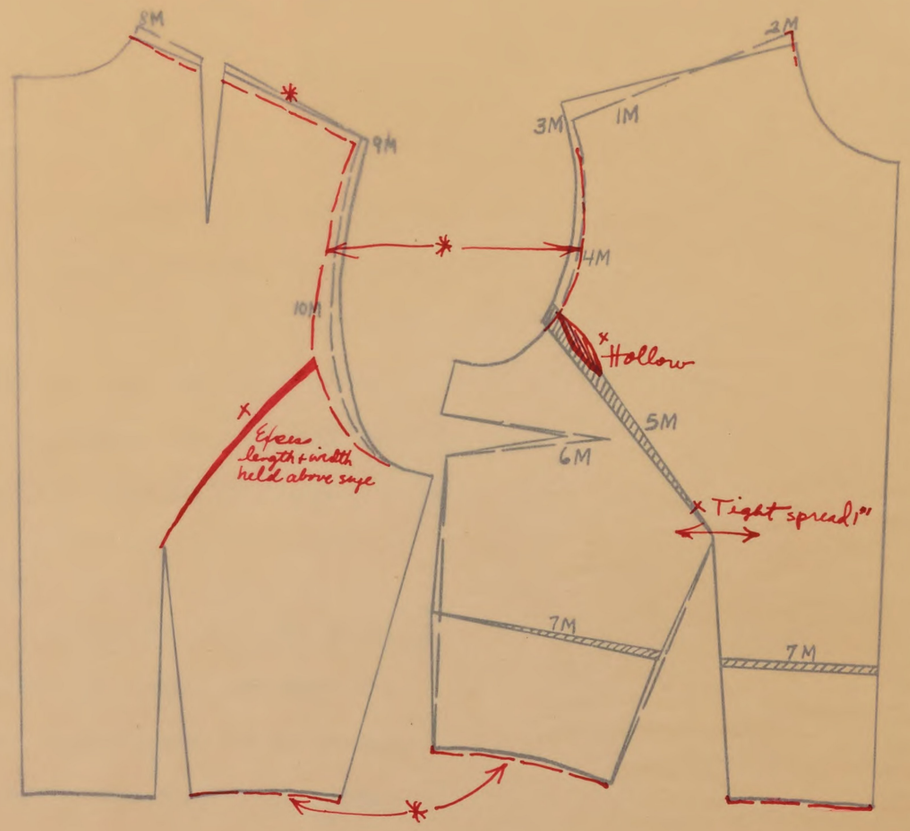
BUST 34 3/4

WAIST 26 1/4

HIPS --

HEIGHT 5'4"

WEIGHT 124 lbs.



MEASUREMENT FITTING

14-4 FIGURE CHARACTERISTICS

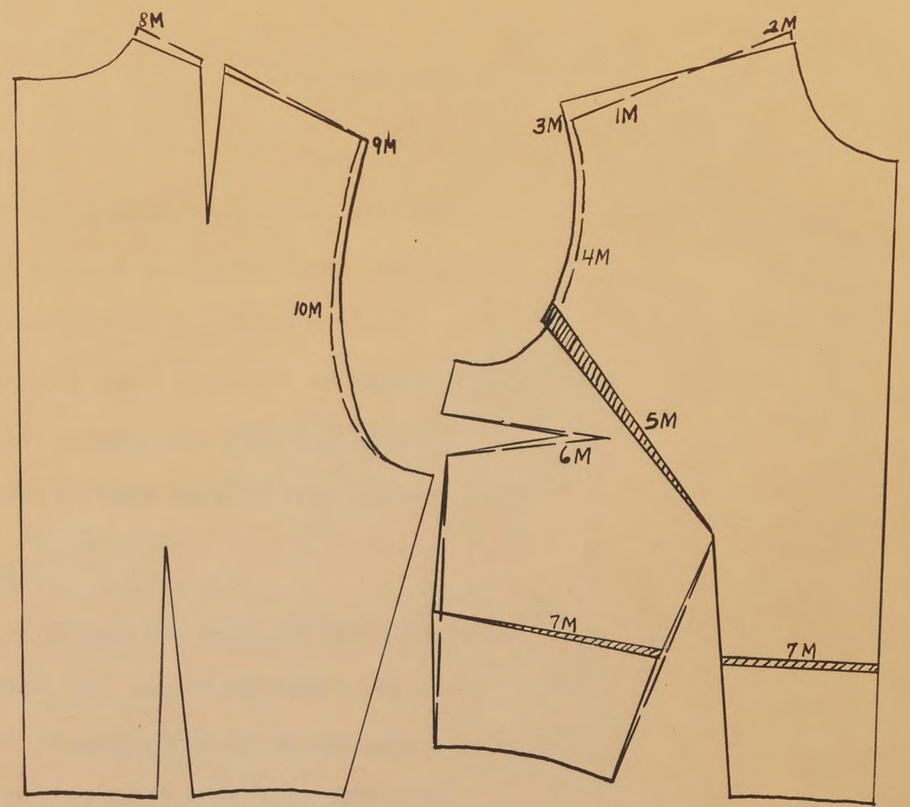
FIGURE TYPE: Average stature, average weight

BONE STRUCTURE: Medium length and thickness
No prominent joints or bones

POSTURE: Erect
Average bust height
Slightly forward head and neck

FLESH DISTRIBUTION: Medium to full
Medium to full bust
Slightly fleshy at side of bust and at bust level in back
Midriff slightly fleshy in back
Shoulder line--smooth and sloping
Arm girth--medium

Pattern Fault	Pattern Correction
FRONT	
1M - Armhole edge of shoulder too high	Armhole edge of shoulder drawn lower (3/8")
2M - Inadequate neck length	Neck lengthened at shoulder edge (1/8")
3M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
4M - Excess chest width	Armhole curved in (3/8")
5M - Excess length and width at side above bust level	Diagonal wedge - armhole (1/4") to waist dart (0")
6M - Excess length at side above bust	Underarm dart lengthened (3/4")
7M - CF too long	Horizontal wedge - overlapping CF (1/4") to side seam (0")
BACK	
8M - Inadequate neck length	Neck lengthened at shoulder edge (1/8")
9M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
10M - Excess width across upper back	Armhole curved in (3/8") at upper back level



MEASUREMENT FITTING

14-4 FIGURE CHARACTERISTICS

FIGURE TYPE: Average stature, average weight

BONE STRUCTURE: Medium length and thickness
No prominent joints or bones

POSTURE: Erect
Average bust height
Slightly forward head and neck

FLESH DISTRIBUTION: Medium to full
Medium to full bust
Slightly fleshy at side of bust and at bust level in back
Midriff slightly fleshy in back
Shoulder line--smooth and sloping
Arm girth--medium

Pattern Fault	Pattern Correction
FRONT	
1M - Armhole edge of shoulder too high	Armhole edge of shoulder drawn lower (3/8")
2M - Inadequate neck length	Neck lengthened at shoulder edge (1/8")
3M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
4M - Excess chest width	Armhole curved in (3/8")
5M - Excess length and width at side above bust level	Diagonal wedge - armhole (1/4") to waist dart (0")
6M - Excess length at side above bust	Underarm dart lengthened (3/4")
7M - CF too long	Horizontal wedge - overlapping CF (1/4") to side seam (0")
BACK	
8M - Inadequate neck length	Neck lengthened at shoulder edge (1/8")
9M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
10M - Excess width across upper back	Armhole curved in (3/8") at upper back level

14-4 Comparison of Results

FRONT:

This pattern required comparatively few corrections. Both fronts were altered similarly, with like results. Both bodices fitted smoothly, but would have been more comfortable with additional bustline ease. Looseness near the front of each armhole indicated that there was a hollow between the bust and armhole. This could not be fitted without a seam or yoke in that area (See 12-2 page 35).

BACK:

Except for a slight bulge at the lower armhole, the measurement fitted back looked smoother than the pin fitted back. In the pin fitted back, transference of an armhole bulge into lower back ease had created a puff at the tip of the waist dart. Also, a blade of excess side ease appeared below the armhole. Apparently the bulge at the armhole should have been transferred more evenly to upper and lower back ease.

COMMENT:

The fact that the pattern needed only minor alterations indicated that this figure was very close to the average for which the size 14 pattern was intended.

Comparison of the back bodices brought out a problem that recurred through many backs in all sizes. Results of this pin fitting indicated that transference of an armhole wedge into waist dart ease (1OP) created a large unflattering puff at the waist dart tip.

In spite of this, a diagonal bulge in the measurement fitted muslin proof seemed to call for a wedge almost identical to the one already proved unsuccessful in the pin fitting.

There were several possible answers to this problem: The armhole wedge might have been too big. Had some of the excess armhole length been retained (making the wedge smaller), it would have been easier to transfer the smaller wedge into lower back ease successfully.

Perhaps the bulge was created by a lack of sufficient length in the general scye area--not merely at the waist dart point. In this case a horizontal slash above the scye from armhole to CB, spread apart at its center (but not spread at CB or armhole) would provide the additional length.

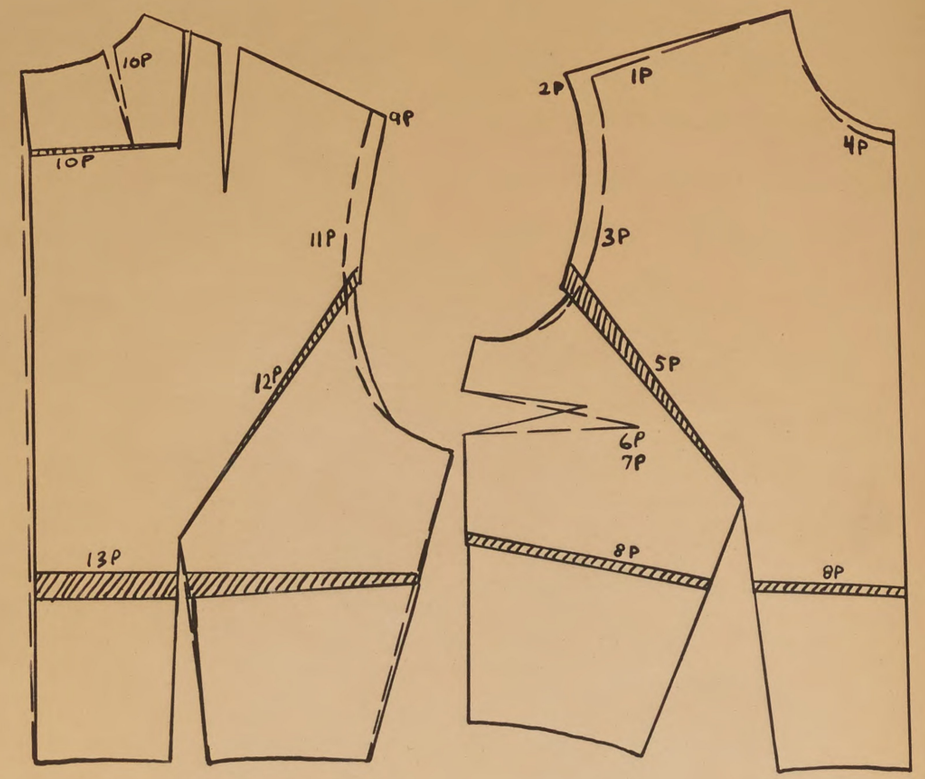
If the figure needed a large amount of lower back fulness this ease might be better distributed by pleat darts or gathered blousing, rather than through regular darts.

THE UNALTERED BODICE:

Almost every fault in the unaltered pattern was either eliminated or improved upon through pin fitting. The neckline of this unaltered bodice was high and tight. The shoulders were too long, and the entire shoulder section "floated" free from the figure before the sleeves were pinned in. The addition of sleeves pulled the shoulders down, causing slight wrinkles below the shoulders in front and back. There were wrinkles at the underarm, probably caused by tightness across the bustline. The back armhole was loose and the sides of the bodice seemed too long.

Although the faults listed above may seem quite extensive, most of the adjustments needed were small, and the original bodice was wearable. This figure, as a whole, probably came closer to the average figure than any of the others fitted in the study.

Pattern Fault	Pattern Alteration
FRONT	
1P - Excess shoulder height	Shoulder lowered (1/4")
2P - Excess shoulder length	Armhole edge of shoulder reduced (5/8")
3P - Excess chest width	Armhole curved in (5/8")
4P - Neckbase too high	Neckbase lowered (1/2")
5P - Diagonal bulge - armhole to waist dart point	Diagonal wedge - armhole (3/8") to waist dart point (1/8")
6P - Underarm dart pointing too high	Underarm dart pointed lower
7P - Puffiness at underarm dart point	Underarm dart lengthened (1-1/4") and deepened (1/8")
8P - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
BACK	
9P - Excess shoulder length	Armhole edge of shoulder reduced (5/8")
10P - Excess upper CB length	Horizontal wedge - CB (3/8") to upper back (0") resulting in new neck dart (1/4")
11P - Excess upper back width	Armhole curved in (5/8")
12P - Diagonal bulge - armhole to waist dart point	Diagonal wedge - armhole (1/2") to waist dart point (0")
13P - Bodice too long	Horizontal overlap - CB (1") to side seam (1/2")



PIN FITTING

14-5 FIGURE SIZE

PATTERN SIZE 14

BUST 34 1/2

WAIST 26 3/4

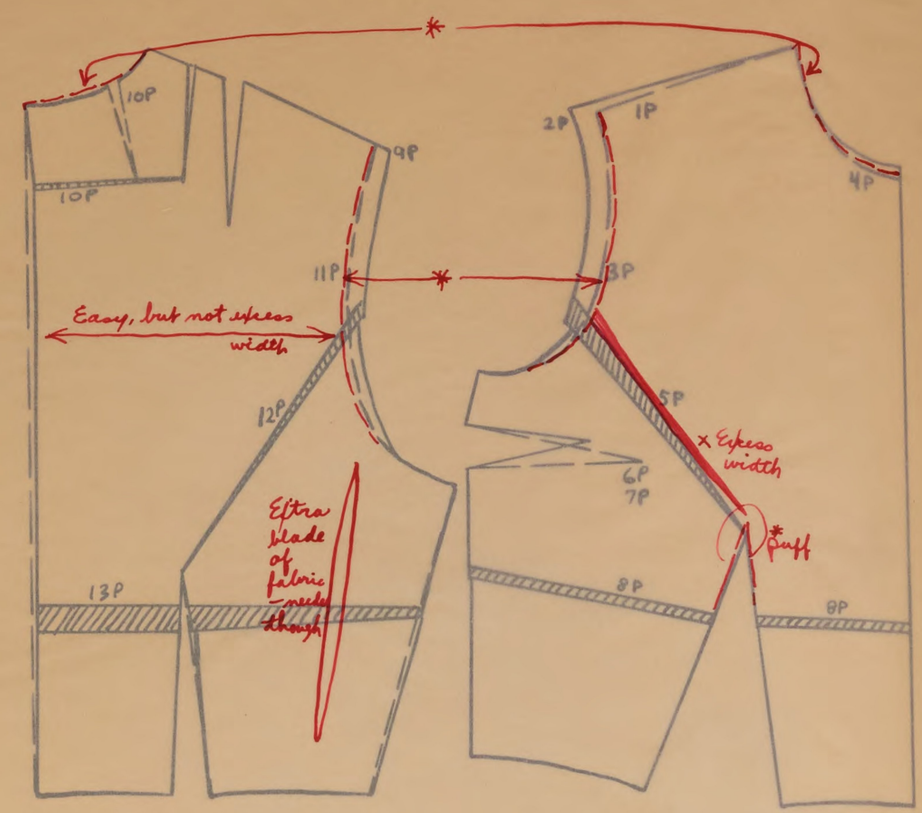
HIPS --

HEIGHT 5'2"

WEIGHT 120 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Excess shoulder height	Shoulder lowered (1/4")
2P - Excess shoulder length	Armhole edge of shoulder reduced (5/8")
3P - Excess chest width	Armhole curved in (5/8")
4P - Neckbase too high	Neckbase lowered (1/2")
5P - Diagonal bulge - armhole to waist dart point	Diagonal wedge - armhole (3/8") to waist dart point (1/8")
6P - Underarm dart pointing too high	Underarm dart pointed lower
7P - Puffiness at underarm dart point	Underarm dart lengthened (1-1/4") and deepened (1/8")
8P - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
BACK	
9P - Excess shoulder length	Armhole edge of shoulder reduced (5/8")
10P - Excess upper CB length	Horizontal wedge - CB (3/8") to upper back (0") resulting in new neck dart (1/4")
11P - Excess upper back width	Armhole curved in (5/8")
12P - Diagonal bulge - armhole to waist dart point	Diagonal wedge - armhole (1/2") to waist dart point (0")
13P - Bodice too long	Horizontal overlap - CB (1") to side seam (1/2")

* easy to correct
× difficult to correct



PIN FITTING

14-5 FIGURE SIZE

PATTERN SIZE 14

BUST 34 1/2

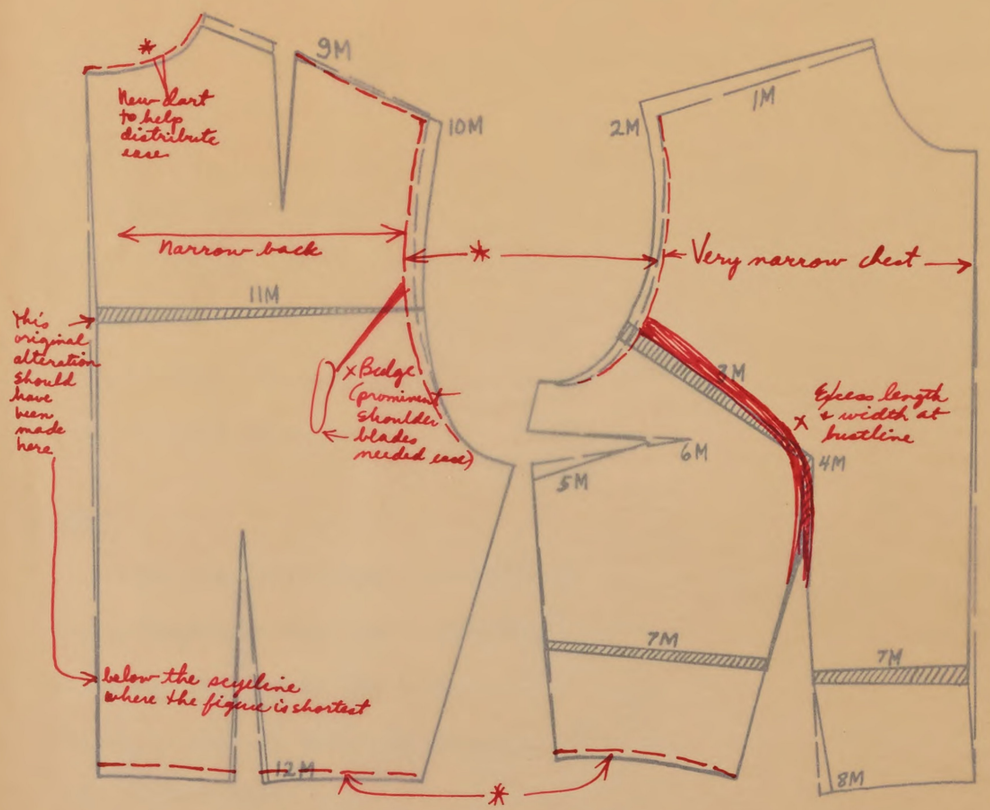
WAIST 26 3/4

HIPS --

HEIGHT 5'2"

WEIGHT 120 lbs.

These measurement alterations were usually well-located, but did not make adequate reductions where required.



MEASUREMENT FITTING

14-5 FIGURE CHARACTERISTICS

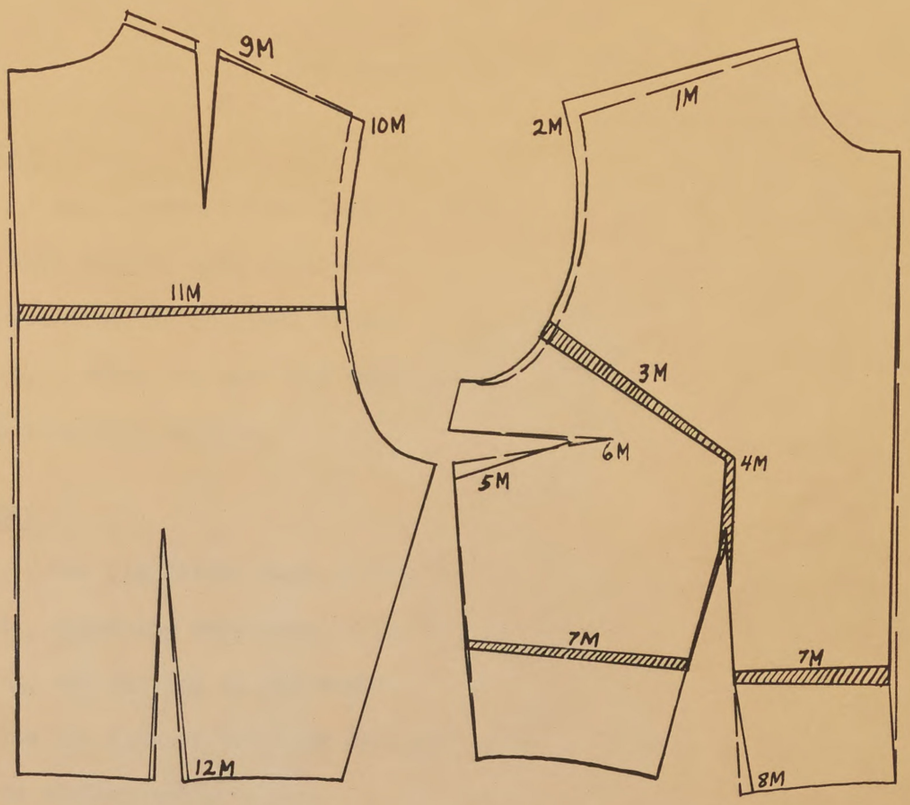
FIGURE TYPE: Short stature, full average figure

BONE STRUCTURE: Short length, heavy thickness
Very prominent shoulder blades
Shoulders slope sharply
Narrow upper areas--shoulders, chest, upper back

POSTURE: Erect
Average bust height
Slightly forward head and shoulders

FLESH DISTRIBUTION: Full
Small to medium bust
Fleshy at side of bust
Midriff front and back fleshy
Slight fleshiness over back of shoulder bones
Shoulder line--smooth
Arm girth--full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder height (and excess neck length)	Shoulder drawn lower - neck edge (1/8") to armhole edge (1/2")
2M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
3M - Excess length and width between lower armhole and waist dart	Diagonal overlap - armhole (3/8") to bust point (1/8")
4M - Excess bust width	Bust point overlap 3M
5M - Underarm dart too deep	Underarm dart depth reduced (1/4")
6M - Underarm dart too short (excess length at dart point)	Underarm dart lengthened (1")
7M - Bodice too long	Horizontal overlap - CF (7/8") to side seam (1/4")
8M - Waist too narrow	Waist dart depth reduced at waist edge (1/4")
BACK	
9M-Inadequate shoulder height at neck edge	Neck edge of shoulder drawn higher (1/4") sloping off at shoulder edge (1/16")
10M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
11M - Excess upper back length	Horizontal wedge - CB (5/8") to armhole (0")
12M - Waist too narrow	Waist dart depth reduced at waist edge (1/4")



MEASUREMENT FITTING

14-5 FIGURE CHARACTERISTICS

FIGURE TYPE: Short stature, full average figure

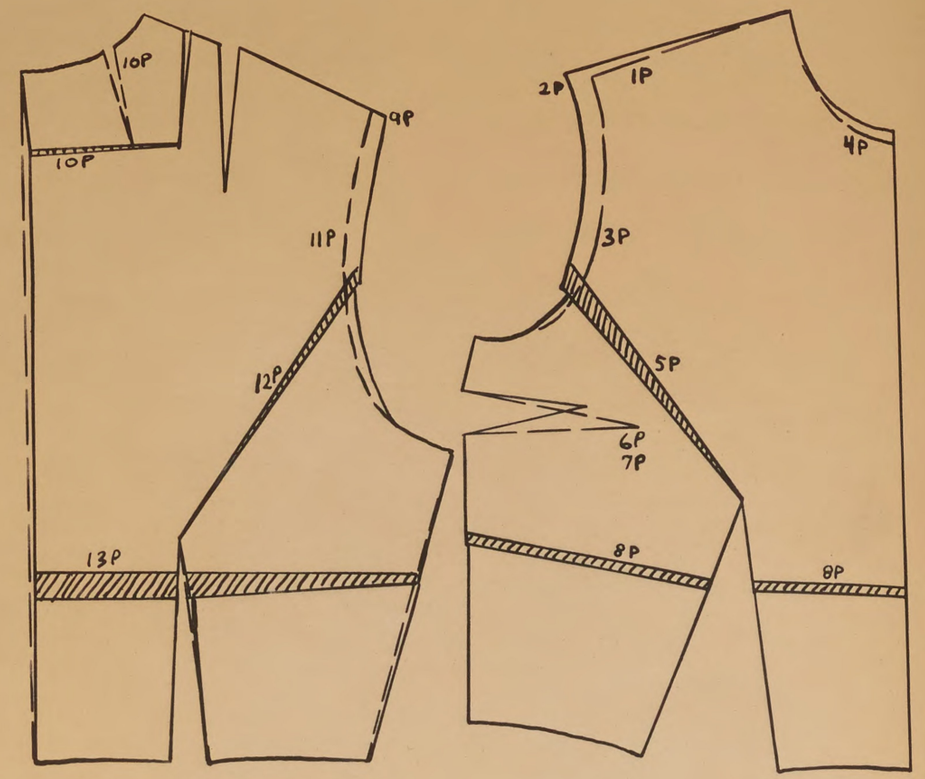
BONE STRUCTURE: Short length, heavy thickness
Very prominent shoulder blades
Shoulders slope sharply
Narrow upper areas--shoulders, chest, upper back

POSTURE: Erect
Average bust height
Slightly forward head and shoulders

FLESH DISTRIBUTION: Full
Small to medium bust
Fleshy at side of bust
Midriff front and back fleshy
Slight fleshiness over back of shoulder bones
Shoulder line--smooth
Arm girth--full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder height (and excess neck length)	Shoulder drawn lower - neck edge (1/8") to armhole edge (1/2")
2M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
3M - Excess length and width between lower armhole and waist dart	Diagonal overlap - armhole (3/8") to bust point (1/8")
4M - Excess bust width	Bust point overlap 3M
5M - Underarm dart too deep	Underarm dart depth reduced (1/4")
6M - Underarm dart too short (excess length at dart point)	Underarm dart lengthened (1")
7M - Bodice too long	Horizontal overlap - CF (7/8") to side seam (1/4")
8M - Waist too narrow	Waist dart depth reduced at waist edge (1/4")
BACK	
9M-Inadequate shoulder height at neck edge	Neck edge of shoulder drawn higher (1/4") sloping off at shoulder edge (1/16")
10M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
11M - Excess upper back length	Horizontal wedge - CB (5/8") to armhole (0")
12M - Waist too narrow	Waist dart depth reduced at waist edge (1/4")

Pattern Fault	Pattern Alteration
FRONT	
1P - Excess shoulder height	Shoulder lowered (1/4")
2P - Excess shoulder length	Armhole edge of shoulder reduced (5/8")
3P - Excess chest width	Armhole curved in (5/8")
4P - Neckbase too high	Neckbase lowered (1/2")
5P - Diagonal bulge - armhole to waist dart point	Diagonal wedge - armhole (3/8") to waist dart point (1/8")
6P - Underarm dart pointing too high	Underarm dart pointed lower
7P - Puffiness at underarm dart point	Underarm dart lengthened (1-1/4") and deepened (1/8")
8P - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
BACK	
9P - Excess shoulder length	Armhole edge of shoulder reduced (5/8")
10P - Excess upper CB length	Horizontal wedge - CB (3/8") to upper back (0") resulting in new neck dart (1/4")
11P - Excess upper back width	Armhole curved in (5/8")
12P - Diagonal bulge - armhole to waist dart point	Diagonal wedge - armhole (1/2") to waist dart point (0")
13P - Bodice too long	Horizontal overlap - CB (1") to side seam (1/2")



PIN FITTING

14-5 FIGURE SIZE

PATTERN SIZE 14

BUST 34 1/2

WAIST 26 3/4

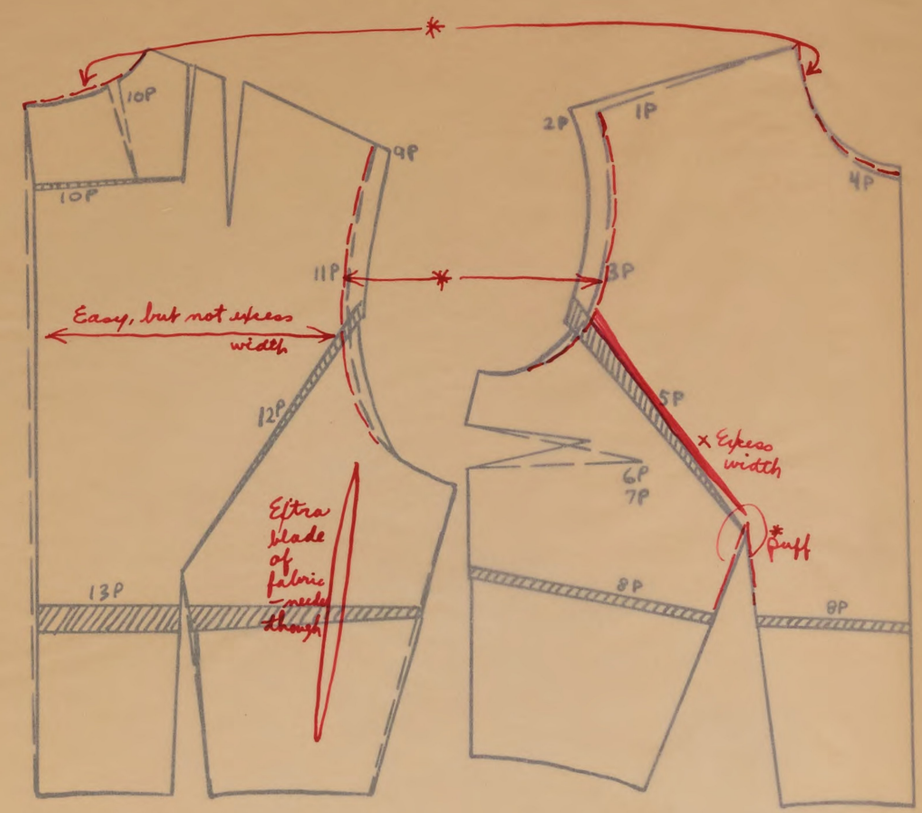
HIPS --

HEIGHT 5'2"

WEIGHT 120 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Excess shoulder height	Shoulder lowered (1/4")
2P - Excess shoulder length	Armhole edge of shoulder reduced (5/8")
3P - Excess chest width	Armhole curved in (5/8")
4P - Neckbase too high	Neckbase lowered (1/2")
5P - Diagonal bulge - armhole to waist dart point	Diagonal wedge - armhole (3/8") to waist dart point (1/8")
6P - Underarm dart pointing too high	Underarm dart pointed lower
7P - Puffiness at underarm dart point	Underarm dart lengthened (1-1/4") and deepened (1/8")
8P - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
BACK	
9P - Excess shoulder length	Armhole edge of shoulder reduced (5/8")
10P - Excess upper CB length	Horizontal wedge - CB (3/8") to upper back (0") resulting in new neck dart (1/4")
11P - Excess upper back width	Armhole curved in (5/8")
12P - Diagonal bulge - armhole to waist dart point	Diagonal wedge - armhole (1/2") to waist dart point (0")
13P - Bodice too long	Horizontal overlap - CB (1") to side seam (1/2")

* easy to correct
× difficult to correct



PIN FITTING

14-5 FIGURE SIZE

PATTERN SIZE 14

BUST 34 1/2

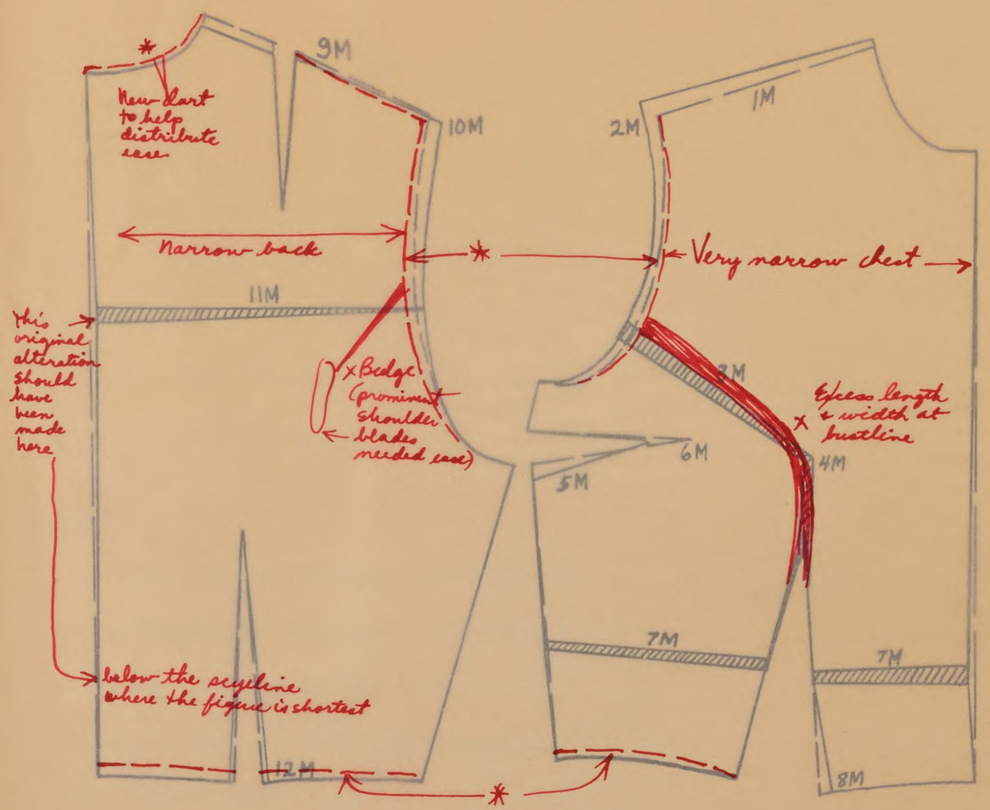
WAIST 26 3/4

HIPS --

HEIGHT 5'2"

WEIGHT 120 lbs.

These measurement alterations were usually well-located, but did not make adequate reductions where required.



MEASUREMENT FITTING

14-5 FIGURE CHARACTERISTICS

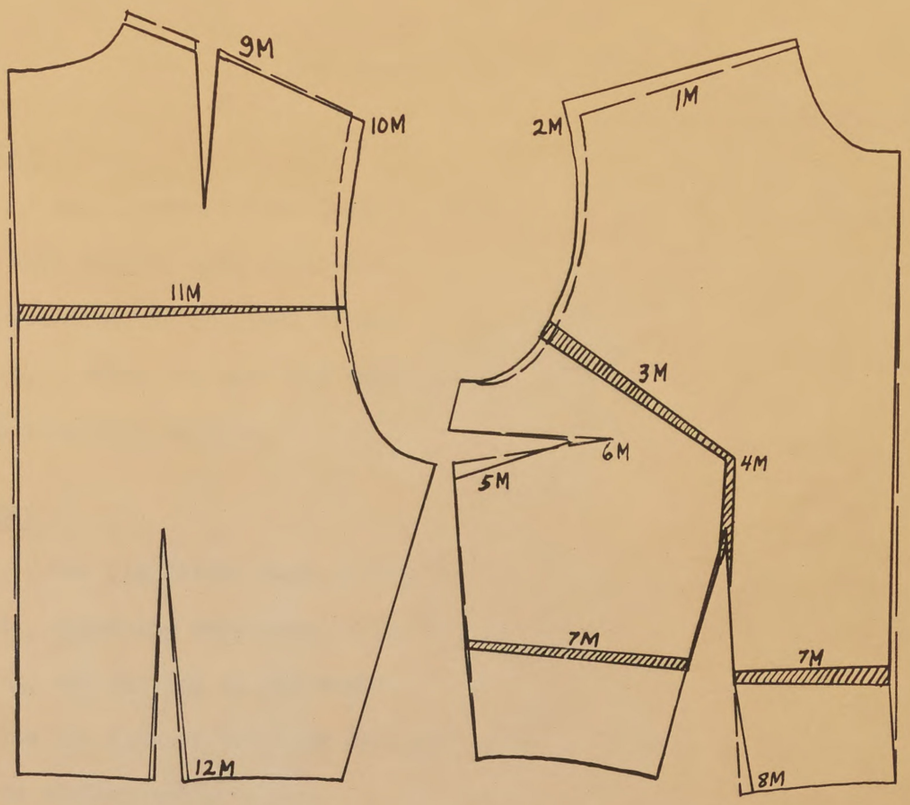
FIGURE TYPE: Short stature, full average figure

BONE STRUCTURE: Short length, heavy thickness
Very prominent shoulder blades
Shoulders slope sharply
Narrow upper areas--shoulders, chest, upper back

POSTURE: Erect
Average bust height
Slightly forward head and shoulders

FLESH DISTRIBUTION: Full
Small to medium bust
Fleshy at side of bust
Midriff front and back fleshy
Slight fleshiness over back of shoulder bones
Shoulder line--smooth
Arm girth--full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder height (and excess neck length)	Shoulder drawn lower - neck edge (1/8") to armhole edge (1/2")
2M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
3M - Excess length and width between lower armhole and waist dart	Diagonal overlap - armhole (3/8") to bust point (1/8")
4M - Excess bust width	Bust point overlap 3M
5M - Underarm dart too deep	Underarm dart depth reduced (1/4")
6M - Underarm dart too short (excess length at dart point)	Underarm dart lengthened (1")
7M - Bodice too long	Horizontal overlap - CF (7/8") to side seam (1/4")
8M - Waist too narrow	Waist dart depth reduced at waist edge (1/4")
BACK	
9M-Inadequate shoulder height at neck edge	Neck edge of shoulder drawn higher (1/4") sloping off at shoulder edge (1/16")
10M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
11M - Excess upper back length	Horizontal wedge - CB (5/8") to armhole (0")
12M - Waist too narrow	Waist dart depth reduced at waist edge (1/4")



MEASUREMENT FITTING

14-5 FIGURE CHARACTERISTICS

FIGURE TYPE: Short stature, full average figure

BONE STRUCTURE: Short length, heavy thickness
Very prominent shoulder blades
Shoulders slope sharply
Narrow upper areas--shoulders, chest, upper back

POSTURE: Erect
Average bust height
Slightly forward head and shoulders

FLESH DISTRIBUTION: Full
Small to medium bust
Fleshy at side of bust
Midriff front and back fleshy
Slight fleshiness over back of shoulder bones
Shoulder line--smooth
Arm girth--full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder height (and excess neck length)	Shoulder drawn lower - neck edge (1/8") to armhole edge (1/2")
2M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
3M - Excess length and width between lower armhole and waist dart	Diagonal overlap - armhole (3/8") to bust point (1/8")
4M - Excess bust width	Bust point overlap 3M
5M - Underarm dart too deep	Underarm dart depth reduced (1/4")
6M - Underarm dart too short (excess length at dart point)	Underarm dart lengthened (1")
7M - Bodice too long	Horizontal overlap - CF (7/8") to side seam (1/4")
8M - Waist too narrow	Waist dart depth reduced at waist edge (1/4")
BACK	
9M-Inadequate shoulder height at neck edge	Neck edge of shoulder drawn higher (1/4") sloping off at shoulder edge (1/16")
10M - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
11M - Excess upper back length	Horizontal wedge - CB (5/8") to armhole (0")
12M - Waist too narrow	Waist dart depth reduced at waist edge (1/4")

14-5 Comparison of Results

FRONT:

Both fronts fitted loosely across the narrow chest and shoulders of this figure, even after the side front and bust point areas had been narrowed in the original tissue. A small amount of excess ease was left, however, to make the front appear fuller and to provide better front-to-back balance.

BACK:

The pin fitted back fit much better than the measurement fitted back, requiring only minor adjustments, such as raising the back neckline, and curving in the armhole. The neck dart which pointed directly below the side of the back neckbase (in the pin fitted bodice) fitted this contour well.

The neckline of the measurement fitted back was raised in the muslin front, and a new dart was introduced (similar to the neck dart in the original pin fitted back).

COMMENT:

Again the upper back contours were not smoothly fitted through measurements (see 12-2 page 36), while pin fitting resulted in a trim, flattering upper back fit.

The problem of front-to-back balance arose since the upper back of the figure was long and rounded, compared to the narrow, chest area.

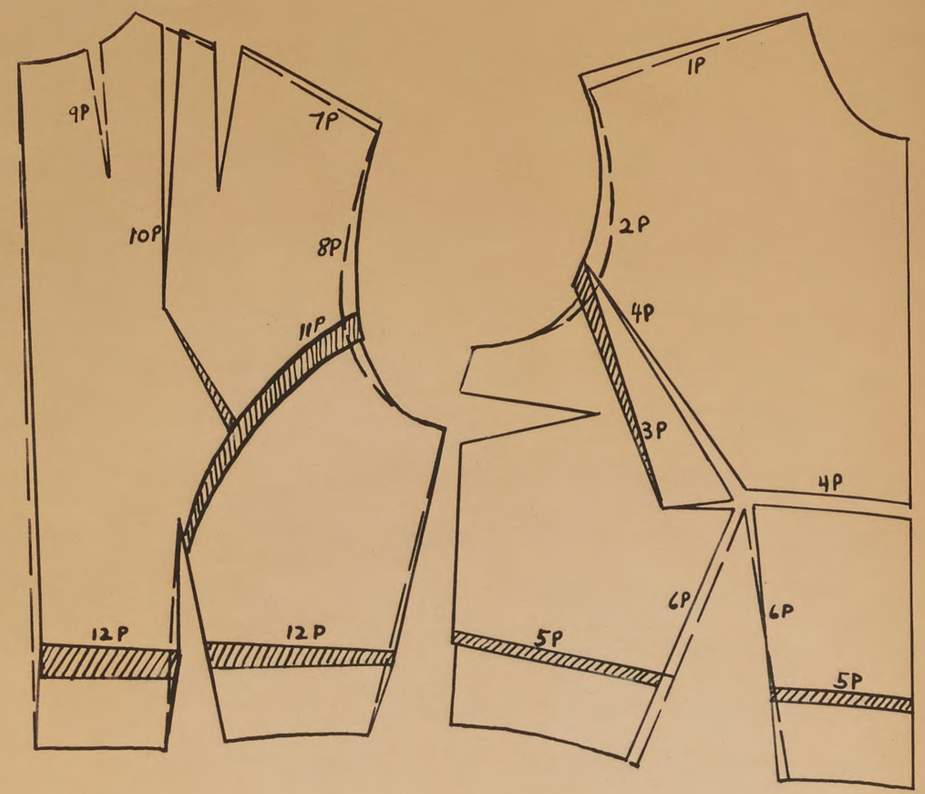
In order to maintain balance, a large amount of length and width were removed from this bodice front in a diagonal armhole wedge (3M), in a shoulder height reduction (1M), and in an armhole curve adjustment (2M).

THE UNALTERED MUSLIN:

The unaltered bodice fit quite unattractively. The entire front was too loose, and its neckline was too high and tight. The shoulders were long and drooped down, especially with the sleeves pinned in. The underarm dart hung low, too, as a result of the shortness of the figure between shoulder and bust level (this caused grain to drop at the side front). A bulge from armhole to the bust area pointed up excess armhole length and front width.

Horizontal wrinkles formed below the back neckbase; there were back underarm wrinkles, and a deep horizontal fold between mid-back and waist. Most of the problems were either completely solved by pin fitting, or at least improved so the garment could be worn without showing obvious fitting faults.

Pattern Fault	Pattern Alteration
FRONT	
1P - Looseness at tip of shoulder	Armhole edge of shoulder lowered (3/8")
2P - Excess chest width	Armhole curved in (1/2")
3P - Diagonal bulge - armhole to bust point (due to inadequate length and width at bust point)	Diagonal wedge - armhole (1/4") to side of bust (0") resulting in horizontal spread to bust point (1/4")
4P - Tightness across bust (due to inadequate length and width)	Diagonal slash - spreading from armhole (0") to bust point (3/8") and horizontal slash spread evenly from bust point to CF add length
5P - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
6P - Inadequate width across rib cage	Waist dart depth decreased above the waist (1/2")
BACK	
7P - Looseness at tip of shoulder	Armhole edge of shoulder lowered (1/4")
8P - Excess upper back width near armhole	Armhole curved in (1/2")
9P - Excess neck width	Neck dart introduced to decrease neck width (1/4") and direct ease toward side back
10P - Inadequate ease above shoulder blade	Vertical slash - spreading more shoulder ease (1/4") ending at mid-back, with a diagonal overlap to 11P
11P - Diagonal fold - armhole to waist dart; excess length and width at side	Curved diagonal overlap - armhole (1") to waist dart (1/2")
12P - Bodice too long	Horizontal overlap - CB (1-3/8") to side seam (3/4")



PIN FITTING

16-1 FIGURE SIZE

PATTERN SIZE 16

BUST 36 1/2

WAIST 27 3/4

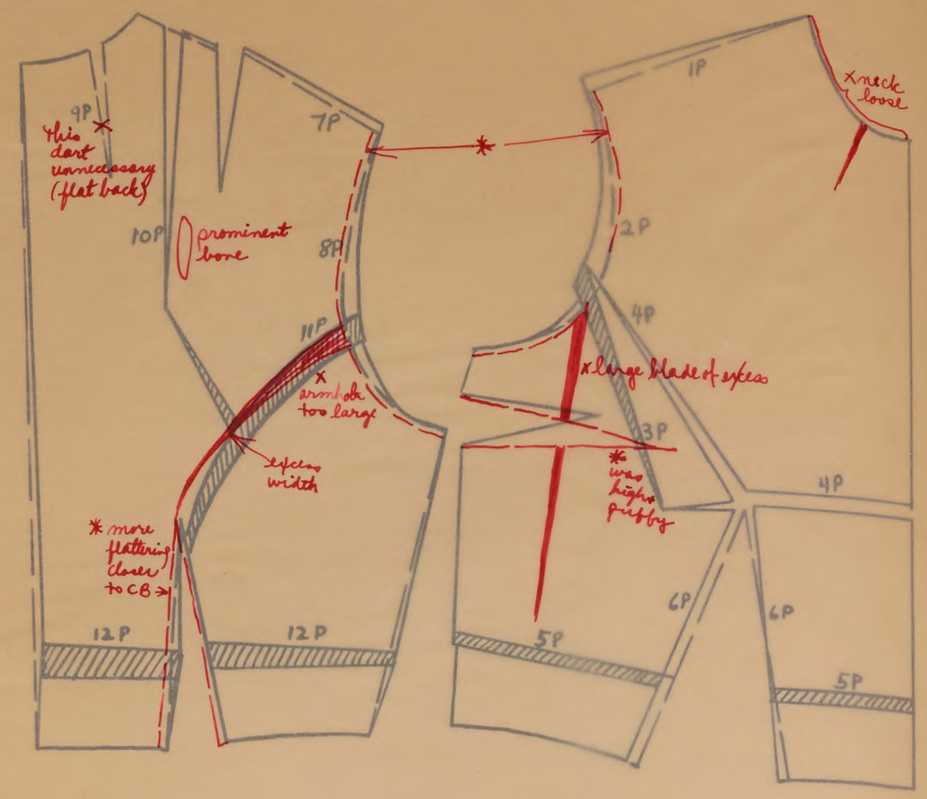
HIPS 38 1/4

HEIGHT 5' 5 3/4"

WEIGHT 133 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Looseness at tip of shoulder	Armhole edge of shoulder lowered (3/8")
2P - Excess chest width	Armhole curved in (1/2")
3P - Diagonal bulge - armhole to bust point (due to inadequate length and width at bust point)	Diagonal wedge - armhole (1/4") to side of bust (0") resulting in horizontal spread to bust point (1/4")
4P - Tightness across bust (due to inadequate length and width)	Diagonal slash - spreading from armhole (0") to bust point (3/8") and horizontal slash spread evenly from bust point to CF add length
5P - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
6P - Inadequate width across rib cage	Waist dart depth decreased above the waist (1/2")
BACK	
7P - Looseness at tip of shoulder	Armhole edge of shoulder lowered (1/4")
8P - Excess upper back width near armhole	Armhole curved in (1/2")
9P - Excess neck width	Neck dart introduced to decrease neck width (1/4") and direct ease toward side back
10P - Inadequate ease above shoulder blade	Vertical slash - spreading more shoulder ease (1/4") ending at mid-back, with a diagonal overlap to 11P
11P - Diagonal fold - armhole to waist dart; excess length and width at side	Curved diagonal overlap - armhole (1") to waist dart (1/2")
12P - Bodice too long	Horizontal overlap - CB (1-3/8") to side seam (3/4")

* easy to correct
x difficult to correct



PIN FITTING

16-1 FIGURE SIZE

PATTERN SIZE 16

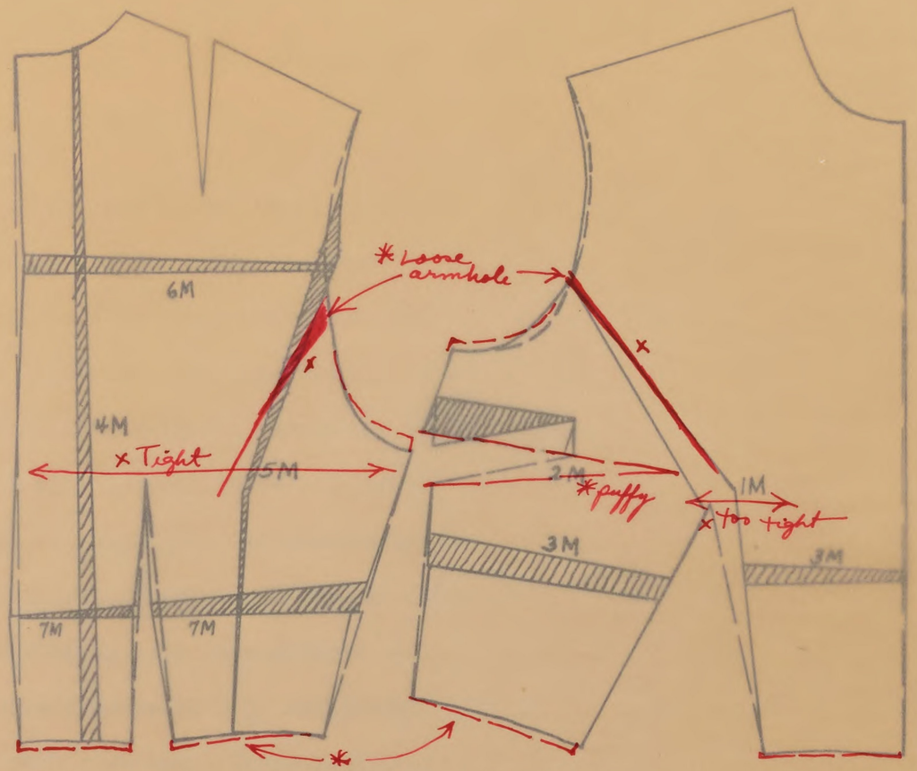
BUST 36 1/2

WAIST 27 3/4

HIPS 38 1/4

HEIGHT 5' 5 3/4"

WEIGHT 133 lbs.



MEASUREMENT FITTING

16-1 FIGURE CHARACTERISTICS

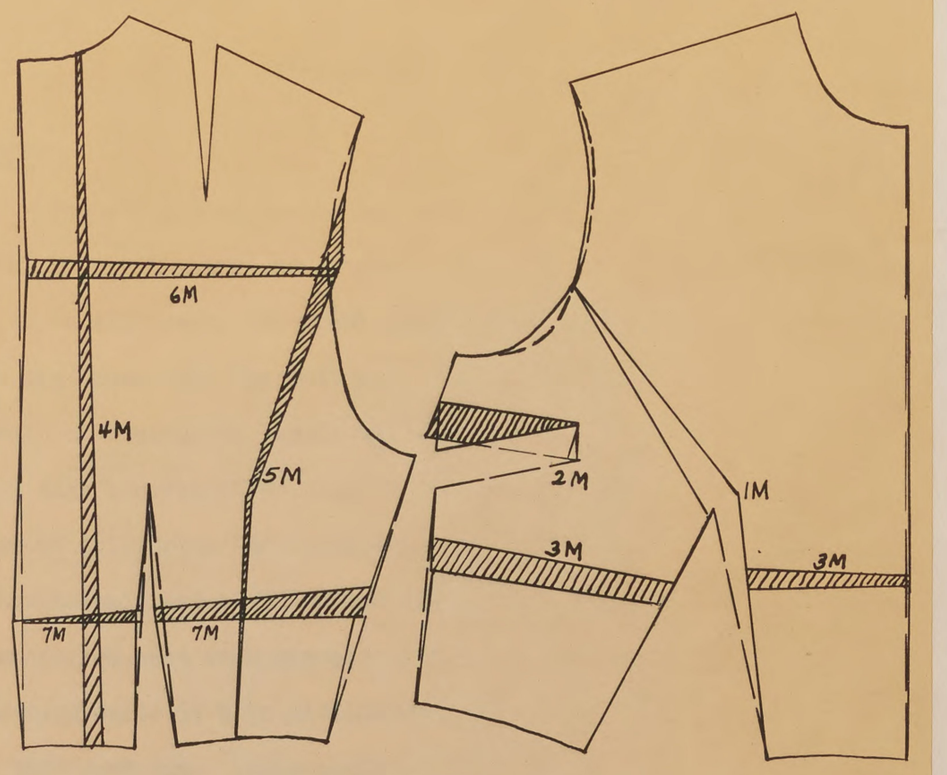
FIGURE TYPE: Average stature, full average figure

BONE STRUCTURE: Medium length (small for flesh distribution)
medium thickness
Shoulders slope sharply

POSTURE: Very erect
Very flat back

FLESH DISTRIBUTION: Medium full
Full bust
Low bust
Fleshy along side of bust in front and at sides at bust level in back
Midriff front fleshy, slim neck, back fleshy below bust level in back
Shoulder line smooth
Arm girth medium full

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate length and width at bust point	Diagonal slash - spreading at bust point (3/4") (resulting in deepened waist dart)
2M - Underarm dart too high	Underarm dart transferred lower (7/8")
3M - Bodice too long	Horizontal overlap - CF (1/4") to side seam (1")
BACK	
4M - Excess width near CB - shoulder to waist	Vertical overlap - neck (1/4") to waist (3/4")
5M - Excess width at side - armhole to waist	Vertical wedge - armhole (3/8") to waist (0")
6M - Bodice too long above scye level	Horizontal wedge - CB (1") to armhole (0")
7M - Bodice too long below scye level	Horizontal wedge - CB (0") to side seam (1")



MEASUREMENT FITTING

16-1 FIGURE CHARACTERISTICS

FIGURE TYPE: Average stature, full average figure

BONE STRUCTURE: Medium length (small for flesh distribution)
medium thickness
Shoulders slope sharply

POSTURE: Very erect
Very flat back

FLESH DISTRIBUTION: Medium full
Full bust
Low bust
Fleshy along side of bust in front and at sides at bust level in back
Midriff front fleshy, slim neck, back fleshy below bust level in back
Shoulder line smooth
Arm girth medium full

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate length and width at bust point	Diagonal slash - spreading at bust point (3/4") (resulting in deepened waist dart)
2M - Underarm dart too high	Underarm dart transferred lower (7/8")
3M - Bodice too long	Horizontal overlap - CF (1/4") to side seam (1")
BACK	
4M - Excess width near CB - shoulder to waist	Vertical overlap - neck (1/4") to waist (3/4")
5M - Excess width at side - armhole to waist	Vertical wedge - armhole (3/8") to waist (0")
6M - Bodice too long above scye level	Horizontal wedge - CB (1") to armhole (0")
7M - Bodice too long below scye level	Horizontal wedge - CB (0") to side seam (1")

16-1 Comparison of Results

FRONT:

The pin fitted bodice was more comfortable than the smoother-looking (but tighter) measurement fitted bodice. Since the figure had a rather slim neck, the front necklines in both bodices were loose. The tightness over the bust point of the measured bodice was the result of inadequate length and width. The pin fitted bodice had more bust ease because three slashes from different angles increased the size of this area. An armhole-to-bust point slash increased width. A horizontal bust-to-CF spread added length, and a diagonal wedge (3P) transferred ease from armhole to the fullest part of the bust. The underarm darts in both muslins were too short, leaving puffs of fabric at each dart tip. These puffs were eliminated by lengthening the darts.

BACK:

Although this figure had a flat back and very erect stance, somewhat prominent shoulder blades required a concentration of ease in the upper back. Since this was not discovered through measurements, the measured bodice was uncomfortably tight across the mid-back. Small bone structure (compared to circumference measurements) was pointed up by the loose back (and front) armholes. Even after wedges had eliminated back armhole length, the pin and measurement fitted armholes were quite loose.

COMMENT:

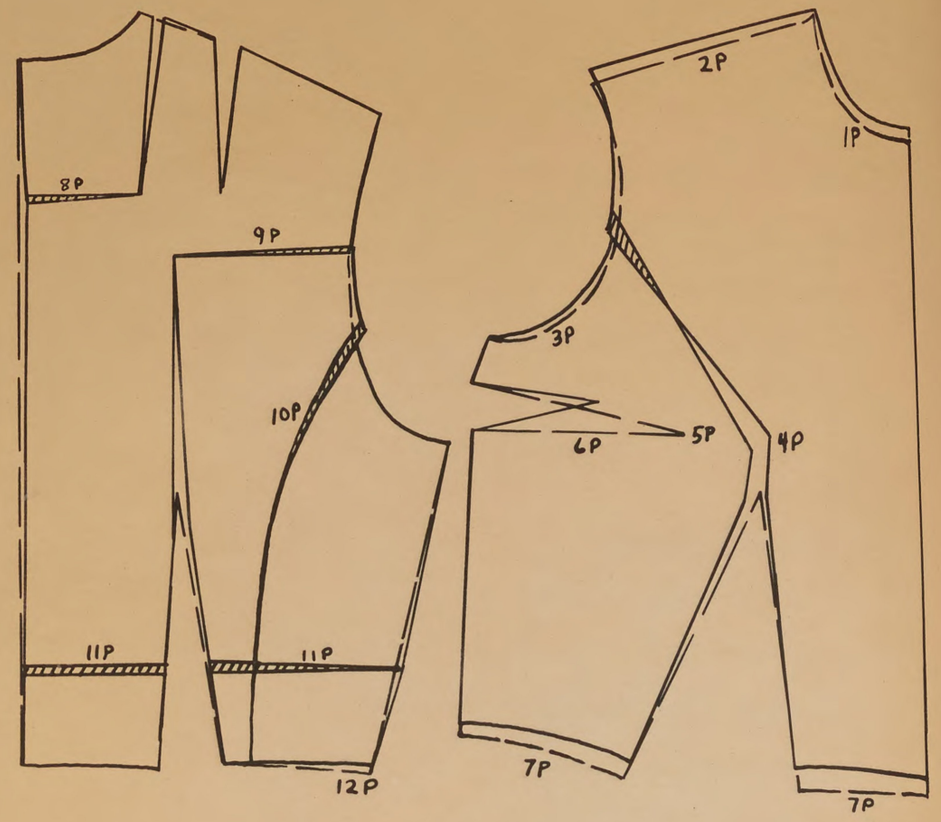
This figure, with an extremely full bustline and flat back, presented a definite problem of front-to-back balance (see fig. 17, page 153). Measurements indicated that a size 18 should be selected for this figure. But knowledge of the figure's full front, flat back, and short waist made a large size impractical. These figure characteristics (indicating small bone structure) would have created even greater alteration problems in a larger sized pattern.

THE UNALTERED MUSLIN:

Almost every fitting problem observed in the unaltered bodice was improved upon by the pin fitting. The unaltered size 16 was tight across the bustline, too long waisted and had a bulge in the front armhole.

The back was long waisted (longer waisted than the front). There was too much width across the shoulder blades and upper back of the unaltered muslin.

Pattern Fault	Pattern Alteration
FRONT	
1P - Neck too high (caused diagonal wrinkle - neck to side of bust)	Neck drawn deeper at CF (1/2") and shoulder edge (1/16")
2P - Excess shoulder height (caused looseness at shoulder)	Shoulder drawn lower (1/2")
3P - Inadequate armhole depth	Armhole curved deeper (1/8")
4P - Diagonal bulge - armhole to bust point (due to inadequate length and width at bust point)	Diagonal slash - overlapping at armhole (3/8") and spreading at bust point
5P - Underarm dart pointing high	Underarm dart pointed lower
6P - Underarm dart too short	Underarm dart lengthened (2-1/8")
7P - Bodice too short	Waist seam lowered - CF (7/8") to side seam (1/2")
BACK	
8P - Excess CB length below neckbase and inadequate ease below shoulder	Horizontal wedge - CB (1/8") to upper back (0"), resulting in added shoulder ease (1/8")
9P - Horizontal bulge - armhole to shoulder blade	Horizontal wedge - armhole (1/4") to side back (0") resulting in added lower back ease
10P - Diagonal bulge - armhole to waist	Curved diagonal wedge - armhole (1/4") to waist (0")
11P - CB too long	Horizontal wedge - CB (1/4") to side seam (0")
12P - Side seam too short	Waist drawn lower (1/2")



PIN FITTING

16-2 FIGURE SIZE

PATTERN SIZE 16

BUST 37

WAIST 26 3/4

HIPS --

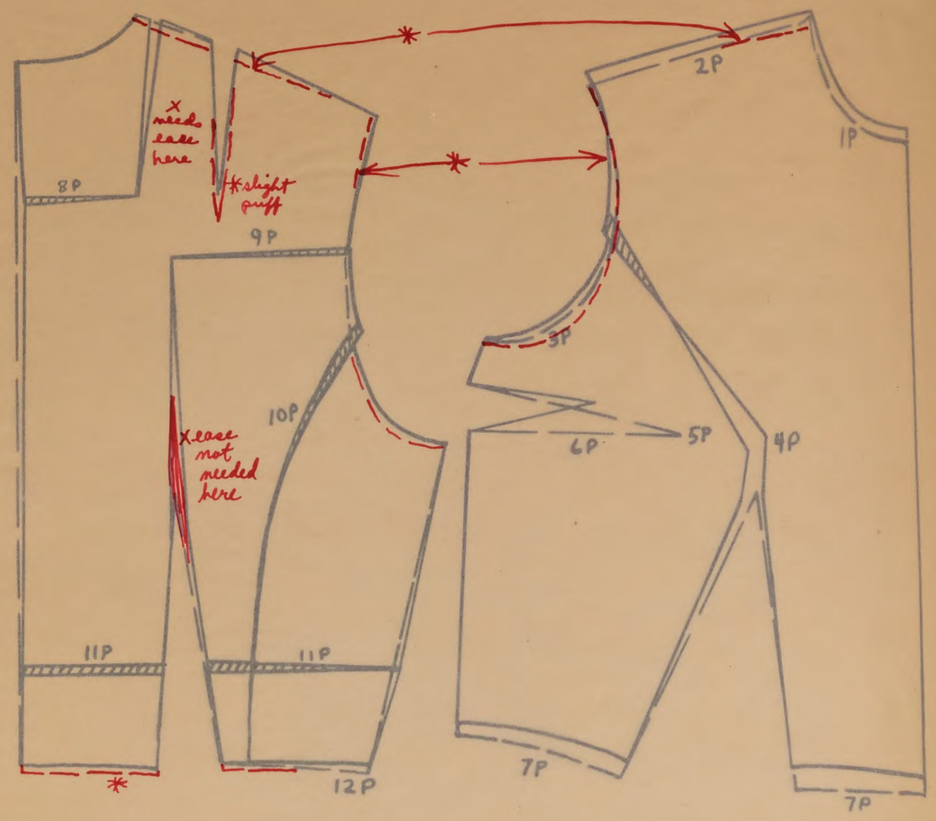
HEIGHT 5'6 1/2"

WEIGHT 145 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Neck too high (caused diagonal wrinkle - neck to side of bust)	Neck drawn deeper at CF (1/2") and shoulder edge (1/16")
2P - Excess shoulder height (caused looseness at shoulder)	Shoulder drawn lower (1/2")
3P - Inadequate armhole depth	Armhole curved deeper (1/8")
4P - Diagonal bulge - armhole to bust point (due to inadequate length and width at bust point)	Diagonal slash - overlapping at armhole (3/8") and spreading at bust point
5P - Underarm dart pointing high	Underarm dart pointed lower
6P - Underarm dart too short	Underarm dart lengthened (2-1/8")
7P - Bodice too short	Waist seam lowered - CF (7/8") to side seam (1/2")
BACK	
8P - Excess CB length below neckbase and inadequate ease below shoulder	Horizontal wedge - CB (1/8") to upper back (0"), resulting in added shoulder ease (1/8")
9P - Horizontal bulge - armhole to shoulder blade	Horizontal wedge - armhole (1/4") to side back (0") resulting in added lower back ease
10P - Diagonal bulge - armhole to waist	Curved diagonal wedge - armhole (1/4") to waist (0")
11P - CB too long	Horizontal wedge - CB (1/4") to side seam (0")
12P - Side seam too short	Waist drawn lower (1/2")

* easy to correct
× difficult to correct

General fit was satisfactory
Adjustments were minor



PIN FITTING

16-2 FIGURE SIZE

PATTERN SIZE 16

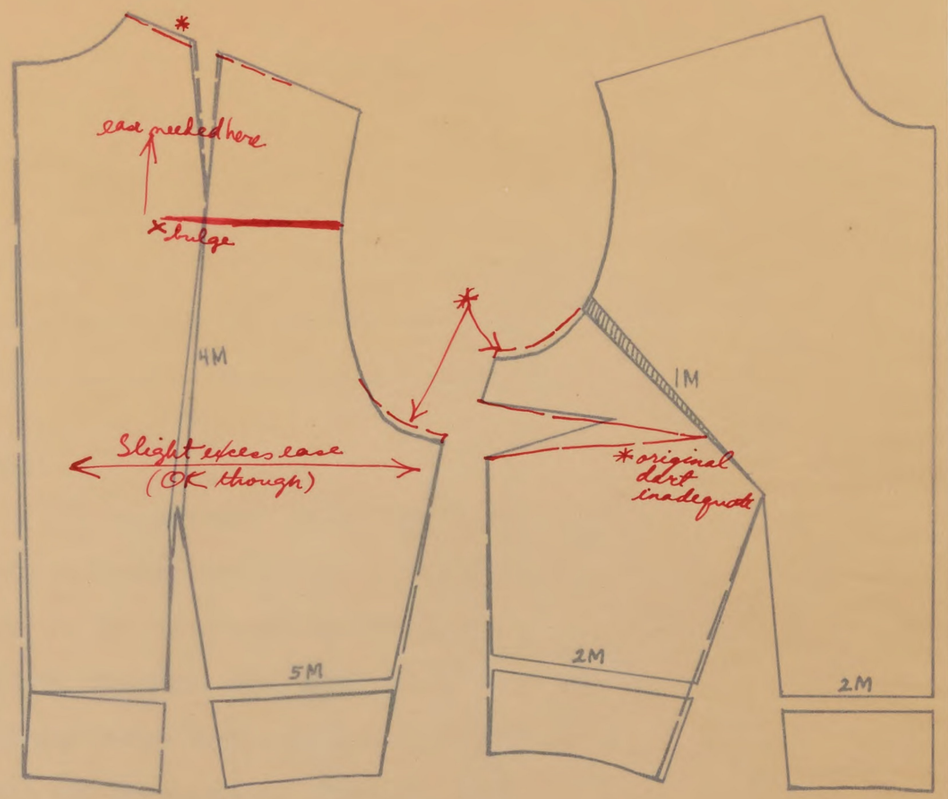
BUST 37

WAIST 26 3/4

HIPS --

HEIGHT 5'6 1/2"

WEIGHT 145 lbs.



MEASUREMENT FITTING

16-2 FIGURE CHARACTERISTICS

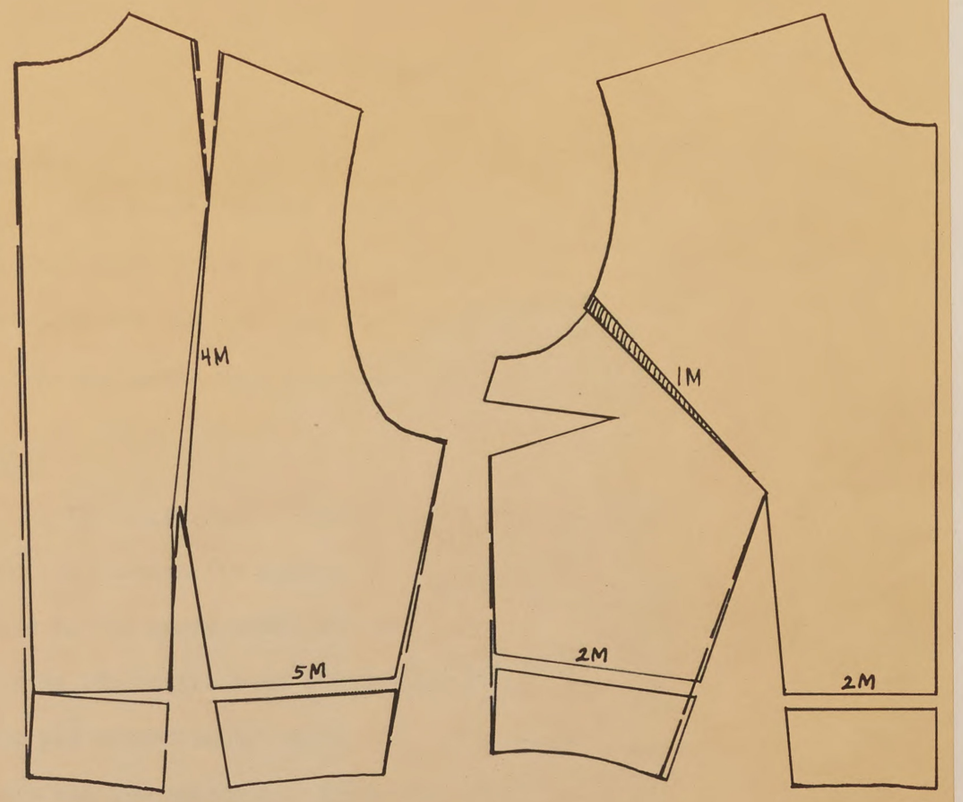
FIGURE TYPE: Tall stature, very full figure

BONE STRUCTURE: Medium length and medium to heavy thickness
Prominent small bone on shoulder, near edge
Shoulders slope average

POSTURE: Erect
Average height bust
Flat back
Shoulder blades flat

FLESH DISTRIBUTION: Full
Full bust
Fleshy along side of bust
Fleshy front midriff
Arm girth--medium full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess length and width between armhole and waist dart point	Diagonal wedge - armhole (1/2") to waist dart point (0")
2M - Bodice too short	Even horizontal slash - spread CF to side seam (1/2")
3M - Waist too wide	Waist dart deepened (1/8")
BACK	
4M - Inadequate width at mid-back	Vertical slash - spread shoulder dart point (0") to waist dart point (3/8") reducing shoulder dart depth (1/8")
5M - Bodice too short at side and side seam	Horizontal slash - spread CB (0") to side seam (1/2")



MEASUREMENT FITTING

16-2 FIGURE CHARACTERISTICS

FIGURE TYPE: Tall stature, very full figure

BONE STRUCTURE: Medium length and medium to heavy thickness
Prominent small bone on shoulder, near edge
Shoulders slope average

POSTURE: Erect
Average height bust
Flat back
Shoulder blades flat

FLESH DISTRIBUTION: Full
Full bust
Fleshy along side of bust
Fleshy front midriff
Arm girth--medium full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess length and width between armhole and waist dart point	Diagonal wedge - armhole (1/2") to waist dart point (0")
2M - Bodice too short	Even horizontal slash - spread CF to side seam (1/2")
3M - Waist too wide	Waist dart deepened (1/8")
BACK	
4M - Inadequate width at mid-back	Vertical slash - spread shoulder dart point (0") to waist dart point (3/8") reducing shoulder dart depth (1/8")
5M - Bodice too short at side and side seam	Horizontal slash - spread CB (0") to side seam (1/2")

16-2 Comparison of Results

FRONT:

Both bodice fronts looked correctly fitted, but the pin fitted muslin, which had a greater bustline allowance, was more comfortable. Measurements did not indicate that additional fulness was needed. They merely indicated that there was excess side length.

BACK:

The measurement fitted back fitted better than the pin fitted version because its ease was not concentrated above the waist dart. Ease in the measurement fitted version extended through the shoulder dart, giving the entire back evenly distributed fulness. The side wedge in the pin fitted bodice gave it a trim appearance, but restricted lower back and arm movement. Again the measurement fitted back lacked smooth distribution of shoulder ease, since measurements could not fit the pattern to the upper back contours.

The puff in the pin fitted back was caused by transference of an armhole wedge (9P). Although a horizontal armhole bulge often seems deep, it is usually not advisable to lap out more than a quarter inch of the armhole at once (see 14-4, page 67).

COMMENT:

In both the back and front of this pattern comparisons between measurement and pin fitting alterations pointed out that proper ease distribution could make a garment at least look attractive, if not comfortable.

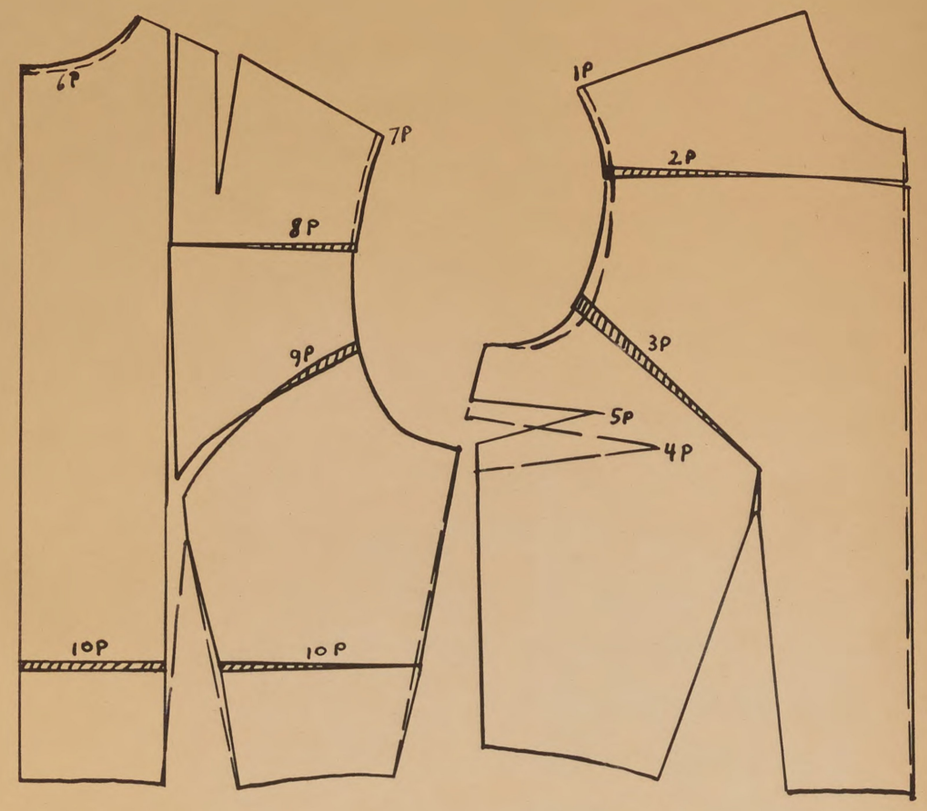
The measurement fitted front, even with inadequate bust ease, looked well (did not have wrinkles or bulges) because the small amount of ease available was well distributed. Since comfort, however, is the most important consideration in fitting, this measurement fitting could not be considered successful, for the tightness of the front would restrict body movement.

THE UNALTERED MUSLIN:

The unaltered bodice could not be worn without some adjustments, since it gapped from neck to below the bust (with the largest gap across the bustline). It was short waisted in front, although CB length was correct. The shoulders were too long, and their dropping caused a slight diagonal wrinkle near the armhole.

Pin fitting improved the bodice so that the front fit very well, and the back was comfortable, if not perfectly smooth-fitting.

Pattern Fault	Pattern Correction
FRONT	
1P - Excess shoulder length	Armhole edge of shoulder reduced (1/8")
2P - Inadequate CF length above bust level and horizontal wrinkle - armhole to side front	Horizontal slash - spread at CF (1/8") and overlapped at armhole (1/8")
3P - Diagonal bulge - armhole to bust point (due to inadequate bust ease)	Diagonal wedge - armhole (1/2") to bust point (0")
4P - Underarm dart too short	Underarm dart lengthened (1-5/8")
5P - Underarm dart too high	Underarm dart lowered (3/8")
BACK	
6P - Neck too high	Neck drawn lower (1/8")
7P - Excess shoulder length	Armhole edge of shoulder reduced (1/8")
8P - Horizontal bulge - armhole to side (due to inadequate ease over shoulder blades)	Horizontal wedge - armhole (1/8") to upper back (0"), resulting in vertical slash spread at shoulder (1/8") and lower back (1/4")
9P - Diagonal bulge - armhole to waist dart	Curved diagonal slash - overlapped at armhole (1/8"), spread above waist dart point (1/8")
10P - Bodice too long at CB	Horizontal wedge - CB (3/8") to side seam (0")



PIN FITTING

16-3 FIGURE SIZE

PATTERN SIZE 16

BUST 36 1/4

WAIST 27 3/4

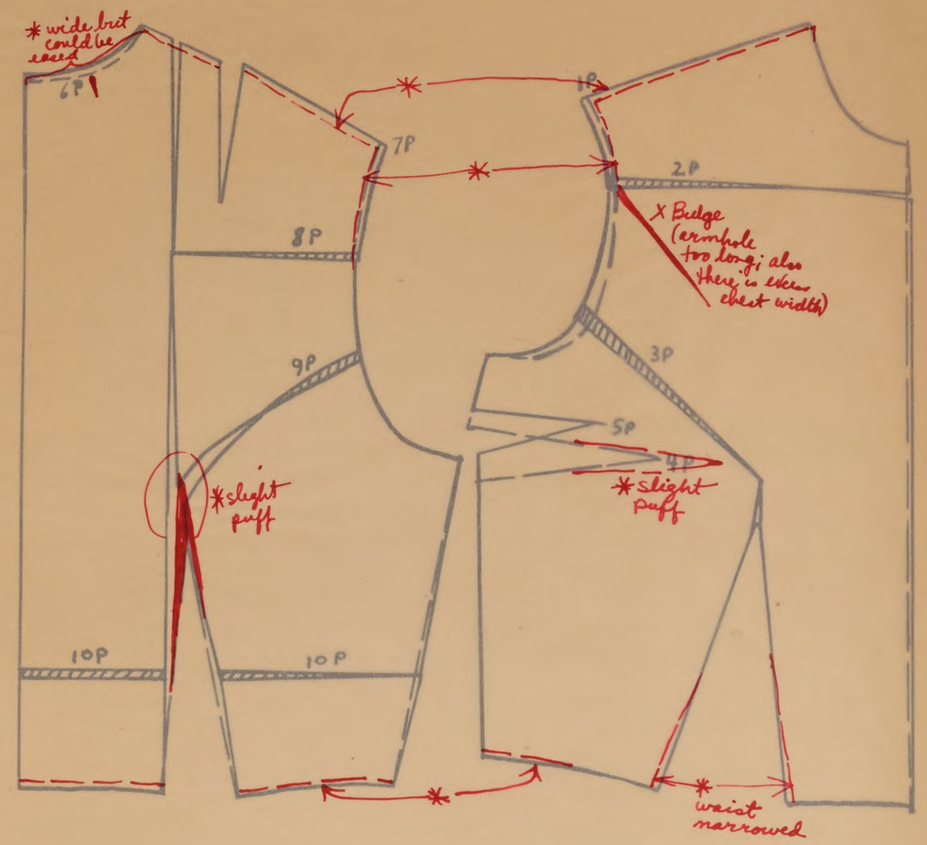
HIPS --

HEIGHT 5'6"

WEIGHT 142 lbs.

Pattern Fault	Pattern Correction
FRONT	
1P - Excess shoulder length	Armhole edge of shoulder reduced (1/8")
2P - Inadequate CF length above bust level and horizontal wrinkle - armhole to side front	Horizontal slash - spread at CF (1/8") and overlapped at armhole (1/8")
3P - Diagonal bulge - armhole to bust point (due to inadequate bust ease)	Diagonal wedge - armhole (1/2") to bust point (0")
4P - Underarm dart too short	Underarm dart lengthened (1-5/8")
5P - Underarm dart too high	Underarm dart lowered (3/8")
BACK	
6P - Neck too high	Neck drawn lower (1/8")
7P - Excess shoulder length	Armhole edge of shoulder reduced (1/8")
8P - Horizontal bulge - armhole to side (due to inadequate ease over shoulder blades)	Horizontal wedge - armhole (1/8") to upper back (0"), resulting in vertical slash spread at shoulder (1/8") and lower back (1/4")
9P - Diagonal bulge - armhole to waist dart	Curved diagonal slash - overlapped at armhole (1/8"), spread above waist dart point (1/8")
10P - Bodice too long at CB	Horizontal wedge - CB (3/8") to side seam (0")

* easy to correct
x difficult to correct



PIN FITTING

16-3 FIGURE SIZE

PATTERN SIZE 16

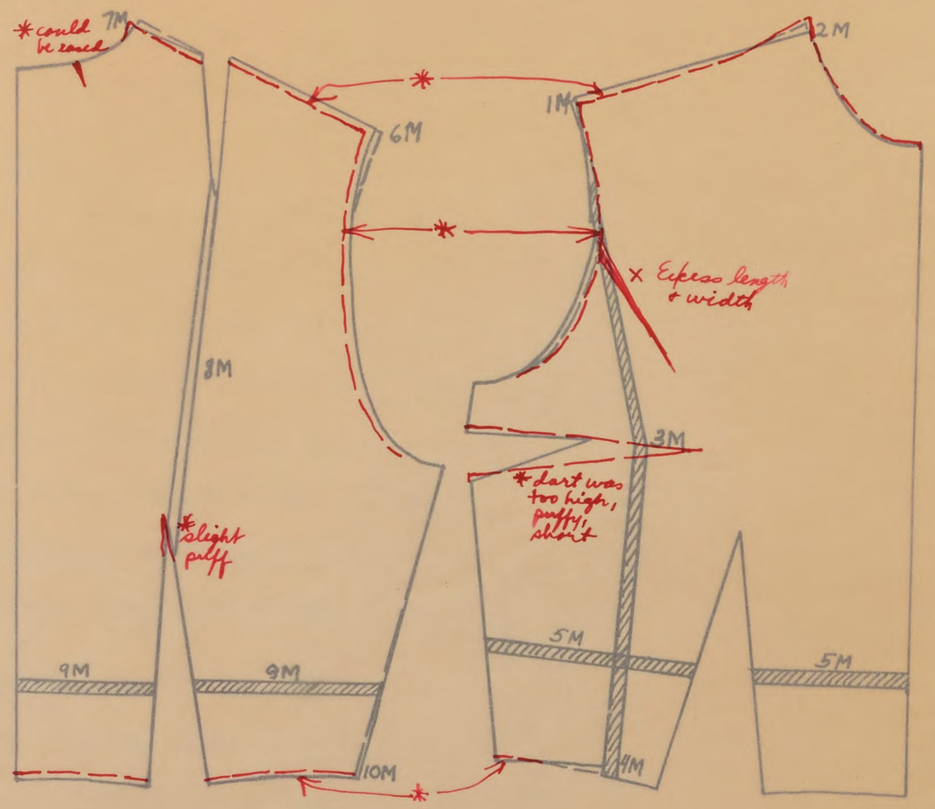
BUST 36 1/4

WAIST 27 3/4

HIPS --

HEIGHT 5'6"

WEIGHT 142 lbs.



MEASUREMENT FITTING

16-3 FIGURE CHARACTERISTICS

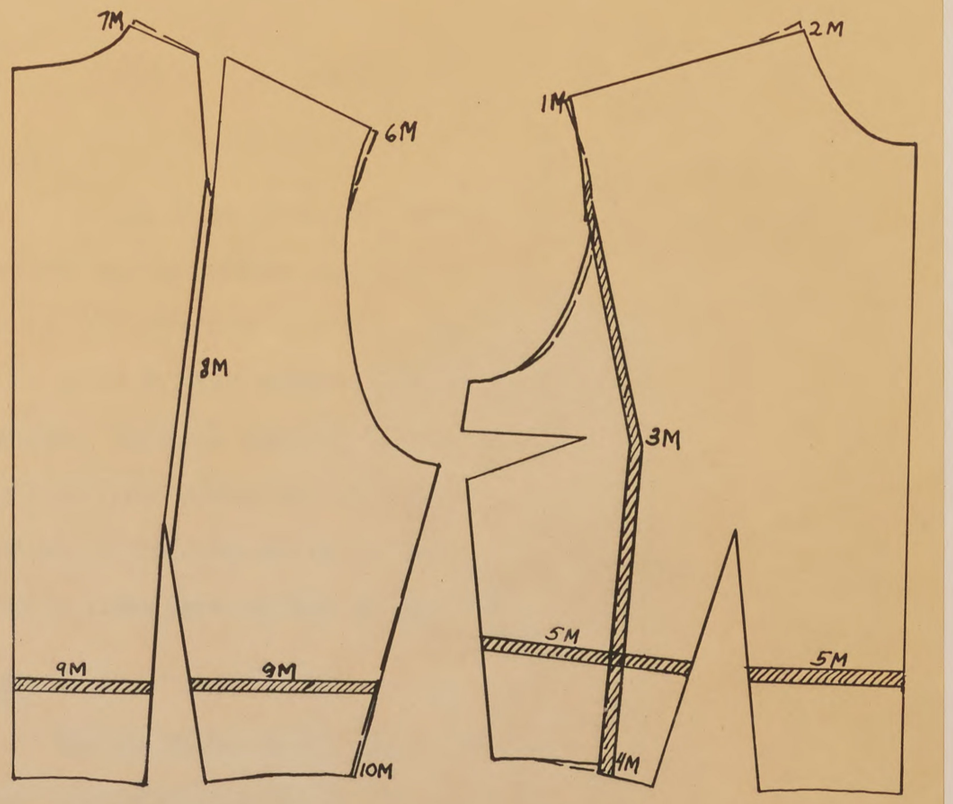
FIGURE TYPE: Average stature, very full figure

BONE STRUCTURE: Medium length, heavy.
Shoulder slope medium
Narrow shoulders for remainder of flesh distribution
Bony slightly prominent shoulder blades, fleshy across top

POSTURE: Erect
Average bust height
Flat center back
Shoulders slightly forward

FLESH DISTRIBUTION: Medium to full flesh distribution for heavy bone structure
Full bust
Fleshy at side of bust and back at bust level
Fleshy midriff in front and back
Slightly fleshy below shoulders at upper back
Shoulder line smooth
Arm girth medium full

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Armhole edge of shoulder lengthened (1/8")
2M - Neck too short	Neck lengthened at shoulder edge (1/8")
3M - Excess width at side - chest level to waist	Vertical overlap - armhole (1/2") to waist (5/8")
4M - Waist too wide	Vertical overlap (5/8") - part of 3M
5M - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
BACK	
6M - Inadequate shoulder length	Armhole edge of shoulder lengthened (1/8")
7M - Neck too short	Neck lengthened at shoulder edge (1/8")
8M - Inadequate back width	Vertical slash - spread from shoulder dart point (1/8") to waist dart point (3/8")
9M - Bodice too long	Even horizontal overlap - CB to side seam (1/2")
10M - Waist too wide	Side seam drawn in (1/8")



MEASUREMENT FITTING

16-3 FIGURE CHARACTERISTICS

FIGURE TYPE: Average stature, very full figure

BONE STRUCTURE: Medium length, heavy
Shoulder slope medium
Narrow shoulders for remainder of flesh distribution
Bony slightly prominent shoulder blades, fleshy across top

POSTURE: Erect
Average bust height
Flat center back
Shoulders slightly forward

FLESH DISTRIBUTION: Medium to full flesh distribution for heavy bone structure
Full bust
Fleshy at side of bust and back at bust level
Fleshy midriff in front and back
Slightly fleshy below shoulders at upper back
Shoulder line smooth
Arm girth medium full

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Armhole edge of shoulder lengthened (1/8")
2M - Neck too short	Neck lengthened at shoulder edge (1/8")
3M - Excess width at side - chest level to waist	Vertical overlap - armhole (1/2") to waist (5/8")
4M - Waist too wide	Vertical overlap (5/8") - part of 3M
5M - Bodice too long	Even horizontal overlap - CF to side seam (1/2")
BACK	
6M - Inadequate shoulder length	Armhole edge of shoulder lengthened (1/8")
7M - Neck too short	Neck lengthened at shoulder edge (1/8")
8M - Inadequate back width	Vertical slash - spread from shoulder dart point (1/8") to waist dart point (3/8")
9M - Bodice too long	Even horizontal overlap - CB to side seam (1/2")
10M - Waist too wide	Side seam drawn in (1/8")

16-3 Comparison of Results

FRONT:

The pin fitted front fit slightly better than the measured version, mainly because it had more side ease, and the position and size of the underarm dart were correct. The underarm dart alteration, which could not be indicated through measurements, might seem unimportant. However, changing the position and size of this dart raised the side front grain, and thus avoided a "drooping" wrinkled appearance obvious at the sides of the measurement fitted front. Shoulder and armhole lines were redrawn in both measured and pin fitted fronts.

BACK:

The pin fitted back, too, fitted more smoothly than the measured back. Redistributing ease, instead of increasing it in the mid-back section, helped to mold the upper back of the pattern over this part of the figure. The puff at the waist dart tip could be removed easily by increasing waist dart length.

COMMENT:

Reduction of shoulder height and armhole curve in both bodices brought out several points. The correct location of these two areas could not be determined through measurements (see 14-2 page 58). Any pin fitting alteration near the shoulder line could pull the pattern tissue down, making it difficult to locate the true shoulder line. Also, it is sometimes difficult to know, even after pin

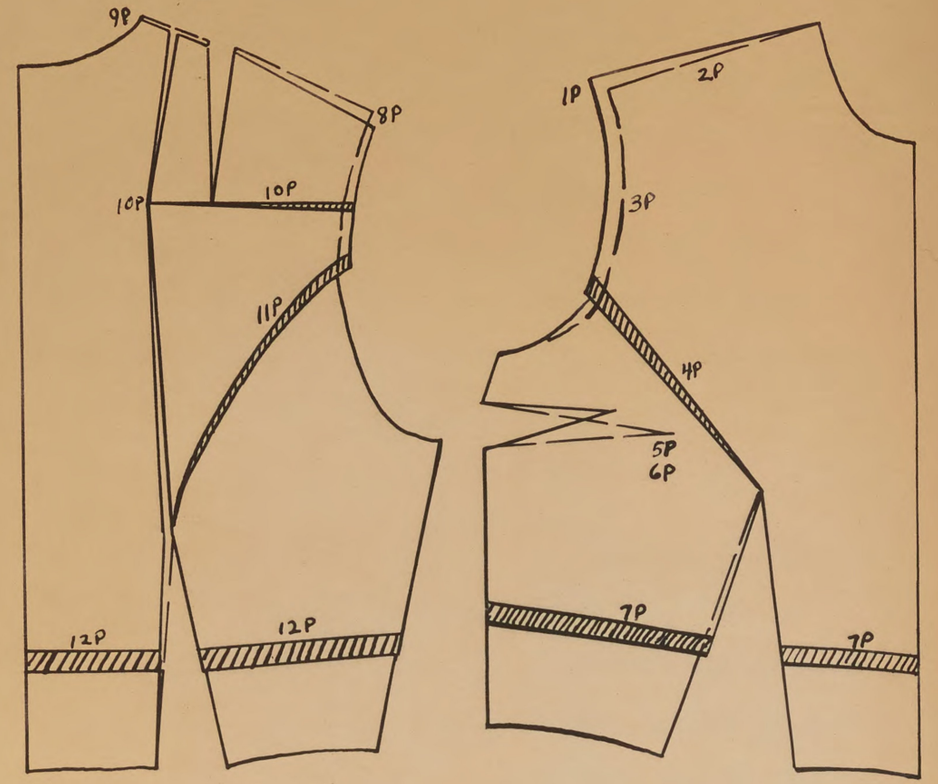
fitting, how the fabric will hang from the shoulders until after the garment is tried on because of the draping qualities of different fabrics. Shoulder adjustments are comparatively easy to make at the first bodice fitting.

Drawing in the armhole curve was another frequent adjustment made at the muslin fitting. This correction had to be made in some degree on almost every muslin because the armhole line could not be perfected until the sleeves were pinned into each garment.

THE UNALTERED MUSLIN:

The unaltered pattern needed comparatively few major corrections. Although it was wearable in its original form, the fit of the front especially was not flattering on this full, but youthful figure. The shoulders were too long, the bustline was too tight; there was excess side front length, held in diagonal bulges above and below the bustline. These fitting faults gave the figure a "drooping" appearance. Although the back was slightly long waisted, there was sufficient width distributed evenly throughout the area. Pin fitting greatly improved the fitting quality of the bodice.

Pattern Fault	Pattern Correction
FRONT	
1P - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
2P - Excess shoulder height (causing looseness below shoulder)	Armhole edge of shoulder lowered (3/8")
3P - Excess width across chest	Armhole curved in (3/8")
4P - Bulge - armhole to bust point	Diagonal wedge - armhole (5/8") to bust point (0"), increasing waist dart depth
5P - Underarm dart pointing high	Underarm dart pointed lower
6P - Underarm dart too short	Underarm dart lengthened (1-1/2")
7P - Bodice too long	Even horizontal overlap - CF to side seam (1")
BACK	
8P - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
9P - Neck too short	Neck lengthened at shoulder edge (1/16")
10P - Horizontal bulge - armhole to upper back	Horizontal wedge - armhole (1/4") to upper back (0"), resulting in vertical slashes spreading ease at shoulder (1/8") and lower back (1/4")
11P - Diagonal bulge - armhole to waist dart point	Curved diagonal wedge - armhole (3/8") to waist dart point (0"), increasing waist dart depth
12P - Bodice too long	Even horizontal overlap - CB to side seam (1")



PIN FITTING

16-4 FIGURE SIZE

PATTERN SIZE 16

BUST 37 3/8

WAIST 28 5/8

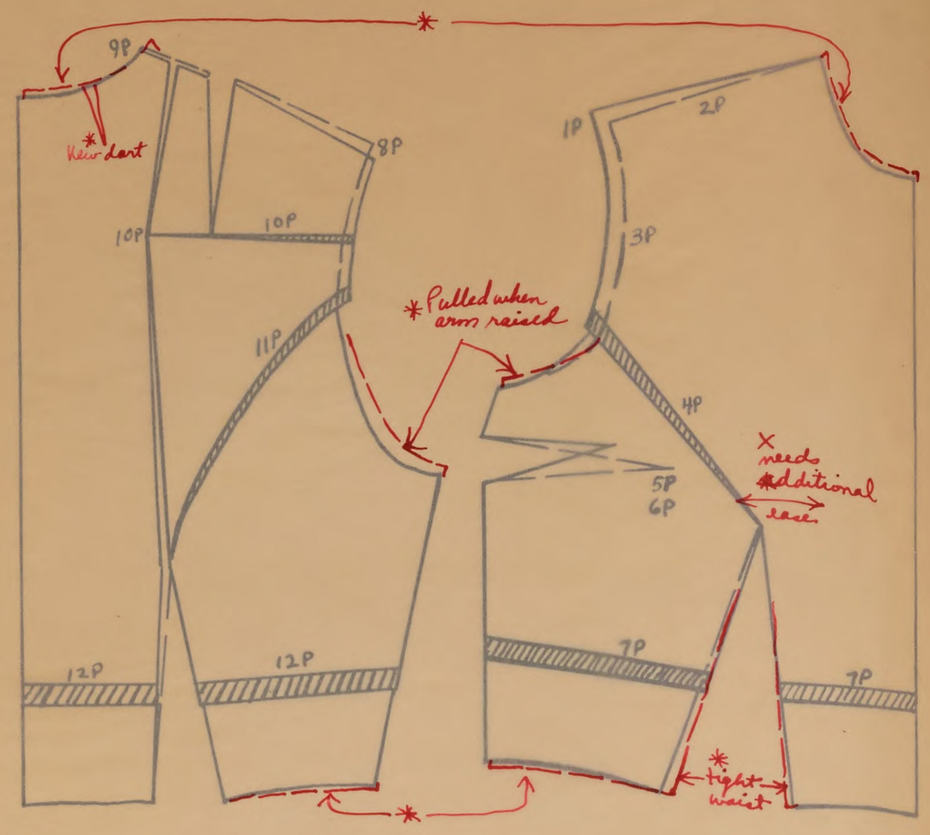
HIPS --

HEIGHT 5'7"

WEIGHT 160 lbs.

Pattern Fault	Pattern Correction
FRONT	
1P - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
2P - Excess shoulder height (causing looseness below shoulder)	Armhole edge of shoulder lowered (3/8")
3P - Excess width across chest	Armhole curved in (3/8")
4P - Bulge - armhole to bust point	Diagonal wedge - armhole (5/8") to bust point (0"), increasing waist dart depth
5P - Underarm dart pointing high	Underarm dart pointed lower
6P - Underarm dart too short	Underarm dart lengthened (1-1/2")
7P - Bodice too long	Even horizontal overlap - CF to side seam (1")
BACK	
8P - Excess shoulder length	Armhole edge of shoulder reduced (3/8")
9P - Neck too short	Neck lengthened at shoulder edge (1/16")
10P - Horizontal bulge - armhole to upper back	Horizontal wedge - armhole (1/4") to upper back (0"), resulting in vertical slashes spreading ease at shoulder (1/8") and lower back (1/4")
11P - Diagonal bulge - armhole to waist dart point	Curved diagonal wedge - armhole (3/8") to waist dart point (0"), increasing waist dart depth
12P - Bodice too long	Even horizontal overlap - CB to side seam (1")

* easy to correct
× difficult to correct



PIN FITTING

16-4 FIGURE SIZE

PATTERN SIZE 16

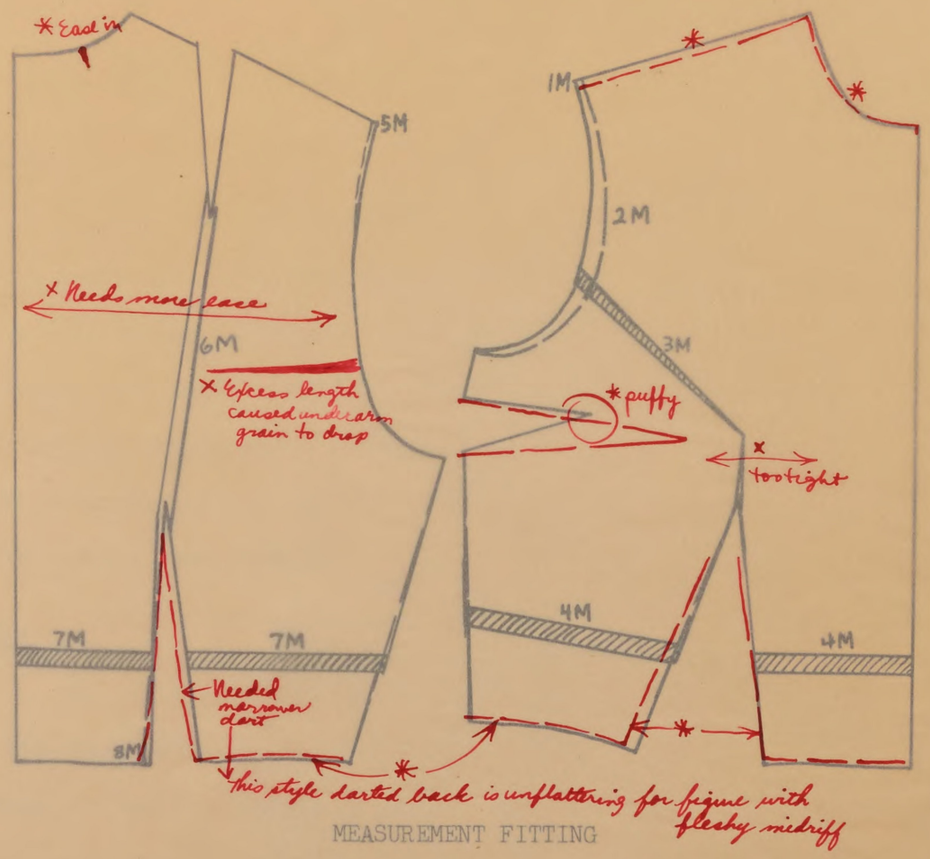
BUST 37 3/8

WAIST 28 5/8

HIPS --

HEIGHT 5'7"

WEIGHT 160 lbs.



MEASUREMENT FITTING

16-4 FIGURE CHARACTERISTICS

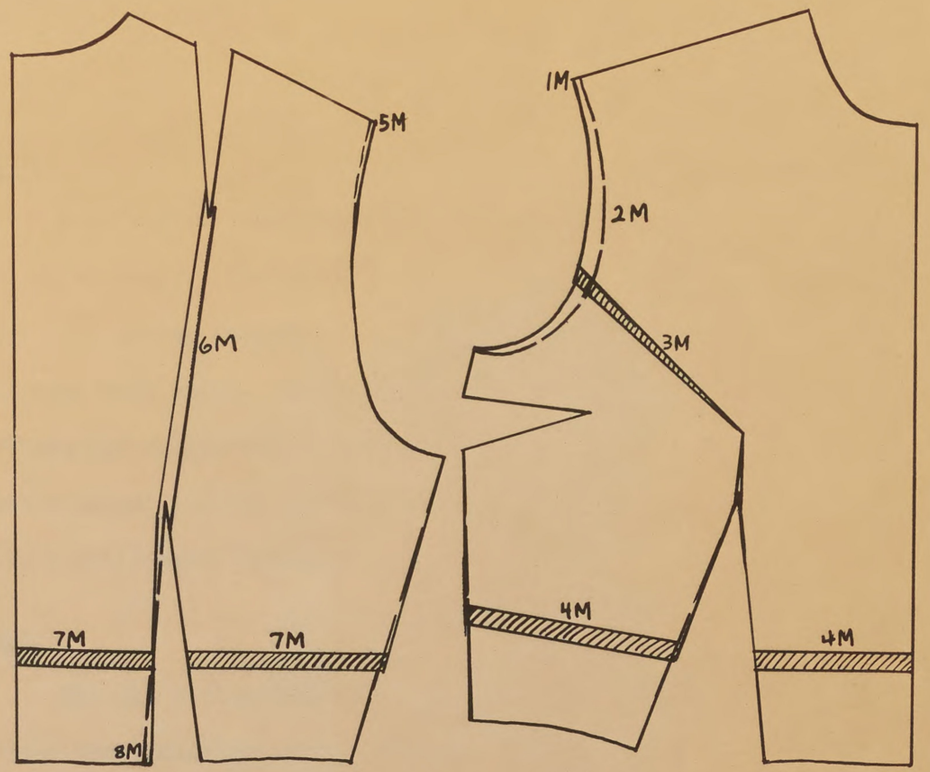
FIGURE TYPE: Tall stature, extremely full

BONE STRUCTURE: Long, heavy (except narrow shoulders)
Prominent joints--shoulder bone, shoulder blades
chest bones--flesh covered
Shoulders sloping low

POSTURE: Erect--leans back slightly
Average bust height
Straight, flat back
Head set forward slightly on shoulders

FLESH DISTRIBUTION: Generally full
Full bust
Fleshy along side of bust and in back at bust level
Fleshy midriff in front and back (more in back)
Shoulder line--smooth
Arm girth--full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder length	Armhole edge of shoulder reduced (1/8")
2M - Excess width across chest	Armhole curved in (1/4") at chest level
3M - Excess length and width between armhole and bust	Diagonal wedge - armhole (1/4") to bust point
4M - Bodice too long	Even horizontal overlap - CF to side seam (3/4")
BACK	
5M - Excess shoulder length	Armhole edge of shoulder reduced (1/8")
6M - Inadequate mid-back width	Vertical slash - spread from shoulder dart point to waist dart point (1/4")
7M - Bodice too long	Even horizontal overlap - CB to side seam (3/4")
8M - Waist too wide	Waist dart deepened (1/8")



MEASUREMENT FITTING

16-4 FIGURE CHARACTERISTICS

FIGURE TYPE: Tall stature, extremely full

BONE STRUCTURE: Long, heavy (except narrow shoulders)
Prominent joints--shoulder bone, shoulder blades
chest bones--flesh covered
Shoulders sloping low

POSTURE: Erect--leans back slightly
Average bust height
Straight, flat back
Head set forward slightly on shoulders

FLESH DISTRIBUTION: Generally full
Full bust
Fleshy along side of bust and in back at bust level
Fleshy midriff in front and back (more in back)
Shoulder line--smooth
Arm girth--full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder length	Armhole edge of shoulder reduced (1/8")
2M - Excess width across chest	Armhole curved in (1/4") at chest level
3M - Excess length and width between armhole and bust	Diagonal wedge - armhole (1/4") to bust point
4M - Bodice too long	Even horizontal overlap - CF to side seam (3/4")
BACK	
5M - Excess shoulder length	Armhole edge of shoulder reduced (1/8")
6M - Inadequate mid-back width	Vertical slash - spread from shoulder dart point to waist dart point (1/4")
7M - Bodice too long	Even horizontal overlap - CB to side seam (3/4")
8M - Waist too wide	Waist dart deepened (1/8")

16-4 Comparison of Results

FRONT:

Each bodice front required additional ease in the armhole, bust, and waist areas. The area between the bust point and armhole should have been spread instead of overlapped (4P) to increase, rather than decrease bust width. These differences might indicate that a larger pattern was called for. Reducing shoulder length, however, indicated that a larger pattern would not be correct for this figure's comparatively small bone structure.

BACK:

The pin fitted back fit more comfortably than the measurement fitted back, because in pin fitting, upper back ease had been redirected from the armhole to shoulder blades (though not increased). The measurement fitting increased back ease, but caused tightness across the midback, since this ease was not directed to the fullest part of the upper back.

The waist dart in the measured bodice was shaped at the muslin fitting to allow more lower back fulness, without increasing the waist size. This basic pattern, with fitted waist darts, was especially unattractive on this figure. A very fleshy area directly above the waist indentation made smooth fitting difficult. A bloused back would have concealed this figure fault.

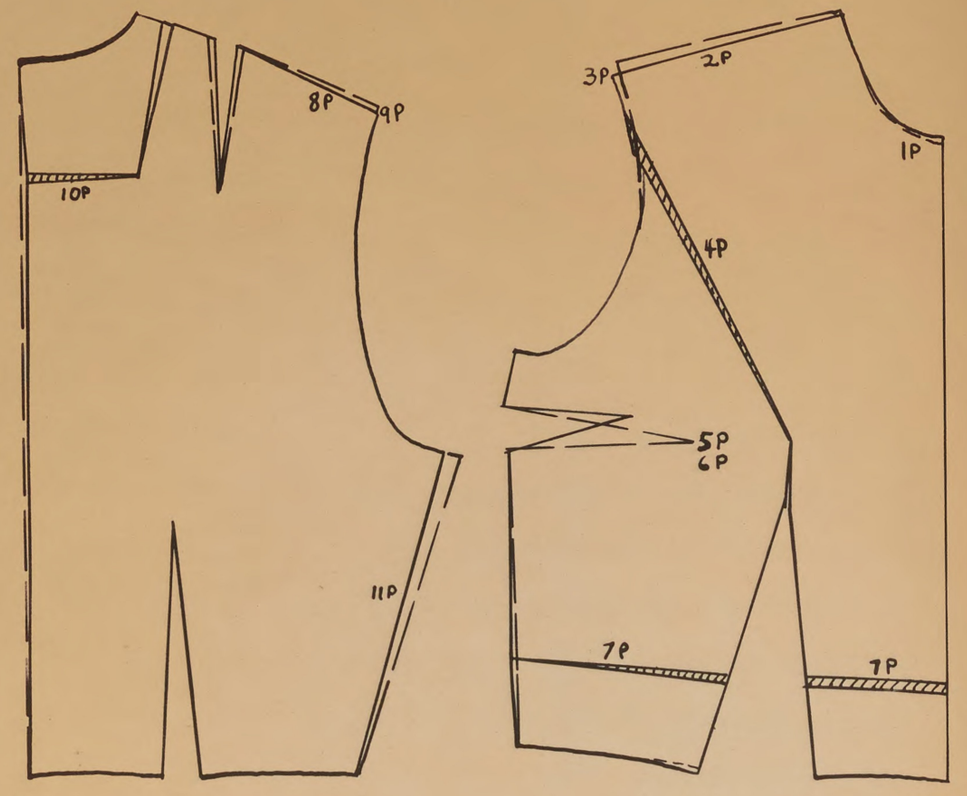
COMMENT:

This figure was particularly difficult to fit, not because of unusual figure characteristics, but because of her shifting stance and constantly changing posture. Miscalculation of bust ease in the pin fitted bodice was probably caused by the pattern tissue repeatedly shifting away from CF during the fitting.

THE UNALTERED MUSLIN:

The bustline of the unaltered pattern was too tight. Although this area required even more ease than pin fitting provided, pin fitting improved the general appearance (if not comfort) of the front. The bodice was shortened and back ease was redistributed, removing back underarm wrinkles. The shoulder line, which settled towards the back armhole, was shifted. This raised the back shoulder line, while lowering the front shoulder at the armhole edge.

Pattern Fault	Pattern Alteration
FRONT	
1P - Neck too high at CF	Neck lowered at CF (1/4")
2P - Inadequate shoulder height	Shoulder raised - neck edge (1/16") to armhole edge (1/4")
3P - Excess shoulder length	Armhole edge of shoulder reduced (1/8")
4P - Diagonal bulge - upper armhole to bust point	Diagonal wedge - upper armhole (1/4") to bust point (0")
5P - Underarm dart pointing too high	Underarm dart pointed lower
6P - Underarm dart too short	Underarm dart lengthened (1-3/4")
7P - Bodice too long at CF	Horizontal wedge - CF (1/4") to side seam (0")
BACK	
8P - Inadequate shoulder height	Armhole edge of shoulder raised (1/8")
9P - Excess shoulder length	Shoulder dart deepened (1/4")
10P - Excess CB length below neck-base	Horizontal wedge - CB (1/4") to upper back (0"), resulting in a slash adding shoulder ease (1/4")
11P - Inadequate side width below armhole	Width at side seam increased - armhole (1/2") to waist (0")



PIN FITTING

16-5 FIGURE SIZE

PATTERN SIZE 16

BUST 36 3/8

WAIST 27 1/4

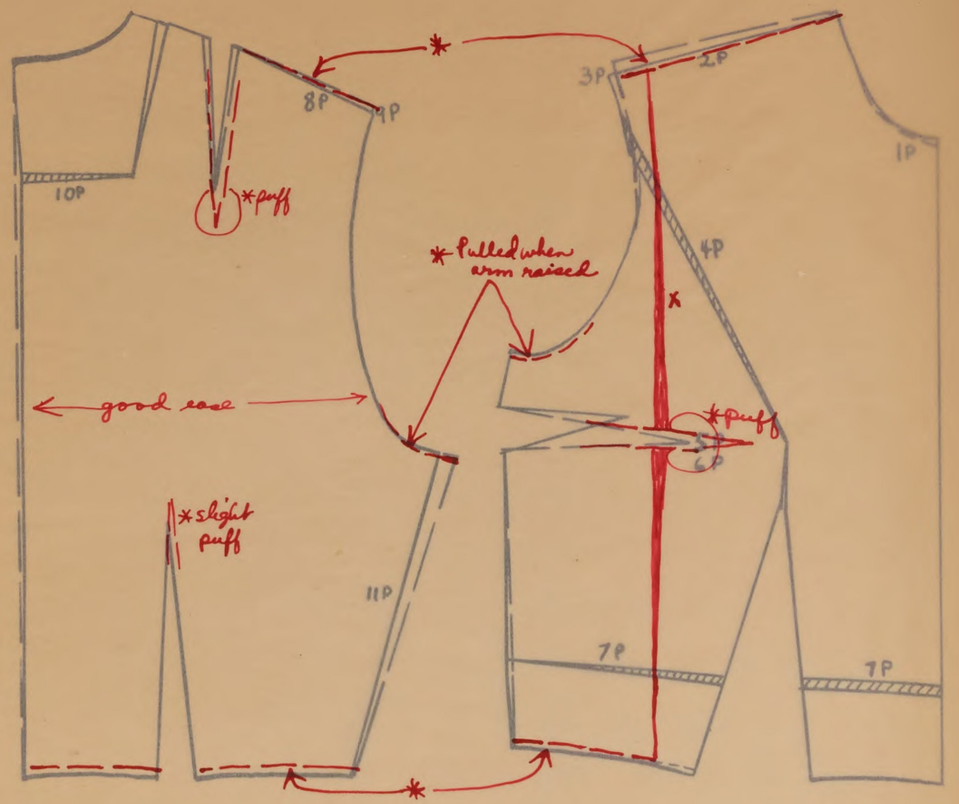
HIPS --

HEIGHT 5'6 1/2"

WEIGHT 145 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Neck too high at CF	Neck lowered at CF (1/4")
2P - Inadequate shoulder height	Shoulder raised - neck edge (1/16") to armhole edge (1/4")
3P - Excess shoulder length	Armhole edge of shoulder reduced (1/8")
4P - Diagonal bulge - upper armhole to bust point	Diagonal wedge - upper armhole (1/4") to bust point (0")
5P - Underarm dart pointing too high	Underarm dart pointed lower
6P - Underarm dart too short	Underarm dart lengthened (1-3/4")
7P - Bodice too long at CF	Horizontal wedge - CF (1/4") to side seam (0")
BACK	
8P - Inadequate shoulder height	Armhole edge of shoulder raised (1/8")
9P - Excess shoulder length	Shoulder dart deepened (1/4")
10P - Excess CB length below neck-base	Horizontal wedge - CB (1/4") to upper back (0"), resulting in a slash adding shoulder ease (1/4")
11P - Inadequate side width below armhole	Width at side seam increased - armhole (1/2") to waist (0")

* easy to correct
× difficult to correct



PIN FITTING

16-5 FIGURE SIZE

PATTERN SIZE 16

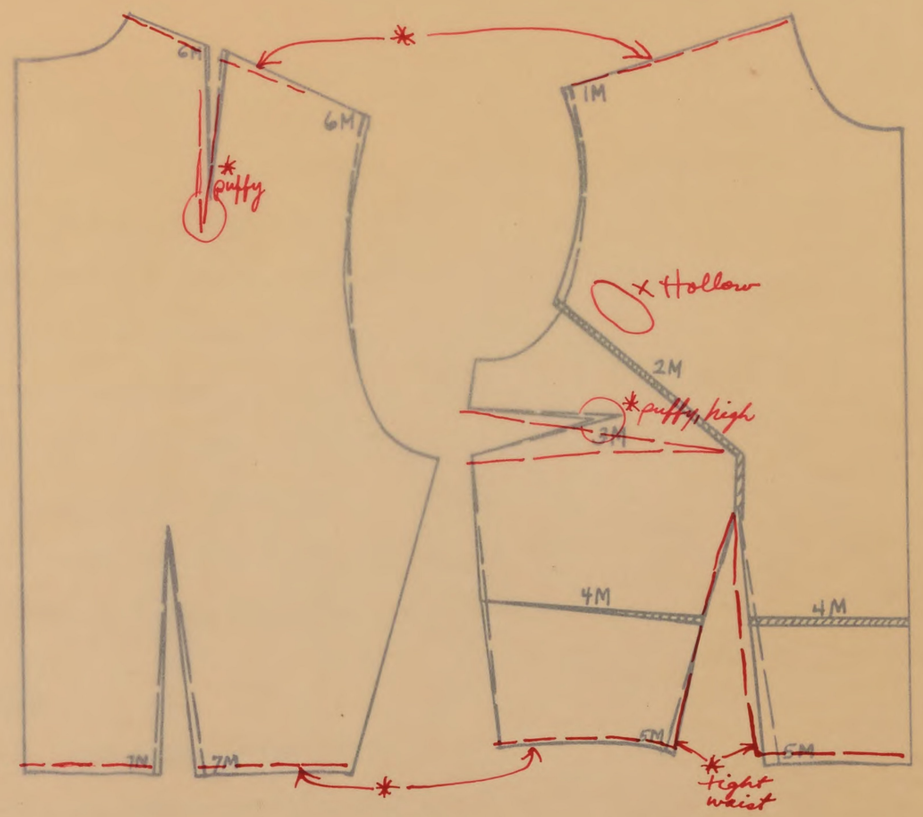
BUST 36 3/8

WAIST 27 1/4

HIPS --

HEIGHT 5'6 1/2"

WEIGHT 145 lbs.



MEASUREMENT FITTING

16-5 FIGURE CHARACTERISTICS

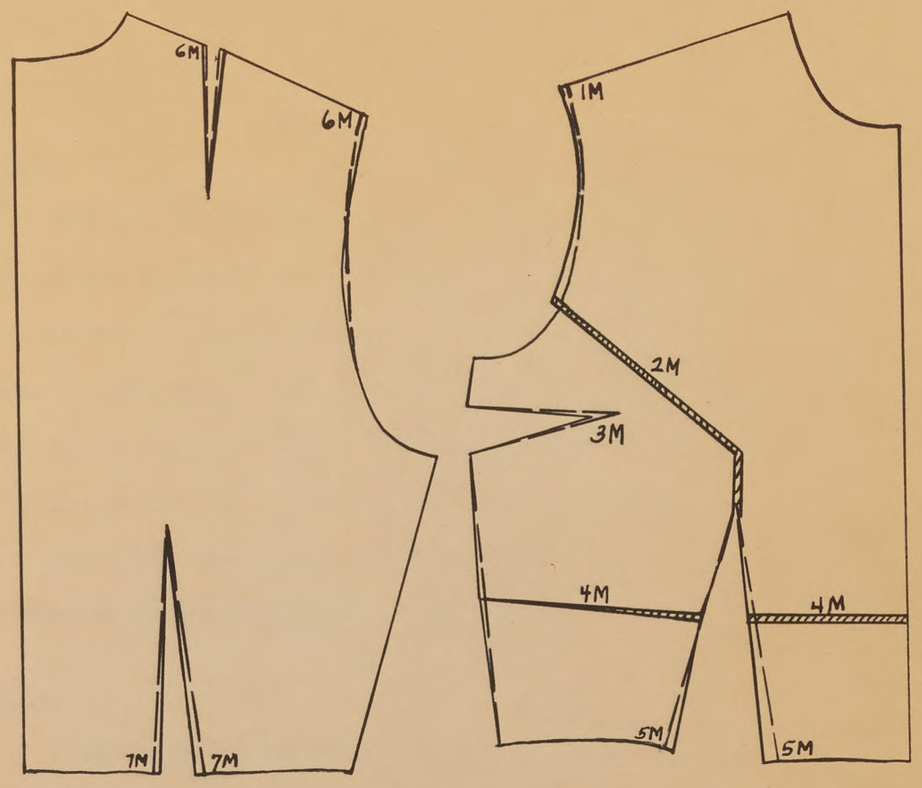
FIGURE TYPE: Tall stature, very full figure

BONE STRUCTURE: Medium length, heavy
Prominent chest bones but narrow chest

POSTURE: Erect
Average bust height
Straight back
Head and shoulders pitched slightly forward

FLESH DISTRIBUTION: Medium to full
Medium bust
Medium amount of flesh around midriff and at sides and back at bust level
Shoulder blades, flesh covered, but not too prominent
Shoulder line smooth
Arm girth--medium full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder length	Armhole edge of shoulder reduced (1/4")
2M - Excess length and width between armhole and bust point	Even diagonal overlap - armhole to bust point, through waist dart (1/4")
3M - Excess side length (at underarm dart point)	Underarm dart lengthened (1/2") and deepened (1/8")
4M - Bodice too long at CF	Horizontal wedge - CF (1/4") to side seam (0")
5M - Waist too wide	Waist dart deepened (7/8")
BACK	
6M - Excess shoulder length	Armhole edge of shoulder reduced (1/8") and shoulder dart deepened (1/8")
7M - Waist too wide	Waist dart deepened (3/8")



MEASUREMENT FITTING

16-5 FIGURE CHARACTERISTICS

FIGURE TYPE: Tall stature, very full figure

BONE STRUCTURE: Medium length, heavy
Prominent chest bones but narrow chest

POSTURE: Erect
Average bust height
Straight back
Head and shoulders pitched slightly forward

FLESH DISTRIBUTION: Medium to full
Medium bust
Medium amount of flesh around midriff and at sides and back at bust level
Shoulder blades, flesh covered, but not too prominent
Shoulder line smooth
Arm girth--medium full

Pattern Fault	Pattern Alteration
FRONT	
1M - Excess shoulder length	Armhole edge of shoulder reduced (1/4")
2M - Excess length and width between armhole and bust point	Even diagonal overlap - armhole to bust point, through waist dart (1/4")
3M - Excess side length (at underarm dart point)	Underarm dart lengthened (1/2") and deepened (1/8")
4M - Bodice too long at CF	Horizontal wedge - CF (1/4") to side seam (0")
5M - Waist too wide	Waist dart deepened (7/8")
BACK	
6M - Excess shoulder length	Armhole edge of shoulder reduced (1/8") and shoulder dart deepened (1/8")
7M - Waist too wide	Waist dart deepened (3/8")

16-5 Comparison of Results

FRONT:

The pin fitted bodice front fit more loosely than the measurement fitted front, particularly at the waist. Wedge (4P) that started high at the armhole of the pin fitted bodice was better than a corresponding wedge (2M), located at the lower armhole curve of the measurement fitted version. The higher position (4P) helped to absorb ease over the hollow (above 2M) in the measurement fitted front. The underarm dart which had been revised in pin fitting called for exactly the same alteration in the measurement fitted muslin.

BACK:

Both backs needed very few corrections. Both fitted well. In fact, the measurement fitted bodice, with no upper back alterations, fit as smoothly and comfortably as the pin fitted version, with its shortened CB and increased shoulder ease (1CP).

COMMENT:

Shortening the armhole even a small amount (through a wedge) often causes the armhole to draw when the arm is raised. Sometimes even though a wedge could give the side a trimmer effect, it is better to allow the excess to remain than to remove it and thus restrict armhole movement. The problem was not too outstanding in this bodice, but pointed up the danger of reducing the armhole too much.

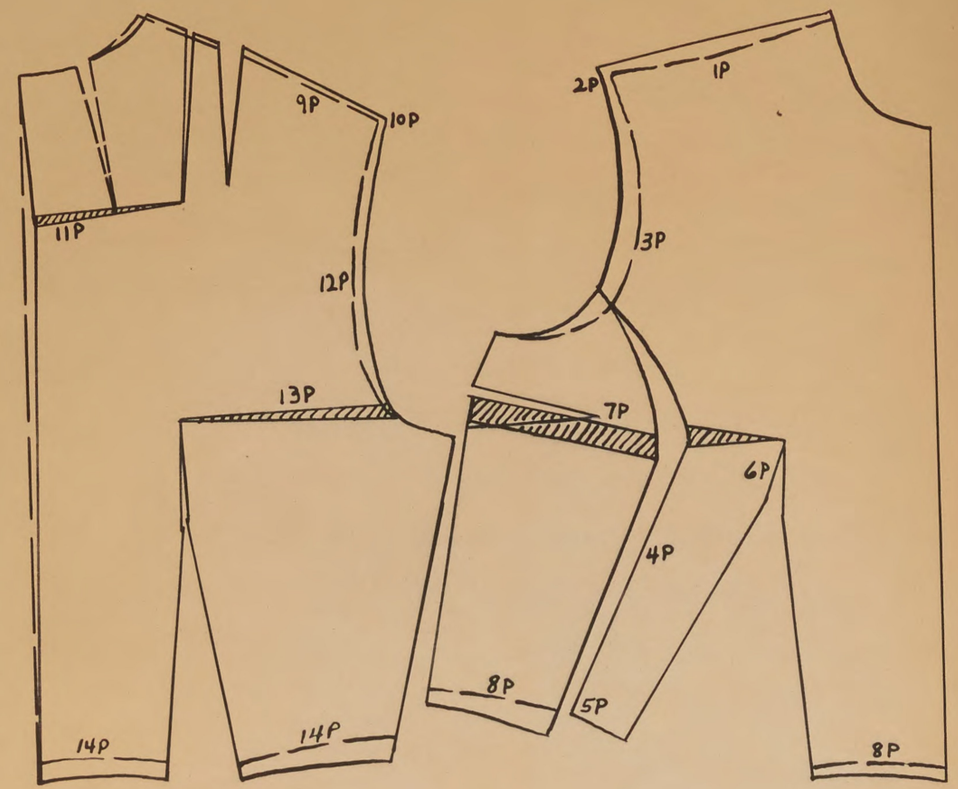
THE UNALTERED MUSLIN:

Pin fitting, which reduced chest width, but directed ease to the bust point, greatly improved the fit of the bodice. The unaltered bodice had diagonal wrinkles at the underarm and chest level; the entire bodice was long waisted, especially at the side front.

Reducing the front shoulder slope in pin fitting improved grain, which sagged at the side front of the unaltered bodice.

The back was long waisted, with loose folds settling across the mid- and lower-back areas. Although the pattern seemed too wide across the back, addition of a sleeve improved the back appearance, and made it clear that this ease was needed for comfortable arm movement.

Pattern Fault	Pattern Alteration
FRONT	
1P - Excess shoulder height (causing looseness below shoulder)	Shoulder drawn lower (1/4")
2P - Excess shoulder length	Armhole edge of shoulder reduced (1/4")
3P - Excess chest width	Armhole curved in (1/2")
4P - Inadequate width from side of bust to waist	Curved slash - spreading armhole (0") to waist (3/8")
5P - Waist too narrow	Lower part of alteration 4P allows (3/8") more width
6P - Inadequate ease over bust point	Horizontal wedge - side seam (5/8") to bust point (0") deepening waist dart
7P - Excess side bodice length	Alteration 6P
8P - Bodice too long	Waist edge drawn higher (5/8")
BACK	
9P - Excess shoulder height (causing looseness below shoulder)	Shoulder drawn lower (1/8")
10P - Excess shoulder length	Armhole edge of shoulder reduced (1/4")
11P - Excess upper CB length	Horizontal wedge - CB (1/4") to upper back (0") resulting in added shoulder ease (1/8") and a new neck dart (1/4")
12P - Excess upper back width	Armhole curved in (1/4")
13P - Horizontal bulge - lower armhole to mid-back	Horizontal wedge - armhole (1/4") to scye line (0")
14P - Bodice too long	Waist drawn higher (5/8")



PIN FITTING

18-1 FIGURE SIZE

PATTERN SIZE 18

BUST 36 3/4

WAIST 29 1/8

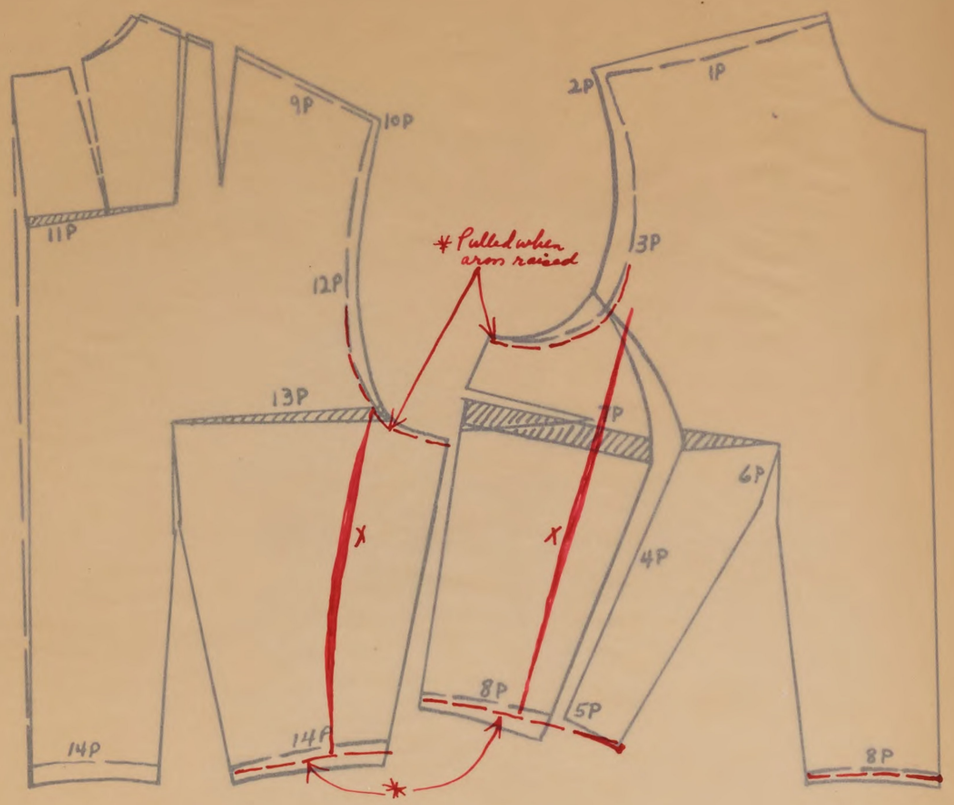
HIPS 42 1/2

HEIGHT 5'5"

WEIGHT 168 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Excess shoulder height (causing looseness below shoulder)	Shoulder drawn lower (1/4")
2P - Excess shoulder length	Armhole edge of shoulder reduced (1/4")
3P - Excess chest width	Armhole curved in (1/2")
4P - Inadequate width from side of bust to waist	Curved slash - spreading armhole (0") to waist (3/8")
5P - Waist too narrow	Lower part of alteration 4P allows (3/8") more width
6P - Inadequate ease over bust point	Horizontal wedge - side seam (5/8") to bust point (0") deepening waist dart
7P - Excess side bodice length	Alteration 6P
8P - Bodice too long	Waist edge drawn higher (5/8")
BACK	
9P - Excess shoulder height (causing looseness below shoulder)	Shoulder drawn lower (1/8")
10P - Excess shoulder length	Armhole edge of shoulder reduced (1/4")
11P - Excess upper CB length	Horizontal wedge - CB (1/4") to upper back (0") resulting in added shoulder ease (1/8") and a new neck dart (1/4")
12P - Excess upper back width	Armhole curved in (1/4")
13P - Horizontal bulge - lower armhole to mid-back	Horizontal wedge - armhole (1/4") to scye line (0")
14P - Bodice too long	Waist drawn higher (5/8")

*easy to correct
x difficult to correct



PIN FITTING

18-1 FIGURE SIZE

PATTERN SIZE 18

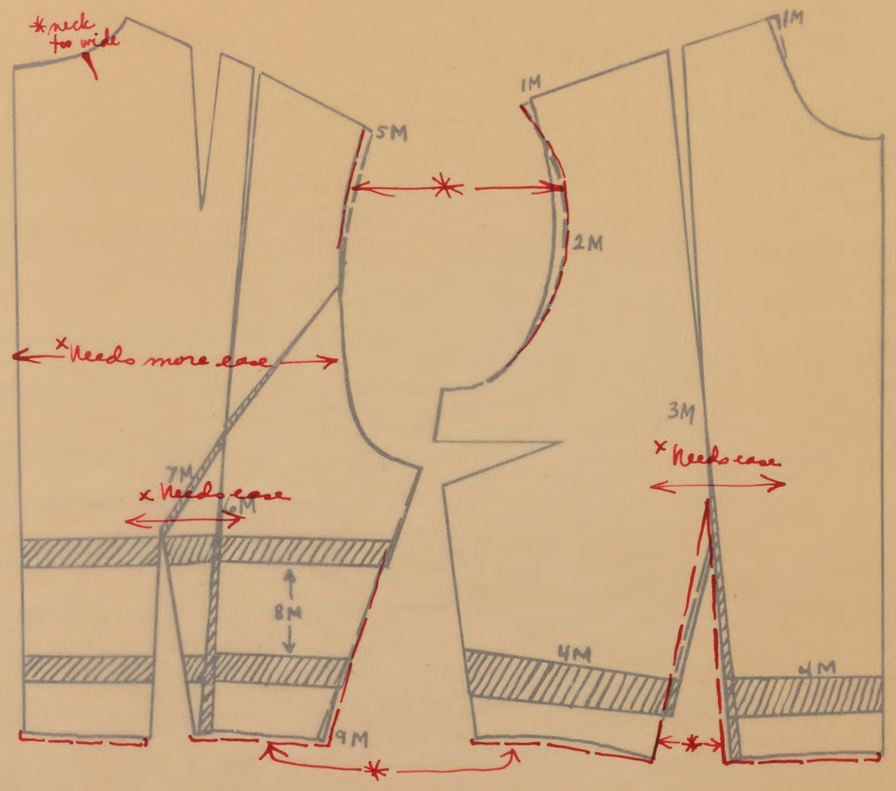
BUST 36 3/4

WAIST 29 1/8

HIPS 42 1/2

HEIGHT 5'5"

WEIGHT 168 lbs.



MEASUREMENT FITTING

18-1 FIGURE CHARACTERISTICS

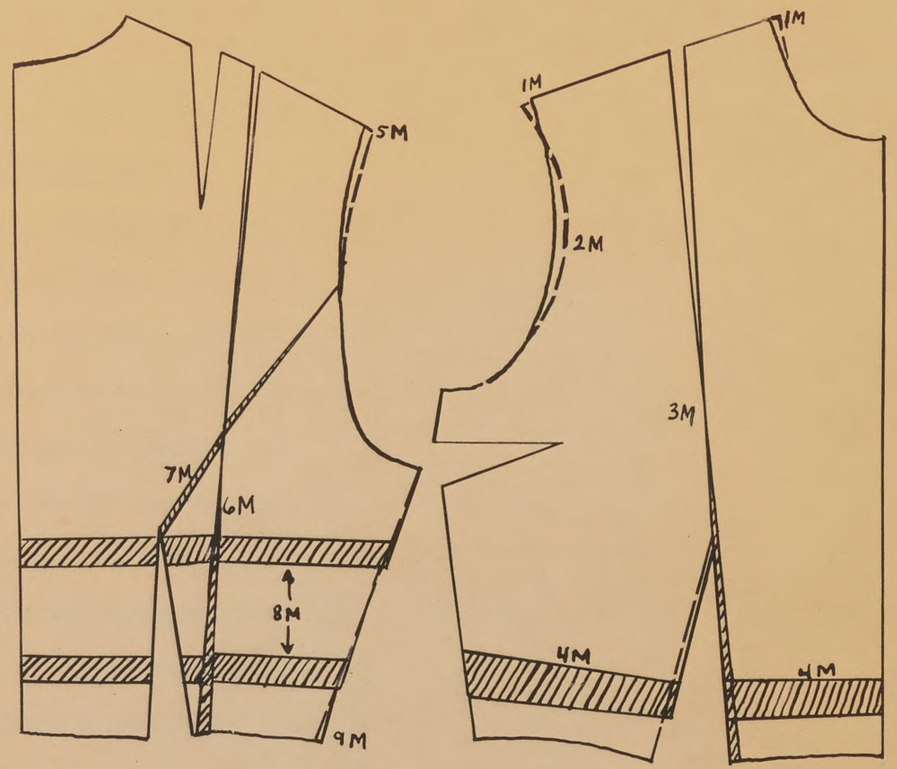
FIGURE TYPE: Average stature, extremely full figure

BONE STRUCTURE: Medium length and width bone structure--small compared to flesh distribution
Slightly prominent shoulder blades

POSTURE: Erect
Flat back
Narrow shoulders for amount flesh distribution

FLESH DISTRIBUTION: Very full generally
Small bust for amount of flesh distribution
Very fleshy at side of bust and around back at bust level
Midriff front and back very fleshy
Shoulder line smooth
Arm girth--full

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Alteration divided among three areas: shoulder lengthened at armhole (1/8") and neck edges (1/8"); slash 3M added (1/4") more length
2M - Excess chest width	Armhole curved in (1/4")
3M - Excess width - bust to waist	Vertical slash - spread at shoulder (1/4"), overlapped at waist (1/4")
4M - Bodice too long	Even horizontal overlap - side seam to CF (1-1/2")
BACK	
5M - Inadequate shoulder length	Armhole edge of shoulder lengthened (1/4"); slash 6M added (1/8") more length
6M - Excess lower back width	Vertical slash - spread at shoulder (1/8") and overlapped at waist (1/4")
7M - Excess length and width between armhole and waist dart point	Diagonal wedge - armhole (0") to waist dart point (1/4"), decreasing depth of waist dart
8M - Bodice too long	Two even horizontal overlaps, CB to side seam (5/8 and 7/8")
9M - Waist too wide	Side seam drawn in (1/8") lower; part of 6M also reduced waist



MEASUREMENT FITTING

18-1 FIGURE CHARACTERISTICS

FIGURE TYPE: Average stature, extremely full figure

BONE STRUCTURE: Medium length and width bone structure--small compared to flesh distribution
Slightly prominent shoulder blades

POSTURE: Erect
Flat back
Narrow shoulders for amount flesh distribution

FLESH DISTRIBUTION: Very full generally
Small bust for amount of flesh distribution
Very fleshy at side of bust and around back at bust level
Midriff front and back very fleshy
Shoulder line smooth
Arm girth--full

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Alteration divided among three areas: shoulder lengthened at armhole (1/8") and neck edges (1/8"); slash 3M added (1/4") more length
2M - Excess chest width	Armhole curved in (1/4")
3M - Excess width - bust to waist	Vertical slash - spread at shoulder (1/4"), overlapped at waist (1/4")
4M - Bodice too long	Even horizontal overlap - side seam to CF (1-1/2")
BACK	
5M - Inadequate shoulder length	Armhole edge of shoulder lengthened (1/4"); slash 6M added (1/8") more length
6M - Excess lower back width	Vertical slash - spread at shoulder (1/8") and overlapped at waist (1/4")
7M - Excess length and width between armhole and waist dart point	Diagonal wedge - armhole (0") to waist dart point (1/4"), decreasing depth of waist dart
8M - Bodice too long	Two even horizontal overlaps, CB to side seam (5/8 and 7/8")
9M - Waist too wide	Side seam drawn in (1/8") lower; part of 6M also reduced waist

18-1 Comparison of Results

FRONT AND BACK:

The pin fitted bodice was more comfortable than the measurement fitted bodice. General tightness was an obvious fault of the lower areas of the measured bodice; for instead of indicating that width should be increased from armhole to waist, measurements called for a decrease in width. Side width was increased through pin fitting because of the fleshiness of the figure in this area. Measurements did not indicate that shoulder length should be adjusted, but this alteration was made in pin fitting (see 14-2 p. 57).

An over-generous amount of ease had been added to the side front of the pin fitted bodice; this excess appeared as a blade of fabric at the side of the figure.

Both bodices required lengthening at the muslin proof fitting.

COMMENT:

This very fleshy figure was difficult to fit by either method. The extremely rounded fleshy areas between body measurement lines (e.g., between bustline and waistline) required greater than normal ease allowances. This type of figure needs more allowance for expansion than a large figure with proportions closer to average. The sudden waist indentation, too, made pin fitting (as well as measuring) quite difficult.

When a figure represents an extreme type, as this one did, it is often advantageous to carry out two fittings--experimenting the first

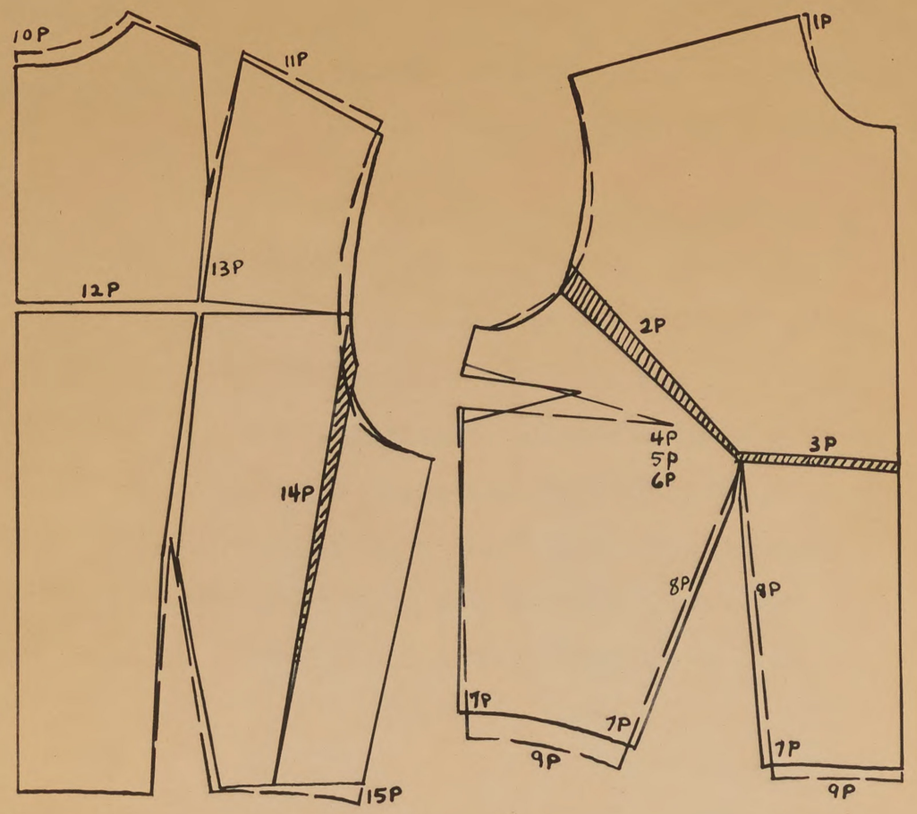
time, then selecting the most effective alterations and carrying them through in the second fitting.

THE UNALTERED MUSLIN:

The unaltered bodice did not fit this figure at all. It was long waisted in front and even longer waisted in back. The shoulder area fit smoothly, but the shoulder seam was too long. The neckline was wide, and diagonal wrinkles radiated from above and below the tight bustline. The crosswise grain sagged at the underarm. The back was rather loose and a slight bulge appeared at the lower armhole.

Pin fitting corrected many of these faults, helping the bodice to conform more closely to the body contours.

Pattern Fault	Pattern Alteration
FRONT	
1P - Neck too low at shoulder edge	Neck raised at shoulder edge (1/4")
2P - Diagonal bulge - armhole to bust point	Diagonal overlap - armhole (7/8") to bust point (1/4")
3P - Excess length in CF section at bust level	Even horizontal overlap - bust point to CF (1/4")
4P - Underarm dart pointing too high	Underarm dart pointed lower
5P - Underarm dart too short	Underarm dart lengthened (2-1/8")
6P - Underarm dart edge too low	Underarm dart raised at side seam (1/4")
7P - Waist too wide	Waist dart deepened (1/2") and side seam drawn in (1/4") at waist edge
8P - Excess width over rib cage - between bust point and waist	Waist dart deepened from 7P to dart point (1/2")
9P - Bodice too short	Waist drawn lower (3/4")
BACK	
10P - Neck too low	Neck raised - CF (3/8") to shoulder (1/4")
11P - Inadequate shoulder height	Shoulder height raised (1/4")
12P - Upper back too short	Horizontal slash - spread CB (1/4") to armhole (0")
13P - Inadequate side width	Vertical slash - spreading shoulder dart point (1/8") to waist dart point (1/4")
14P - Vertical bulge - lower armhole to waist	Vertical wedge - lower armhole (1/4") to waist (0")
15P - Side seam too short	Waist lowered at side seam (7/8")



PIN FITTING

18-2 FIGURE SIZE

PATTERN SIZE 18

BUST 36 1/2

WAIST 26 7/8

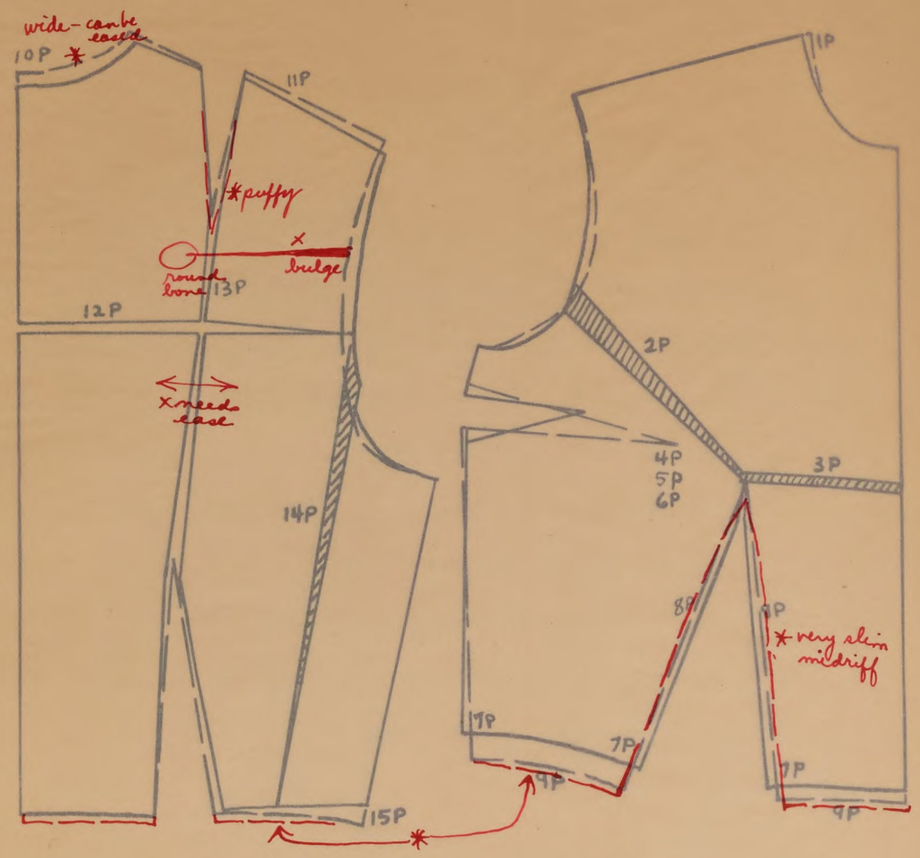
HIPS --

HEIGHT 5'11 1/4"

WEIGHT 154 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Neck too low at shoulder edge	Neck raised at shoulder edge (1/4")
2P - Diagonal bulge - armhole to bust point	Diagonal overlap - armhole (7/8") to bust point (1/4")
3P - Excess length in CF section at bust level	Even horizontal overlap - bust point to CF (1/4")
4P - Underarm dart pointing too high	Underarm dart pointed lower
5P - Underarm dart too short	Underarm dart lengthened (2-1/8")
6P - Underarm dart edge too low	Underarm dart raised at side seam (1/4")
7P - Waist too wide	Waist dart deepened (1/2") and side seam drawn in (1/4") at waist edge
8P - Excess width over rib cage - between bust point and waist	Waist dart deepened from 7P to dart point (1/2")
9P - Bodice too short	Waist drawn lower (3/4")
BACK	
10P - Neck too low	Neck raised - CF (3/8") to shoulder (1/4")
11P - Inadequate shoulder height	Shoulder height raised (1/4")
12P - Upper back too short	Horizontal slash - spread CB (1/4") to armhole (0")
13P - Inadequate side width	Vertical slash - spreading shoulder dart point (1/8") to waist dart point (1/4")
14P - Vertical bulge - lower armhole to waist	Vertical wedge - lower armhole (1/4") to waist (0")
15P - Side seam too short	Waist lowered at side seam (7/8")

* easy to correct
× difficult to correct



PIN FITTING

18-2 FIGURE SIZE

PATTERN SIZE 18

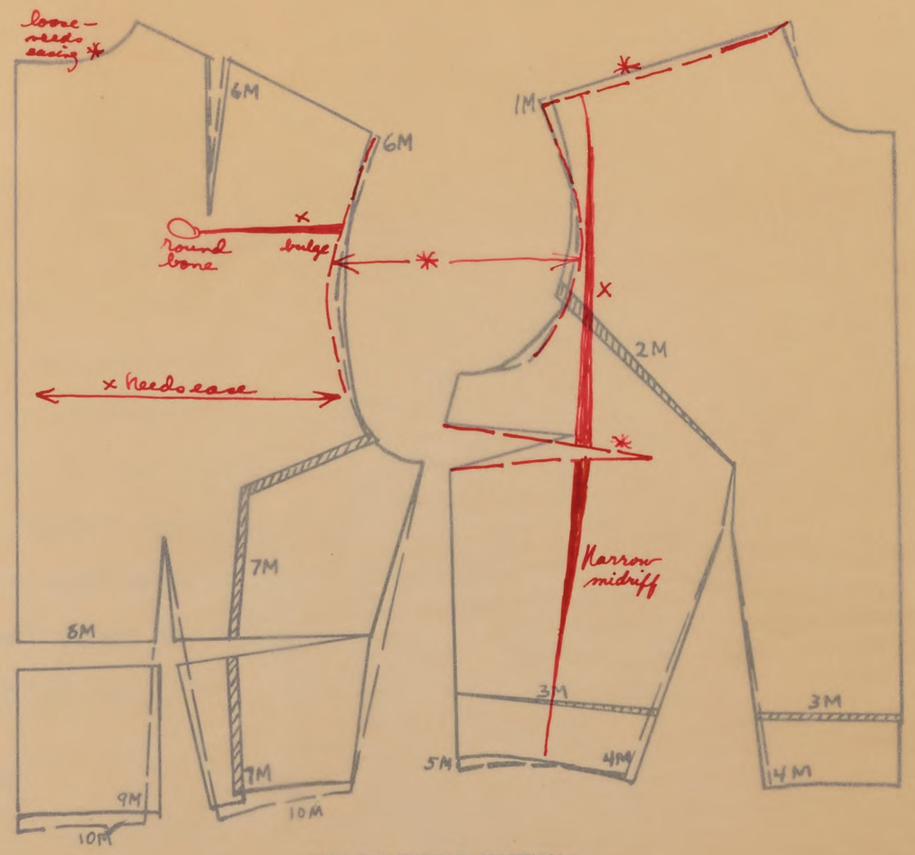
BUST 36 1/2

WAIST 26 7/8

HIPS --

HEIGHT 5'11 1/4"

WEIGHT 154 lbs.



MEASUREMENT FITTING

18-2 FIGURE CHARACTERISTICS

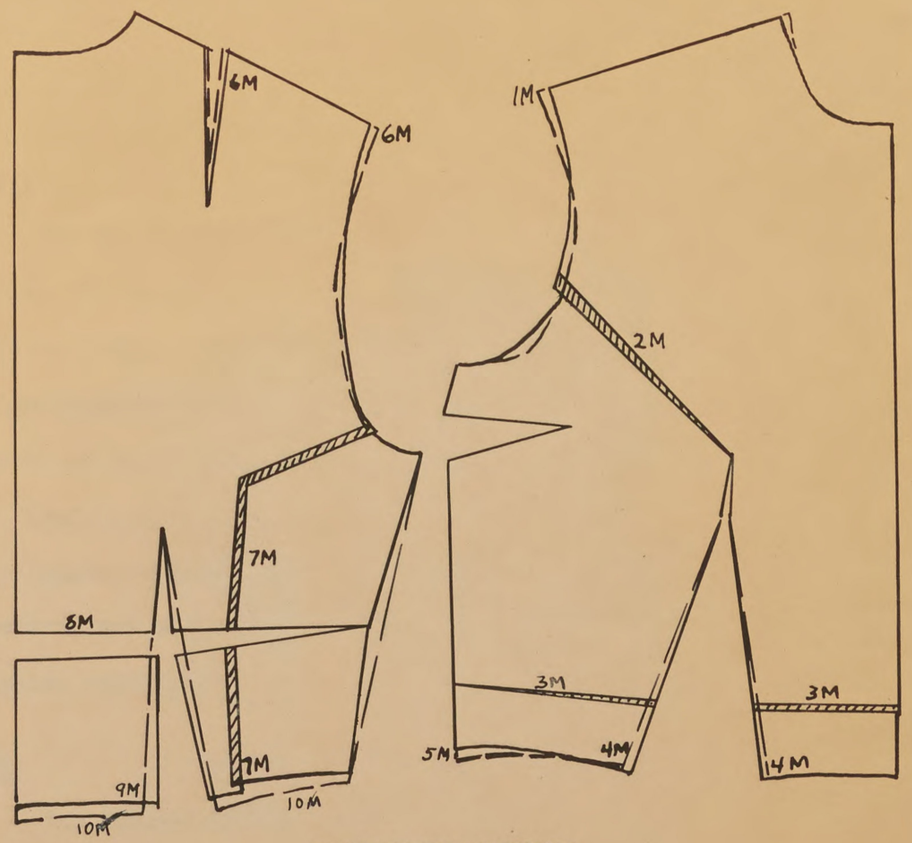
FIGURE TYPE: Tall stature, full average figure

BONE STRUCTURE: Very long, medium heaviness
Prominent shoulder blades
Prominent chest bones

POSTURE: Forward head and neck pitched forward
Slightly rounding shoulders
Prominent bony shoulder blades--hollow in between shoulder blades

FLESH DISTRIBUTION: Medium
Full bust
Fleshy along side of bust
Very slim midriff and waist for bust size
Prominent bones across upper back below shoulder
Shoulder line--bony, especially at edge
Arm girth--medium

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder lengthened at armhole (1/4") and neck edges (1/8")
2M - Excess length and width between armhole and bust point	Diagonal wedge - armhole (1/2") to bust point (0")
3M - Bodice too long at CF	Horizontal overlap - CF (1/4") to side seam (0")
4M - Waist too wide	Waist dart deepened (1/2")
5M - Side seam too short	Waist edge lowered (3/8") at side seam
BACK	
6M - Inadequate shoulder length	Shoulder lengthened at armhole (1/4") and shoulder dart narrowed at shoulder edge (1/8")
7M - Excess length and width - lower armhole to waist	Angle overlap - armhole (1/4") to waist (3/8")
8M - Bodice too short at CB	Horizontal slash - spread CB (3/4") to side seam (0")
9M - Waist too wide	Waist dart deepened (1/2") and alteration 7M reduced width also
10M - Bodice too short	Entire waist edge lowered - CB (1/2") to side seam (3/8")



MEASUREMENT FITTING

18-2 FIGURE CHARACTERISTICS

FIGURE TYPE: Tall stature, full average figure

BONE STRUCTURE: Very long, medium heaviness
Prominent shoulder blades
Prominent chest bones

POSTURE: Forward head and neck pitched forward
Slightly rounding shoulders
Prominent bony shoulder blades--hollow in between shoulder blades

FLESH DISTRIBUTION: Medium
Full bust
Fleshy along side of bust
Very slim midriff and waist for bust size
Prominent bones across upper back below shoulder
Shoulder line--bony, especially at edge
Arm girth--medium

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder lengthened at armhole (1/4") and neck edges (1/8")
2M - Excess length and width between armhole and bust point	Diagonal wedge - armhole (1/2") to bust point (0")
3M - Bodice too long at CF	Horizontal overlap - CF (1/4") to side seam (0")
4M - Waist too wide	Waist dart deepened (1/2")
5M - Side seam too short	Waist edge lowered (3/8") at side seam
BACK	
6M - Inadequate shoulder length	Shoulder lengthened at armhole (1/4") and shoulder dart narrowed at shoulder edge (1/8")
7M - Excess length and width - lower armhole to waist	Angle overlap - armhole (1/4") to waist (3/8")
8M - Bodice too short at CB	Horizontal slash - spread CB (3/4") to side seam (0")
9M - Waist too wide	Waist dart deepened (1/2") and alteration 7M reduced width also
10M - Bodice too short	Entire waist edge lowered - CB (1/2") to side seam (3/8")

18-2 Comparison of Results

FRONT:

The pin fitted front needed one minor adjustment--deepening and shaping the waist dart over a very slim midriff. In all other respects, it fitted well. There was a blade of excess from the shoulder to waist in the measurement fitted front. This fulness was caused partly by removal of too little side bust width; below the bust it was caused by the figure's slim midriff (as contrasted to a full bustline). Underarm dart length could not be determined by measurements. Lengthening the underarm dart of the pin fitted bodice took up the excess fulness that wrinkled below it.

BACK:

The fulness in the upper back of the figure created a front-to-back balance problem (see fig. 17, page 153). Although measurements indicated that the back was too short, they did not indicate whether the upper or lower back needed the extra length. Lower back length was increased; therefore, this balance problem (caused by upper back fulness) was still not solved by measurement fitting. Pin fitting showed up the need for more upper back length.

Shifting some excess ease from the upper armhole to the shoulder would have eliminated the upper armhole bulge. (This latter fault also appeared in exactly the same place in the measurement fitted muslin). The measured muslin, which was not lengthened and widened at the upper back, appeared tight across this area.

COMMENT:

The balance adjustments for this figure did not show in body measurements. Although the fulness of the upper back of the figure was observed, measurements did not indicate the necessity of increasing length or width above the scye. The width of the upper back may not have shown in measuring because of incorrect placement of body landmarks at the armhole.

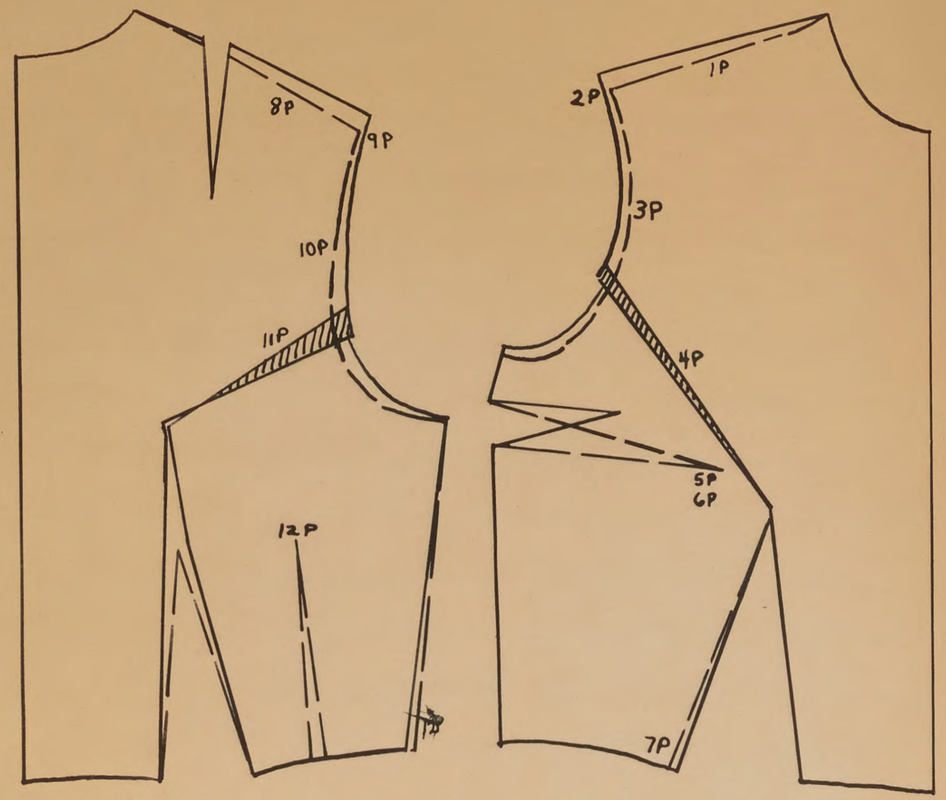
Compared to the average person, this figure was proportionately much larger in back than in front. A reduction in front length was indicated by measurements, particularly between armhole and bust, where the forward shoulders tended to shorten the figure. The pin fitting resulted in a trimly fitted bodice. Only minor additional corrections were needed in the muslin proof.

THE UNALTERED MUSLIN:

The waist of the unaltered bodice was too short and wide in front and back. The underarm dart was too high and narrow, giving the side of the bodice a mature, unflattering line.

Excess bust and chest fulness in the unaltered muslin caused puffiness in the upper front area, and a blade of excess fabric fell at the side back near the armhole.

Pattern Fault	Pattern Alteration
FRONT	
1P - Excess shoulder height	Shoulder lowered at armhole edge (1/2")
2P - Excess shoulder length	Shoulder reduced at armhole edge (1/4")
3P - Excess chest width and lower armhole tightness	Armhole curved deeper - shoulder to underarm (1/4")
4P - Diagonal bulge - armhole to waist dart point	Diagonal wedge - armhole (1/2") to waist dart point (0")
5P - Underarm dart pointed too high	Underarm dart point lowered
6P - Underarm dart too short	Underarm dart lengthened (2-3/4")
7P - Waist too wide	Waist dart deepened (1/2")
BACK:	
8P - Excess shoulder height	Shoulder lowered at armhole edge (5/8")
9P - Excess shoulder length	Shoulder reduced at armhole edge (1/4")
10P - Excess upper back width	Armhole curved in (1/2")
11P - Diagonal bulge - armhole to side back at scye level	Diagonal wedge - overlapping at armhole (7/8"), spreading at scye level (1/8"), resulting in added width at waist dart point (1")
12P - Lower back ease, concentrated above waist dart, needed redistribution	New waist dart (1/2") introduced between original waist dart and side seam; side seam drawn out (1/2") to keep original waist size



PIN FITTING

18-3 FIGURE SIZE

PATTERN SIZE 18

BUST 37 7/8

WAIST 28 7/8

HIPS 40 1/2

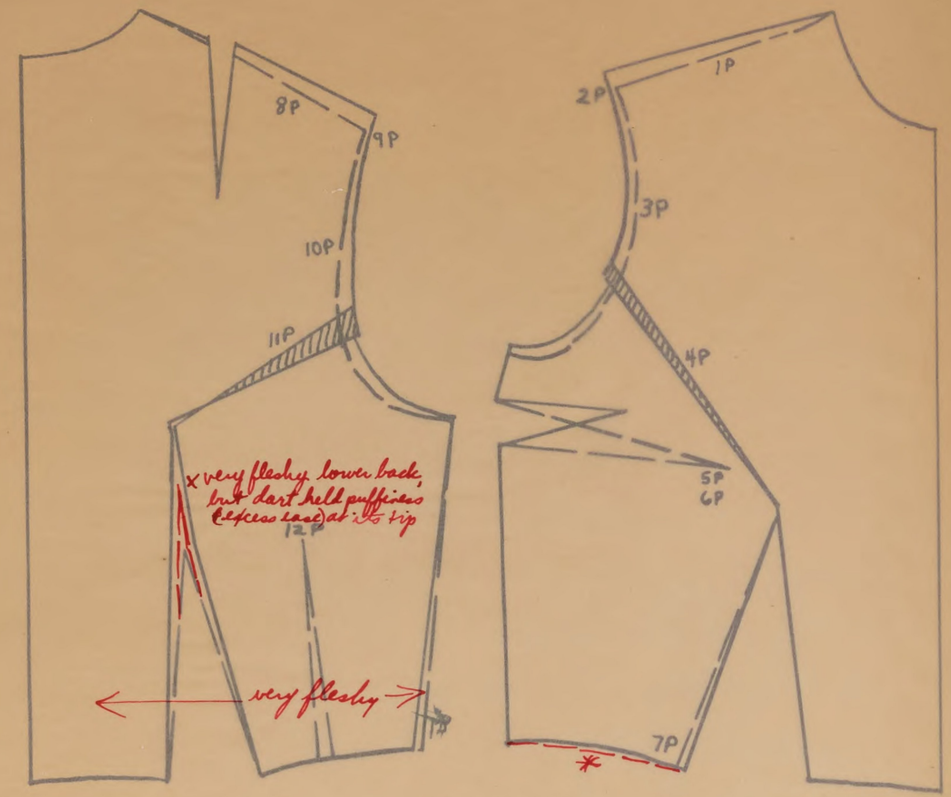
HEIGHT 5'7"

WEIGHT 156 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Excess shoulder height	Shoulder lowered at armhole edge (1/2")
2P - Excess shoulder length	Shoulder reduced at armhole edge (1/4")
3P - Excess chest width and lower armhole tightness	Armhole curved deeper - shoulder to underarm (1/4")
4P - Diagonal bulge - armhole to waist dart point	Diagonal wedge - armhole (1/2") to waist dart point (0")
5P - Underarm dart pointed too high	Underarm dart point lowered
6P - Underarm dart too short	Underarm dart lengthened (2-3/4")
7P - Waist too wide	Waist dart deepened (1/2")
BACK:	
8P - Excess shoulder height	Shoulder lowered at armhole edge (5/8")
9P - Excess shoulder length	Shoulder reduced at armhole edge (1/4")
10P - Excess upper back width	Armhole curved in (1/2")
11P - Diagonal bulge - armhole to side back at scye level	Diagonal wedge - overlapping at armhole (7/8"), spreading at scye level (1/8"), resulting in added width at waist dart point (1")
12P - Lower back ease, concentrated above waist dart, needed redistribution	New waist dart (1/2") introduced between original waist dart and side seam; side seam drawn out (1/2") to keep original waist size

* easy to correct
× difficult to correct

Bloused back is more flattering than darted back for this figure with a fleshy lower back.



PIN FITTING

18-3 FIGURE SIZE

PATTERN SIZE 18

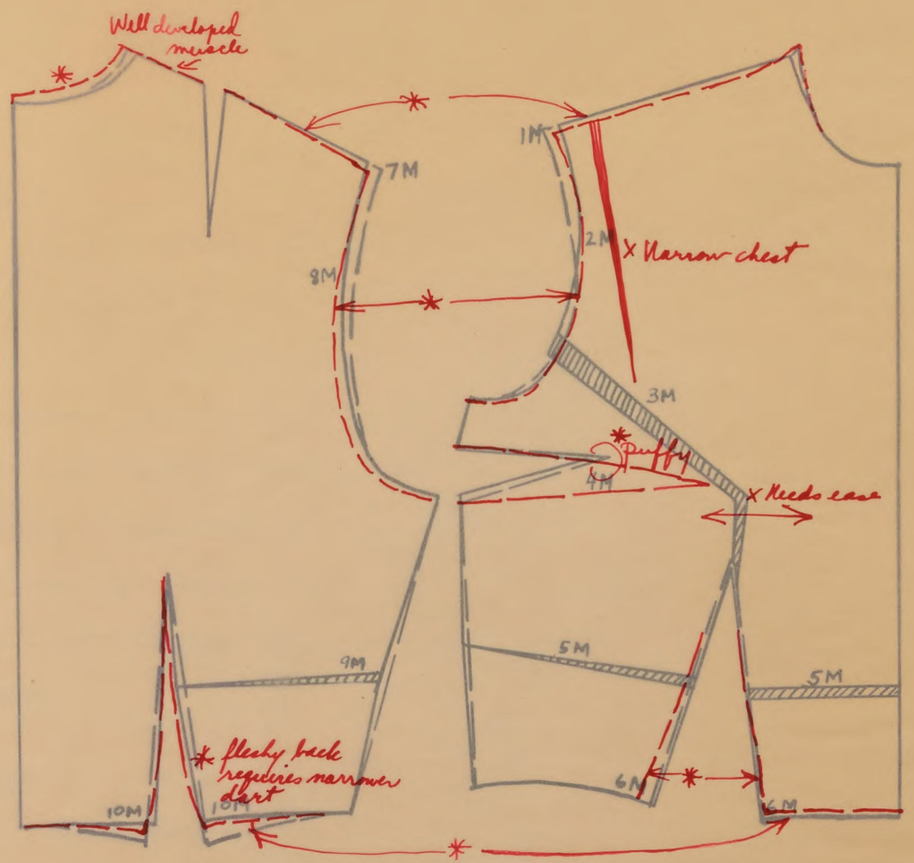
BUST 37 7/8

WAIST 28 7/8

HIPS 40 1/2

HEIGHT 5'7"

WEIGHT 156 lbs.



MEASUREMENT FITTING

18-3 FIGURE CHARACTERISTICS

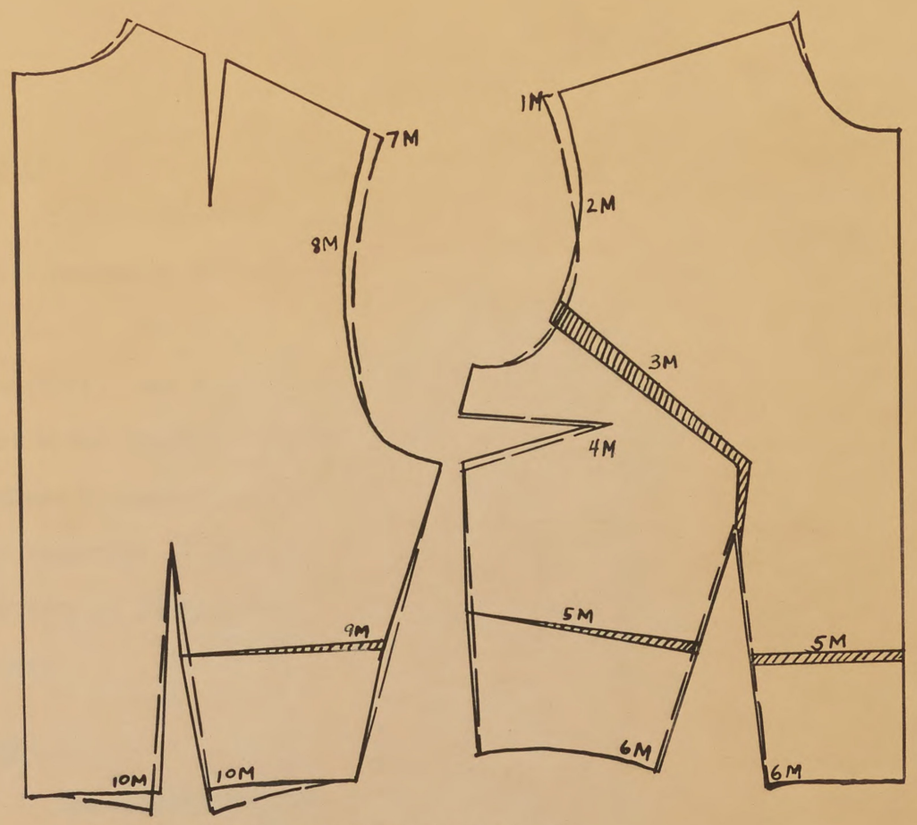
FIGURE TYPE: Tall stature, extremely full figure

BONE STRUCTURE: Medium to long, heavy
Sharp shoulder slope
Chest very prominent, but flesh covered

POSTURE: Erect
High bust but very full
Flat lower back
Bony shoulder blades, with hollow between them down center back

FLESH DISTRIBUTION: Full solid
Full bust
Fleshy along side of bust
Medium slim front midriff
Back midriff very fleshy (just below bust level)
Fleshy pads at top of shoulder blades just below shoulders at upper back
Smooth shoulderline, dipping in the center
Arm girth medium full

Pattern Fault	Pattern Correction
FRONT	
1M - Inadequate shoulder length	Shoulder lengthened at neck edge (1/8") and armhole edge (5/8")
2M - Inadequate chest width	Armhole curved in (3/8")
3M - Excess length and width between armhole and bust	Diagonal overlap - armhole (5/8") to bust point (1/4"), resulting in decreased waist dart depth
4M - Excess length at side	Underarm dart deepened (1/8") and lengthened (3/8")
5M - Bodice too long at CF	Horizontal wedge - CF (3/8") to side seam (0")
6M - Waist too wide	Waist dart deepened (1/4")
BACK	
7M - Inadequate shoulder length	Shoulder lengthened at neck edge (1/8") and armhole edge (5/8")
8M - Inadequate upper back width	Armhole curved out (1/2")
9M - Bodice too long at side seam (must match front which was shortened by 4M)	Horizontal wedge - side seam (1/8") to waist dart (0")
10M - Bodice too short below waist dart	Waist edge lowered below waist dart (1/2")



MEASUREMENT FITTING

18-3 FIGURE CHARACTERISTICS

FIGURE TYPE: Tall stature, extremely full figure

BONE STRUCTURE: Medium to long, heavy
Sharp shoulder slope
Chest very prominent, but flesh covered

POSTURE: Erect
High bust but very full
Flat lower back
Bony shoulder blades, with hollow between them down center back

FLESH DISTRIBUTION: Full solid
Full bust
Fleshy along side of bust
Medium slim front midriff
Back midriff very fleshy (just below bust level)
Fleshy pads at top of shoulder blades just below shoulders at upper back
Smooth shoulder line, dipping in the center
Arm girth medium full

Pattern Fault	Pattern Correction
FRONT	
1M - Inadequate shoulder length	Shoulder lengthened at neck edge (1/8") and armhole edge (5/8")
2M - Inadequate chest width	Armhole curved in (3/8")
3M - Excess length and width between armhole and bust	Diagonal overlap - armhole (5/8") to bust point (1/4"), resulting in decreased waist dart depth
4M - Excess length at side	Underarm dart deepened (1/8") and lengthened (3/8")
5M - Bodice too long at CF	Horizontal wedge - CF (3/8") to side seam (0")
6M - Waist too wide	Waist dart deepened (1/4")
BACK	
7M - Inadequate shoulder length	Shoulder lengthened at neck edge (1/8") and armhole edge (5/8")
8M - Inadequate upper back width	Armhole curved out (1/2")
9M - Bodice too long at side seam (must match front which was shortened by 4M)	Horizontal wedge - side seam (1/8") to waist dart (0")
10M - Bodice too short below waist dart	Waist edge lowered below waist dart (1/2")

18-3 Comparison of Results

FRONT:

The pin fitted front required no important changes, since it fit quite smoothly; however, the measurement fitted front needed several revisions. The shoulder seams were too long and straight for sloping shoulders. The armhole curve was out too far for the narrow chest. Bust width required expansion to its original fulness (it had been reduced in measurement fitting), and the underarm dart needed lengthening and lowering. Possibly the minimum bust ease used as a standard for measurement fitting was not sufficient for this large compactly built figure.

BACK:

The measurement fitted back, with only minor original pattern adjustments, fitted very well. In contrast, the pin fitted version had a large unflattering puff at the tip of the original waist dart, resulting from transference of an armhole wedge (11P). However, this alteration which also shortened the armhole, did help the armhole to fit more comfortably. Therefore the wedge at the armhole was needed, but should have been transferred in a way that would distribute back ease more evenly. Concentration of lower back ease in an area where the figure was heavy did not conceal this fault; instead, it emphasized this very fleshy lower back section.

COMMENT:

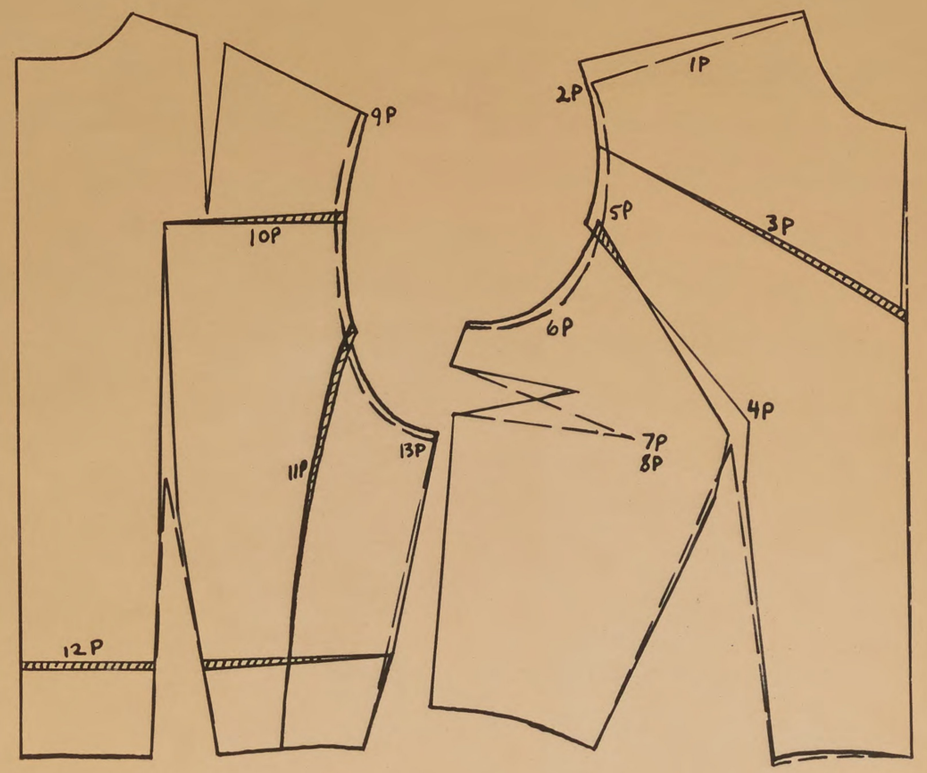
The back of this figure brought out a problem opposite to one found in fitting the average figure. The majority of women need a large amount of upper back width (over prominent shoulder blades) yet require proportionately less lower back width (for narrow thin lower backs). The difference makes it difficult to provide needed shoulder blade ease without getting puffiness over the tip of the waist dart. This figure, with a comparatively small upper back, and full lower back needed a greater than normal amount of lower back ease (to reduce the waist dart as much as possible while keeping the waist indented).

The pin fitted back also pointed up another important aspect of back alteration--that very good judgment is required when making alterations over seemingly prominent bones or curves at the upper back. If a great reduction is made in one area, transference of this (wedge or overlap) will hold a large amount of ease in another place. Several smaller wedges (rather than one sharp wedge) often gives more flattering results. Since most back contours are gently curved, they must be handled with greater restraint than the more definite front bustline curve. It is never desirable to accent the back curves, but it is sometimes an advantage to do so in front. The goal is to make the back appear flat. This is best achieved if ease for the shoulder blade is held above, below, and at the sides.

THE UNALTERED MUSLIN:

The unaltered muslin was wearable. There were, however, wrinkles in the front underarm area, as well as some in the side back. The back armhole was too loose. The section above the back waistline was long and tight. Pin fitting improved the front of this pattern greatly. An error in ease adjustment, however, did not help to improve the appearance of the back.

Pattern Fault	Pattern Alteration
FRONT	
1P - Excess shoulder height	Shoulder seam lowered - neck edge (1/8") to armhole edge (3/4")
2P - Excess shoulder length	Shoulder reduced at armhole edge (1/4")
3P - Diagonal wrinkle - armhole to CF	Diagonal wedge - CF (1/4") to armhole (0")
4P - Diagonal bulge - armhole to bust point (due to inadequate bust width)	Diagonal slash - overlapped at armhole (1/4"), spread at bust point (5/8")
5P - Excess chest width	Armhole curved in (1/2")
6P - Inadequate armhole depth (resulting in armhole tightness)	Alteration 5P continued to underarm
7P - Underarm dart pointing high	Underarm dart pointed lower
8P - Underarm dart too short	Underarm dart lengthened (2")
BACK	
9P - Excess shoulder length	Shoulder reduced at armhole edge (1/4")
10P - Horizontal bulge - armhole to upper back	Horizontal wedge - armhole (1/4") to upper back (0"), resulting in added mid- and lower back ease
11P - Diagonal bulge - armhole to waist	Diagonal wedge - armhole (3/8") to waist (0")
12P - Bodice too long at CB	Horizontal wedge - CB (1/4") to side seam (0")



PIN FITTING

18-4 FIGURE SIZE

PATTERN SIZE 18

BUST 39 1/2

WAIST 27 7/8

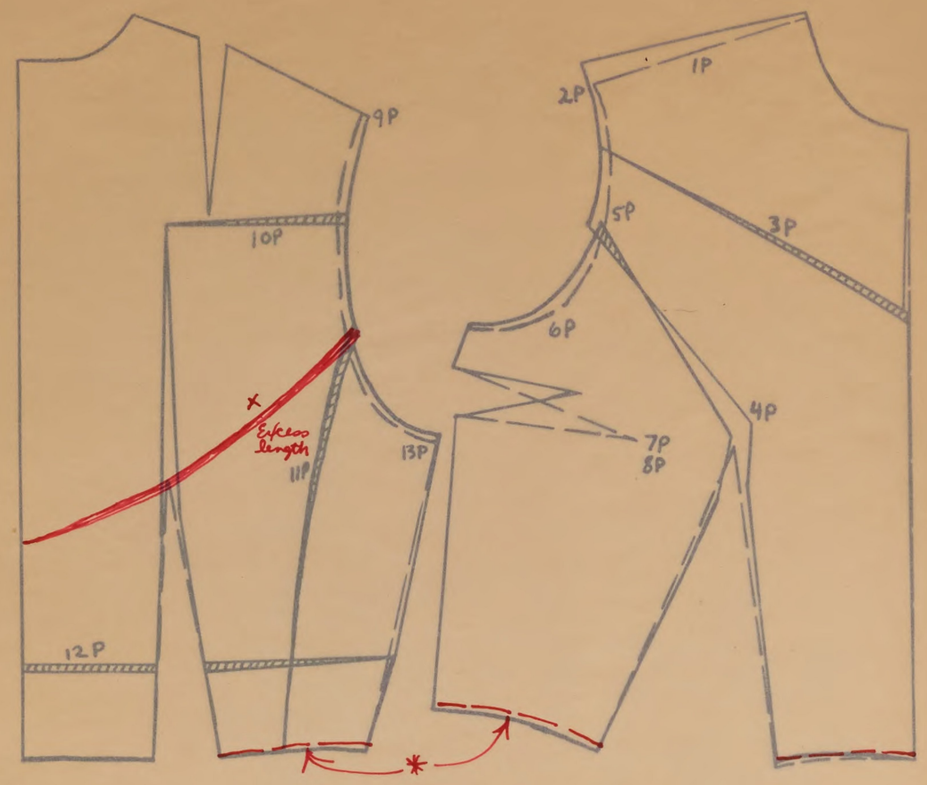
HIPS 42

HEIGHT 5'6 1/2"

WEIGHT 162 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Excess shoulder height	Shoulder seam lowered - neck edge (1/8") to armhole edge (3/4")
2P - Excess shoulder length	Shoulder reduced at armhole edge (1/4")
3P - Diagonal wrinkle - armhole to CF	Diagonal wedge - CF (1/4") to armhole (0")
4P - Diagonal bulge - armhole to bust point (due to inadequate bust width)	Diagonal slash - overlapped at armhole (1/4"), spread at bust point (5/8")
5P - Excess chest width	Armhole curved in (1/2")
6P - Inadequate armhole depth (resulting in armhole tightness)	Alteration 5P continued to underarm
7P - Underarm dart pointing high	Underarm dart pointed lower
8P - Underarm dart too short	Underarm dart lengthened (2")
BACK	
9P - Excess shoulder length	Shoulder reduced at armhole edge (1/4")
10P - Horizontal bulge - armhole to upper back	Horizontal wedge - armhole (1/4") to upper back (0"), resulting in added mid- and lower back ease
11P - Diagonal bulge - armhole to waist	Diagonal wedge - armhole (3/8") to waist (0")
12P - Bodice too long at CB	Horizontal wedge - CB (1/4") to side seam (0")

*easy to correct
x difficult to correct



PIN FITTING

18-4 FIGURE SIZE

PATTERN SIZE 18

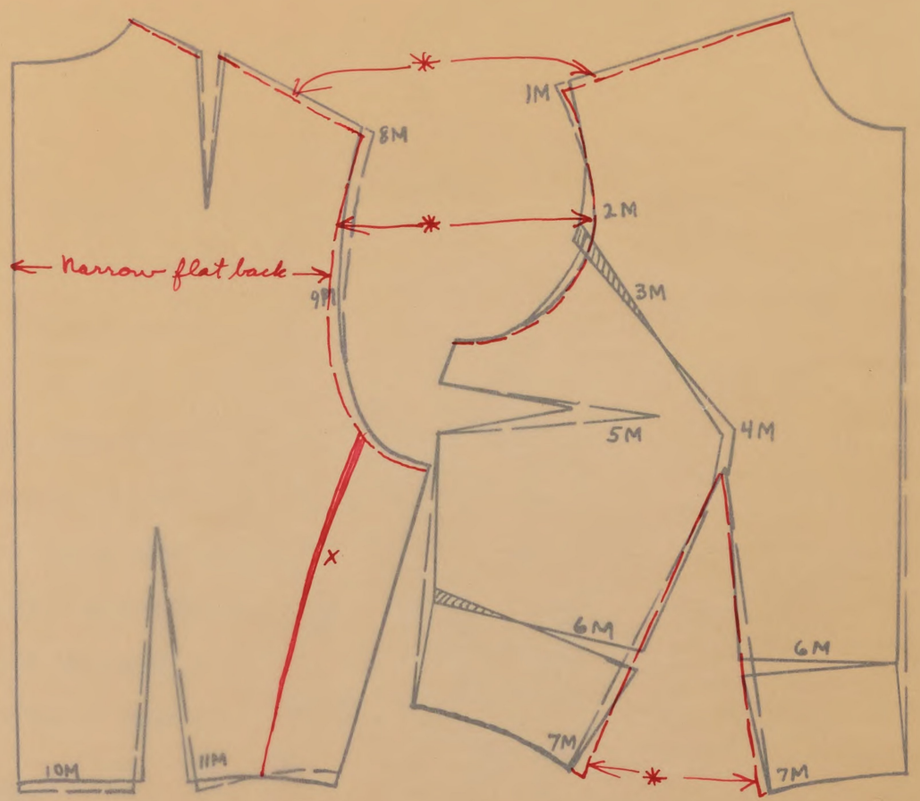
BUST 39 1/2

WAIST 27 7/8

HIPS 42

HEIGHT 5'6 1/2"

WEIGHT 162 lbs.



MEASUREMENT FITTING

18-4 FIGURE CHARACTERISTICS

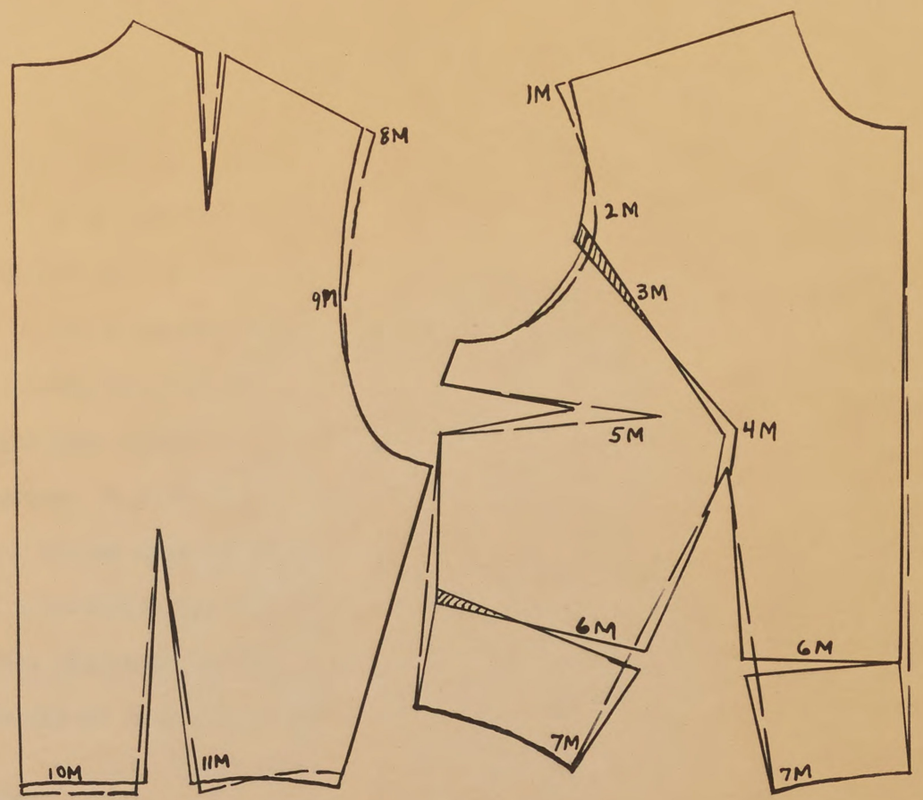
FIGURE TYPE: Tall stature, extremely full figure

BONE STRUCTURE: Medium long, heavy
No prominent joints
Medium prominent shoulder blades
Very prominent chest bones
Shoulder quite sloping

POSTURE: Erect
Average bust height
Straight flat back, hollow center back between shoulder blade edges
Head slightly forward

FLESH DISTRIBUTION: Full, fleshy generally
Full bust
Fleshy along side of bust and in back at bust level
Midriff front fleshy, back especially fleshy at sides
Fleshy covering over shoulder bone at side of upper back
Smooth shoulder line
Medium full arm girth

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder lengthened at armhole edge (1/2")
2M - Excess chest width	Armhole curved in (1/2")
3M - Excess side length and width near armhole	Diagonal slash - overlapped at armhole (1/4") tapering off at 4M
4M - Inadequate bust width	Diagonal slash (continuation of 3M) spread at bust point (1/2") resulting in increased waist dart depth
5M - Excess side length at bust level	Underarm dart lengthened (2") and deepened (1/4")
6M - Bodice too long at side seam, too short at waist dart	Horizontal slash - overlapped at side seam (1/4"), spread waist dart (1/4") to CF (0")
7M - Waist too wide	Waist dart deepened (1/8")
BACK	
8M - Inadequate shoulder length	Shoulder lengthened at armhole edge (3/8") and shoulder dart narrowed (1/8")
9M - Inadequate upper back width	Armhole curved out (1/4")
10M - Bodice too short at CB, too long at side seam	Waist edge lowered at CB (1/4") raised at side seam (1/4")
11M - Waist too wide	Waist dart deepened (1/2")



MEASUREMENT FITTING

18-4 FIGURE CHARACTERISTICS

FIGURE TYPE: Tall stature, extremely full figure

BONE STRUCTURE: Medium long, heavy
No prominent joints
Medium prominent shoulder blades
Very prominent chest bones
Shoulder quite sloping

POSTURE: Erect
Average bust height
Straight flat back, hollow center back between shoulder blade edges
Head slightly forward

FLESH DISTRIBUTION: Full, fleshy generally
Full bust
Fleshy along side of bust and in back at bust level
Midriff front fleshy, back especially fleshy at sides
Fleshy covering over shoulder bone at side of upper back
Smooth shoulder line
Medium full arm girth

Pattern Fault	Pattern Alteration
FRONT	
1M - Inadequate shoulder length	Shoulder lengthened at armhole edge (1/2")
2M - Excess chest width	Armhole curved in (1/2")
3M - Excess side length and width near armhole	Diagonal slash - overlapped at armhole (1/4") tapering off at 4M
4M - Inadequate bust width	Diagonal slash (continuation of 3M) spread at bust point (1/2") resulting in increased waist dart depth
5M - Excess side length at bust level	Underarm dart lengthened (2") and deepened (1/4")
6M - Bodice too long at side seam, too short at waist dart	Horizontal slash - overlapped at side seam (1/4"), spread waist dart (1/4") to CF (0")
7M - Waist too wide	Waist dart deepened (1/8")
BACK	
8M - Inadequate shoulder length	Shoulder lengthened at armhole edge (3/8") and shoulder dart narrowed (1/8")
9M - Inadequate upper back width	Armhole curved out (1/4")
10M - Bodice too short at CB, too long at side seam	Waist edge lowered at CB (1/4") raised at side seam (1/4")
11M - Waist too wide	Waist dart deepened (1/2")

18-4 Comparison of Results

FRONT:

Both bodices looked very well--particularly in front. Each front required only one important correction--an increase in bust width.

The diagonal armhole to CF bulge (3P) might have resulted from tightness over the bust. After bust ease was increased, the pattern might have dropped to its correct position. That is why when a large increase in bust width is made, it is often necessary to try the tissue on a second time before it is ready to cut. This second trial provides an opportunity to re-evaluate the fit of the bodice front and back, since tightness in one area (especially at the bustline) often changes the fit of many other, seemingly unrelated, areas.

BACK:

A bulge appeared from armhole to waist in the side of the measurement fitted back. Aside from this point, the measurement fitted back, with few other tissue alterations, fitted more satisfactorily than the pin fitted version.

In pin fitting, a horizontal armhole bulge (10P) was transferred to the waist dart. Lapping out this armhole wedge was a mistake--indicated by the diagonal fold it created in the muslin proof. Excess appeared at the back armhole because the tightness of the front pulled the back up and into an armhole bulge. As soon as the front was enlarged over the bustline the back returned to its correct position. This

fitting fault is one which can easily occur (in pin fitting) unless the cause of the bulge is carefully analyzed. In this case, the upper back of the figure had no outstanding curve, therefore the bulge could not have radiated from a prominent fleshy or bony point there.

COMMENT:

Although each method used different alterations to improve the appearance of the garment, each one accomplished its aim. Actually, the outlines of both altered patterns were very similar; therefore, at least in this case, it was possible to obtain satisfactory results through measurements which interpreted figure variations differently from pin fitting alterations on the same figure.

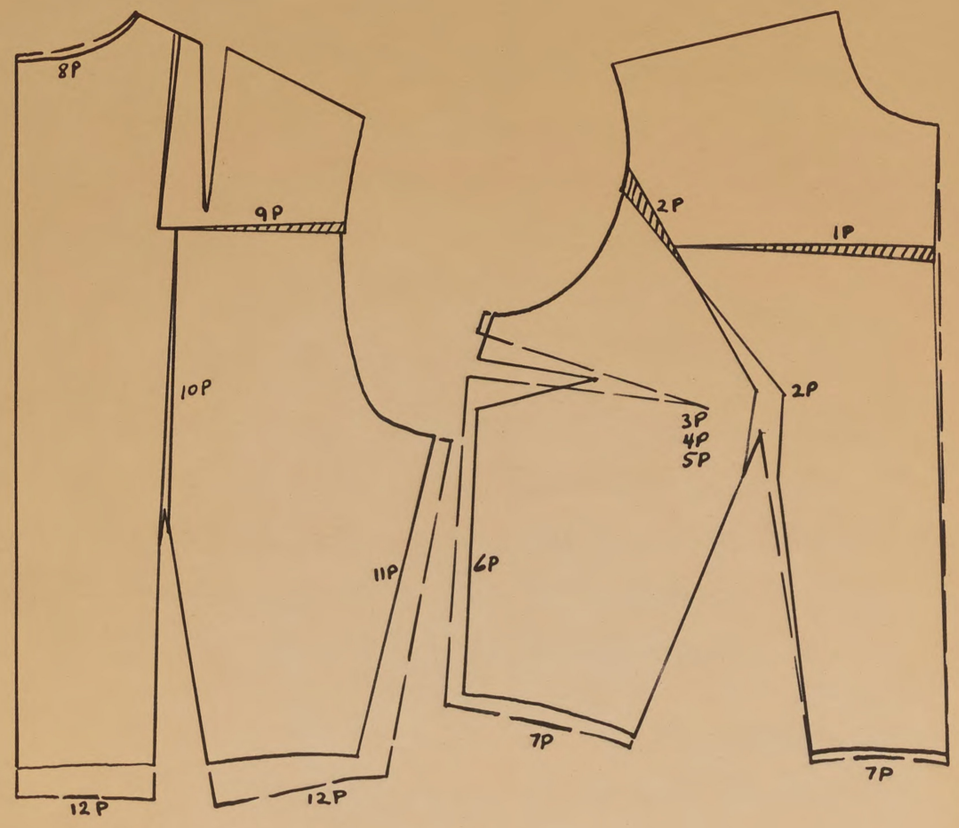
THE UNALTERED MUSLIN:

The unaltered muslin, though wearable, did not fit well. The bustline was tight and the side front did not have the trim, youthful fit that this young, but full figure needed.

The shoulders were too long and high. The excess shoulder height caused the shoulders to droop, forming diagonal wrinkles below the shoulder line. The back was long waisted. This excess length was held across the midback by the tightness across the front of the pattern. This tightness also resulted in diagonal wrinkles radiating from the underarm in front and back.

Pin fitting improved the bodice front, giving it a youghtul line with the correct amount of fulness. Although the pin fitting alterations in back were not entirely accurate, they, too, improved the appearance of the garment.

Pattern Fault	Pattern Alteration
FRONT	
1P - Horizontal wrinkle below neck-base	Horizontal wedge - CF (3/8") to alteration 2P
2P - Diagonal bulge - armhole to bust point	Diagonal slash - overlapping at armhole (1/2"), spreading at bust point (5/8")
3P - Underarm dart pointing too high	Underarm dart pointed lower
4P - Underarm dart too short	Underarm dart lengthened (2-1/2")
5P - Underarm dart too low	Underarm dart raised at side seam (3/4")
6P - Bodice too tight at side	Side seam drawn out - armhole (1/4") to waist (3/4")
7P - Bodice too short	Waist edge lowered - CF (1/2") to side seam (3/4")
BACK	
8P - Neck too low at CB	Neck raised at CB (1/2")
9P - Horizontal bulge - armhole to upper back	Horizontal wedge - armhole (3/8") to upper back, resulting in added shoulder ease (1/8") and lower back ease
10P - Inadequate lower back ease	Lower slash of alteration 9P
11P - Bodice too tight at side	Side seam drawn out - armhole (1") to waist (1-1/4")
12P - Bodice too short	Waist edge lowered - CB (1") to side seam (3/4")



PIN FITTING

18-5 FIGURE SIZE

PATTERN SIZE 18

BUST 40

WAIST 32

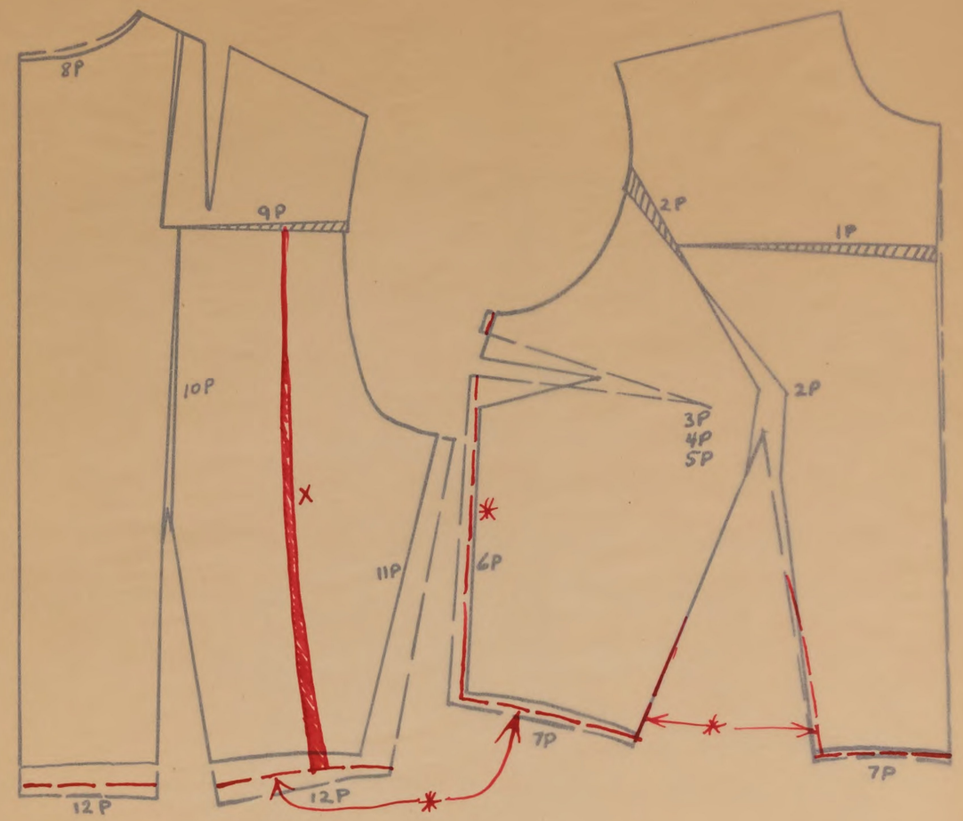
HIPS 42

HEIGHT 5'7 1/4"

WEIGHT 160 lbs.

Pattern Fault	Pattern Alteration
FRONT	
1P - Horizontal wrinkle below neck-base	Horizontal wedge - CF (3/8") to alteration 2P
2P - Diagonal bulge - armhole to bust point	Diagonal slash - overlapping at armhole (1/2"), spreading at bust point (5/8")
3P - Underarm dart pointing too high	Underarm dart pointed lower
4P - Underarm dart too short	Underarm dart lengthened (2-1/2")
5P - Underarm dart too low	Underarm dart raised at side seam (3/4")
6P - Bodice too tight at side	Side seam drawn out - armhole (1/4") to waist (3/4")
7P - Bodice too short	Waist edge lowered - CF (1/2") to side seam (3/4")
BACK	
8P - Neck too low at CB	Neck raised at CB (1/2")
9P - Horizontal bulge - armhole to upper back	Horizontal wedge - armhole (3/8") to upper back, resulting in added shoulder ease (1/8") and lower back ease
10P - Inadequate lower back ease	Lower slash of alteration 9P
11P - Bodice too tight at side	Side seam drawn out - armhole (1") to waist (1-1/4")
12P - Bodice too short	Waist edge lowered - CB (1") to side seam (3/4")

* easy to correct
x difficult to correct



PIN FITTING

18-5 FIGURE SIZE

PATTERN SIZE 18

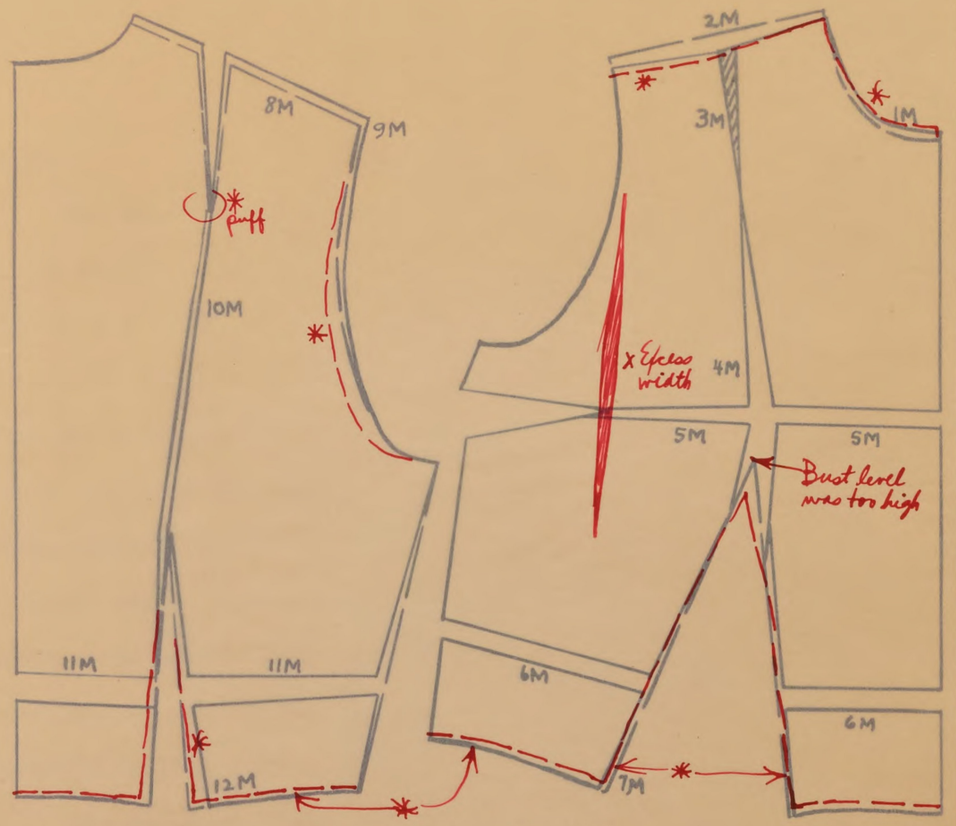
BUST 40

WAIST 32

HIPS 42

HEIGHT 5'7 1/4"

WEIGHT 160 lbs.



MEASUREMENT FITTING

18-5 FIGURE CHARACTERISTICS

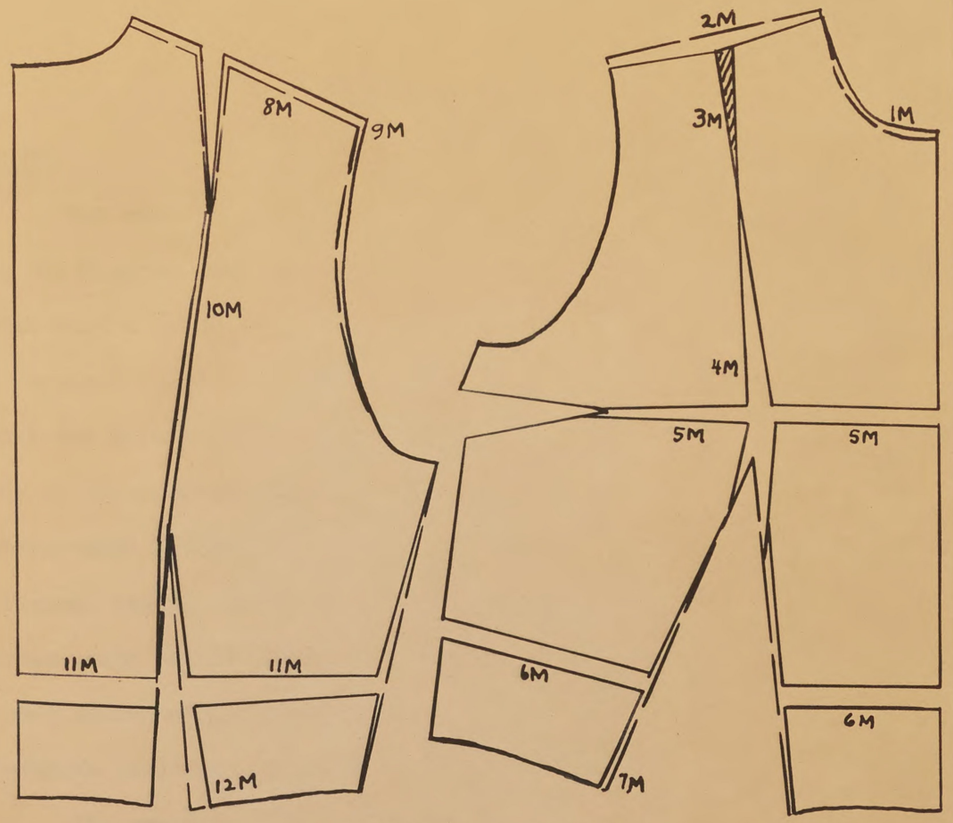
FIGURE TYPE: Tall stature, extremely full figure

BONE STRUCTURE: Medium long, heavy
Shoulders appear small for size of figure

POSTURE: Erect
High bust
Flat back, with fleshy covering on shoulder blades

FLESH DISTRIBUTION: Very full
Full bust (appears smaller because of large amount of flesh distribution in bust area)
Very fleshy bust line--at side of bust and in back at bust level
Midriff fleshy in front and back, especially just above waist front and back
Shoulder line smooth
Arm girth full, but arms quite full to wrist

Pattern Fault	Pattern Alteration
FRONT	
1M - Neck too high	Neck lowered at CF (3/8")
2M - Inadequate shoulder height	Entire shoulder raised (1/2")
3M - Excess shoulder length	Overlap - shoulder (1/2") tapering off to 4M alteration
4M - Inadequate bust width	Vertical slash from 3M through waist dart point, increasing width at bust point (1")
5M - Bodice too short at bust level	Horizontal slash - spread underarm dart point (1/4") to CF (1/2")
6M - Bodice too short below bust	Even horizontal slash - spread side seam to CF (3/4")
7M - Waist too narrow	Waist dart deepened (3/8")
BACK	
8M - Excess shoulder height	Entire shoulder lowered (3/8")
9M - Excess shoulder length	Shoulder reduced at armhole edge (1/4"); shoulder dart deepened (1/4")
10M - Inadequate back width	Vertical slash - spread shoulder dart point (1/8") to waist dart (1/4")
11M - Bodice too short	Horizontal slash - spread CB (1") to side seam (3/4")
12M - Waist too narrow	Waist dart depth decreased (1/2")



MEASUREMENT FITTING

18-5 FIGURE CHARACTERISTICS

FIGURE TYPE: Tall stature, extremely full figure

BONE STRUCTURE: Medium long, heavy
Shoulders appear small for size of figure

POSTURE: Erect
High bust
Flat back, with fleshy covering on shoulder blades

FLESH DISTRIBUTION: Very full
Full bust (appears smaller because of large amount of flesh distribution in bust area)
Very fleshy bust line--at side of bust and in back at bust level
Midriff fleshy in front and back, especially just above waist front and back
Shoulder line smooth
Arm girth full, but arms quite full to wrist

Pattern Fault	Pattern Alteration
FRONT	
1M - Neck too high	Neck lowered at CF (3/8")
2M - Inadequate shoulder height	Entire shoulder raised (1/2")
3M - Excess shoulder length	Overlap - shoulder (1/2") tapering off to 4M alteration
4M - Inadequate bust width	Vertical slash from 3M through waist dart point, increasing width at bust point (1")
5M - Bodice too short at bust level	Horizontal slash - spread underarm dart point (1/4") to CF (1/2")
6M - Bodice too short below bust	Even horizontal slash - spread side seam to CF (3/4")
7M - Waist too narrow	Waist dart deepened (3/8")
BACK	
8M - Excess shoulder height	Entire shoulder lowered (3/8")
9M - Excess shoulder length	Shoulder reduced at armhole edge (1/4"); shoulder dart deepened (1/4")
10M - Inadequate back width	Vertical slash - spread shoulder dart point (1/8") to waist dart (1/4")
11M - Bodice too short	Horizontal slash - spread CB (1") to side seam (3/4")
12M - Waist too narrow	Waist dart depth decreased (1/2")

18-5 Comparison of Results

FRONT:

The measurement fitted front was too long and wide at the side of the figure. The pin fitted front had a smooth but easy appearance, with only a slight excess in side width and waist circumference. A vertical blade of excess at the side of the measured front indicated that too much bustline ease had been added. Original shoulder height was restored by lowering the shoulder line (it had been raised in measurement fitting); the neck base curve was also changed to its original depth. These results indicated that the neck and shoulder areas could not be fitted accurately with the measurements available. these measurements could not provide enough information to make accurate shoulder height and neck depth adjustments.

The measured bodice was shortened, too. Some of the excess length, added in measurement fitting, was eliminated from the muslin proof.

BACK:

The measurement fitted back provided a satisfactory amount of ease, fitting better than the slightly full pin fitted back. Both measured and pin fitted backs were too long and required reductions in length. Because this figure was very full at the sides, adding width at the side seam was quite successful (this is not always advisable).

COMMENT:

Measurement of the full figure is sometimes difficult, since the measurement lines are not always clearly defined. This is especially true of a mature figure with a great deal of evenly distributed fulness, and of the figure with a fleshy midriff but narrow waist--sometimes found in overweight younger women. In measuring either of these figure types, good judgment of ease (amount and distribution) is necessary.

A size 20 pattern would have been slightly large for this figure, but easier to alter than a size 18. Reducing a pattern (in pin fitting) is easier than adding fulness, because the figure's needs can be seen immediately, and excess length and width can be pinned out accordingly. Increasing pattern size requires an estimate of the addition required, removal of the pattern from the figure, slashing and spreading the pattern, then replacing it on the figure to adjust areas that may have been distorted by the strain of a tight pattern.

THE UNALTERED MUSLIN:

The unaltered size 18 pattern was not large enough for this figure. It was too tight in almost every dimension. The sleeve was so tight that the elbow could not be bent. Although the neckline could be fastened, the remainder of the CF gapped.

Pin fitting improved the fit of this pattern so that it could be worn comfortably.

CHAPTER IV

COMPARISON OF RESULTS OF MEASUREMENT AND PIN FITTING METHODS

Limitations of Fitting with a Master Pattern

The master pattern bodice, used for all fittings, could not be altered to fit every figure variation perfectly since it provided shaping only through darts at the waistline, front underarm, and back shoulder line. If, for example, there was a pronounced hollow between the armhole and bust at the side front of a figure, the excess could be eliminated from the pattern only if a seam such as a French dart or yoke line crossed the hollow. Patterns with many seams or darts simplify alterations within the front or back of a bodice and make more precise fitting possible. However, since the fitting limitations of the master pattern are present in many types of dresses, this style seemed desirable for the study, showing up many figure variations and the problems involved in fitting them.

I. METHOD WHICH PRODUCED THE BETTER FITTING GARMENT

A. Method Requiring Fewer Muslin Proof Corrections

Faults found in the pin and measurement fitted muslin proofs were pinned out or marked for tightness (Table IV, page 132). The corrections of these faults was rated as "easy" or "difficult" to make. An adjustment in the length or depth of a seam or dart was

considered "easy". A correction which involved the revision of several seams and darts in a section of the pattern was rated "difficult".

Of the two fitting methods tested on each figure, the one which showed fewer "difficult" corrections in the muslin proof also showed that more basic figure problems had been solved by this fitting method. Therefore, this fitting method was more valuable than the other method used.

Results obtained from this investigation could not be considered conclusive since only twenty subjects were used. The muslin proofs which had been pin fitted required fewer corrections than the measurement fitted proofs, on eighteen of the twenty figures in the study (The exceptions, 16-1 and 16-5, needed more "easy" muslin proof corrections after the pin fittings.).

Although the number of muslin proof corrections gives some insight into the success of a fitting method, another factor, more difficult to chart, often modifies the value of merely listing the number of faults. That is, that one very outstanding fitting fault, (such as a large puff over the back waist dart) can often give a less attractive fit than a combination of several lesser faults (such as a slight armhole bulge, general excess back width, and a shoulder seam that swings forward). Therefore, though the figures might indicate that pin fitting is a far better method than measurement fitting, other factors, just as important, should be examined before completing the evaluation.

B. Method Fitting the Maximum Number of Figure Variations

Almost every figure variation can be fitted through the pin fitting method, because it deals with the pattern directly on the figure; therefore the effect of each figure variation on the pattern can be observed in one glance.

Measurement fitting, which deals with the figure and pattern separately, could not as completely relate the pattern to each contour and figure variation. For example, a measurement taken across a very prominent shoulder blade, simply indicated that more back width was needed (see 12-1). The measurement did not indicate where over the upper back the extra ease should be held. Another example illustrating this point was in adjusting underarm darting to bust contours (see 16-2). This alteration was easy to do in pin fitting and was frequently used to raise side front grain and eliminate wrinkles that form at the underarm. The need for this type of alteration was seldom indicated by measurement fitting.

Measurement fitting was useful in certain other areas, however. For example, waist circumference could be determined more readily by measurements than by pin fitting, since pattern tissue tends to tear where it is drawn tight and smooth.

C. Method Which Concealed More Figure Irregularities

Although fitting is not always considered a camouflaging process, the properly fitted garment will help to conceal or modify some figure irregularities.

In pin fitting the figure can be observed in direct relationship to the pattern. A thin figure may appear less angular if the pattern is fitted with some excess ease (14-1). The amount of ease to allow can be seen and judged on the figure so the pattern will not be made too large. In fitting the same slender figure by measurements one can only estimate the average amount of ease required. Even though figure characteristics are observed and considered in the measurement fitting, they are only a guide to altering the pattern. If one adds ease to help conceal slenderness, the resulting pattern may be entirely too large to be flattering.

Ease requirements varied greatly among individuals. This was illustrated by 18-3. Since this "solidly" built large figure required more than the average amount of bust ease the pattern which allowed average ease proved too tight. Another large figure (18-5) was given a more than adequate ease allowance in measurement fitting. The muslin proof showed both excess length and width, because the figure did not need the extra allowance.

Balance differences (Figure 17, page 153) were involved in many figure problems that could not be corrected by measurements. Measurements, for example, indicated that upper back width of 12-2 should be increased. These measurements did **not**, however, show that the increase was needed near the CB, rather than at the side back. Neither did the measurements point out that excess length was due to a back hollow above the waist which required a reduction in length below, rather than above the scye line.

D. Conclusion

Pin fitting usually resulted in better fitted garments for all figure types than did measurement fitting. Some special figure variations could not be handled by measurement fitting. (A measurement of a rounded contour, for example, would not differ from a measurement of a straight line of the same length.) It would also be very difficult to conceal unusual figure characteristics through measurements, since measurements and ease allowances were mechanical and different figures took up differing amounts of ease.

II. METHOD WHICH REQUIRED MORE SKILL

A. Skills Required for Measurement Fitting

There were two main areas in which errors might occur in measurement fitting: (a) in the process of measuring the figure and (b) in translating the measurements into pattern alterations.

1. Placement of Body Landmarks: When body landmarks were incorrectly placed, all the measurements dependent on them were incorrect. This fault occurred in 12-5 where the side seam landmark was placed too far forward. As a result, the back of the figure seemed very wide at the scye and waist, whereas the bust and waist fronts of the figure appeared very narrow. When the pattern was altered according to these measurements the front was too tight and the back was slightly wide.

2. Looseness of Measuring Tape: The use of body circumference measurements sometimes resulted in a tightly fitted bodice, because the measuring tape was not held loosely enough. This was especially

true when a metal tape was used. When the tape was held too loosely, though, the measurement fitted garment was too loose. Experience in measuring several figures helped to produce more reliable results.

3. Stance of the Subject: Often the subject being measured found it difficult to stand straight but not stiff--relaxed but not slouching. Although some individuals could never be measured perfectly because of this problem, the speed of the person measuring would help to minimize this problem.

4. Judging Figure Characteristics: Unlike some measurement fitting methods, this method required the person measuring to observe each individual's figure characteristics. (Appendix A, page 137) These, combined with the measurements, helped to improve the accuracy of measurement fitting alterations.

5. Translating Measurements into Corrections: This was the most difficult part of measurement fitting. Although some previous knowledge of pattern alteration is helpful, it probably would not be necessary, if certain suggestions for basic alteration techniques (Appendix C, page 151) and ease allowances (Appendix A, page 136) were followed.

Each measurement was clear-cut and the figure characteristics usually bore out the measurements (if measurements were correct). The kind of correction and exact placement of it required judgment and practice, however. When some skill was acquired, it was easier to see possibilities for making corrections that were not obvious at first. For example, correction of the underarm dart was possible sometimes

when there was excess length at the side between bust and waist (14-5). The possibilities for this correction were not considered, however, until several muslin proof fittings had indicated that underarm darts often needed adjustment. A knowledge of pattern drafting would also improve measurement fitting results by providing a broader range of alteration possibilities for solving complex fitting problems.

B. Skills Required for Pin Fitting

Each step in the pin fitting process required some skill in handling.

1. Working with Pattern Tissue: Pattern tissue itself was difficult to work with because it tore easily when the individual being fitted moved. When there were alterations in the tissue, it was difficult to pin them out or crayon mark the paper without tearing it.

2. Judging Ease in Pattern Tissue: Because the texture and hand of pattern tissue do not resemble these qualities in fabric, it was not always easy to determine the amount of ease present in the tissue. Often, too, the shoulders and neckline did not set in the same way that they did when cut out of fabric.

Sometimes if the pattern was slightly tight across the bustline the pattern would tend to shift away from the CF or CB mark. Unless one carefully observed this shift, the pattern would be left with inadequate bust ease.

3. Judging Circumference Corrections: Because the pattern tissue often shifted away from the CF and CB at the bust and waistlines it was

almost impossible to accurately pin fit these circumferences. The waist circumference was hard to determine because pins at the waist easily dropped out, especially where there was a sharp waist indentation. The waist of the pattern tissue could never be tightened the full amount required because this would tear the tissue.

4. Making Pin Fitting Alterations: Pin fitting alterations were made by pinning out bulges that represented excess length or width wherever such wrinkles appeared in the bodice. Careful judgment was required so that too much fulness would not be taken out. The tendency to remove every little wrinkle could result in a smooth-looking but tightly fitted, uncomfortable garment. If the bodice were too tight or too short, however, the pattern had to be removed from the figure, the amount of necessary ease estimated and added, then the pattern was repinned on the figure to complete the fitting.

5. Transferring Wedges and Overlaps: Correct transfer of pin fitting alterations required some knowledge of flat pattern making. Whenever a wedge was pinned out and tapered off to nothing in the middle of a pattern piece, that pattern section required slashing to another edge so that the ease taken from the area would be transferred to another area (and the pattern would then lie flat). When the pattern was slashed from a wedge, it spread so that more ease was allowed in another part of the pattern (12-1). This extra ease might be needed in another part of the pattern piece, but sometimes it was difficult to decide where it should be transferred and whether the entire amount

should be transferred to one place or whether it should be divided between more than one area.

C. Conclusion

Although caution needed to be exercised in many measurement fitting steps, and knowledge of pattern construction improved its results, measurement fitting, on the whole, required less skill than pin fitting. The mechanical nature of measurement fitting called for less judgment than pin fitting required. The final transference of wedges made at a pin fitting required greater knowledge of pattern construction than did the mechanical translation of measurements into alterations.

III. TIME REQUIRED BY EACH FITTING METHOD

A. Measurement Fitting

1. Taking Body Measurements: Taking a complete set of body measurements (figure 3, page 11) above the waist (including arm measurements) required about a half hour. These body measurements would be correct for the figure until it changed weight, therefore this basic set of measurements could be used for measurement fitting many patterns.

2. Pressing and Measuring the Pattern: Each corresponding pattern measurement also took less than a half hour. Each new pattern would have to be measured this way. A special style feature, such as a smoothly fitted Empire waist would require additional measurements to

fit this area accurately. If a pattern had unusual details its measurement would be more difficult, especially if there was extra fulness gathered or eased into the front or back. This type of detail would make it difficult to determine the correctness of the vertical or horizontal ease allowance. It would be impossible to determine the correctness of vertical ease allowance in a bodice with a cowl or scooped neckline, since there would be no way to determine the depth of the neckline and its relationship to the neckbase.

3. Making Alterations: The most time-consuming part of measurement fitting is in comparing body and pattern measurements, adding ease allowances, then translating the differences into alterations. This took about an hour for each bodice pattern. The greater the number of basic pattern pieces, the greater the time spent in alteration.

B. Pin Fitting

1. Pressing and Pinning the Pattern: Preparatory pressing, and pinning the pattern seams and darts together took about five to ten minutes.

2. Pin Fitting Process: Pin fitting the basic bodice took about a half hour (A more involved design would require more time).

3. Making Alterations: The process of transferring pattern alterations would take about fifteen minutes to an hour for a complete pattern, although the basic bodice, with an average amount of corrections, took about a half hour.

C. Conclusions

The initial measurement fitting, which included taking body measurements, required less than two hours. Once body measurements were taken, however, this time would be reduced to an hour and a half. Pin fitting each bodice took less than an hour and a half. All of this process would be repeated each time a pattern was pin fitted.

Although the initial measurement fitting would be more time-consuming than pin fitting, after that, measurement fitting would require approximately the same amount of time as pin fitting.

IV. HOW EACH METHOD COULD BE USED TO FIT DIFFERENT FIGURE VARIATIONS

A. Figure Variations that Can Be Fitted by Measurements

Full Bustline: Alterations for the full bustline were often successful because the entire bust circumference could be measured. Unless the figure required an unusual amount of ease, standard ease allowances could be used on the average figure with a full bustline (18-4).

Waist Circumference: Waist circumference could be more accurately measured than pin fitted because the fragile pattern tissue did not permit the waist to be fitted as tightly as necessary (14-3).

Other Circumferences: Arm girth, elbow, waist, hip circumference and other body circumferences could be more successfully measured than pin fitted, because the fragile pattern tissue did not always permit accurate pin fitting.

Length Below Bust (or Scye): Front and back length could be increased or decreased through measurements if the figure had no balance problem--that is, if the figure required an equal increase or decrease in the length of the front and back (16-3).

B. Figure Variations that Can Be Pin Fitted

All Figure Variations: Theoretically, every figure variation can be fitted by the pin fitting method. The direct relationship between figure and pattern can be seen but experience is needed to analyze the appearance of the pattern on the figure and to determine how corrections can be made.

C. Figure Variations that Cannot Be Fitted by Measurements

Very Fleshy Figure: Extremely rounded fleshy areas between body measurement lines (e.g., between bust and waist) require greater than normal ease allowances. This type of figure needs more allowance for expansion than a large figure with proportions that are closer to the average (18-1).

Shoulder Length and Slope: The shoulder tip was difficult to locate because it could not be seen in relationship with the armhole line when measuring. Although bone structure was used as a guide in locating this point, it was difficult to observe whether the shoulder line would look well when placed at the exact landmark point or if its placement would need to be shifted to create the illusion of better posture (14-1), (or different flesh distribution) in this area.

Very Slender Figure: Though the garment for this figure could not appear too large, the illusion of a fuller figure would improve the wearer's appearance. Therefore, a more than normal amount of ease was needed. This could not be obtained by measurements, for there was no way of knowing exactly how the rounded body contours would distribute ease throughout the bodice. In pin fitting, the fulness of the tissue could be observed, but in measurement fitting either the extra ease estimated made the garment appear too large or no extra ease was added and the figure simply looked thin (14-2).

Any Variation in Upper Back Contour: Upper back variations, such as prominent shoulder blades or very sloping shoulders that upset the balance of the scye level of the bodice, could not be fitted by measurements. Although the excess (or inadequate) width might have shown up in measurements (12-1), there was no way of knowing whether the ease was required in only one area near the CB or along the side near the armhole from shoulder to waist.

Most Variations Which Upset Balance: In 18-2 the upper back of the figure was very full, compared to the upper front. This characteristic was observed, but measurements did not indicate that length or width should be increased above the scye. Instead, measurements indicated that a length increase was needed below the scye. This measurement correction did lengthen the lower back, but the upper area, without the additional length it required still raised the CB grain above the scye level.

Necklines: Neck depth and length were impossible to determine with the measurements available. This is a point which can usually be corrected in fabric, though, as long as sufficient shoulder seam allowance is provided to be let out if the neck is large.

Armhole Lines: The curve of the armhole line was frequently adjusted because putting the sleeve into the bodice usually caused the armhole to hang differently. Armhole lines were comparatively easy to curve in or to extend in the muslin proof when enough seam allowance was provided.

Hollows Caused by Unusual Bone Structure (or Flesh Distribution): See pin fitting discussion below.

D. Figure Variations that Can Not Be Pin Fitted

Bust, Waist, Girth and Elbow Circumferences: Although theoretically any figure variation can be pin fitted successfully, the weakness of pattern tissue made accurate correction of these circumferences difficult.

Neck and Shoulder Variations: Sometimes when there were many corrections in the upper front area, the neck and shoulder lines did not lie flat and could not be perfected until the muslin fitting. Often, too, the draping quality of fabrics change the position of the neck and shoulder lines.

Hollows Caused by Unusual Bone Structure (or Flesh Distribution): One figure (14-3) had a prominent shoulder bone which formed a hollow at the midpoint of each shoulder. It was difficult to determine how

closely this should be fitted to obtain a smooth effect. If too closely fitted, the hollow would become even more obvious. This problem was best fitted in fabric, where its effect could be observed and changed if necessary.

Armhole Lines: See measurement fitting discussion above.

E. Other Factors Affecting the Use of Measurement Fitting

1. Measurement fitting can be done by one person, after another person has carefully measured the individual to be fitted. This method could, therefore, be used in a home sewing situation more easily than pin fitting.

2. It would be especially useful for the woman who sews at home, who is familiar with her own figure and the figures of a few others with whom she might work. If some adjustment were necessary after the first garment fitting, these changes could be noted and if similar alterations were indicated in the next pattern used, these could be made immediately.

3. It might not be quite as successful for the teacher, however, for these factors must be considered in her fittings: (a) her time is limited and this method is initially time-consuming; (b) nearly perfect results are needed after the first fitting; results of this study show that the measurement fitted muslin proofs needed more corrections than were required in the pin fitted proofs; and (c) many of the figure variations a teacher encounters could not be solved by measurement fitting.

F. Other Factors Affecting the Use of Pin Fitting

1. Pin fitting cannot be done alone; it requires a second person who can carry out fitting procedures. Each time a new pattern is used two people are needed to complete the pin fitting process.

2. Pin fitting might be especially useful for teachers or home seamstresses with more than average knowledge of pattern structure. When skillfully done, pin fitted patterns require few, if any important adjustments in fabric, thus involve less handling of fabric (important if fabric is delicate or easily marred).

3. It is difficult to pin fit a pattern that is too small in size because the slashes and inserts make it difficult to estimate ease and to fit the pattern accurately (18-5).

G. Conclusion

Each method showed some individual merit, but pin fitting results indicated that this was the more successful fitting method.

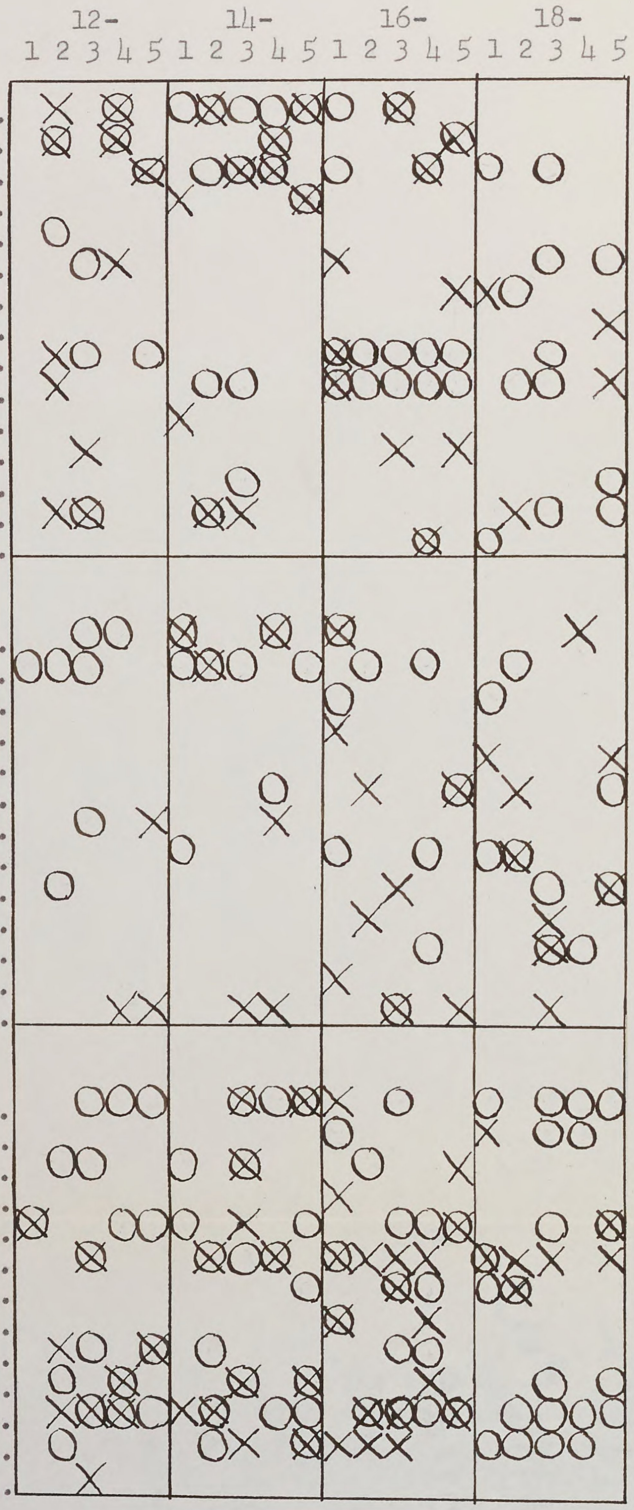
The best features of both methods might be combined to achieve the most accurate fitting. Circumference measurements could be taken at bust, waist, hips, elbow and other points (depending on the style of the pattern) to supplement the pin fitting. These measurements could be used to perfect the pattern circumference alterations at these lines. This might be most effectively used by teachers or seamstresses who have minimum time for studying individual figures yet require very accurate fitting results.

V. SUGGESTIONS FOR FURTHER STUDY

Work on this study brought out several possibilities for further study in the area of fitting. They include: (a) Creating designs that could be fitted easily on problem figures; (b) Comparison of pin fitting to fitting methods currently advocated by pattern companies. Charts of simplified pin fitting procedures could be worked out in connection with this study--for possible use in the educational program of a pattern company; (c) Study of different alteration possibilities for the same figure fault; (d) Study to compare pin fitting and measurement fitting of skirts; (e) Study of sleeve and armhole fitting problems. The causes of these fitting problems lie in the improper fit of shoulder blades or bust area. The study could be based on the influence of fitting alterations in these areas.

TABLE IV

FITTING FAULTS IN MUSLIN PROOFS



FRONT
1. Armhole to bust point: bulge.....
2. Armhole to bust side: excess (hollow).....
3. Bust line: tight.....
4. Bust line: loose.....
5. Neck to armhole: diagonal fold.....
6. Side: chest to bust too wide.....
7. Side: shoulder to waist too wide.....
8. Side seam: too wide.....
9. Underarm dart: too short.....
10. Underarm dart: too high.....
11. Underarm dart: too low.....
12. Underarm dart: puffy.....
13. Waist dart: too long.....
14. Waist: too wide (at dart).....
15. Waist: too narrow (at dart).....

BACK
16. Armhole to side back: diagonal bulge.....
17. Armhole to upper side back: horizontal bulge....
18. Mid-back: tight.....
19. Neck dart (new): puffy.....
20. Side back: too wide.....
21. Shoulder dart: puffy.....
22. Shoulder dart to waist dart tip: wide.....
23. Upper back: tight.....
24. Waist: too wide (at dart).....
25. Waist dart: excess ease above tip.....
26. Waist dart: sides need shaping.....
27. Waist dart: too far from CB.....
28. Waist dart tip: puffy.....

OTHER FAULTS
29. Armhole: curve needs deepening.....
30. Armhole: too high (binds).....
31. Armhole: too low (draws).....
32. Armhole: too small (bulges).....
33. Bodice length: too long.....
34. Bodice length: too short.....
35. Neckline: back loose.....
36. Neckline: front loose.....
37. Neckline: too high and narrow.....
38. Neckline: too low and wide.....
39. Shoulder line: position needs shifting.....
40. Shoulder line: too long.....
41. Shoulder line: too short.....

⊗ Pin and measurement fitted.
X Pin fitted.
O Measurement fitted.

BIBLIOGRAPHY

Glenn, Maryalice Kelly, A Survey of the Fitting Problems of Fifty-Three College Girls Using Commercial Patterns in Beginning Clothing Construction Classes. Unpublished Master's Thesis, Michigan State College, 1953.

Hillhouse, Marion S. and Evelyn A. Mansfield, Dress Design, Draping and Flat Pattern Making, (New York: Houghton Mifflin Company, 1948).

Mansfield, Evelyn A., Clothing Construction, (New York: Houghton Mifflin Company, 1953).

O'Brien, Ruth and William C. Shelton, Women's Measurements for Garment and Pattern Construction (Washington, D. C.: U. S. Department of Agriculture, Bureau of Home Economics, Miscellaneous Publication No. 454, 1941).

How to Answer Questions About the New Body Measurement Standard for Patterns Effective June 15, 1956.

APPENDIX A

FORMS AND MEASUREMENTS USED IN MEASUREMENT FITTING

1. MEASUREMENTS OF VOGUE PATTERN 8937*

	SIZES			
	12	14	16	18
HORIZONTAL				
1. Neckbase front	4**	4	4-1/4	4-3/8
2. back	3	3-1/8	3-1/4	3-1/4
Total	7	7-1/8	7-1/2	7-5/8
3. Shoulder Total	5-1/8	5-1/4	5-3/8	5-1/2
4. Shoulder tip-tip back	15-1/2	16	16-1/8	16-3/8
5. Narrowest part front	14-5/8	14-7/8	15-1/2	16-1/8
6. back	14-3/4	15-3/8	15-7/8	16-1/8
7. Scye line front	19-1/8	20	21-1/4	22-1/8
8. back	17-1/2	18-3/4	19-3/4	20-5/8
Total	36-5/8	38-3/4	41	42-3/4
9. Bust front	19-1/2	20-1/4	21-1/2	22-1/2
10. back	17-1/8	18-1/8	19-1/8	20
Total	36-5/8	38-3/8	40-5/8	42-1/2
11. Bust--CF to bust point	3-1/2	3-3/4	4	4
12. Waist front	13-5/8	14	15	16
13. back	11-5/8	12-1/4	13-1/2	14-1/4
Total	25-1/4	26-1/4	28-1/2	30-1/4
VERTICAL - FRONT				
14. CF neckbase to CF bust	6-5/8	6-3/4	7	7-1/8
15. CF bust to CF waist	8-3/8	8-3/8	8-1/2	8-5/8
CF Total	15	15-1/8	15-1/2	15-3/4
16. Midshoulder to bust point	8-1/2	8-3/4	9-1/8	9-3/8
17. Bust point to waist side	8-1/2	8-5/8	8-3/4	8-7/8
Side Total	17	17-3/8	17-7/8	18-1/4
18. Edge shoulder to bust	7-5/8	7-7/8	8-1/4	7-3/8
19. Bust side to waist	7-7/8	8-1/8	8-1/8	9-3/8
Total	15-5/8	16	16-3/8	16-3/4
20. Underarm to waist	7-7/8	8	8-1/8	8
VERTICAL - BACK				
21. CB neckbase to bust CB	10-1/8	10-3/8	10-5/8	10-7/8
22. CB bust to CB waist	6-3/8	6-3/8	6-3/8	6-1/2
CB Total	16-1/2	16-3/4	17	17-3/8
23. Midshoulder to bust	10	10-1/4	10 1/2	10-5/8
24. Bust side to waist side	6-1/2	6-1/2	6-5/8	6-1/2
Side Total	16-1/2	16-3/4	17-1/8	17-1/8
25. Shoulder edge to bust	9	8	8-1/4	8-1/2
26. Bust side to waist	6-1/2	7-5/8	7-3/4	8-3/8
Total	15-1/2	15-5/8	16	16-7/8

*These pattern measurements have corresponding body measurements

**All figures are in inches

1. Measurements of Vogue Pattern 8937 - Continued

	SIZES			
	12	14	16	18
ARMS - HORIZONTAL				
27. Cap width	7-1/4	7-3/8	7-3/4	8
28. Girth	12-7/8	13-3/8	14	14-1/2
29. Elbow bent	10-7/8	11-1/4	11-3/4	12-1/8
30. Sleeve lower edge (pattern)	9-1/8	9-3/8	9-3/4	10-1/8
31. Wrist	---	---	---	---
ARMS - VERTICAL				
32. Overarm shoulder-elbow	14	14-5/8	15-3/8	15-5/8
33. " elbow-lower edge (sleeve)	5-5/8	5-5/8	5-1/2	5-7/8
34. " elbow-wrist	---	---	---	---
Sleeve length Total	19-5/8	20-1/4	20-7/8	21-1/2
35. Underarm armpit-elbow	7-3/4	8-1/8	8-5/8	8-5/8
36. " elbow-wrist (lower edge)	5-3/4	5-5/8	5-1/2	5-7/8
Total	13-1/2	13-3/4	14-1/8	14-1/2
37. Sleeve cap front	9-1/8	9-1/2	10	10-1/4
38. back	9-3/8	9-3/4	10	10-1/2
Total	18-1/2	19-1/4	20	20-3/4
39. Armhole front	7-7/8	8-1/4	8-5/8	8-1/2
40 back	8-1/2	8-3/4	9-1/8	9-1/2
Total	16-3/8	17	17-3/4	18

2. MINIMUM EASE ALLOWANCES

Horizontal

1. Shoulder tip to tip back.....1/4"
2. Narrowest part of front.....1"
3. Narrowest part of back.....1-1/2"
4. Bustline front.....1-1/2"
5. Bustline back.....1-1/2"
6. Waist front.....1/4"
7. Waist back.....1/4"

Vertical - Front

8. CF neckbase to CF bust.....1/4"±
9. CF bust to CF waist.....3/4"+
   CF Total.....1"±
10. Midshoulder to bustpoint.....1/4"±
11. Bust point to waist side.....3/4"+
    Side Total.....1"±
12. Edge of shoulder to bust.....1/4"±
13. Bust side to waist.....3/4"+
    Total (near side seam).....1"±

Vertical - Back

14. CB neckbase to waist.....1"
15. Midshoulder to bust.....1/4"
16. Bust side to waist side.....3/4"
    Side Total.....1"
17. Shoulder edge to bust.....1/4"
18. Bust side to waist.....3/4"
    Total (near side seam).....1"

Arms - Horizontal

19. Cap width.....1-1/2"
20. Girth.....2"
21. Elbow (bent).....2"

Sleeve Cap Ease

22. Front.....3/4"
23. Back.....3/4"

3. FIGURE CHARACTERISTICS

Bone Structure

Short medium long
fine medium heavy
prominent joints (shoulder bone, elbow)
prominent shoulder wings
prominent chest bones

Posture

normal
high - average - low bust
very straight - flat back
leans back - causes CB hollow above waist - forward abdomen
forward head - from neck - protruding absomen
forward shoulders - back rounded at CB high back rounded over shoulder wings - flesh or bony

Flesh Distribution

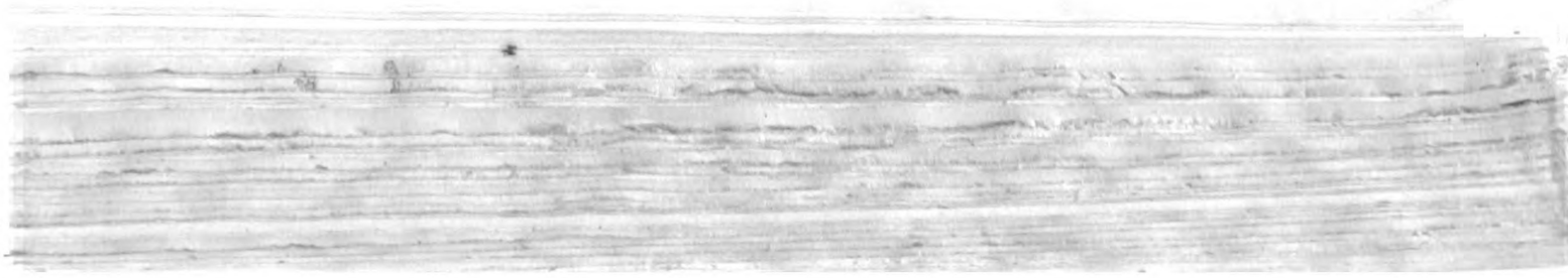
slight - medium - full (general)
small - medium - full bust
alongside bust front - flat or fleshy
back - flat or fleshy
midriff - front fleshy or slim
back padding below bustline side or back
shoulders - pad over shoulder bone
prominent bony shoulder bone
shoulder line - smooth or bony
arms - slim - medium-full

4. FINAL EVALUATION

	MEASUREMENT FITTING	PIN FITTING
FRONT		
1. Neckline fit		
2. Shoulder seam length		
3. Armhole placement (curve correctness)		
4. Chest fullness		
5. Bust width at side		
bust point		
6. Waist width at dart		
side		
7. Armhole size: low		
high		
loose		
tight		
8. Bust level		
9. Dart effectiveness: underarm		
waist		
10. Vertical ease CF		
side front		
underarm		
11. Diagonal wrinkles: bust - armhole		
- side seam		
- neck (locate)		
- center waist		
armhole - neck		
BACK		
12. Neckline fit		
13. Armhole placement (curve correctness)		
14. Upper back fullness		
15. Bust width at dart point		
side		
16. Waist width at dart		
side		
17. Armhole size: Low		
high		
loose		
tight		
18. Bust level		
19. Dart effectiveness: shoulder		
waist		
20. Vertical ease CB		
side back		
21. Diagonal wrinkles: armhole across back (locate)		
SLEEVE		
22. Width at girth		
elbow		
lower edge		
23. Ease front cap		
back cap		
24. Length cap to girth		
cap to elbow		
elvow to lower edge		
25. Darted fullness above or below elbow		
OTHER CORRECTIONS		
BALANCE: Top to bottom half of bodice		

APPENDIX B

MEASUREMENT FITTING PROCEDURES FOR TWELVE TYPICAL FIGURES



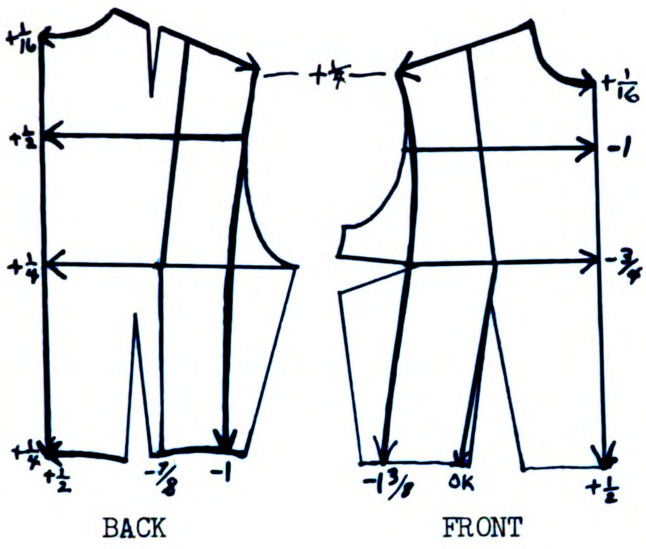


FIGURE 5

MEASUREMENT FITTING
PROCEDURE 12-1

Since all bodice fronts and backs must coincide at the shoulder seam, any discrepancies between the pattern and body measurements at the shoulder were taken care of first.

The simplest way to correct inadequate shoulder length was to extend the armhole edge of the shoulder the necessary amount on both front and back.

The excess width at chest level was reduced by curving in the armhole line. Only part of the reduction could be made at this point, because very large reductions in one area usually distorted pattern shape. The remainder of the reduction at chest level was made in a vertical wedge (2M front). The same wedge also eliminated part of excess bust ease.

If the figure had a larger bust, all excess bust width could have been eliminated in the side wedge (3M front). The vertical armhole to waist wedge (3M front), however, reduced bust circumference and eliminated ease where this figure was especially slim; again, a large pattern change in this side area would have distorted pattern shape.

Although there was excess length at CF and side seam, measurements from mid-shoulder to waist required no change. This correction was made above the waist (4M front). An almost-equal amount was removed between CF and the waist dart (because exactly the same allowance was generally required between these two points). The overlap increased sharply to one inch near the side seam. The remainder of side excess was allowed to remain since armhole movement uses more than the average amount of ease allowed.

The bodice back required additional width at a point four inches below neckbase, at scye level, and at the waist. Although the amount of ease needed below the neckbase differed from ease needs in the other two areas, the side back was slashed and spread apart evenly from shoulder to waist (6M back). The small additional ease required below the neckbase was added at the armhole curve. Additional shoulder length resulting from the corrections was absorbed into shoulder seam ease (since the subject had prominent back shoulder bones she could use more ease).

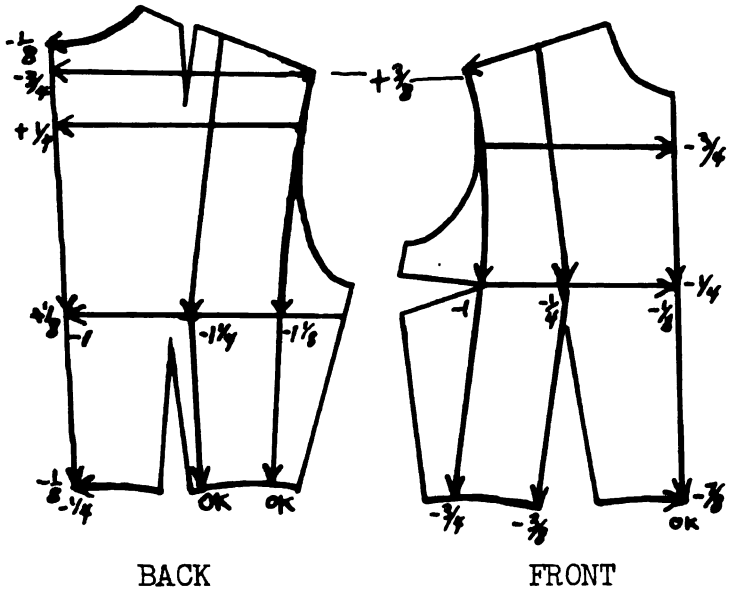


FIGURE 6

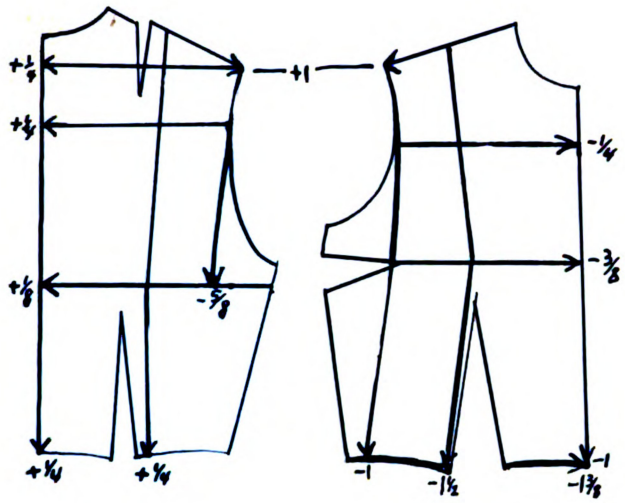
MEASUREMENT FITTING
PROCEDURE 12-2

Shoulder length was added first. In front the entire addition was made by lengthening the armhole edge of the shoulder. Excess chest and bust width were eliminated in a diagonal overlap (2M front). This also helped remove one inch of excess side length above the bust.

Side length was further reduced at bust level by deepening and lengthening the underarm dart. The remainder of excess bodice length was eliminated in an even horizontal wedge (5M front). (Although there was no unnecessary length at CF, its length was decreased slightly to keep bust and CF lengths equal.) The loose waist was narrowed by deepening the waist dart (4M front).

The upper back was narrow, with the greatest addition needed across the upper back between the shoulder tips, decreasing to nothing below the scye line. A vertical spread (8M back) from shoulder to the waist dart tip increased ease in this area. The spread was made at the side between the shoulder dart and armhole because the figure's CB area was flat, but bones were prominent at the side back. The shoulder end of the slash (8M back) increased shoulder length the remainder of the amount required to match increased front shoulder length.

Vertical back measurements indicated the bodice was too long above and below the scye. The flatness of the subject's back and a noticeable hollow at the CB waist caused this excess. It was eliminated in two horizontal overlaps (9M, 10M back). The full amount of upper back excess could not be removed there because the large amount would have shortened the armhole too much. Instead, a greater amount was taken out of the lower edge.



BACK FRONT

FIGURE 7

MEASUREMENT FITTING
PROCEDURE 12-4

Shoulder length was again inadequate. Since a large addition was needed, this correction was divided among three different areas in front and back. The armhole and neck edges were extended (curving up slightly at the neck so it would retain its original length). A vertical slash and spread (4M front) from shoulder to waist provided the remainder of the shoulder increase. Overlapping at chest, bust and waist levels eliminated excess width in these areas. (Wedge 4M front was not placed over the bust because this figure had slender bone structure, but a full bust line.)

The diagonal armhole wedge (1M front) eliminated side front length as well as width. If more side front length had been removed in the wedge (5M front) above the waist, the front and back side seams would not have been the same length. Therefore, a large amount was eliminated from the CF, but side seam length was unchanged.

Underarm dart depth was decreased partly because the narrower dart tended to puff less on this figure (flat at side front), and partly to keep the vertical overlap (4M front) equal from bust to waist.

Upper back width was increased through a vertical spread (8M back), shoulder to waist. This added ease directly below a well-developed shoulder muscle near the neck edge. Side length and width above the scye were reduced through a diagonal armhole wedge (9M back). Length was added to CB and side back by a horizontal spread (11M back) above the waist.

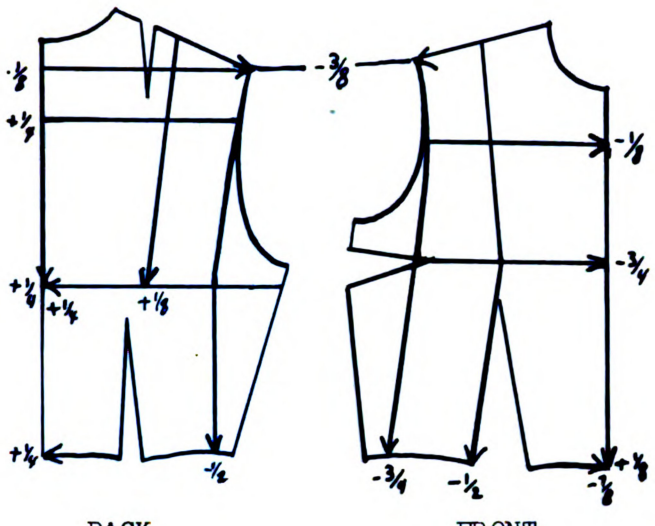


FIGURE 8

MEASUREMENT FITTING PROCEDURE 12-5

Shoulder seam length was reduced by curving the front and back armholes deeper (1M front). This armhole correction extended past the chest area to eliminate some excess there also. A diagonal overlap (2M front) reduced excess bust width without changing the width of the area above bust level. Since the bodice front was too long, the diagonal part of the same wedge helped shorten the bodice above the bust level. A horizontal wedge (3M front) eliminated the remainder of excess bodice length. (Very often even though length measurements differed, a compromise adjustment was made between the greatest and smallest amount of correction indicated.)

The CB area needed more length and width. Since this figure had forward-set head and shoulders, the upper back area (8M back) near CB (6M back) was spread. Side back was shortened to coincide with a similar front correction (excess length was evident at the side back only).

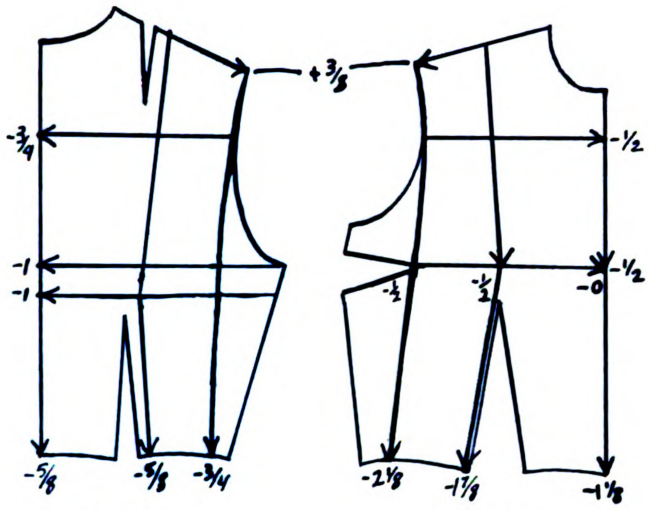


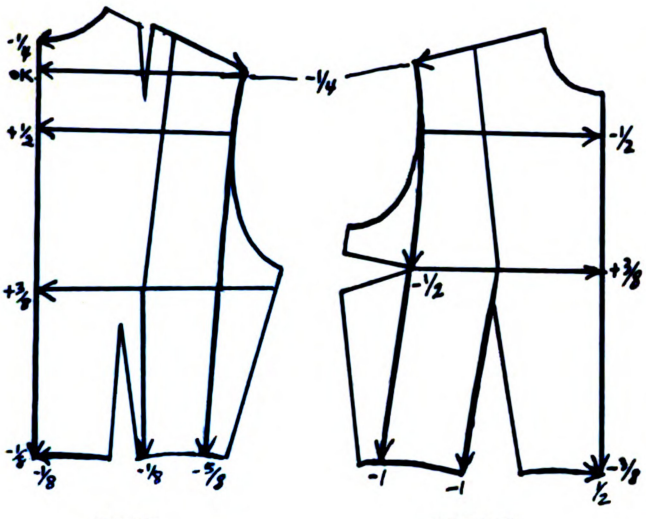
FIGURE 9

MEASUREMENT FITTING PROCEDURES 14-1

The front shoulder seam was lengthened by extending the armhole and neck edges. (This also shortened the neckline. The back shoulder was lengthened within the pattern as part of a vertical slash (10M), since this round-shouldered figure needed additional width over the shoulder blades.

Excess chest and bust width were then removed by a vertical wedge (5M front). The remainder of chest excess was taken off by curving the armhole in at chest level. Extra bodice length created a problem because it required adjustments above as well as below bust level, but with no CF changes above bust. The length alteration above the bust was a horizontal wedge tapering off at CF (3M). An overlap from side seam to bust point (5M) eliminated additional side length and reduced underarm dart depth (6M). Since the side of the figure was quite flat, this underarm dart reduction was desirable. The third length reduction was a horizontal overlap (7M) across the entire front. Front length reduction below bust (7M) would have been greater, but unequal back length reductions limited the amount that could be taken out of the front side seam, and still keep the front and back side seams matching.

Although the measurements taken four inches below the back neck-base indicated that a CB reduction was needed, no adjustment was made because of the figure's apparent fulness at this level. A vertical spread (10M back) increased shoulder length and width directly below the shoulder. (This "direct contradiction" of measurements seldom occurred. Unless the figure had very outstanding characteristics which could have been overlooked by measurements or the measurement itself seemed to be wrong.) The same slash (10M) overlapped above the scye and reduced lower back width. Although this overlap narrowed the waist, the waist dart was released the same amount to restore the original waist circumference. A diagonal wedge (11M back), removed more width at scye level, and also transferred ease from the armhole to the waist dart point. Transference of this wedge restored the waist dart's original depth. A horizontal overlap (12M) reduced back length below scye level.



BACK FRONT

FIGURE 10

MEASUREMENT FITTING PROCEDURES 14-3

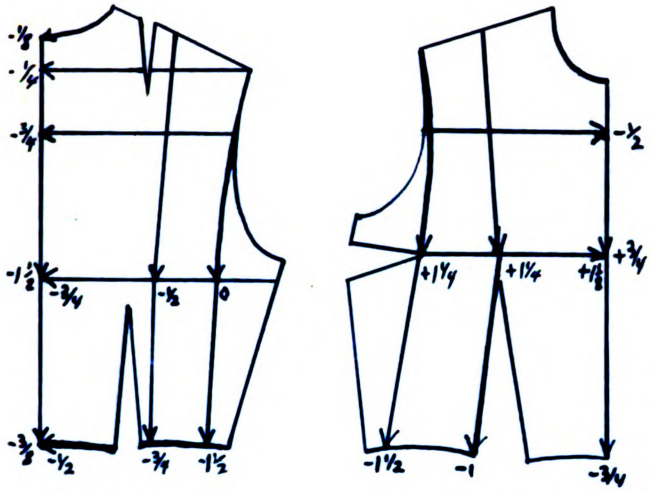
Excess shoulder length was reduced by drawing the front and back shoulder seams in at the armhole edges. A continuation of this inward curve on the front armhole line (1M front) also narrowed chest width. The most obvious fault indicated by measurements was the inadequate bust circumference. The alteration which increased bust fulness was combined with a wedge reducing side length (2M). The overlapping at the armhole shifted ease from the armhole to bust point. (Both of these problems quite commonly occur in figures with full bustlines.)

The underarm dart was lowered because a very full bust absorbs a large amount of ease above the bustline. A lower underarm dart would allow for ease needed above the bust, directing ease to the level at which it was needed most.

More than the normal amount of length was allowed even after horizontal corrections 4M and 5M front were made because the very full bust requires more length (as well as width) than the normal figure.

Horizontal back measurements which called for a decrease in neck circumference, an increase in upper and lower back width, and a decrease in waist circumference, presented a problem which required three separate vertical adjustments. Two of the alterations were made by slashing from the neckline to the waist dart (8M, 9M). This shortened the neckline, but spread to widen the area above the scye line. The waist was then reduced by deepening the waist dart.

The horizontal wedge reducing bodice length was placed above the scye line to coincide with the level at which front length was reduced.



BACK FRONT

FIGURE 11

MEASUREMENT FITTING PROCEDURES 16-1

This very erect figure with a full bustline required a large increase in bust measurement, yet a decrease in chest width. Therefore, the armhole was curved in, and a diagonal wedge from armhole to waist dart point was overlapped to increase bust width.

The underarm dart was lowered, since measurements indicated that the bust level should be lowered.

Excess front length was removed in a horizontal wedge from CF to side seam. All back measurements indicated that length and width reductions were needed. Differences in the size of the reduction created a problem. To eliminate approximately one and one-half inches below the scye but only three-fourths of an inch below the back neck-base required two separate alterations. One, a wedge tapering from a large waistline overlap to almost nothing at the neck (4M). The second was a side wedge (5M) from the armhole to waist, eliminating side width without any further waist reduction. (Combining reductions in several areas makes it impossible to reduce the exact amount required in each particular area.)

Measurements indicated that the CB required a greater length reduction than side front above the scye. (Back side seam was reduced the same amount as the front side seam.) Below the scye, the CB required less length reduction than the side seam. When several measurements on the same line (e.g., length below scye) differed so a uniform decrease (or increase) could not be made, extra ease was allowed so that alteration would be simplified.

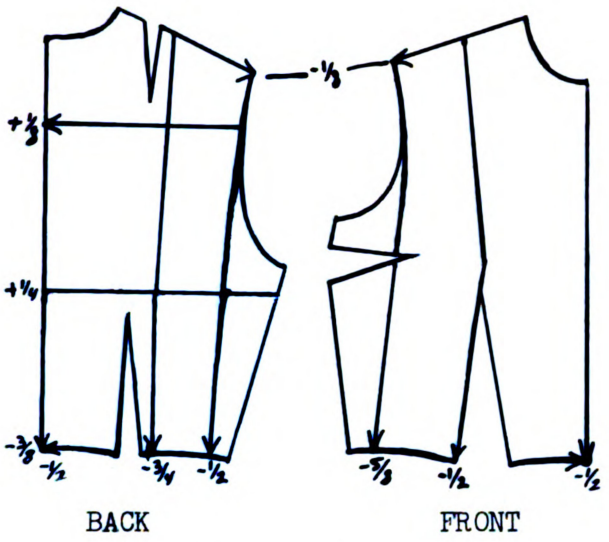


FIGURE 12

MEASUREMENT FITTING
PROCEDURES 16-4

The front and back shoulder edges were brought in to decrease shoulder length. This revision was continued along the front armhole, deepening its curve to reduce chest width.

A small amount of excess width and length were present between the armhole and bust. This, plus the fact that the figure had a rather full bustline, resulted in a wedge overlapped at the armhole (3M front), and spread to increase waist dart depth, thus throwing more ease toward the bust point.

The remainder of excess front length was eliminated in an even horizontal overlap above the waist (4M front).

Inadequate width across the back and excess waist length were corrected by a vertical slash (6M) spread between the shoulder and waist dart points. This alteration increased shoulder dart depth; therefore the shoulder dart was lengthened to avoid a puff at its tip. The waist measurement was reduced by drawing the waist dart deeper.

Excess back length was taken up by an even horizontal overlap (7M). Though the center of the side back was one-quarter inch longer than the CB or the side seam, an even alteration was made across the entire back. (The figure's full lower back absorbed the extra ease.)

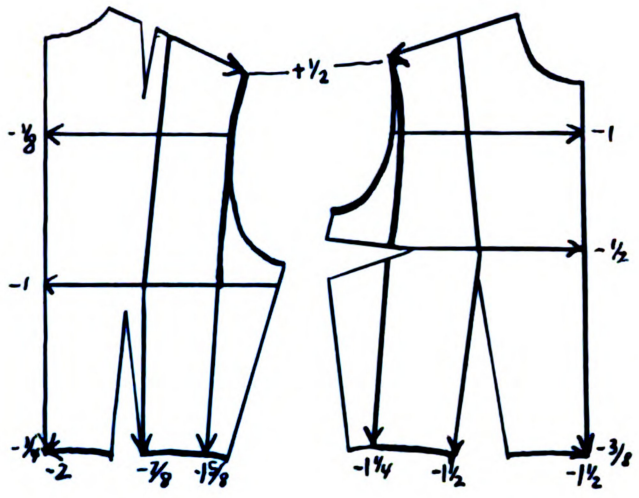


FIGURE 13

MEASUREMENT FITTING PROCEDURES 18-1

Since this bodice needed a large shoulder increase, the addition was divided among three areas in front (1M) and between two in back. Both armhole and neck edges were extended, and a vertical slash (3M) was spread for the remaining increase.

The vertical slash was overlapped across the chest and over the bust (3M front). To complete chest level reductions the upper armhole was curved in. Extension of the vertical overlap along the waist dart edge narrowed the waist. A deep horizontal overlap above the waist reduced excess bodice length (4M front). Although the front seemed longer near the side seam than at the center, the smaller amount (indicated by side seam length) was lapped out across the entire front. This gave the front more than the normal amount of vertical ease.

There was too much ease below the scye, and a small amount of excess in the upper back and at the waist. To correct these, a vertical slash was spread at the shoulder, then overlapped from the upper back to waist (6M back). To eliminate more width below scye, and to decrease side back length and width, a diagonal armhole wedge (8M) was introduced. The side seam was placed further back to reduce the waist line (10M). Two horizontal wedges above the waist (9M) shortened the back of the bodice.

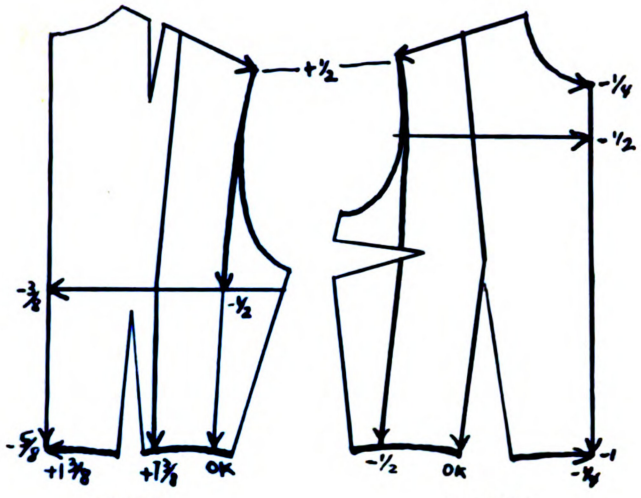


FIGURE 14

MEASUREMENT FITTING
PROCEDURES 18-2

The front neckline was too long, but the shoulder seam was not long enough. These alterations were combined at the neck edge, where the neck curve was shortened and the shoulder seam lengthened. Shoulder length was further increased at the armhole edge.

Since the chest and waist (but not the bust) were too wide, chest width was eliminated at the armhole edge. The waist was narrowed by deepening the waist dart (4M front). Excess CF length was eliminated in an overlap (3M front). Side length was taken out in a diagonal wedge (2M front) that overlapped above the bust point and spread across the bust point.

The one-half inch needed on the back shoulder was divided between armhole edge and shoulder dart, which was extended (5M). Width and length below scye were removed in an angular overlap (7M back). A large amount of length was added at CB and waist dart, with no change in side seam length. This addition was done in two areas--in a horizontal spread (8M) above the waist and at the lower edge where the remainder of length was added. Since the additions were so great in the CB and waist dart, a small amount was added at side seam so the pattern would not be distorted too greatly. A corresponding amount was drawn on to the front side seam. A more than average amount of ease added to the underarm area is usually not objectionable because body movement in this area absorbs a great deal of ease.

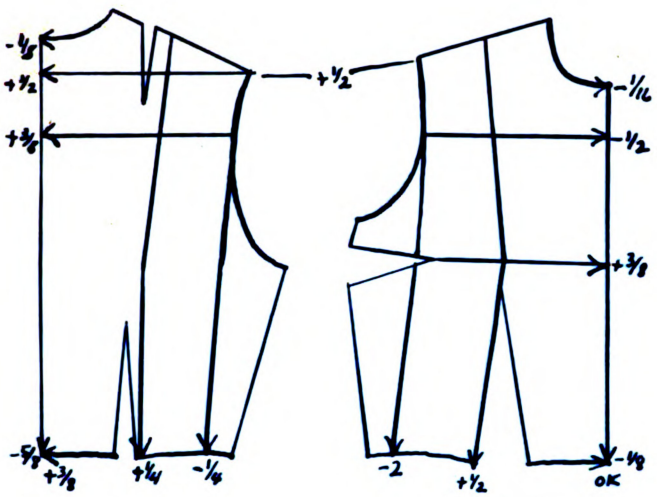


FIGURE 15

MEASUREMENT FITTING
PROCEDURE 18-4

Shoulder length was increased in front and back by extending the armhole line. Since there was excess chest width, the lower part of the armhole was curved in. The remainder of chest width was removed in an armhole wedge which spread at the lower edge to add more bust ease (4M). The front was too long at CF and side seam, but too short below the bust point. Therefore, a horizontal slash across the entire front did not change CF length, increased length across the waist dart, and overlapped at the side seam (6M). Additional side front length was removed when the underarm dart was lengthened (5M).

Back corrections were made mainly on seam and dart edges. Neck length was reduced slightly by lowering the shoulder line. Upper back width was increased by extending the armhole edge (8M back), and waist was reduced by deepening the waist dart (11M). CB length was increased, but side seam length was decreased at the waist edge (10M).

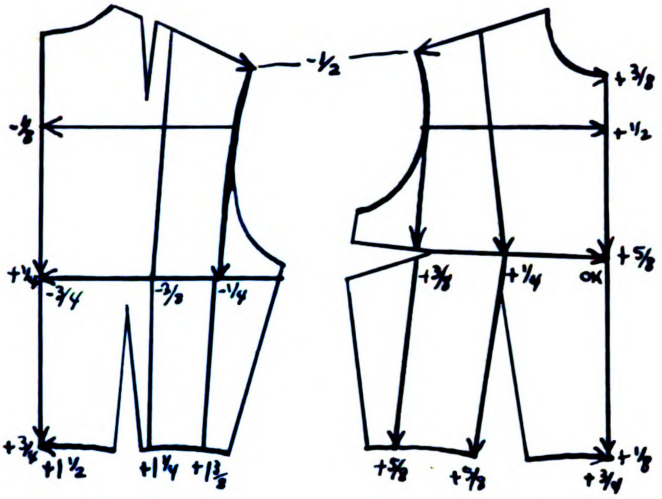


FIGURE 16

MEASUREMENT FITTING PROCEDURE 18-5

Neck length was increased (1M front) by extending the shoulder edge (1M) and lowering the neckbase (2M). Chest and bust width were increased in the same slash that reduced shoulder length (3M).

The entire front shoulder was raised because measurements at the armhole and bust point above bust level indicated that more length was needed there. CF to bust level did not require any adjustments. Because of the general fulness of this figure a generous amount of bodice ease was allowed. The bodice was lengthened by horizontal slashes at bust level (5M front) and above the waist (6M). Waist width was increased drawing the waist darts in (7M front).

The back shoulder line was lowered to reduce length above the back scye (8M back). This seemed an appropriate place to eliminate this ease, since the front shoulder line had been raised (height differences could have indicated incorrect original shoulder position). The upper back was too wide, but the mid-back of the pattern was too narrow (below scye). The pattern was slashed between shoulder and waist dart and spread below the scye. The slight increase in upper back width was eliminated at the armhole edge. The back was lengthened by a horizontal spread (11M) below the scye line.

APPENDIX C

GENERAL FITTING SUGGESTIONS

GENERAL FITTING SUGGESTIONS

1. Avoid increasing or decreasing large amounts in single areas, since this usually distorts the shape of pattern pieces. Rather, if a large alteration is necessary divide it between two or more adjacent areas.

2. When adding back shoulder ease, an addition larger than 1/8" usually causes undesirable puffiness below the shoulder. It also causes the should seam to curve slightly forward.

3. When fitting by measurement it is best to combine as many alterations as possible to avoid cutting up the pattern into small pieces and risking the loss of the original design features.

4. Straight seams (and darts) are always broken by alterations which increase or decrease their size. Usually if there is no change in width or length at either end of the seam (or dart) a straight line connecting each end would become the new seam line.

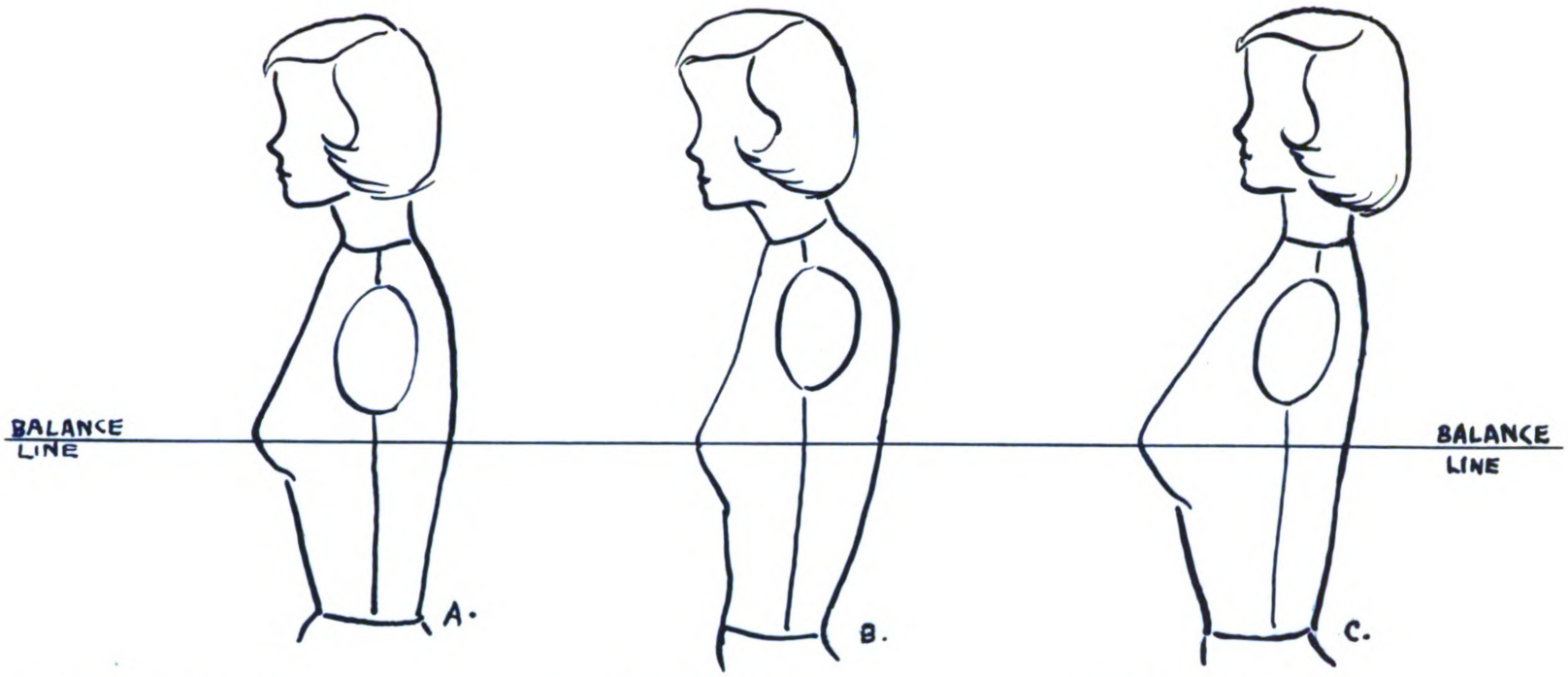
5. When increasing or decreasing length at CF, alterations should keep the section between CF and bust point equal; even though center measurements may be shorter than side measurements, the center usually requires the same amount of vertical ease as the bust point. The same rule applies to the CB--side back area. In both cases there is a pronounced bulge on each side; the area between the two bulges takes up the same amount of ease as do the bulging areas.

6. Ease adjustments:

   (a) for the thin figure--A greater than normal amount of ease gives the illusion of a fuller figure; however, too much extra ease must be avoided since a pattern that is too large will simply add to the thinness of the figure,

   (b) for the stout figure--Large boned or muscular figures might require more than the normal amount of ease for movement, but with smaller bone and muscle structure the more smoothly fitted pattern (but not tight) will give a slimmer appearance.

FIGURE 17. FRONT TO BACK BALANCE DIFFERENCES



A. NORMAL BALANCE

Slight shoulder roundness medium high bust

RESULT:

Bodice hangs normally from shoulders

B. OFF BALANCE:
LONGER BACK THAN FRONT

Rounded shoulders--forward set head and neck--hollow chest--often small bust--hollow mid-back--protruding abdomen

RESULT:

Horizontal folds across bodice at chest level--Long back compared to front length --Excess front width as well as length--Tight across back--Horizontal armhole bulge--Short upper back

C. OFF BALANCE:
LONGER FRONT THAN BACK

Flat back--little or no prominent back roundness--bust may not be full but is high and prominent--protruding back below waist

RESULT:

Requires more length in front than back—needs more length and width over bust if bust is large--may need some armhole ease transferred to bust ease--back too long--too much upper and lower ease--possibly puffy shoulder dart

ROOM USE ONLY

Date Due

Jul 16 58
AUG 18 1958
Sep 29 58
Nov 6 '58
3 Apr 59
OCT 13 1959
NOV 2 1959
FEB 15 1960
APR 8 1960
APR 25 1960
JUN 4 1960
NOV 7 1960
NOV 17 1961
29 Dec 61
APR 4 1962
MAY 16 1962
SEP 20 1966
FEB 21 1967
MAR 16 1967
AUG 11 1967
NOV 17 1967
JAN 6 1969
slipped on 4-11-60
Demco 293
LESSARD BOOK BINDERY