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1-1-

DESIGN OF READY-MADE GARMENTS  
FOR  
LADIE'S GENT'S AND CHILDREN  
A GUIDE TO GARMENT CONSTRUCTION  
PATTERNMAKING AND PATTERNGRADING

### ACKNOWLEDGEMENT

I wish to express my sincere feeling of appreciation to everyone who in one way or another contributed to the development of this manual.

A very special gratitude to Tesfaye Makonnen chief Designer, Handicraft and Small Scale Industry Development Agency, HASIDA.

For his important contribution in preparing all technical drawings and illustrations as well as proofreading, editing and collating the manuscript.

A special thank to muluwork Haile whose devotion and invaluable assistance has contributed to the quality and success of our common work.

Eva M. Nordberg  
Addis Ababa, August 1985

To my counterparts in profession,

this work is dedicated -----

## PREFACE

This manual is the result of the first project in Garment Design and Production, undertaken by the Ethiopian Handicraft and Small Scale Industries Development Agency - H.S.I.A. in cooperation with the United Nations Industrial Development Organization-UNIDO.

The content of the manual is based on actual training-programmes and work done during the project implementation.

The main objectives of the manual is to introduce the basic techniques in Garment Design and Pattern-construction, to present these techniques in such a way that every step is clearly understood by everyone connected with Design and Construction of Ready-Made Garments.

The manual is produced primarily to assist HASIDA in its task to introduce more appropriate technology to the tailor's co-operatives and Small-Scale Industries.

- To improve the quality of workmanship through training and skills upgrading of personnel in garment manufacturing and
- To motivate Small-Scale Garment producers develop new methods and techniques relevant to their technology level and managerial capability.

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BASIC PRINCIPLES IN DESIGN OF READY MADE GARMENTS PATTERN CONSTRUCTION AND PATTERN GRADING LADIE'S WEAR
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## INTRODUCTION TO BLOCK PATTERNS

The standard block pattern prepared in a common standard size can be used as it is or as foundation for pattern adaptation and design.

Blockpatterns are generally made in a strong long lasting material like cardboard or plastic.

Blockpatterns are constructed without extra fullness, only with the necessary ease allowed for normal movement.

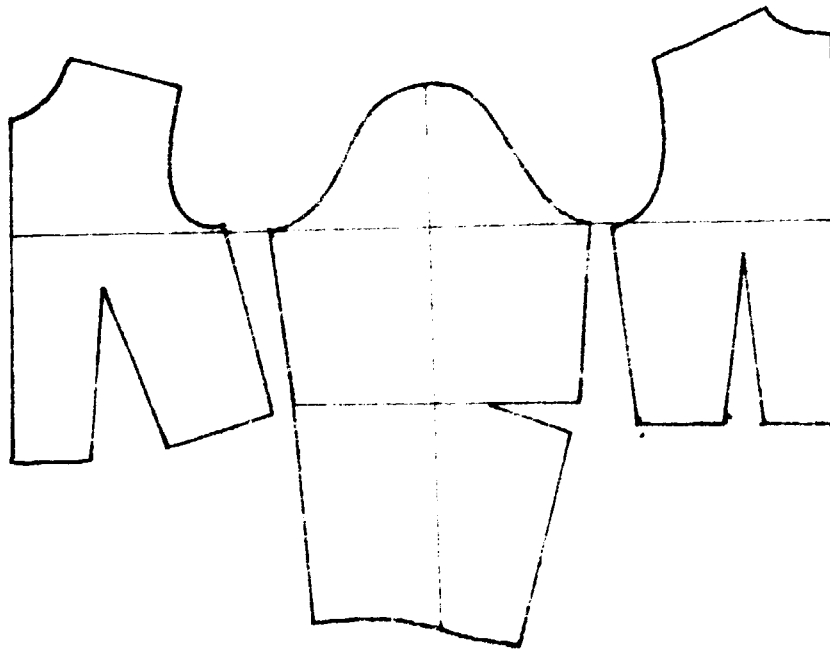
Blockpatterns are generally prepared without any seam allowances in order to facilitate adaptation and manipulation of the block and to ensure correctness in proportions and fit of the final garment.

A good block pattern represents the foundation to fit a figure of a certain size and measurements from which any kind of style the garment can be developed. This foundation must have all necessary information of measurements, size and body shape but also details as darts, balance marks and figure proportions are useful.



The art of good cutting depends to a great extent on:

1. The reliability of the blocks
2. The instructions given on the blocks
3. The skill of the designer/cutter in manipulating the blocks.



The success of a pattern depends entirely on the shape from which it has been developed. Nothing worn in the block will automatically be reproduced in the final pattern.

It is therefore important to make block patterns from time to time in order to test them and find out what works and if necessary adjust it according to fashion changes.

### STANDARD BLOCK, TRADE-BLOCK

There are different types of block-patterns depending on their use. A block pattern which is adapted to industrial manufacturing and methods of work may be suitable for tailoring. Each type has its specific features making it suitable for the requirements of each type of work.

The standard block is the block pattern following the natural line of the figure.

Its main purpose is to provide a reliable foundation of correct proportions and fit from which more specialized blocks can be developed.

The standard block is adapted to fit an average figure related to standard measurements and standard proportions.

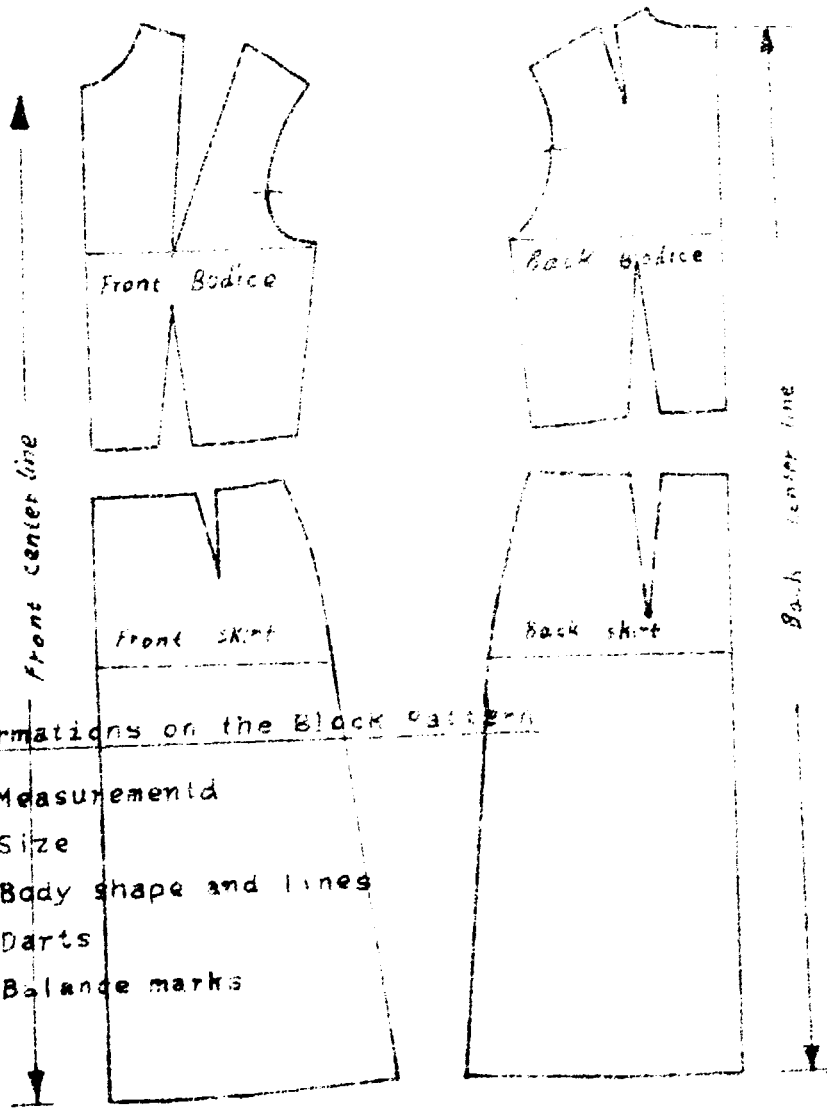
The individual block pattern is the standard block pattern adapted to fit individual figures by using personal measurements instead of the standards listed in the size chart.

The trade-block is an adaptation of the standard block to suit special requirements of garment manufacturing. It may be based on commercial requirements. It must be adapted to meet special demands of garment manufacturing. Trade blocks do follow every change of fashion. They also vary from one firm to another according to the standard of fit and the type of market that is to be served.

As the standards vary so much it is impossible to make a trade block which satisfy all. It is the responsibility of the designer/cutter to develop an up-to-date block from the standard block foundation.

1. Definition

A paper pattern is a flat drawing of a piece of clothing or a part of a garment that is used to create a three-dimensional object of cloth. It is used to create a garment.



2. Informations on the Block pattern

- a) Measurements
- b) Size
- c) Body shape and lines
- d) Darts
- e) Balance marks

3. Control of the Block is first

To ensure accuracy in construction and fit, the pattern must be carefully checked for the correct measurements, lines and curves, darts, etc.

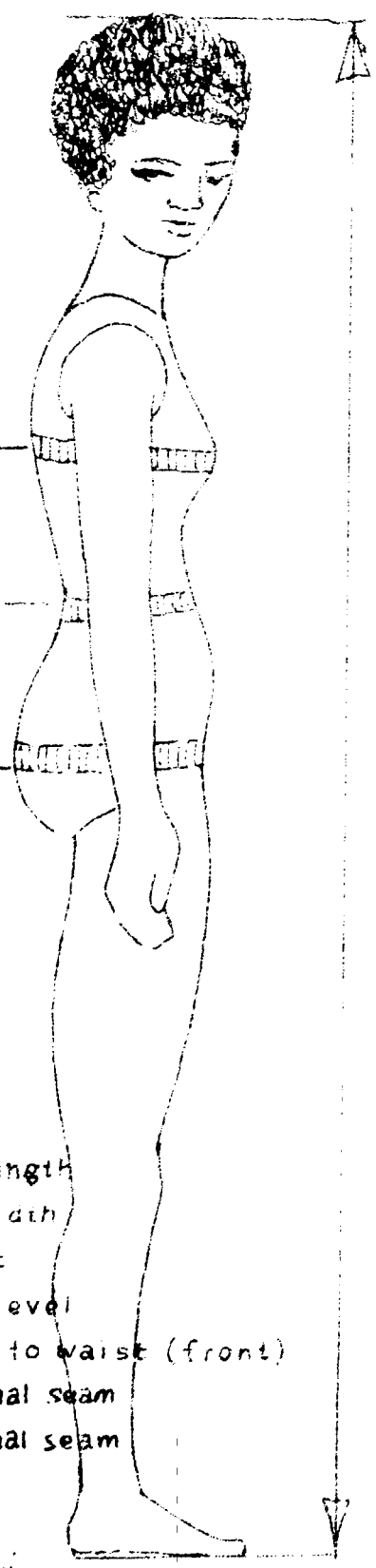
4. I-D Measurements (Identification Measurements)

- Body height
- Bust circumference
- Waist —" —
- Hip —" —

BUST CIRCUMFERENCE

WAIST CIRCUMFERENCE

HIP CIRCUMFERENCE



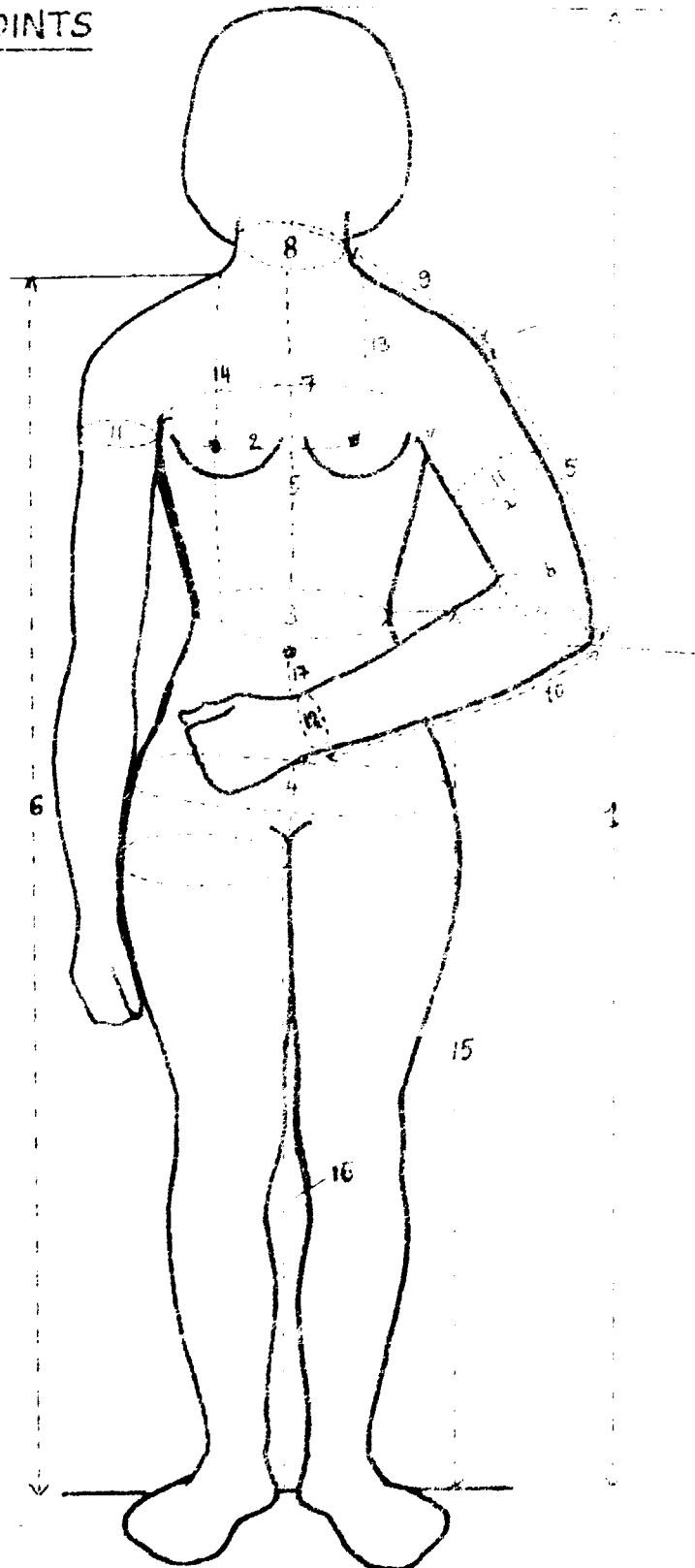
5. Body measuring points

- |                      |                       |
|----------------------|-----------------------|
| Body height          | Arm length            |
| Bust                 | Arm width             |
| Waist                | Wrist                 |
| Hip                  | Bust level            |
| Neck to waist (back) | Neck to waist (front) |
| Full length          | External seam         |
| Across back          | Internal seam         |
| Neck width           | Crotch                |
| Shoulder             |                       |

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DETAILS OF HOW TO TAKE MEASUREMENTS

MEASURING POINTS



*St. George*

Standard procedure in How to Take Body Measurements

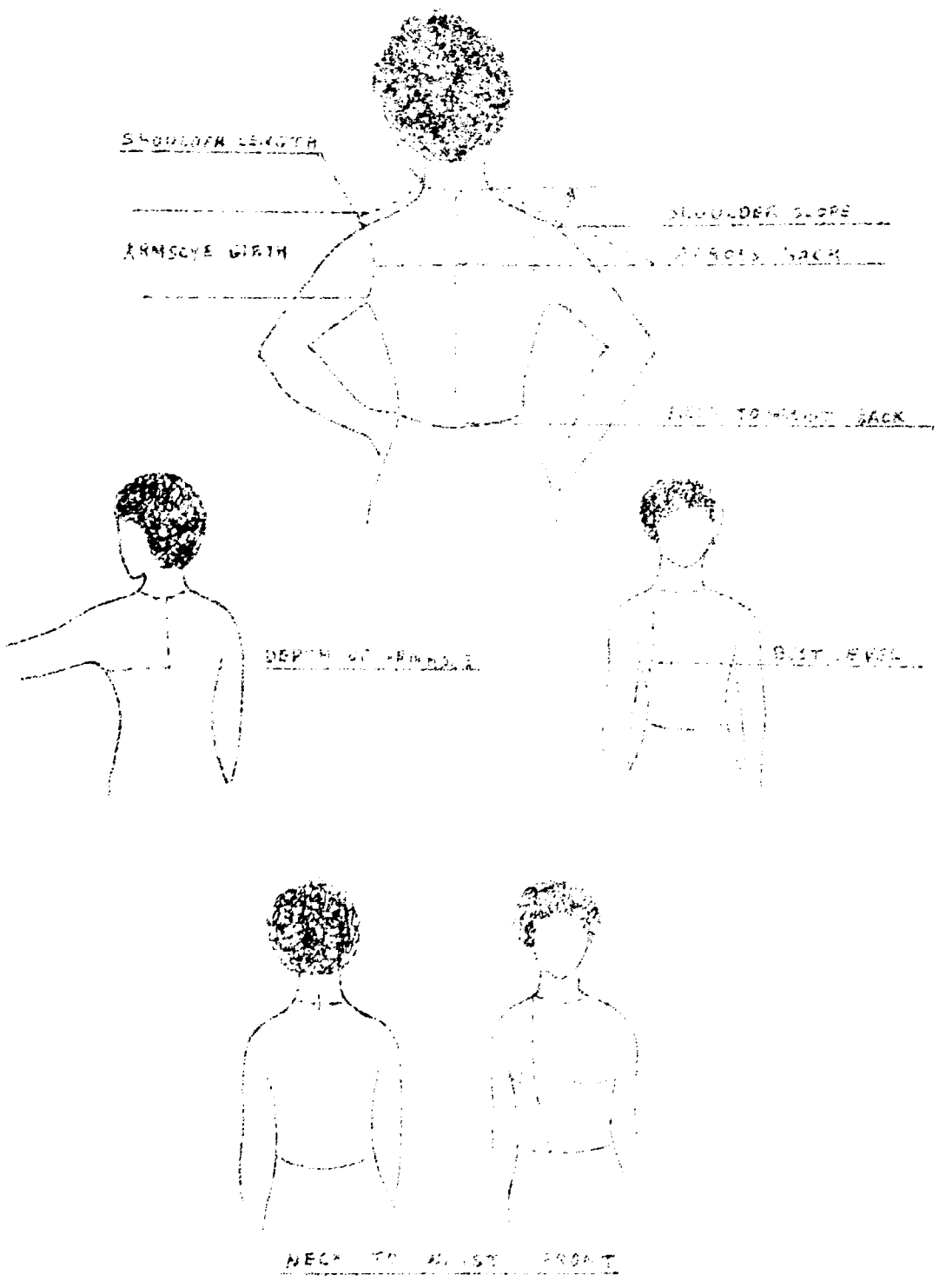
Accuracy is most important in the measuring procedure. When taking body measurements, the tape measure must follow the body closely without being too tight nor too loose. It is important that the person should wear light underclothing in order to obtain accurate body measurements.

As a point of reference a cotton tape is placed around the waist to emphasize the waist line.

1. Body Height  
Measured from the head level to floor level.
2. Bust Width  
Place the tape measure around the highest part of the bust with a slight raise at the back to provide for shoulder-blade dimensions.
3. Waist  
Measure around the natural waist, a close measurement but not too tight.
4. Hipwidth  
There are 2 measuring point for the hip, upper hip and lower hip.  
The lower hip is measured around the most prominent part of the hip.  
At half distance between this part and the waistline is the upper hip.
5. Neck to waist (back)  
Measure from the neck bone to the waist.
6. Full length  
Measure simultaneously from waist to the floor level.
7. Across Back  
Determine the center of the back armhole and measure horizontally across the prominent part of the back.

8. Neck width  
Place the tape-measure around the neck touching the center front neck base and the neck bone.
9. Shoulder  
Measure from the base of the neck to the shoulder point.
10. Armlength  
Measure from the base of the neck over the shoulder point to the wrist bone.  
Subtract shoulder measurement from the total length to find the arm length measurement.
11. Armwidth
  - a) Measure around the prominent upper arm close to the armpit.
  - b) Measure around the elbow with the arm slightly bent.
12. Wrist  
Measure around the wrist touching the wristbone.
13. Bustlevel  
Measure from the neck bone to the bust point.
14. Neck to Waist front  
Measure from the neck bone to waist passing over the bust point.
15. Outseam  
Measure from waist to floor level over the hip.
16. Inseam  
Measure from crotch to floor level.
17. Crotch Height  
Measure from the waist down the side seam to seatlevel in sitting position.

DETAILS OF HOW TO TAKE MEASUREMENTS



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SIZE DESIGNATION OF GARMENTS

DEFINITIONS AND BODY MEASUREMENTS

Control dimensions

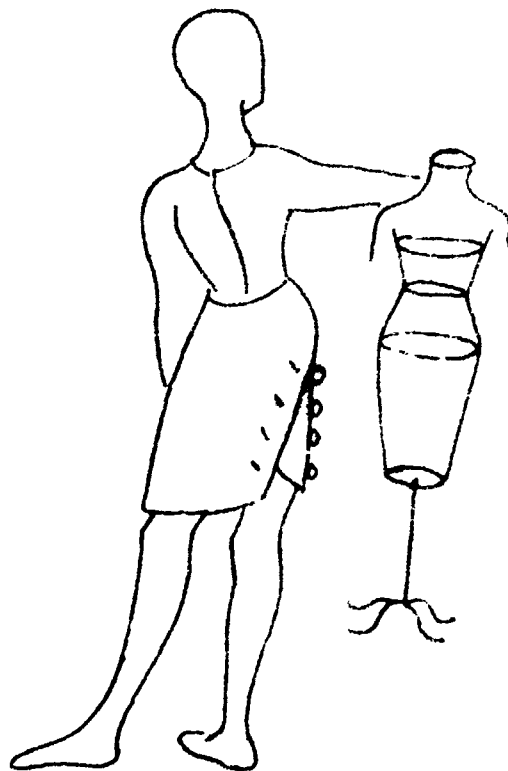
Body dimensions in centimeter on which a sizing system is built. These body dimensions are used to design an appropriately sized garment to a wearer.

Standard measurements

Measurements taken on the body in the unclad state, on the body relevant to a specific size.

The size designation system

is based on body dimensions and not on garment measurements. The choice of garment measurements is usually left to the designer and the manufacturer. They are concerned with style, cut and other fashion-related factors.



MEASUREMENTS AND PROPORTIONS USED IN THE CONSTRUCTION  
OF GARMENTS

In custom-made as well as ready-made garments, all pattern constructions are based on the body, its measurements and proportions.

Direct figure measurements are taken directly on the figure to fit an individual.

Standard measurements are established from many measurements to fit average figures.

On the following page is a table of european standards prepared and adapted for construction of ladies garments.

Sizing system for ladies wear

This system has been established with the aim to provide as many women as possible with ready-made clothes using a minimum of sizes.

The system is based on three important measurements,

- Bodyheight
- Bust width
- Hip width

Body height measured from top of head to floor level.

Bust width

The difference between the sizes is 4cm in small and medium sizes, 6cm in large and extra large sizes.

Hip width

There are 3 figure types depending on the relations between bustwidth and hipwidth.

Figure B	3cm	Difference	size 36	slim
" C	9cm	"	"	average
" D	15cm	"	"	stout

Figure types

SIZE 32 34 36 38 40

Figure C

Bust	76	80	84	88	92
Waist	61	64	67	70	74
Hip	87	90	93	96	99

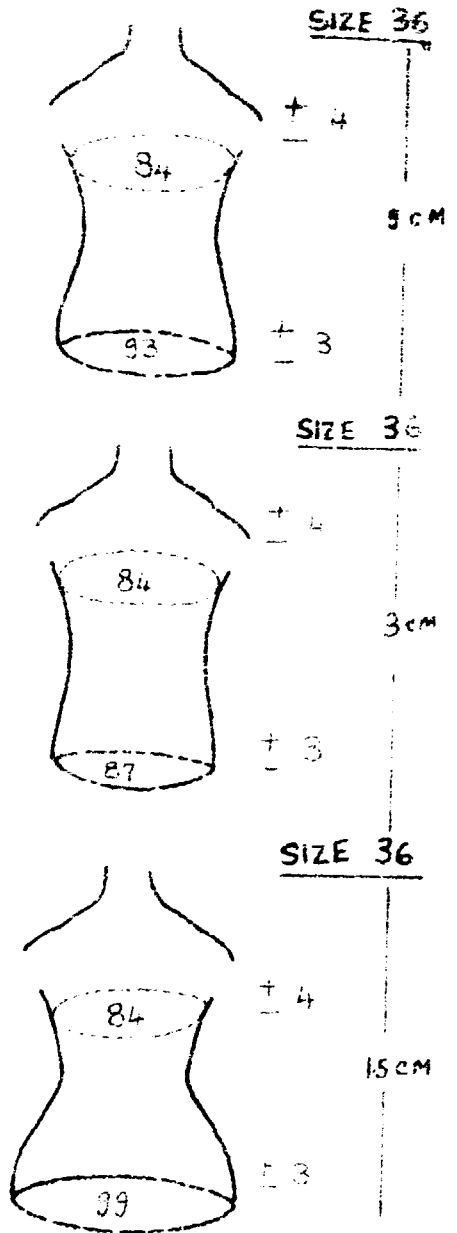
Figure B

Bust	76	80	84	88	92
Waist	63	66	69	72	75
Hip-b	81	84	87	90	93

Figure A

Bust	80	84	88	92
Waist	64	67	70	73
Hip-b	88	91	94	97

DIFFERENCE BUST-HIP



57 --- to sfangs

Bodyheight

Each bust measurement is combined with 2 - 3 different body heights;

156 - 164	160 ± 4	short
164 - 172	168 ± 4	medium
173 - 180	178 ± 4	tall

Standards adapted to the market must be represented by a sizing system which corresponds to measurements referred to as;

Identification measurements

Size	32	34	36	38	40
Bust	76	80	84	88	92 ± 4cm
Waist	61	64	67	70	74 ± 3cm
Hip	87	90	93	96	99 ± 3cm

Bust width is the most important basic data for sizing and construction of upper garments.

Common intervals are 4-6cm.

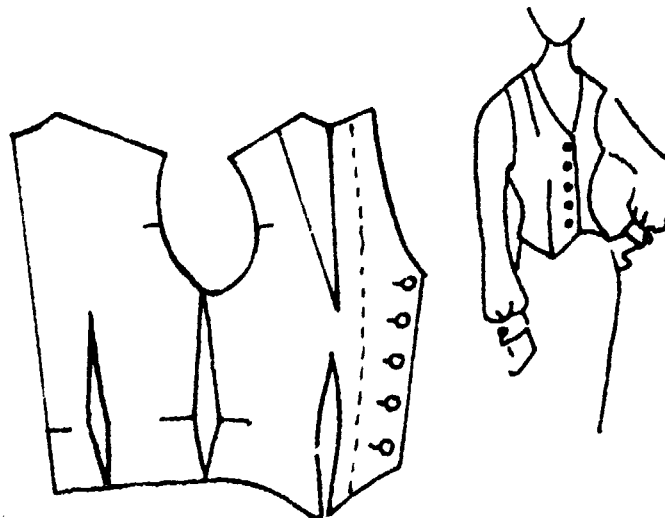
As less the interval, the wider range of sizes available.

1. A PATTERN-GENERAL DEFINITION

A foundation pattern or block pattern intended for a garment, is a flat piece of paper outlining the foundation figure of a human being and prepared so as to provide for constant motion.

There are several methods now to establish a reliable block pattern. All methods are however based on the same principles regarding the shape of the body, its measurements, proportions, movement and fit.

Since a figure is three dimensional a garment must also be constructed in three dimensions i.e. it must have length, width and depth. That means the shape of the figure and its circumference are the most important basis for the construction of a pattern despite the fact that the pattern is outlined on a flat piece of paper. i.e. in two dimensions only.



2. MEASUREMENTS AND STANDARDS

In order to produce patterns for mass production it is necessary to work with standards i.e. a particular size must indicate a certain number of basic standard-measurements representing the average body dimensions.

It is important that the patterns produced are made according to the standards of the market for which the garments are intended.

3. The majority of small and medium scale garment manufactures do not produce patterns. Either patterns are copied from finished garments by means of disassembling or by direct tracing on the material according to individual measurements, Both methods are equally unreliable.

Patterns are prepared to produce garments of different styles and sizes for accuracy in cutting, sewing and assembling.

4. The system used in patterndrafting is based on a set of body measurements taken on a human figure. Dimensions and points are joined together by horizontal, vertical and diagonal lines, curves and angles in order to design a pattern which fits a human body shape. The drafting procedure for the standard block pattern for bodice, sleeve, skirt and trousers are given on the following pages using size 36 body measurements for ladies and size 46 for gents.

STANDARD BODY MEASUREMENTS  
LADIE'S WEAR

Size	32	34	36	38	40
Bustwidth	76	80	84	88	92
Waist	61	64	67	70	74
Hip	87	90	93	96	99
Small hip	80	83	86	89	92
Hip level	19.8	20.2	20.6	21.0	21.4
Depth of armhole	19.8	20.2	20.6	21.0	21.4
Neck to waist (back)	38.8	39	39.2	39.4	39.6
Across back	33	33.8	34.6	35.4	36.4
Neck width	34.75	35.5	36.25	37.0	37.75
Shoulder	12.2	12.4	12.6	12.8	13.0
Armlength	56.6	56.8	57	57.2	57.4
Arm width	24	25	26	27	28
Wrist	15.0	15.5	16	16.5	17
Bust level	31.7	32.6	33.5	34.4	35.3
Neck to waist (front)	48.9	49.6	50.3	51	51.7
Bust dart	4.75	5.5	6.25	7.0	7.75
External seam	97.4	97.8	98.2	98.6	99
Internal seam	73	73	73	73	73
Crotch	24.4	24.8	25.2	25.6	26
Armhole	39	40	41	42	43

COMPARISON OF STANDARD SIZES FOR LADIE'S WEAR

<u>England</u>		8	10	12	14	16	18	20	22	24
Bust	Inches	32-33	33-34	34-35	35-37	37-39	39-41	41-43	43-45	45-47
	Cm.	81	84	87	90	94	98	103	108	113
Waist	Inches	23.5	25	26.5-27	28-28.5	29.5-30	30	31.5	35.5	37.5
	Cm.	60	64	66	68	72	74	78	84	90
Hips	Inches	34-35	35-36	36-37	37-39	39-41	41-43	43-45	45-47	47-49
	Cm.	86	89	92	95	99	104	109	114	120
<hr/>										
<u>West-Germany</u>		34	36	38	40	42	44	46	48	50
Bust	Cm.	80	84	88	92	96	100	104	108	113
Waist		64	68	70	72	76	80	86	92	98
Hips		88	92	96	100	104	108	112	116	121
<hr/>										
<u>France</u>		34N.	36N.	38N.	40N.	42N.	44N.	46N.	48N.	50N.
Bust	Cm.	81	84	87	90	93	96	99	102	108
Waist		56	60	64	68	72	76	80	84	92
Hips		89	92	95	98	101	104	107	110	116
<hr/>										
<u>Sweden.</u>		C34	C36	C38	C40	C42	C44	C46	C48	C50
Bust	Cm.	81	84	87	90	94	98	103	108	113
Waist		61	63	65	68	72	76	81	87	93
Hips		89	92	95	98	102	106	111	116	121



STANDARD MEASUREMENTS - SIZES

Standard measurements related to the size designation of clothes in various markets.

The size designation is based on a few basic measurements which are referred to as I-D. measurements.

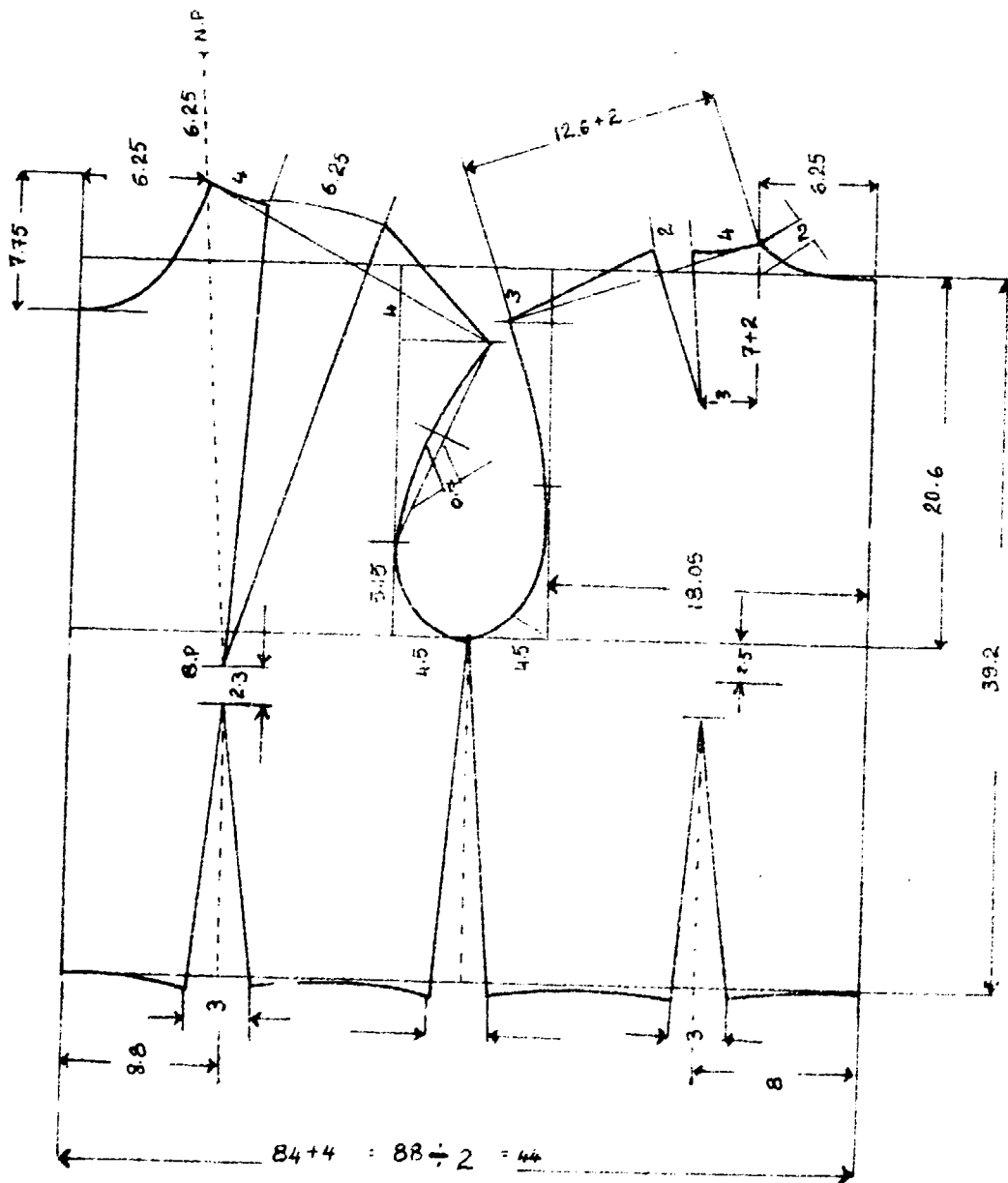
- Identification measurements or
- Control dimensions

EXAMPLES OF DIFFERENT SIZE DESIGNATIONS

Size	XS	S	MS	M	ML	L	XL
Continental	34	36	38	40	42	44	46 - ES
British	30	32	34	36	38	40	42 - BS
United states	8	10	12	14	16	18	20 - US
France	38	40	42	44	46	48	50 - FS
Italis	40	42	44	46	48	50	52 - IS
Knitwear underwear	1	2	3	4	5	6	7

STANDARD BLOCK PATTERN  
BODICE BLOCK SIZE 36

IDENTIFICATION MEASUREMENTS I-D 160-84-67



BUST WIDTH	$84 + 4$	88
ACROSS BACK	$34.6 + 1.5$	36.1
ARMHOLE WIDTH	$44 - 4 + 11 - 2$	= 9
NECK WIDTH	$36.25 + 1$	= 37.25
SHOULDER	12.6	
NECK-WAIST-FRONT	50.3	
BUST DART	6.25	

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DRAFTING PROCEDURE

STANDARD BLOCK PATTERN SIZE 36  
IDENTIFICATION MEASUREMENTS I-D 160-84-67

FRAME

Draw a vertical line for the center back, Square a horizontal line for the top line, measure along the center back line (C.B) the neck to waist back 39.2cm. Square a horizontal line for the Waistline parallel to topline, Bust width 84cm + 4cm allowance for ease = 88cm.  $88\text{cm} \div 2 = 44\text{cm}$ . From the right top corner measure down the center back line the depth of armhole = 20.6cm. Square a horizontal line for the bustline at 20.6cm.

BACK

Along the depth of armhole or bustline, measure across back  $34.6\text{cm} + 1.5\text{cm} = 36.1 \div 2 = 18.05\text{cm}$ . Square a vertical line up to the topline and measure 3cm down from the topline. Square a guide-line for the shoulder slope. From the right top-line corner, center back neck, measure back neck = 6.25cm along the top line and raise from this point 2cm up for the inner shoulder point. Shape and measure neck dimension approximately 6.75cm from the 2cm point, Measure shoulder length 12.6cm + 2cm for dart = 14.6cm. Draw a line from the 2cm point to the 3cm guide line for the shoulder slope, equivalent to 14.6cm. From the inner shoulder point measure 4cm along the shoulder guideline + 2cm for shoulder dart.

Measure from the inner shoulder point 9cm down and square a line 3cm towards the armhole.

Draw a dart by connecting the 3cm point with the 2cm point at the shoulder guideline.

Extend the first line 2-3mm above the 4cm point making the 2 dartline equal in length.

Measure half distance for arm-hole line between the 3cm. point and the bustline.

Draw a vertical armholw guideline.

Measure bustwidth  $84\text{cm} + 4\text{cm} = 88\text{cm} \div 2 = 44\text{cm}$ .

Measure armhole width  $44\text{cm} \div 4 = 11\text{cm} - 2\text{cm} = 9.0\text{cm}$

Less 2cm for the size 36 and smaller sizes. For size 36 and above, less 1.5cm only.

Measure  $9\text{cm} \div 2 = 4.5\text{cm}$  for the back armhole width.

Shape the back armhole through the identified points.

Square a guideline for the side seam from the 4.5cm point.

Measure and mark from C.B along waistline  $1/10$  bustwidth  $88\text{cm} \div 10 = 8.8\text{cm}$ . Square a guideline to the bust line.

Measure 2.5cm down the guideline from the bust point and measure 3cm for the depth of the dart at waistline with the guideline at the center, giving equal dart dimension 1.5cm either side of the center.

FRONT

Measure another 4.5cm from the side seam point to the front armhole line. Square the front armhole line to the top line and measure 4cm down. Square a guideline for the front shoulder slope.

Measure front neckwidth 6.25cm and square a guideline upwards. Measure  $1/10$  bustwidth (88cm) = 8.8cm from center front line along the waistline.

Square a guideline from this point to the bustline. From the identified waistpoint measure neck to waist (front) 50.3cm through the neck point marking the full length.

From the bustpoint along the guideline measure 2-3cm down for the waistdart point.

At the waistline measure 3cm for the depth of the waistdart giving equal distance on either side which is 1.5cm from guideline.

From the upper end at the neck to waist guideline or neckpoint, deduct back neck dimension approximately 6.25cm (50.3cm - 6.25cm).

From 6.25cm point square a line to the center front line (CF) and measure from this corner the depth of the front neck  $6.25 + 1.5\text{cm} = 7.75\text{cm}$ . Square a guideline.

From the inner shoulder point draw a guideline measuring length of shoulder,  $12.6\text{cm} + 6.25\text{cm}$  for bust dart = 18.85cm to the 4cm guideline for the shoulder slope.

Measure 4cm from the inner shoulder point for dart position. Connect this point with the bust point extending this first dartline 2-3mm above the shoulder guideline.

Measure from the 4cm point (first dartpoint) 6.25cm along the shoulder guideline. Draw other dartline equal to the first dartline.

Connect this second dart point with the 4cm point shoulder slope. Divide depth of armhole  $20.6\text{cm} \div 4 = 5.15\text{cm}$  and mark along the armhole guideline.

Mark 5.15cm up along the front armhole guideline and connect this point with the shoulder point.

Divide the guideline into half and measure 0.7mm for the shape of the armhole.

Shape the final front armhole.

To obtain the correct waist dimension  $67\text{cm} + 4\text{cm} = 71\text{cm}$ . The waist should be reduced at the sideseam by the remaining difference divided equally on either side of the sideseam guideline.

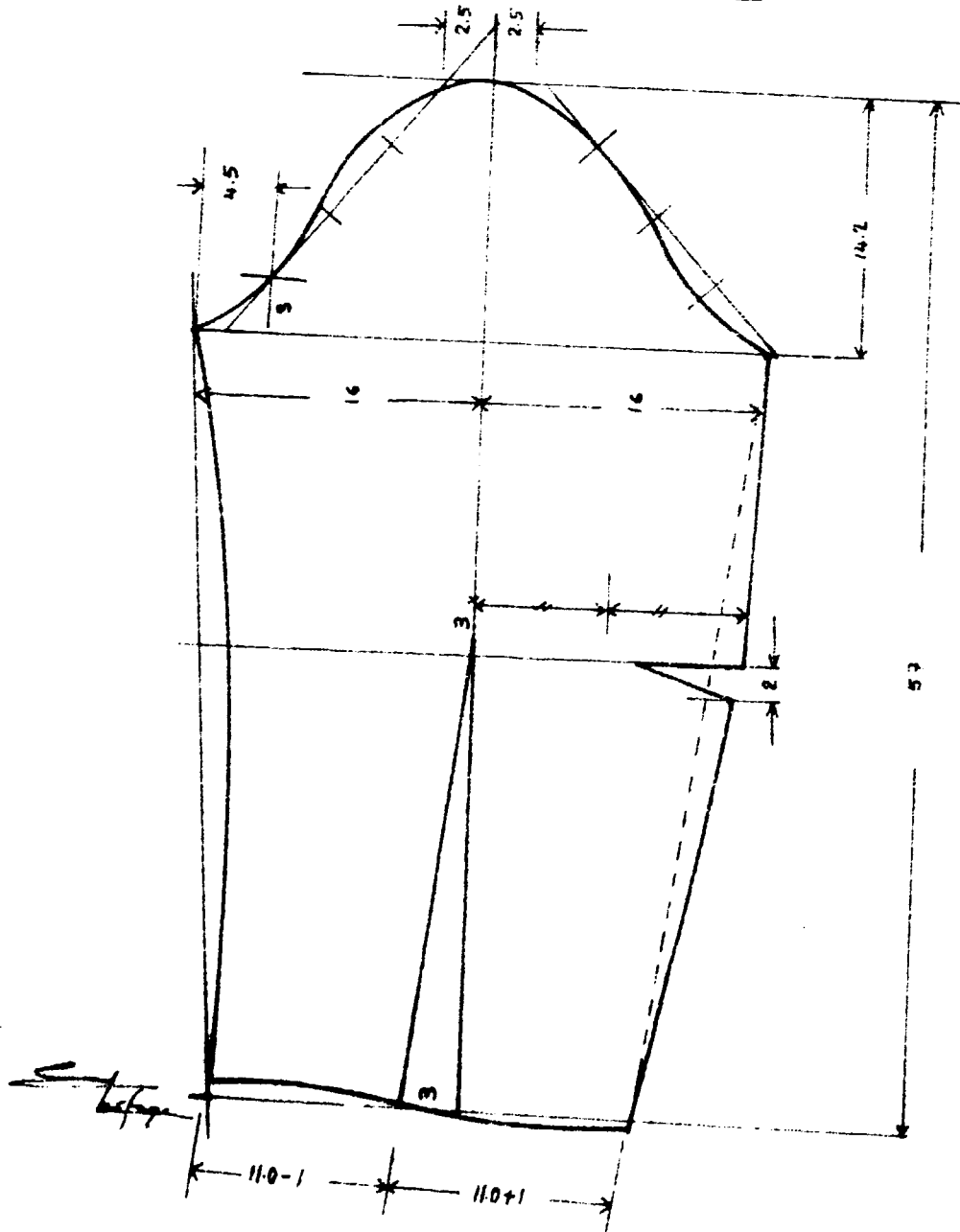
Shape the final waistline by extending all waist dartlines and sideseams by 2-3mm and draw the waist line towards C.B and C.F.

= 24 =

STANDARD BLOCK PATTERN  
SLEEVE BLOCK SIZE 36

IDENTIFICATION MEASUREMENTS 1-D 160-84-67

ARMWIDTH	$26 + 4 = 30$
ARMLNGTH	57
WAIST	$16 + 6 = 22 \div 2 = 11$
ARMHOLE	41
ARMHOLE WIDTH	$44 - 4 = 40 \div 2 = 20$
DEPTH OF CROWN	$61 - 3 = 58 \div 4 + 0.5 = 14.2$



DRAFTING PROCEDURE

STANDARD SLEEVE PATTERN FOR SLEEVE

SIZE 36 1-3-100-84-87

Draw the top line. At right angle to the top line square the center line equal to arm length (67cm.)

From topline along the centerline

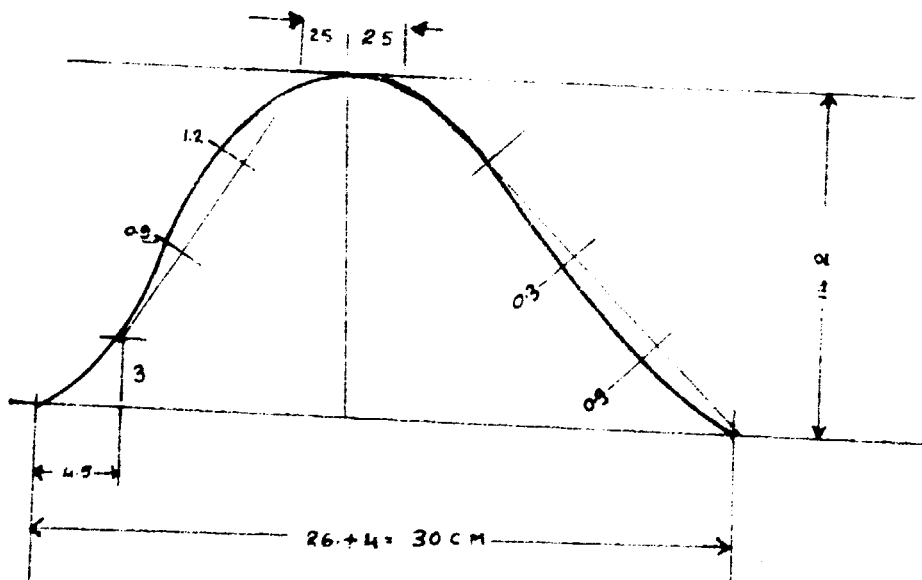
Measure depth of crown.

(Armhole width  $\div 3 + 0.5 = 14.2\text{cm}$ )

Measure 2.5cm at either side of the centerline for the shape of crown.

On the top armwidth line, measure armwidth + allowance = 30cm, equally distributed at either side of the center line.

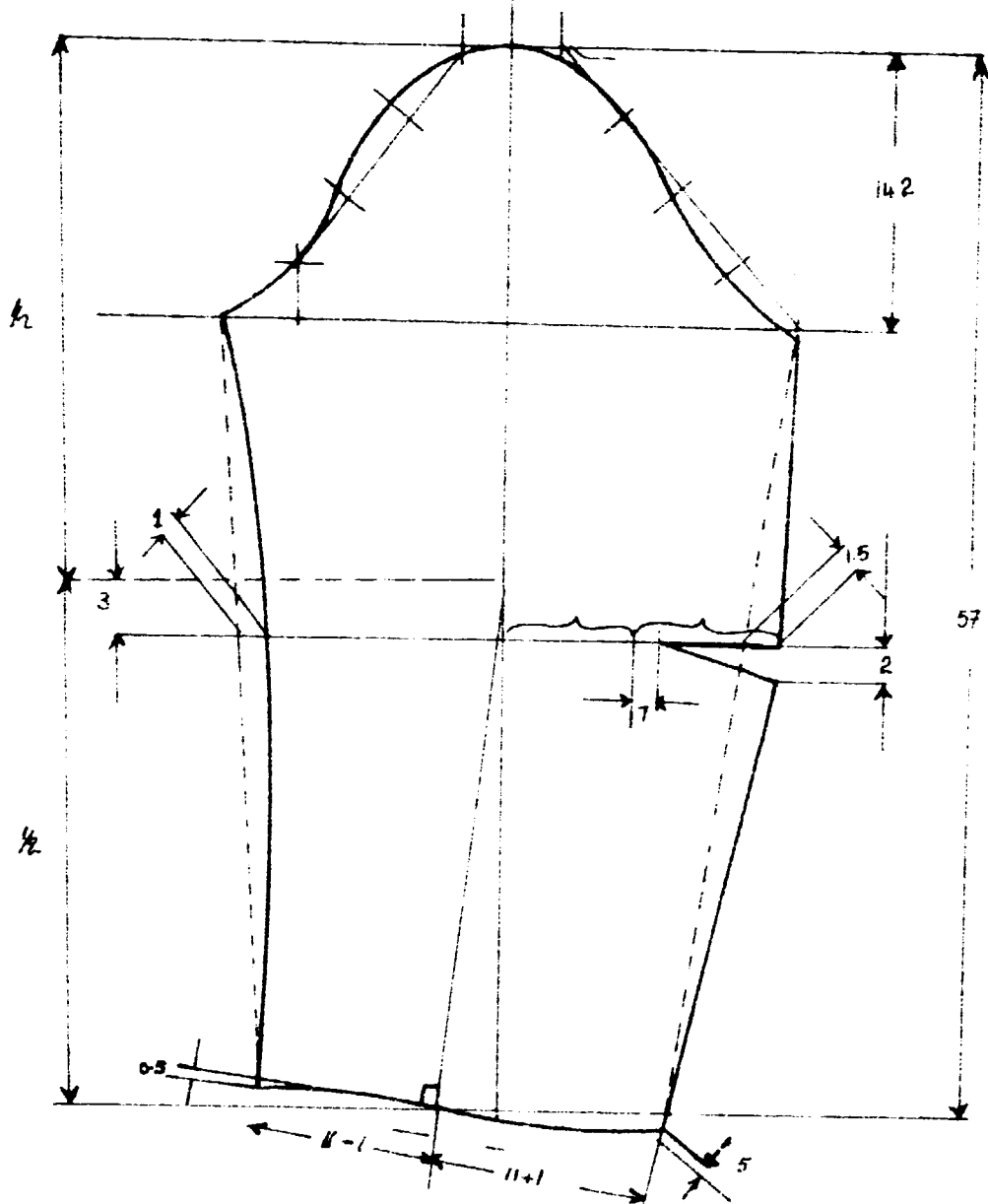
Draw guideline for the sleeve crown back and front (see diagram) mark the points for the crown shape, connect the points and draw the final shape of the sleeve crown.



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DRAFTING PROCEDURE



Draw the elbow line at half distance of armlength and lower it 3cm.

Measure 3cm at neckline for new center line and connect with elbowline.

Draw the wristline at right angle to the 3cm. Guideline and measure the wrist dimension.

Shape the front sleeve line through 1cm midpoint at elbow line extending the length 0.1cm beyond wristline.

Construct the elbow dart 2cm deep to half back sleeve -1cm finalize the back sleeve line reducing the length 0.5cm at wristline. Shape final wristline.

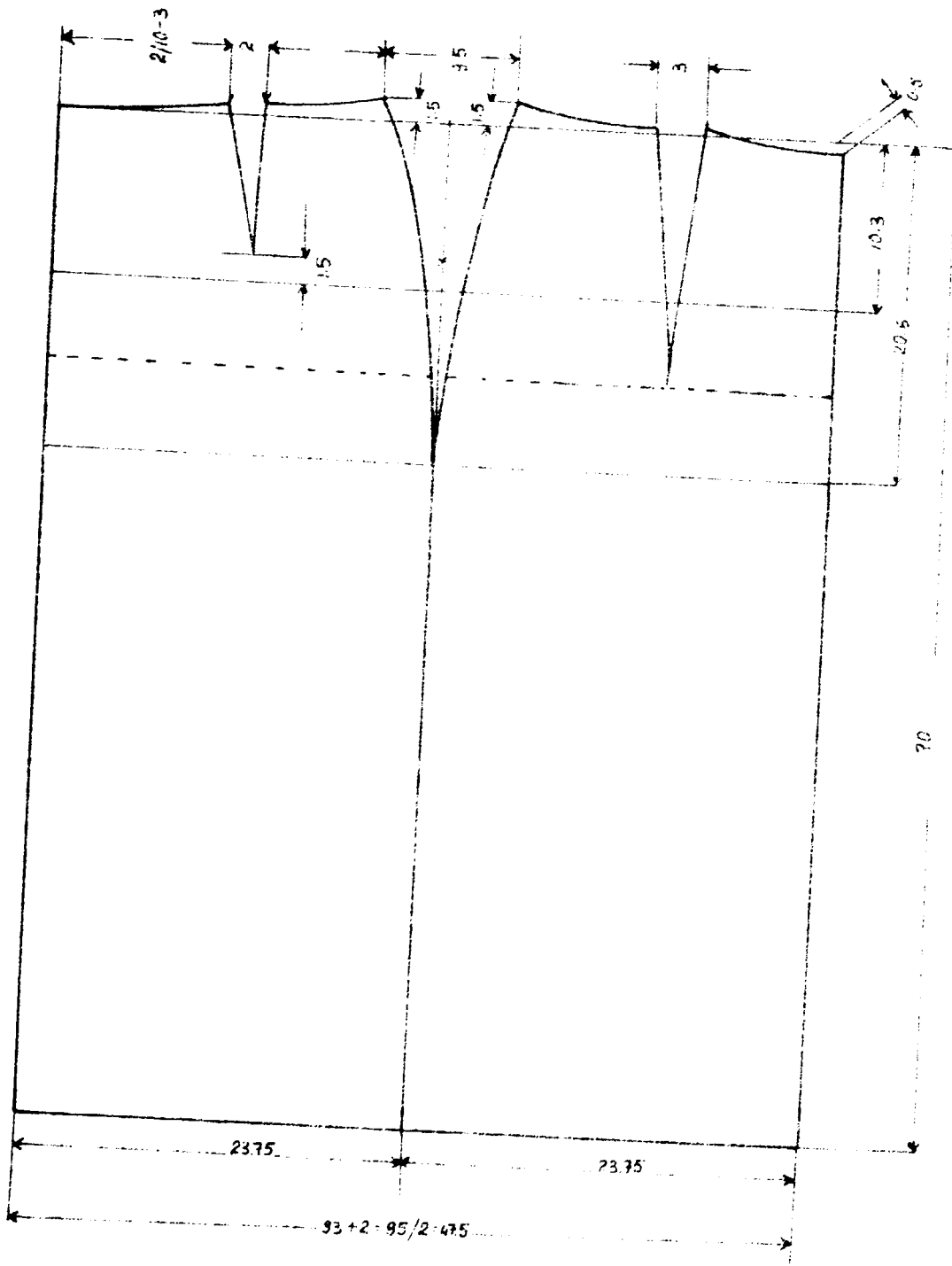
*to of line*

STANDARD BLOCK PATTERN

SKIRT BLOCK SIZE 36

IDENTIFICATION MEASUREMENTS I-D 160-93-67

WAIST	$67+2 = 69$
HIP	$93+2 = 95$
SMALL HIP	84
HIP LEVEL	20.6



*Handwritten signature or initials.*

DRAFTING PROCEDURE

STANDARD BLOCK PATTERN FOR SKIRT

SIZE 36 I-D 160-93-67

FRAME

Draw a vertical line for the center back = 70cm.  
Square at right angle the waistline and the hemline.  
Along the waistline and hemline, measure hipwidth +  
2cm  $\div$  2 = 47.5cm.

Draw the center front line.

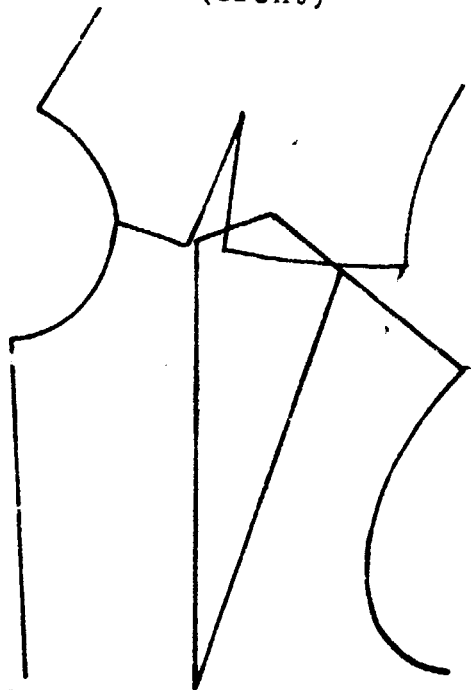
1. Along the C.B line measure hipline 20.6cm from waistline.
2. Upper hipline at half distance from waist.
3. Divide the distance C.B - C.F in half and draw a guideline from waist to hemline.
4. Measure half waist reduction on either side of the guideline for the sideseam. ( $\frac{1}{2}$ hip -  $\frac{1}{2}$ waist + 5cm for darts.)
5. Extend these points 1.5cm above waistline
6. Divide the distance from C.F to the sideseam point in half and square the center guideline for waist-dart, depth of dart = 3cm.
7. Lower C.B waistline 0.5cm.
8. Measure  $\frac{2}{10}$  of waist - 3cm from C.F along waistline.
9. Measure 2cm for front waistdart and raise the point 0.5cm.  
Square a line from this point to hipline.  
Shorten the line 1.5cm and equalize the two dartlines.
10. Shape the sideseam and the final waistline.

CONTROL OF BLOCK PATTERNS

To ensure accuracy in measurements and fit in order to prevent faulty garments, the patterns must be carefully checked with regards to measurements, lines and shapes before cutting.

CHECK FOLLOWING MEASUREMENTS:

1. Bust width
2. Neck to waist (back)
3. Shoulder length
4. across back
5. Bust level
6. Neck to waist (front)



Check lines and shapes by joining assembling parts before cutting out the pattern.

7. Ensure correct measurements of neckwidth by joining front and back points.

8. Check armhole width joining extreme shoulder points front and back.

Neck and armhole width should be measured with the tape measure in standing position.

### GRADING OF PATTERNS

Since patterns are prepared to represent garments of different styles for the purpose of reference and reproduction, it is of vital importance that sizes, fit and proportions are controlled. In this respect, a system of patterngrading has been developed.

After careful control of the standard blockpattern or of the final master pattern it is graded into required sizes by a system of decreasing and increasing the pattern without any change in the fit, balance and proportions.

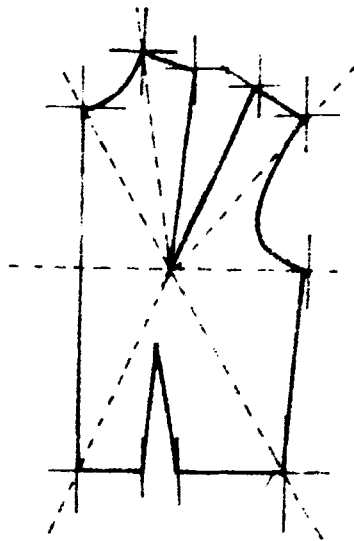
### METHODS OF GRADING

Pattern grading is based on the standard body measurements of each size and the difference between each size to be graded at every grading point.

Grading must be done with greatest skill and accuracy since any minor imperfection (error) in one size will affect the whole pattern throughout the sizes, resulting in illshaped garments and serious fitting problems.

PROCEDURE

1. Control the block pattern.
2. Copy the pattern, leaving sufficient space all round to grade the largest size.
3. Refer to the pattern-grading chart for grading differences.
4. Square vertical and horizontal lines at 90° at every grading point.  
The grading differences are then measured above and beneath these lines.
5. Using the block as a guide, draw the outline of each size, larger and smaller.
6. Check final measurements to conform to specifications.



NOTE

In this grading system following lines are kept constant;

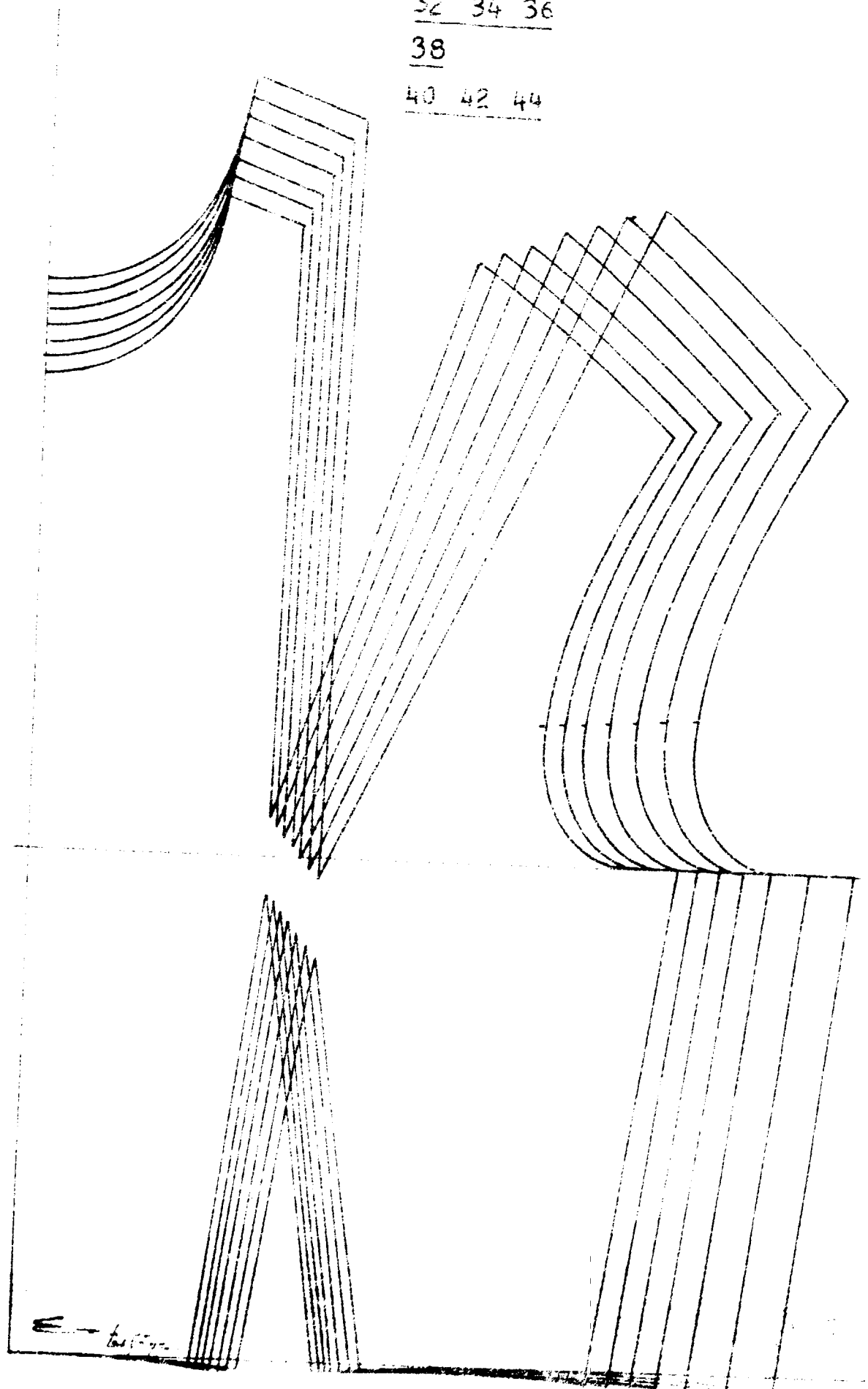
- Bustline
- Depth of crown line
- Hipline.

STANDARD BLOCK PATTERN FOR LADIES  
GRADED IN SEVEN SIZES

32 34 36

38

40 42 44

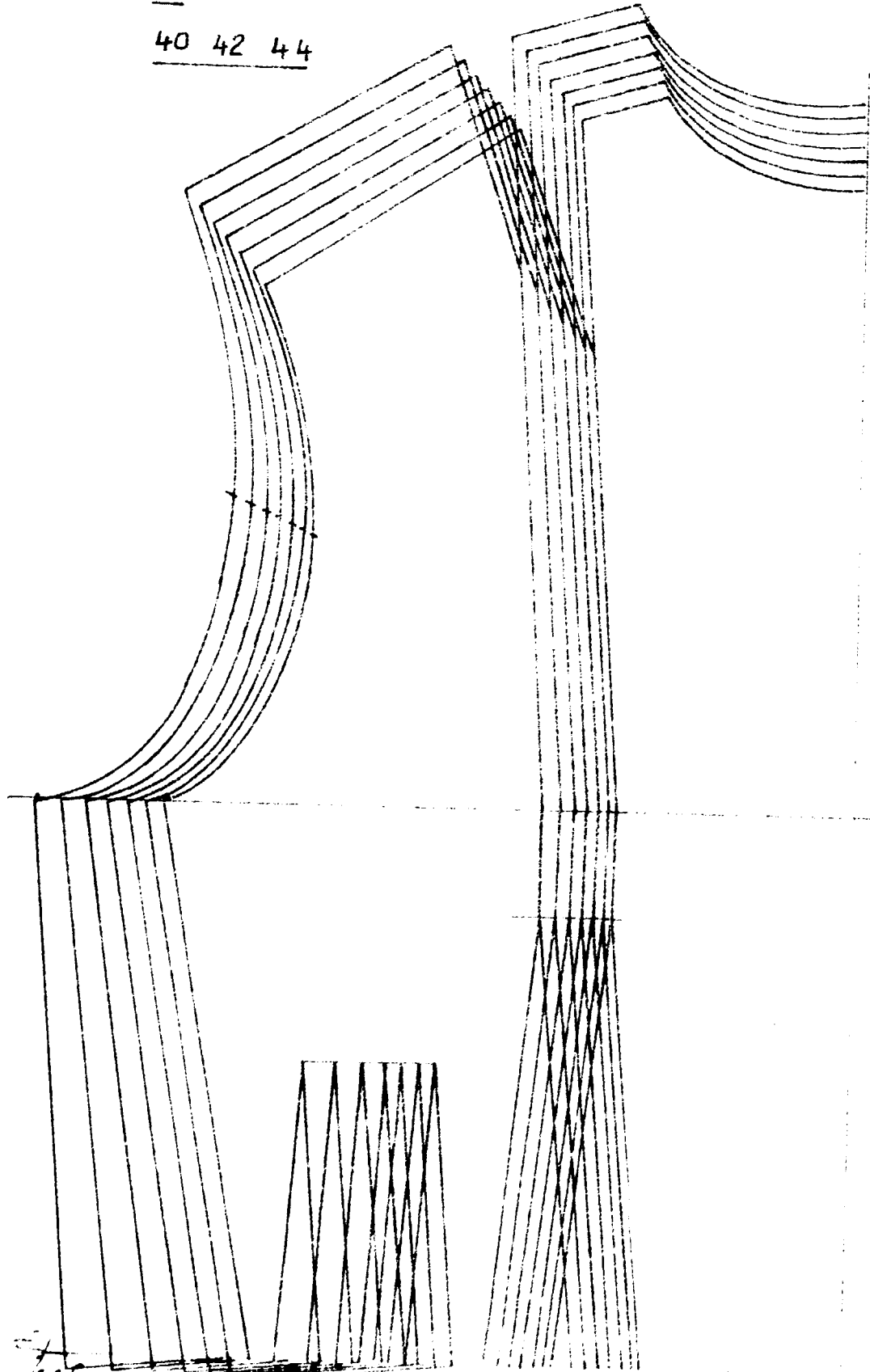


STANDARD BLOCK PATTERN FOR LADIES  
GRADED IN SEVEN SIZES

32 34 36

38

40 42 44



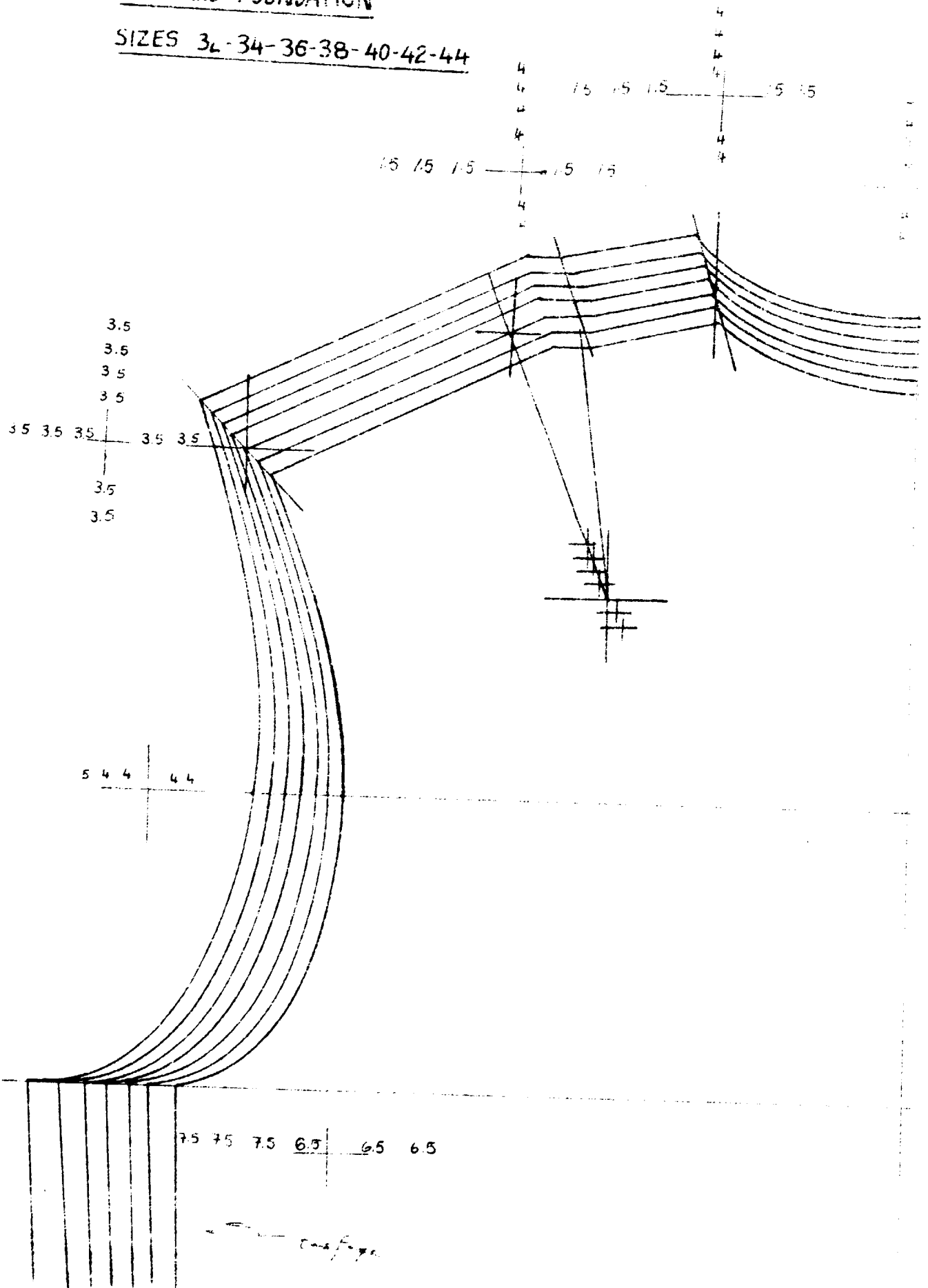




GRADING POINTS AND DATA FOR GRADING

STANDARD FOUNDATION

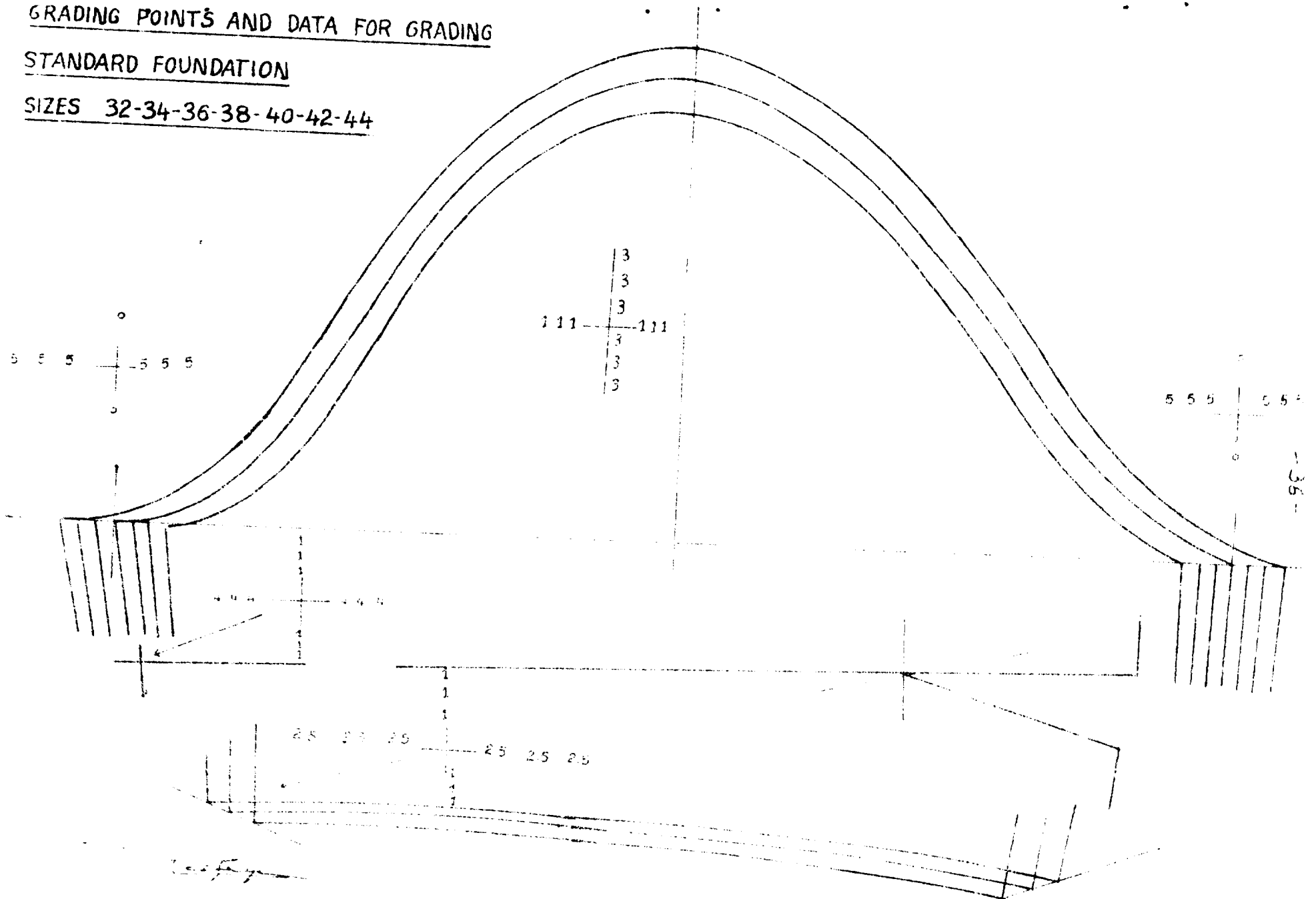
SIZES 34-34-36-38-40-42-44

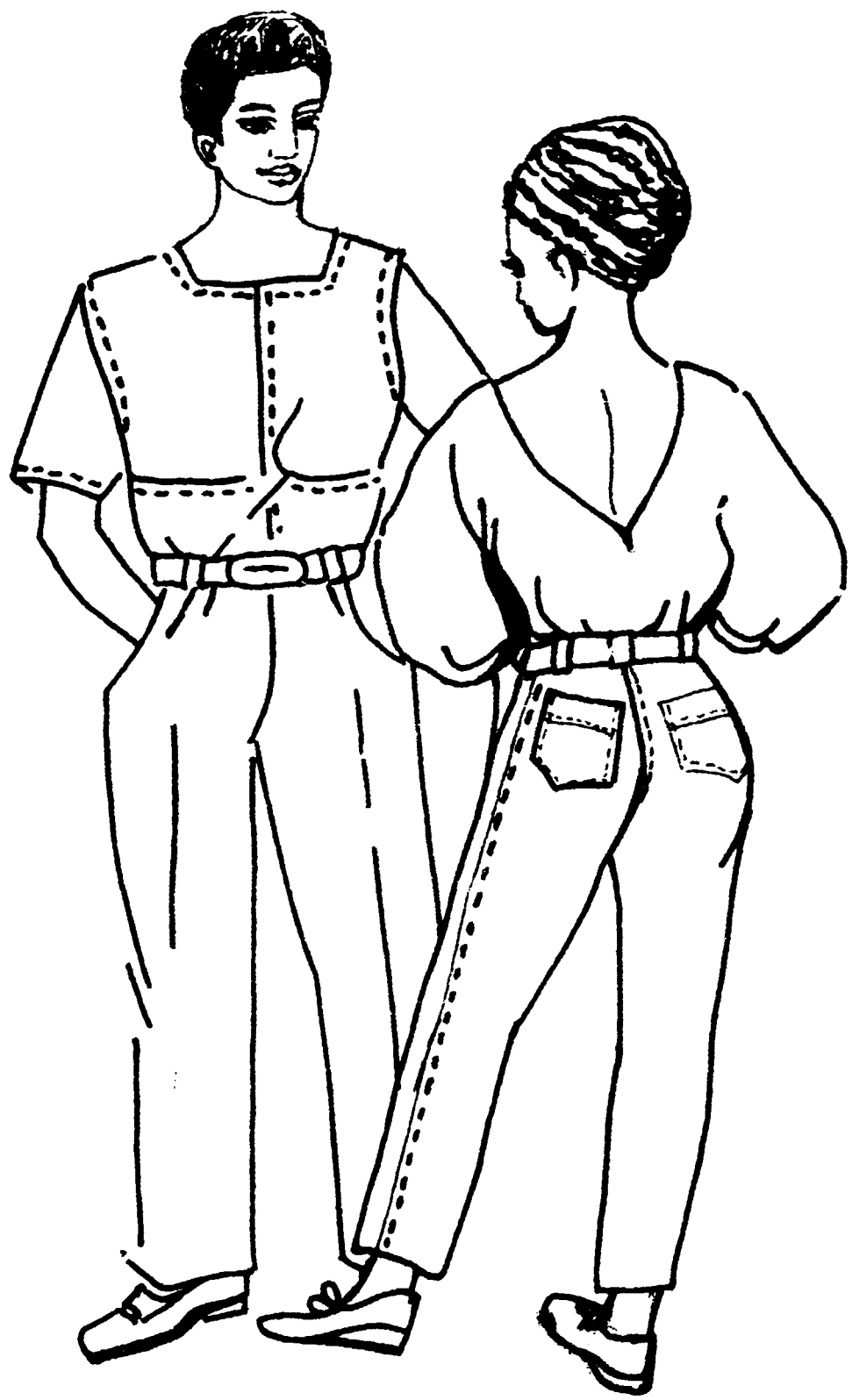


GRADING POINTS AND DATA FOR GRADING

STANDARD FOUNDATION

SIZES 32-34-36-38-40-42-44



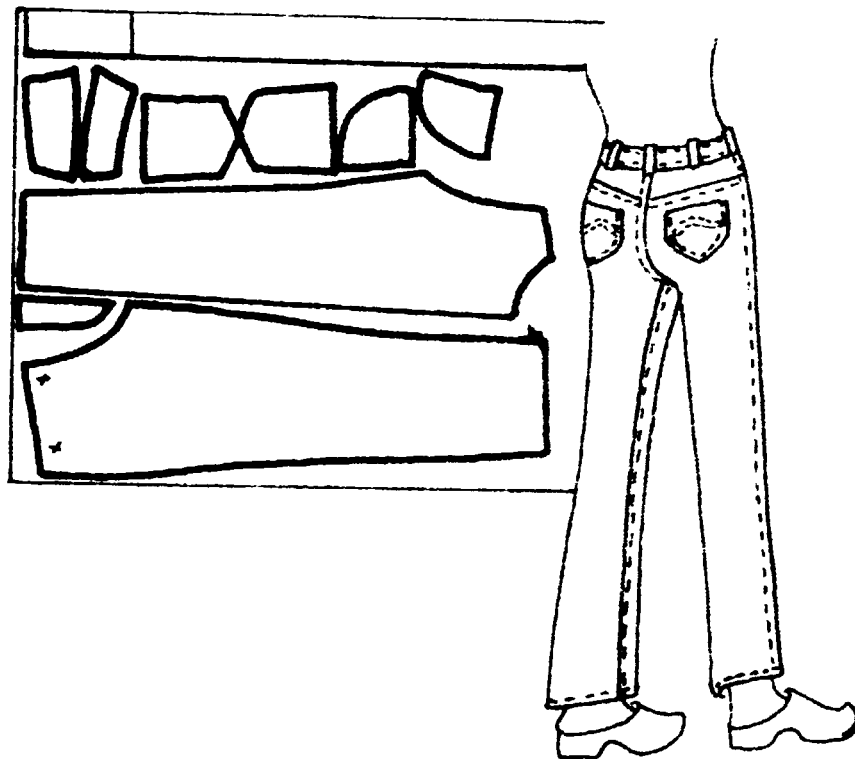


CONSTRUCTION OF TROUSERS  
LADIE'S AND GENT'S

TROUSER MEASUREMENTS	PAGE 1-4
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TROUSERS

FOR LADIES AND GENT'S



## TROUSERS

The basic construction of trousers is an important complement to the main block patterns of bodice, sleeve and skirt.

There are different type of trousers for formal wear, sportswear, work and leisure wear.

The basic block pattern is however an important foundation from which more specific trouser patterns can be developed and produced.

### Trouser measurements

The importance of correct measurements, figure observation and allowances must be understood in order to obtain good fit in the final trouser pattern.

All measurements are body measurements and taken in the following sequence;

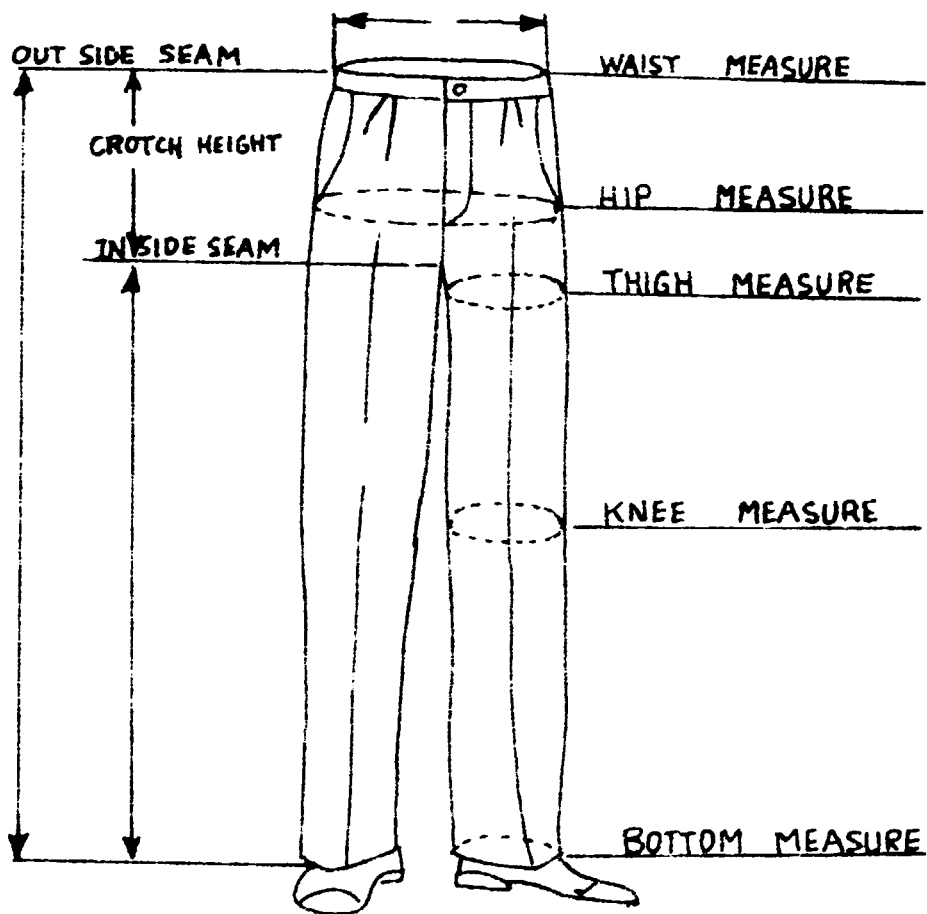
- Waist measure
- Hip "
- Knee "
- Hem "
- Outside seam (ext. seam)
- Inside seam (int. seam)

For control purpose it is useful to take measurements of;

- Crotch height
- Total crotch dimension, front and back,
- Thigh measure

The construction of basic block patterns for trousers presented on the following pages are based on standard measurements for ready-made-garments.

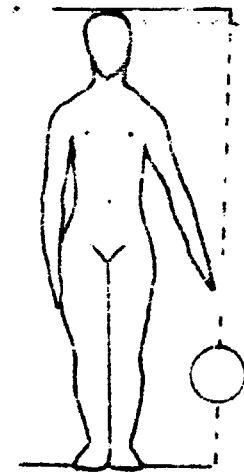
# TROUSER MEASUREMENTS



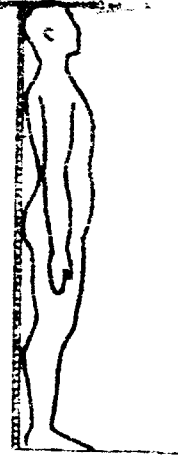
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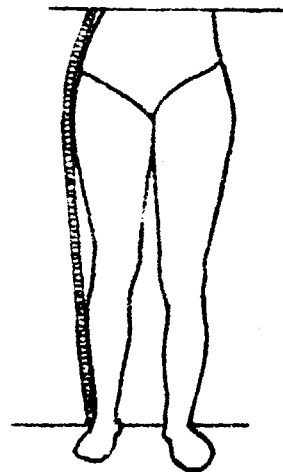
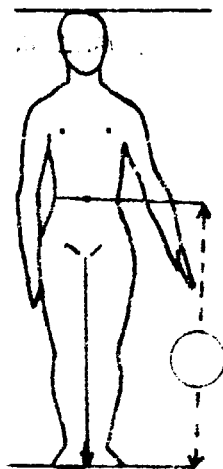
HEIGHT



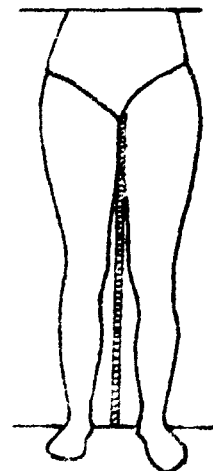
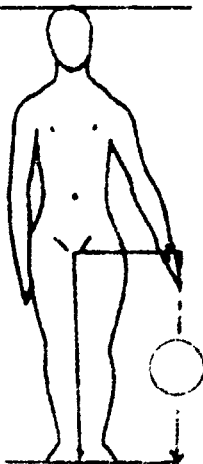
MEASURING POSITION



OUTSIDE LEG LENGTH



INSIDE LEG LENGTH



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INTRODUCTION TO LADIE'S TROUSERS

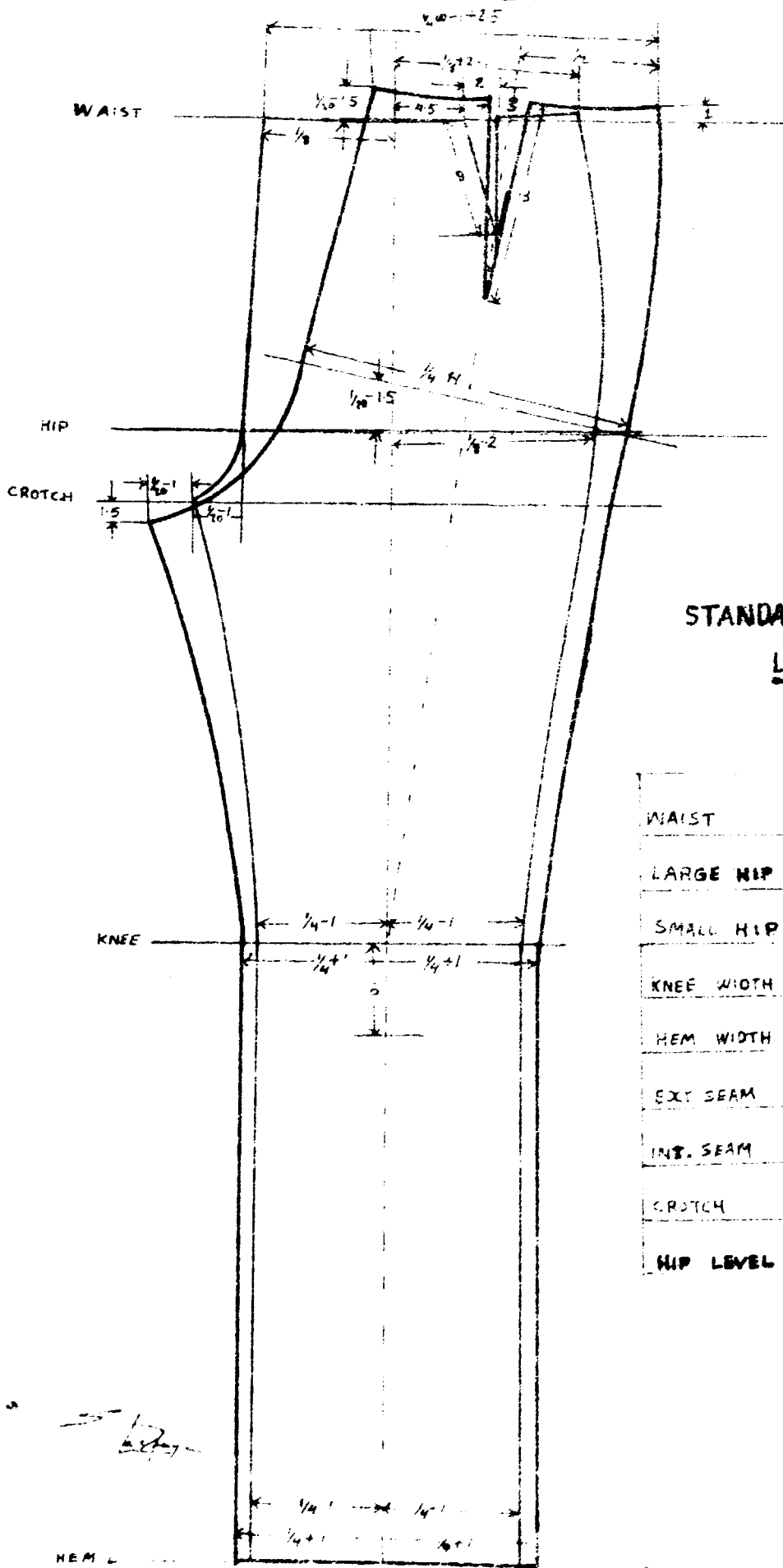
STANDARD BODY MEASUREMENTS

LADIE'S WEAR

SIZE	32	34	36	38	40
BUSTWIDTH	76	80	84	88	92
WAIST	61	64	67	70	74
LARGE HIP	87	90	93	96	99
SMALL HIP	80	83	86	89	92
HIP LEVEL	19.8	20.2	20.6	21.0	21.4
DEPTH OF ARMHOLE	19.8	20.2	20.6	21.0	21.4
NECK TO WAIST (BACK)	38.8	39	39.2	39.4	39.6
ACROSS BACK	33	33.8	34.6	35.4	36.4
$\frac{1}{2}$ BACK WIDTH	16.5	16.9	17.3	17.7	18.2
NECKWIDTH	34.75	35.5	36.25	37.0	37.75
SHOULDER	12.2	12.4	12.6	12.8	13.0
ARMLENGTH	56.6	56.8	57.0	57.2	57.4
ARMWIDTH	24	25	26	27	28
WRIST	15.0	15.5	16.0	16.5	17.0
ARMHOLE CIRCUMFERENCE FOR CONTROL PURPOSE ONLY	39	40	41	42	43
SLEEVE CROWN APPROXIMATELY 2-3cm wider	41/42	42/43	43/44	44/45	45/46
<u>TROUSER MEASUREMENTS</u>					
WAIST	61	64	67	70	74
HIP	87	90	93	96	99
KNEE (Optional)	40	41	42	43	44
HEM "	38	39	40	41	42
EXT. SEAM	97.4	97.8	98.2	98.6	99
INT. SEAM	73	73	73	73	73
CROTCH	24.4	24.8	25.2	25.6	26

SIZE 36 FD 168-93-67

SCALE 1-25



STANDARD BLOCK PATTERN  
LADIES TROUSER

	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{10}$
WAIST	67-4.71	35.5	17.75	8.9
LARGE HIP	93+2	47.5	23.75	11.9
SMALL HIP	86+2	44	22	
KNEE WIDTH	42		10.5	
HEM WIDTH	40		10	
EXT. SEAM	98.2			
INT. SEAM	73			
CROTCH	25.2			
HIP LEVEL	20.6			

177

HEM L

STANDARD BLOCK PATTERN  
LADIE'S TROUSERS

DRAFTING PROCEDURE

Construction of the frame

1. Draw the center crease line
2. Square the waistline at the top
3. Measure the crotch height and square the crotch line
4. mark hiplevel according to standards
5. Measure full length of trousers (ext.seam - 1cm)
6. Square the hemline
7. Mark knee-level at half distance between crotchline and hemline. Raise the point 6cm upwards.
8. Square the knee-level

Check measurements and angles

Construction of the front

9. Calculate hipwidth and measure  $1/8-2$  for C.F. and  $1/3+2$  for sideseam. Square a guideline to crotch line at front.
10. Identify the front crotch point  $1/20-1cm$  on crotch-line.
11. Identify the C.F. waistline  $1/3$  waist from creaseline.
12. Shape the crotch from the point through hip width to the waistline.
13. On the waistline measure  $1/8$  waist + 2cm + 1cm to the side seam and raise the point 1cm.
14. Mark the position of the front waist dart at 4.5cm from the center creaseline towards sideseam.
15. From the 4.5 point measure and mark depth of the dart, 2cm.
16. Square the extended dartline 2cm towards hipline extending the line 3cm beyond waistline.
17. Draw the inner dartline from waistline equalizing the two dartlines.
18. Shape the final waistline by joining the points.
19. Measure the knee-welt  $1/4-1cm$  either side of creaseline.
20. Measure the knee-welt  $1/4-1cm$  either side of creaseline.
21. Draw a guideline through the points to the sideseam.
22. Shape the final outseam.
23. Draw a guideline through given points at the inner seam.
24. Shape the final inseam.

THE FRONT CONSTRUCTION IS USED AS GUIDE TO PREPARE  
THE BACK

Construction of the back

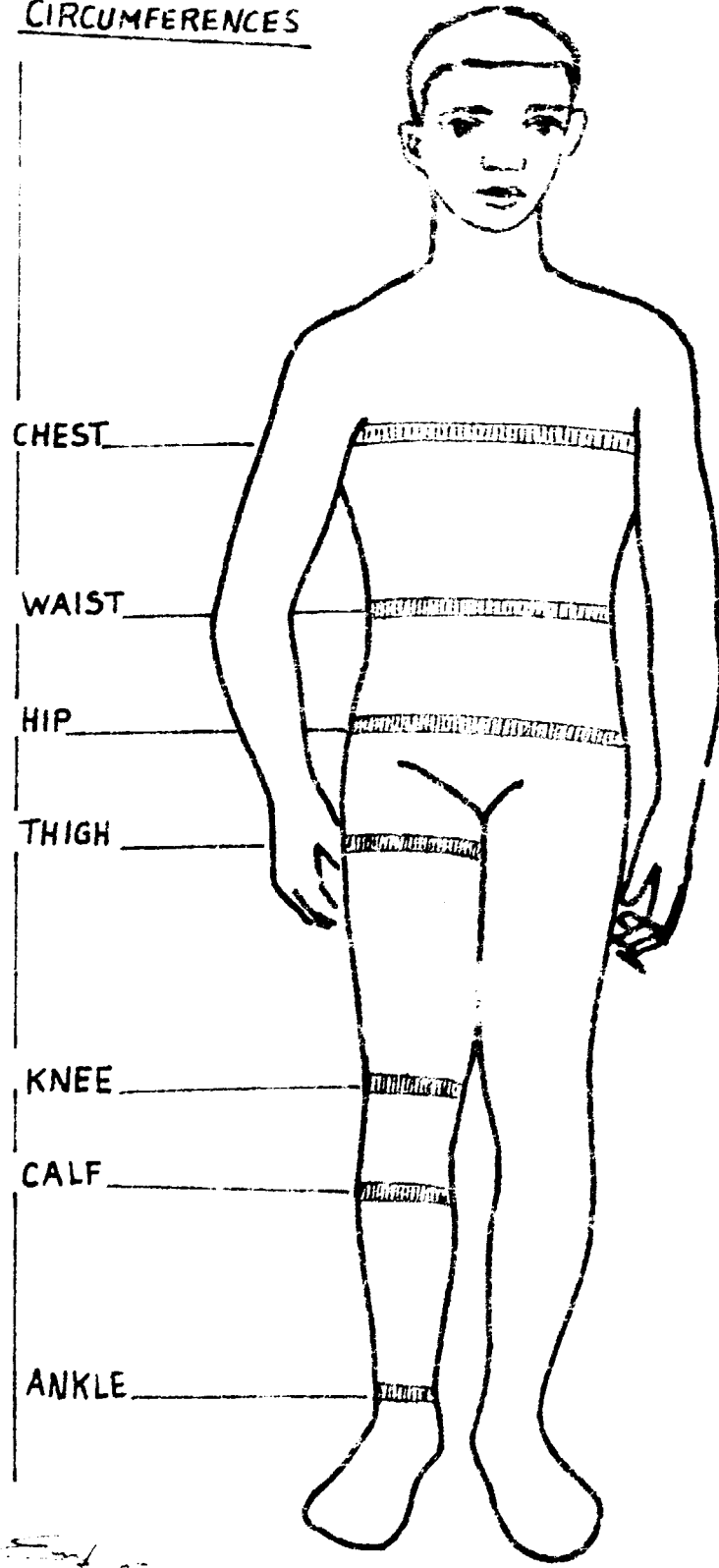
25. Identify the back crotch point  $1/20 - 1\text{cm}$  from front crotch point and lower the point  $1.5\text{cm}$
26. Identify the back hipline above front hiplevel by  $1/20 - 1.5\text{cm}$  along the creaseline and square  $1/20 - 1\text{cm}$  to C.B.
27. Draw the back hipline from the identified C.B. point joining front hipline at sideseam measuring  $\frac{1}{4}$  hip.
28. Identify the C.B. waist point by extending the front creaseline  $1/20 - 1.5$  beyond waist. from the identified point measure  $1.5$  to the C.B.
29. Measure  $\frac{1}{4}$  waist -  $1 + 2.5$  for waistdart from C.B waist point to the waistline.
30. Raise the side seam point by  $1\text{cm}$ .
31. Position the waist dart at half distance to C.B. sideseam. Extend the dartline beyond waist guideline. Draw the final waist line.
32. Mark the external seam  $\frac{1}{4} + 1\text{cm}$  at knee line and hem line.
33. Mark the internal seam  $\frac{1}{4} + 1\text{cm}$  at knee line and hem line.
34. Shape the final outseam and inseam of the back part.

INTRODUCTION TO GENT'S TROUSERS



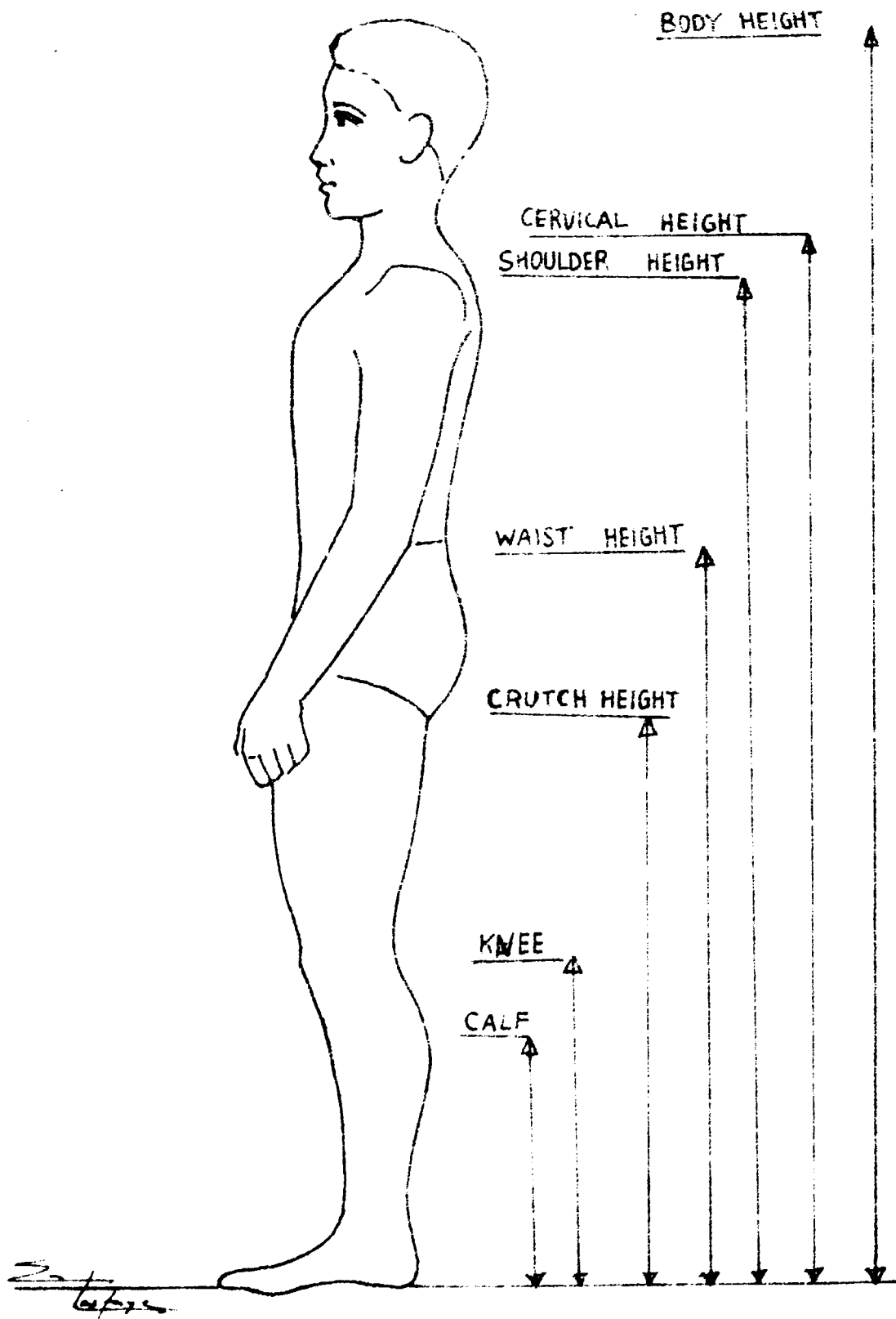
# BODY MEASURING POINTS

## CIRCUMFERENCES



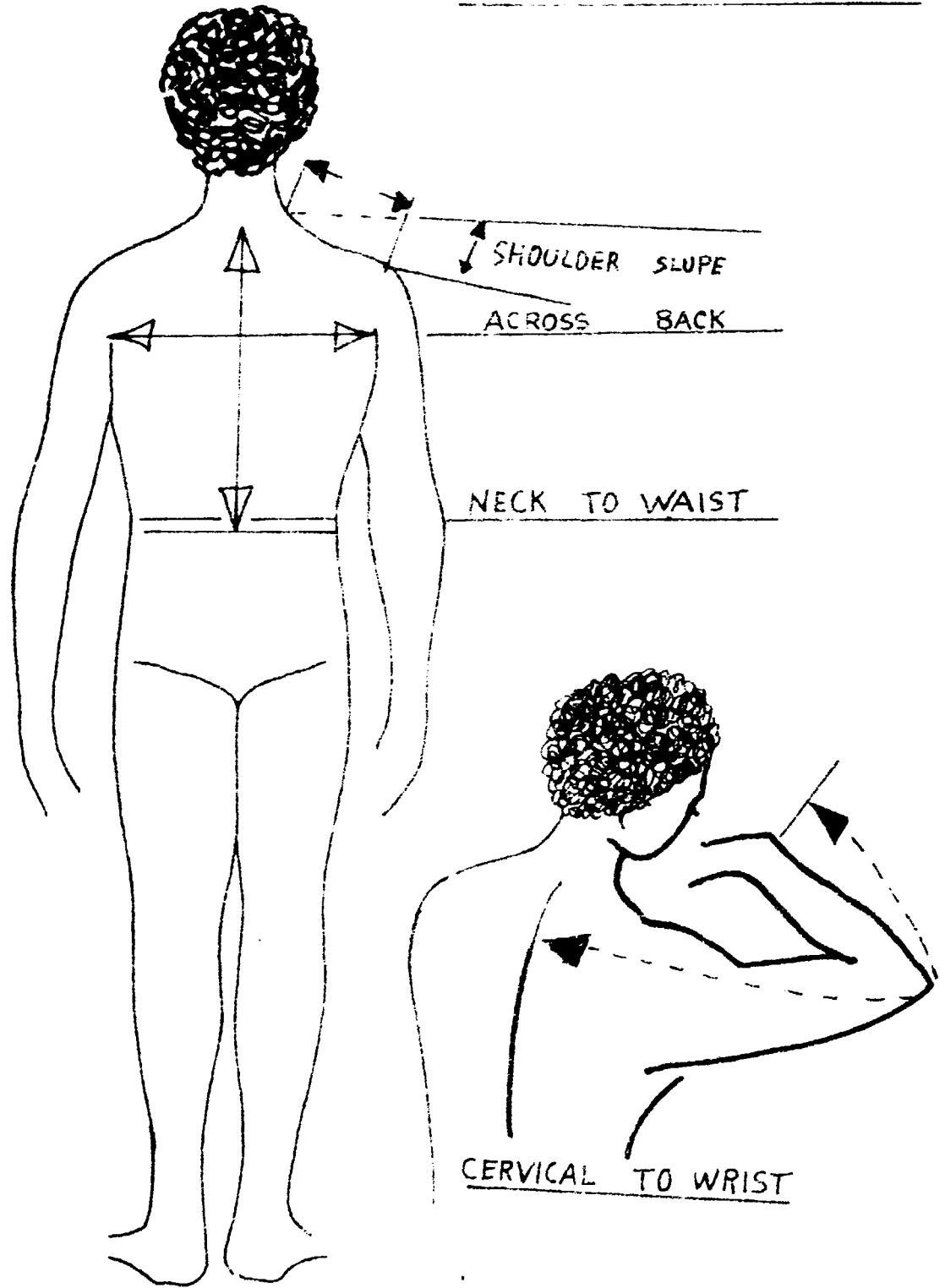
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BODY MEASURING POINTS



BODY MEASURING POINTS

SURFACE MEASUREMENTS



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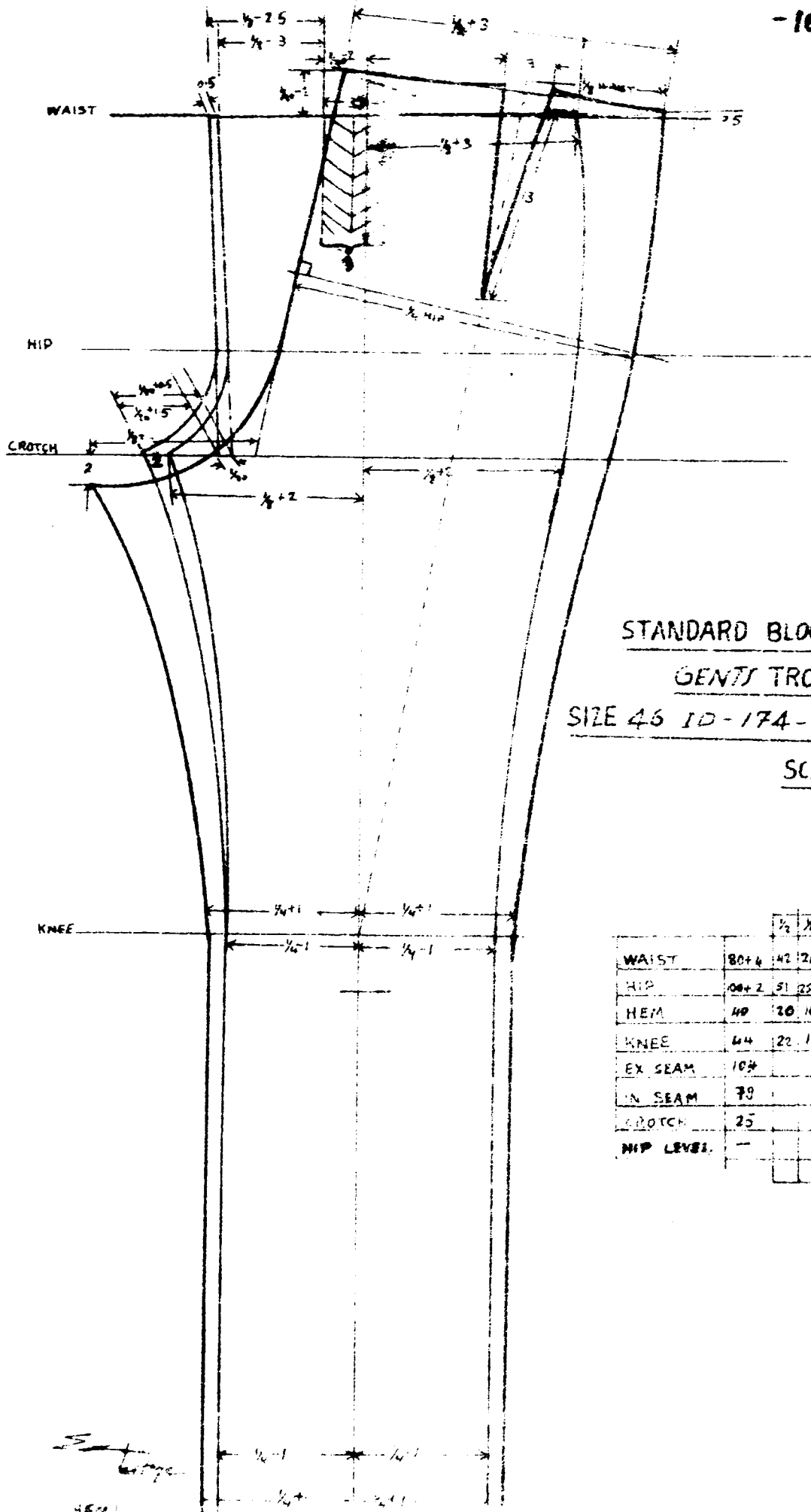
STANDARD BODY MEASUREMENTS

GENIS WEAR

SIZE	42	44	46	48	50
NECKWIDTH	35	36	37	39	39
CHESTWIDTH	84	88	92	96	100
WAIST	72	76	80	84	88
HIP	92	96	100	104	108
DEPTH OF ARMHOLE	22.5	23.0	23.5	24.0	24.5
NECK TO WAIST	41	42	43	44	45
ACROSS BACK	37.6	39.2	40.8	42.4	44.0
1/2BACKWIDTH	18.8	19.6	20.4	21.2	22.0
ARMLENGTH	58	59	60	61	62
ARMHOLE WIDTH	46	47	48	49	50
WRIST	17	17.5	18	18.5	19
EXTERNAL SEAM	100	102	104	106	108
INTERNAL SEAM	77	78	79	80	81

ADDITION AND SUBTRACTION FOR SHORTER AND TALLER SIZES  
HAVING THE SAME BODY MEASUREMENTS AS ABOVE

	Short	Medium	Tall
Neck to waist	- 1cm	43	+ 1cm
arm length	- 2cm	60	+ 2cm
Shirt length	- 3cm	73	+ 2cm
Ext.seam	- 5cm	104	+ 5cm
Int.seam	- 4cm	79	+ 4cm



STANDARD BLOCK PATTERN  
GENTS TROUSER  
 SIZE 46 10-174-100-80  
 SCALE 1-25

	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{16}$
WAIST	80+4	42 21	105	
HIP	100+2	51 255	124 51	
HEM	40	20 10		
KNEE	44	22 11		
EX SEAM	104			
IN SEAM	78			
CROTCH	25			
HIP LEVEL	-			

*Signature*  
 48721

STANDARD BLOCKPATTERN  
GENT'S CLASSICAL TROUSERS

DRAFTING PROCEDURE

Construction of the frame

1. Draw the center crease line - full length of paper
2. Square waist line at the top
3. Measure length of trouser, external seam -1cm.
4. Square hemline
5. Measure the in.seam - 1cm and square the crotchline
6. Divide the rise by 3 and square the hip line
7. Mark knee level at half distance between crotch line and hem line + 4cm up.

Construction of the front

8. Calculate hipwidth and measure  $1/8 + 2$  for side seam on crotch line.
9. Add 2cm for left side fly front
10. From the fly front point measure inwards  $1/20 + 0.5$  for left side and  $1/20 + 1.5$  for right side.

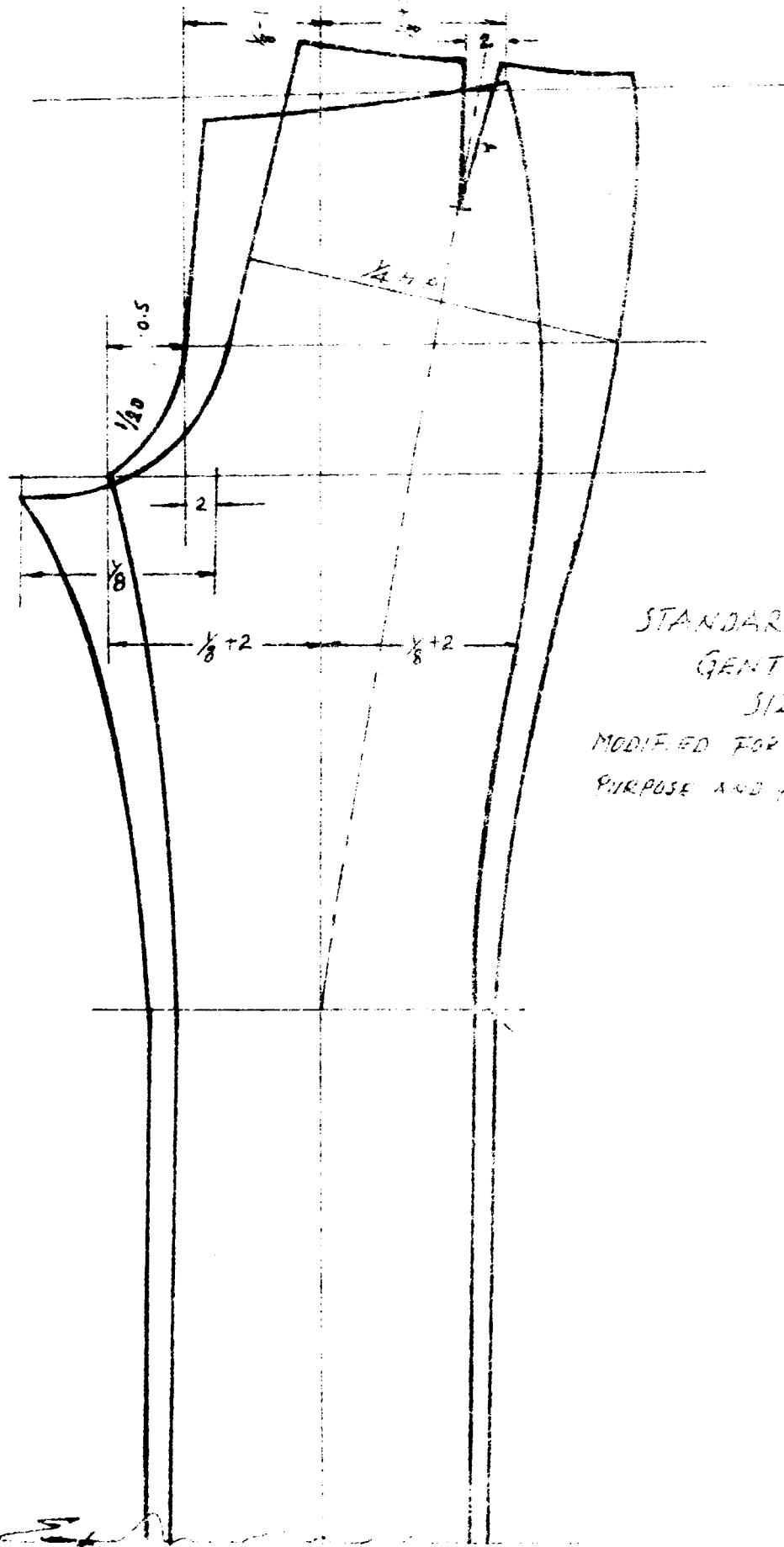
Waist

11. From the center line measure 3cm for the waist dart pleat.
12. Measure  $1/8$  of waist - 2.5 from the left dart point for the left side and measure inward 0.5cm for the right side.
13. Join the left side and right side point to identify the center front guide.
14. Measure  $1/8 + 3$  for the side seam and raise the point 0.5cm.
15. Draw the final waistline from the 0.5 point to center front.
16. Shape the fly front through guide point.
17. Measure the knee width  $1/4 - 1$  from each side of the center line on the knee line.
18. Shape the external and internal seamline through identified guide points.
19. Measure the hem width  $1/4 - 1$  from either side of creaseline.

Construction of the back

20. For the back construction, extend front crossline beyond waist.
21. Identify the back crotch angle, measuring 2cm from the right side front crotch angle.
22. Identify the C.B. waist point measuring  $1/20 - 2\text{cm}$  from center crossline towards C.F.
23. Join the two identified points extending the line beyond waistline  $1/20 \text{ hip} - 1\text{cm}$ .
24. Measure  $1/20 \text{ waist} + 3\text{cm}$  from identified C.B. waist point to the waistline and raise the point 0.5cm.





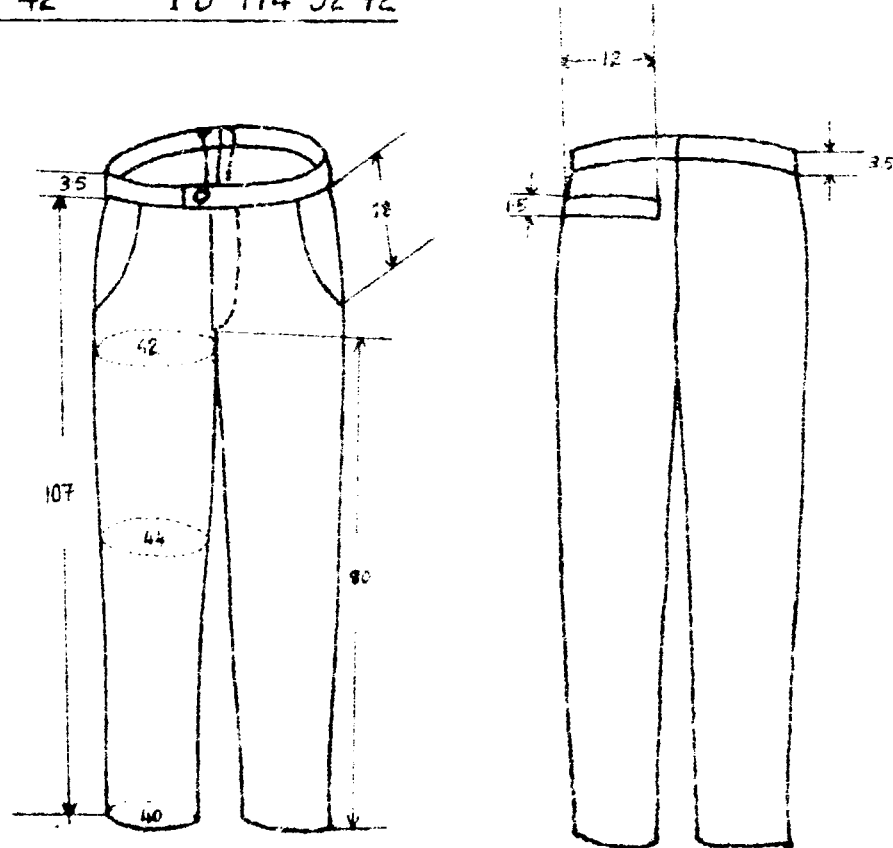
STANDARD BLOCK PATTERN  
GENT'S TROUSERS  
SIZE 46  
MODIFIED FOR INDUSTRIAL  
PURPOSE AND FOR MASS PRODUCTION

*Signature*

PRODUCT AND QUALITY SPECIFICATIONS

GENTS CLASSICAL TROUSERS

SIZE 42 I-D 174-92-72



MEASUREMENTS

WAIST  
HIP  
OUTSEAM  
INSEAM

BODY STANDARDS

72 + 4  
92 + 2  
107  
80

FINAL GARMENT

76  
94  
~~107~~  
80

SEAM ALLOWANCES

OUTSEAM 12 MM  
INSEAM 12 "  
CROTCH SEAM 15 "  
SEAT " 25 "  
HEM 40 "

SEAM TYPE

FLAT TURN DOWN  
FLAT OPEN  
FLAT TURN DOWN  
FLAT OPEN

FINISHING

TOP STITCHING  
PLAIN  
TOP STITCHING  
PLAIN

STITCH LENGTH

A/ ALL SEAMS 5 STITCHES / CM  
B/ ALL TOPSTITCHES 3 " "

*Signature*

WORK PROCEDURE  
GENT'S CLASSICAL TROUSERS

1. OVERSIGHT

Inseam  
Outseam  
Bottom  
Seatseam  
Front fly parts  
Pocket parts

2. Preparation

Fly front pieces  
Waist band  
Waist darts  
Backpocket  
Front pockets

3. Assembling

Stitch outseam  
Topstitch  
Stitch inseam  
underpress  
Attach interlining on waist band  
Attach zipper  
Attach waistband  
Close crotch and seatseam  
under press  
Bartack front fly pockets and  
center back waistband  
Hemming

4. Finishing

Cleaning  
Make button-hole  
Attach button  
Final press  
Final quality control

COMPARISON OF STANDARD SIZES FOR GENT'S  
AND RELATED BODY MEASUREMENTS IN CENTIMETERS.

Size designation								
EUROPE	44	46	48	50	52	54	56	58
ENGLAND	36	38	40	42	44	46	48	50
UNITED STATES	32	34	36	38	40	42	44	46
<hr/>								
BEST GERMANY	44	46	48	50	52	54	56	58
CHESTWIDTH	88	92	96	100	104	108	112	116
WAIST	80	84	88	92	96	100	104	110
HIPS	96	100	104	108	112	116	119	122
<hr/>								
SWEDEN	644	646	648	650	652	654	656	658
CHESTWIDTH	88	92	96	100	104	108	112	116
WAIST	74	78	82	86	90	95	100	106
HIPS	94	98	102	106	110	114	118	122
<hr/>								
DENMARK	880	920	960	1000	1040	1080	1120	1160
CHEST WIDTH	88	92	96	100	104	108	112	116
WAIST	74	78	82	86	90	95	100	106
HIPS	94	98	102	106	110	114	118	122
<hr/>								
ENGLAND	36	38	40	42	44	46	48	50
CHEST WIDTH	86	90	94	98	102		110	114
WAIST	76	80	84	88			102	107
HIPS	92	96	100	104			116	120
<hr/>								
UNITED STATES	32	34	36	38			44	46
CHEST WIDTH	88	92	96	100		108	112	116
WAIST	74	76	80	84	88	92	96	107
HIPS	94	98	102	106	110	114	118	122

STANDARD BODY MEASUREMENTS

BOY'S WEAR

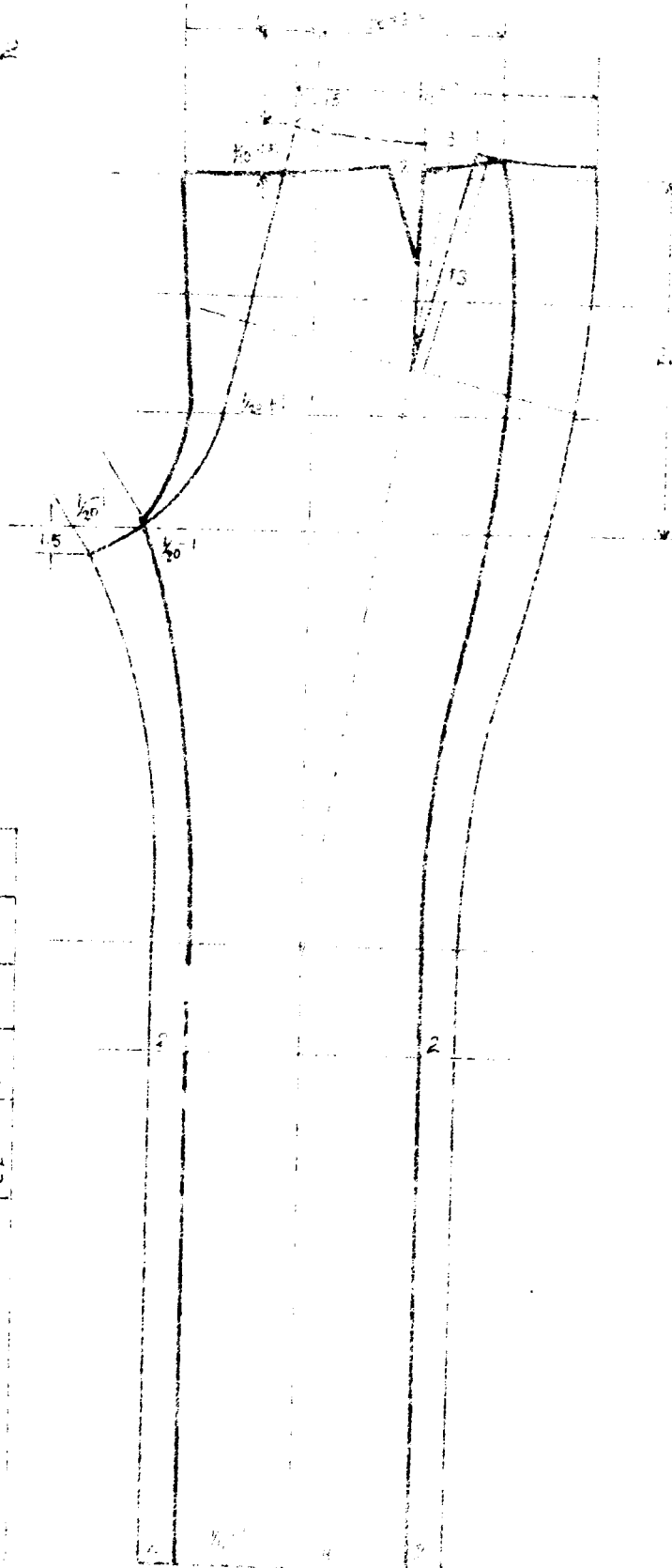
Size	131	137	143	149	155	161	167	173	179
NECK WIDTH	30	31	32	33	34	35	36	37	38
CHEST WIDTH	70	73	76	79	82	85	88	91	94
WAIST	61	63	65	67	69	71	73	75	77
HIP	76	79	82	85	88	91	94	97	100
NECK TO WAIST ACROSS BACK	31.5	33	34.5	36	37.5	39	40.5	42	43.5
$\frac{1}{2}$ BACKWIDTH	14	14.6	15.2	15.8	16.4	17	17.6	18.2	18.8
SHOULDER	10.5	11	11.5	12	12.5	13	13.5	14	14.5
ARMLENGTH	46.5	48	51.5	54	56.5	58	59.5	61	62.5
DEPTH OF ARM- HOLE									
ARM WIDTH WRIST	21	22	23	24	25	26	27	28	29
EXT. SEAM	79	83	87	91	95	99	101	104	106
INT. SEAM	58	61.5	65	68.5	72	74.5	77	79.5	81
CROTCH	21	21.5	22	22.5	23	23.5	24	24.5	25

STANDARD BLOCK PATTERN

BOYS TROUSERS

SIZE 137

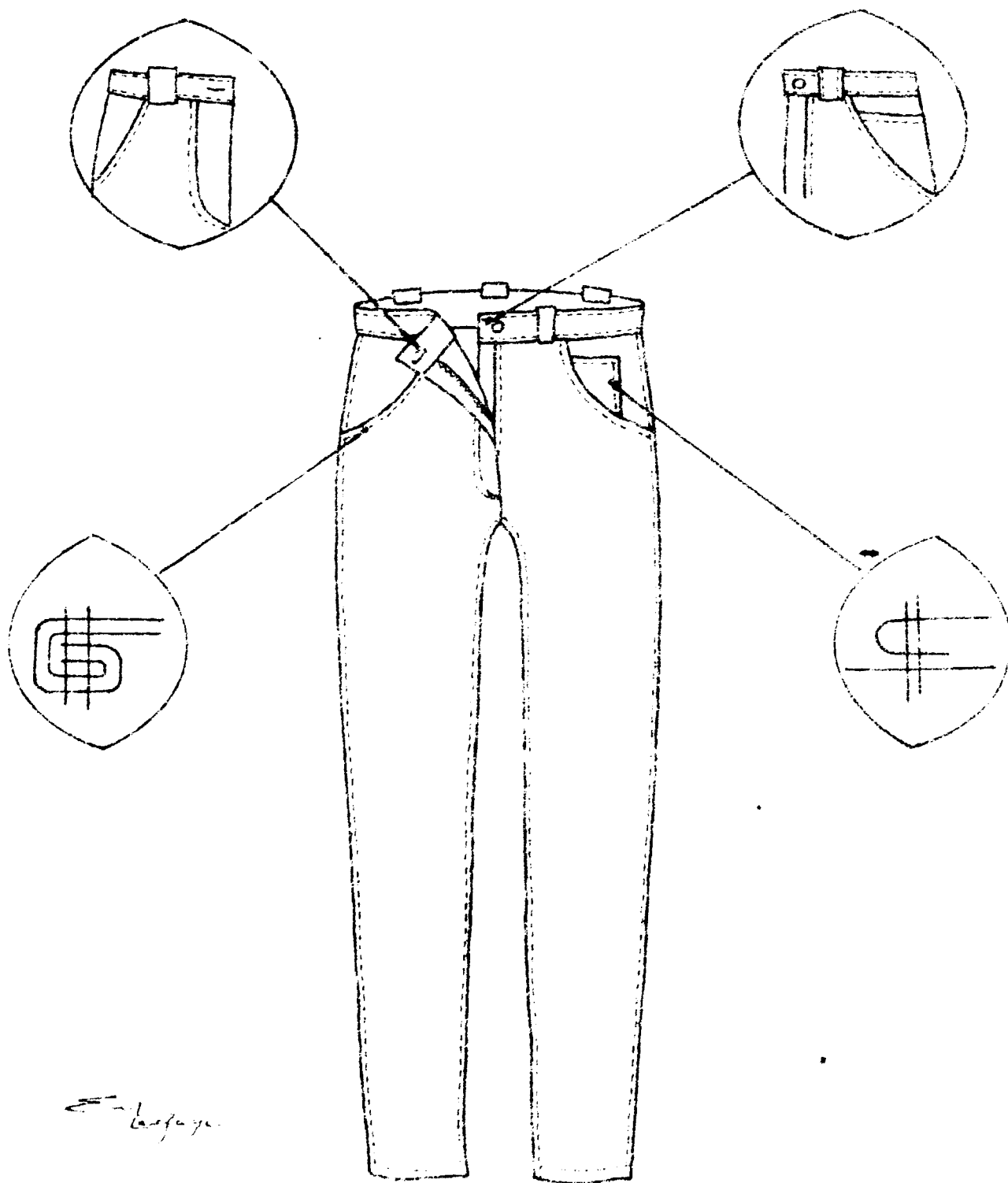
AGE 11-12



	1/2	1/4	1/8	1/20
WAIST	63 1/2 65	32 5	16 25	8 12
HIP	79 1/2 81	40 5	20 25	10 12 4 05
FLY SEAM	8 3			
FLY CUTCH	2 1 5			
LEG WIDTH	3 2	1 8	8	

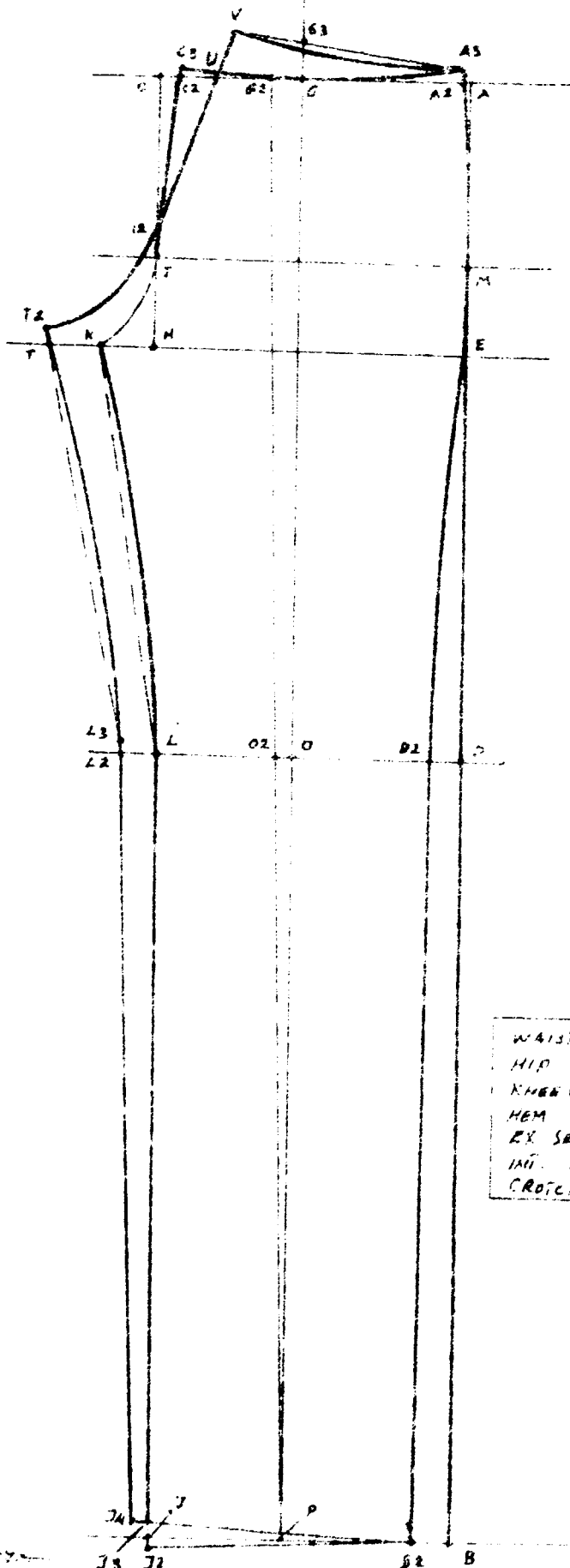
1/2" seam allowance

TRADITIONAL BLUE JEANS FRONT VIEW  
THE SYMBOLS SHOWN INDICATE THE TYPE OF  
SEAMS COMMONLY USED IN JEAN PRODUCTION



*E. L. Payne*

JEANS (FRENCH CUT)



		1/2	1/4	1/8	1/2
WAIST	80	40	20	10	
HIP	96	48	24	12	2.5
KNEE WIDTH	46		11.5		
HEM "	42		10.5		
EX SEAM	112.5				
INT. "	90				
CROTCH	22.5				

*S. ...*



JEANS      (FRENCH CUT)

Seam allowances are included in the construction of inseam, outseam and the hem.

	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{20}$
WAIST	80			
HIP	96			
KNEE WIDTH	46			
HEM WIDTH	42			
EXT. SEAM	112.5			
INT. SEAM	90			
CROTCH	22.5			

FRAME

- A - B, A - C      Construction lines  $90^{\circ}$  angle
- A - E              Crotch height 22,5
- A - D              Kneellevel 56
- E - B              Inseam 90
- A - C               $\frac{1}{4}$  hip + 2 = 26 square to H
- C - C              Half distance A - C + 1 from A
- B - P = AG
- G - P              Center crease line (front)
- E - M =  $\frac{1}{3}$  of A - E square  $90^{\circ}$  angle to I

Front

- O - D2 and O - L =  $\frac{1}{4}$  knee width + 0.25 = 11.75  
P - B2 and P - J =  $\frac{1}{4}$  hemwidth + 0.75 = 11.25  
B2 - D2 and D2 - M straight guidelines  
A - A2 = 0.75cm  
A2 - A3 = 1cm  
A3 - H - D2 Final shaping of front and back side seams  
C - C2 = 1.5  
C2 - C3 = 0.5  
C2 - G - A3 Final shaping of waistline  
H - K =  $\frac{1}{3}$  Hip +  $2 \div 3$  = 4.7  
K - L and L - J Final shaping of inseam  
J - J2 0.5cm.  
J2 - B2 Final front hemline  
K - I - C3 Final front crotch seam

BACK

- G - G2 = 2.5cm  
G2 - P = connect and extend  
U =  $\frac{1}{2}$  of C - G2 - 1cm (from C)  
I - I2 = 1.5cm  
I2 - U = connect and extend 4cm to V  
V - A3 = connect  
K - T = H - K connect I2 - T2  
L - L2 = 3cm  
J - J3 = 1cm connect T - L2 - J3  
J3 - J4 = 0.5cm connect J4 - B2  
L2 - L3 = 1cm (balance mark with front L.)

= 30 =

WORK PROCEDURE

TRADITIONAL BLUE JEANS

1. Make belt loops
2. Hem pockets
3. Pre-crease watch pocket
4. Set watch pocket to front pocket facing
5. Set front pocket facing
6. Stitch and close front pocket lining
7. Precrease hip pockets and front pockets
8. Make left and right fly pieces
9. Attach fly pieces
10. Top stitch left fly front
11. Hang front pockets
12. Attach pockets
13. Bartack pockets
14. Stitch seatseam
15. Join fronts
16. Bartack crotch and front pockets
17. Stitch outseam (side seam)
18. Stitch inseam
19. Attach waistband
20. Finish waistband ends
21. Buttonhole
22. Button
23. Set belt loops
24. Hemming
25. Set label

Labels for Men's Wear

Labels

The size and description of men's wear should be clearly and concisely indicated on the label.

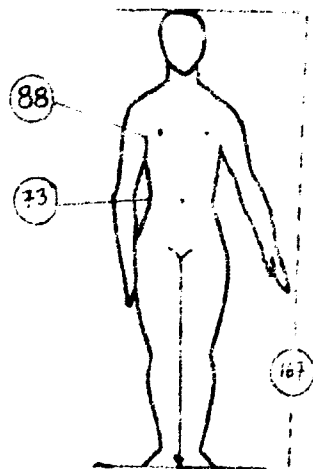
Appropriate body measurements should be indicated, undergarments and accessories should be clearly indicated.

Additional information may be indicated on the label or on the buying ticket.

Such additional information may include a size code-number, body measurements considered to constitute useful information.

*EXAMPLE OF LABELS FOR GENT'S WEAR*

GENT'S JACKET

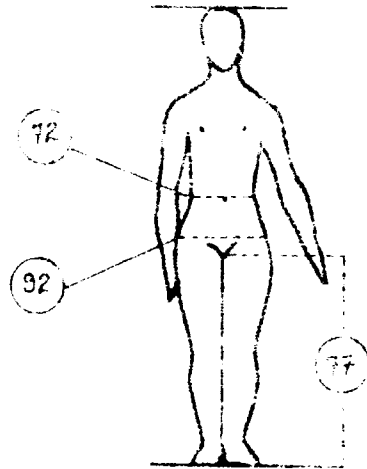


CHEST GIRTH	88
WAIST GIRTH	73
HEIGHT	167

PICTOGRAM

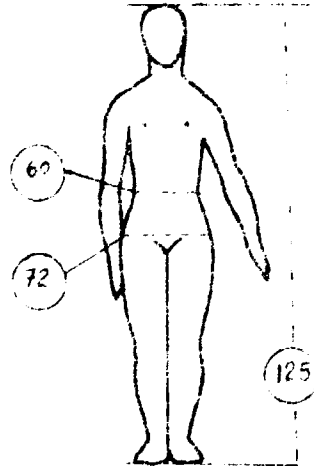
LABEL

GENTS TROUSERS



WAIST GIRTH	72
HIP GIRTH	92
INSIDE LEG LENGTH	77
RICE	23

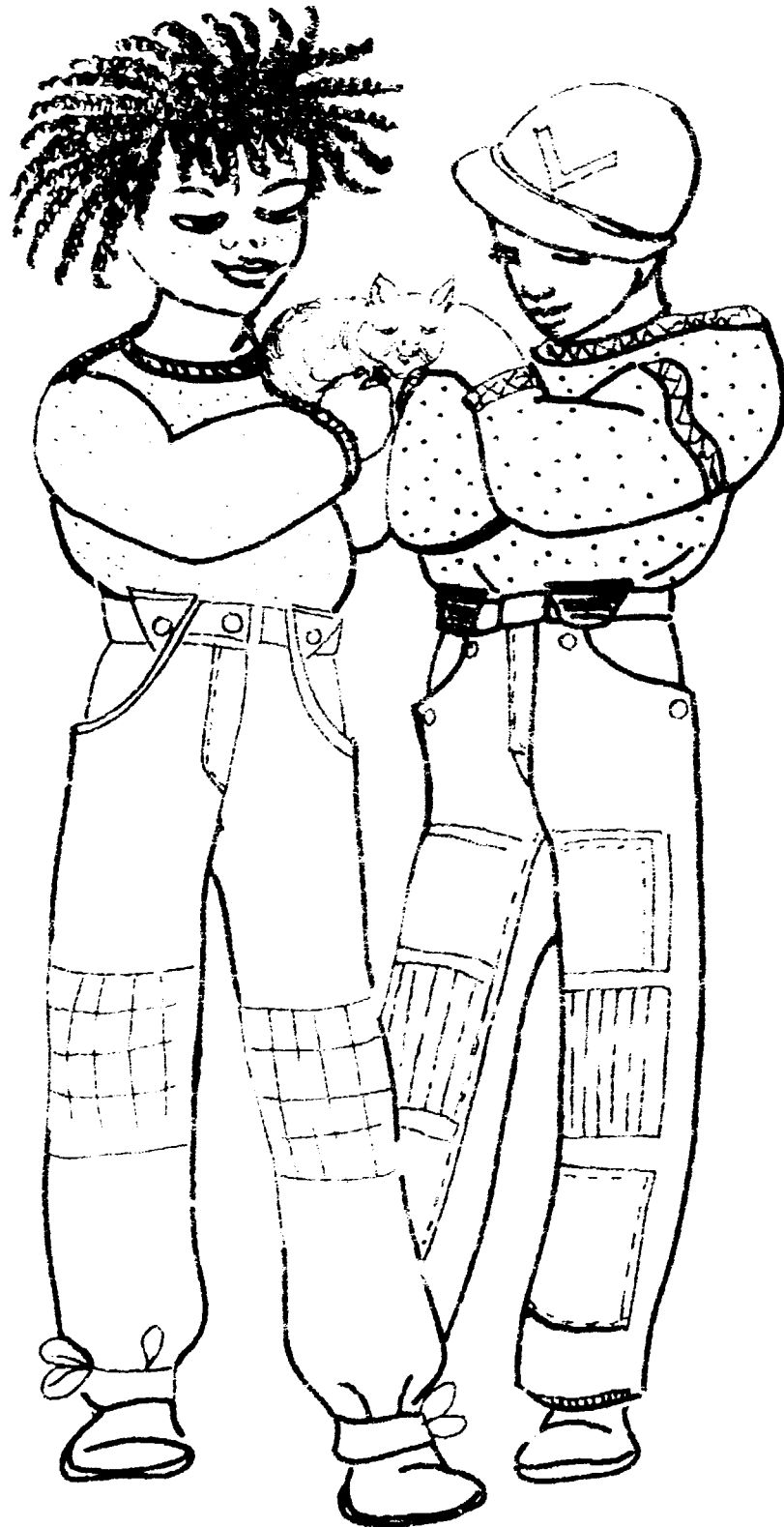
Boy's SHORTS



HEIGHT	125
HIP GIRTH	72
WAIST GIRTH	60
INSIDE LEG LENGTH	54.5

*Sanchez*

CONSTRUCTION OF CHILDREN'S WEAR

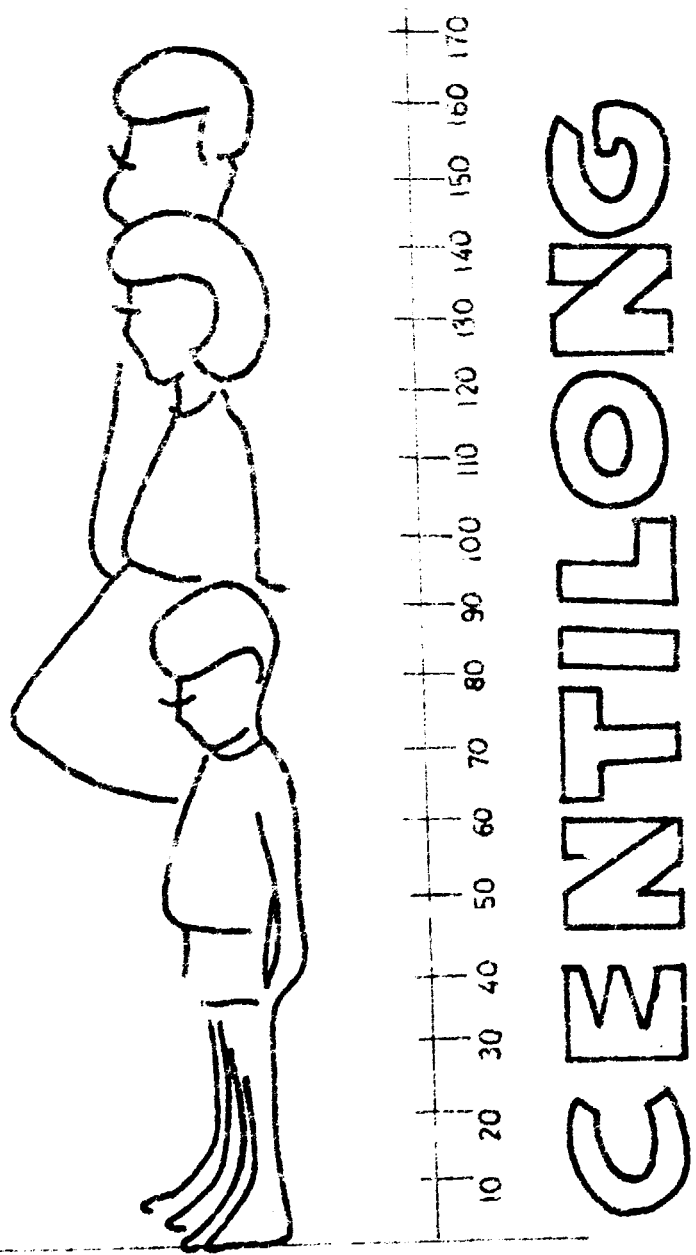


PATTERN CONSTRUCTION  
CHILDREN'S WEAR

CENTILONG SYSTEM	
SIZE MARKING OF CHILDREN'S WEAR	PAGE 1-3
STANDARD SIZES FOR CHILDREN'S WEAR	" 4-6
STANDARD MEASUREMENTS INFANTS AND GIRLS	" 7-9
MEASUREMENTS, ALLOWANCES AND PROPORTIONS IN CHILDRENS WEAR	" 10
STANDARD BLOCK PATTERN SIZE 110 6-7 YEARS	" 11-15
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CENTILONG - SYSTEM

SIZE MARKING OF CHILDREN'S WEAR





CHILDREN'S WEAR

CENTILONG SYSTEM

Measuring points.

All pattern drafting whether for industry or for individuals is based on body measurements.

The amount of measurements to consider may vary from very many to just a few depending on the drafting system applied.

Some measurements are indispensable in order to establish a block pattern.

<u>Top</u>	<u>Bottom</u>
1. Body height	Waist
2. Bust	Hip
3. Waist	Ext.seam
4. Across back	Int.seam
5. Shoulder	Crotch
6. Neck to waist	

When taking body measurements, the tape measure has to follow the body without being too tight nor too loose the size will apply to the figure to be fitted and not to the garment that fits it.

The standard measurements given in table of measurements are all body measurements.

The system is based on the average body height of children in different age groups.

The main problem is the constant change in size and shape of a growing child's figure.

This problem must be considered in the construction and in the choice of size and style.

The understanding of how a child grows and develops is very essential in pattern-making.

It affects very much the whole approach to the construction, cutting and fitting of garments for children.

Since the growth of children is a continuous process, the garment must not fit too tightly. Comfort is very important and the style must be adapted to the child's movements.



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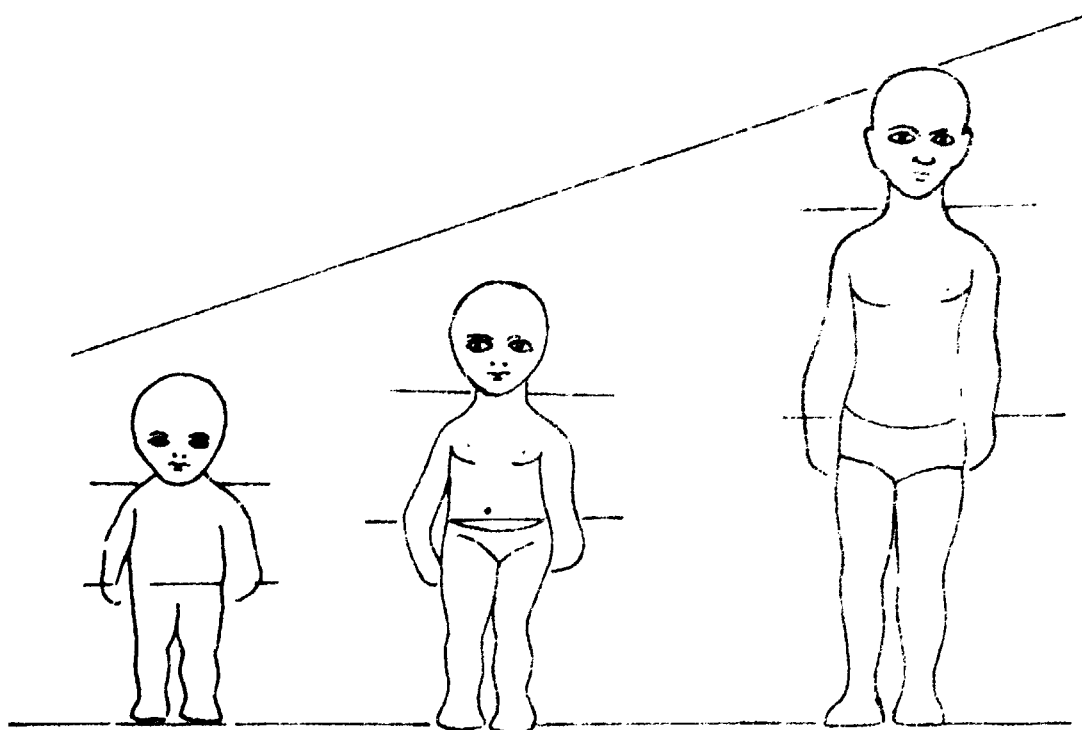
CHILDREN'S WEAR

STANDARD SIZES FOR CHILDREN'S WEAR:

Age group	0 - 4	Sizes	100 - 106cm
"	5 - 12	"	110 - 140cm
"	12 - 18	"	140 - 170cm

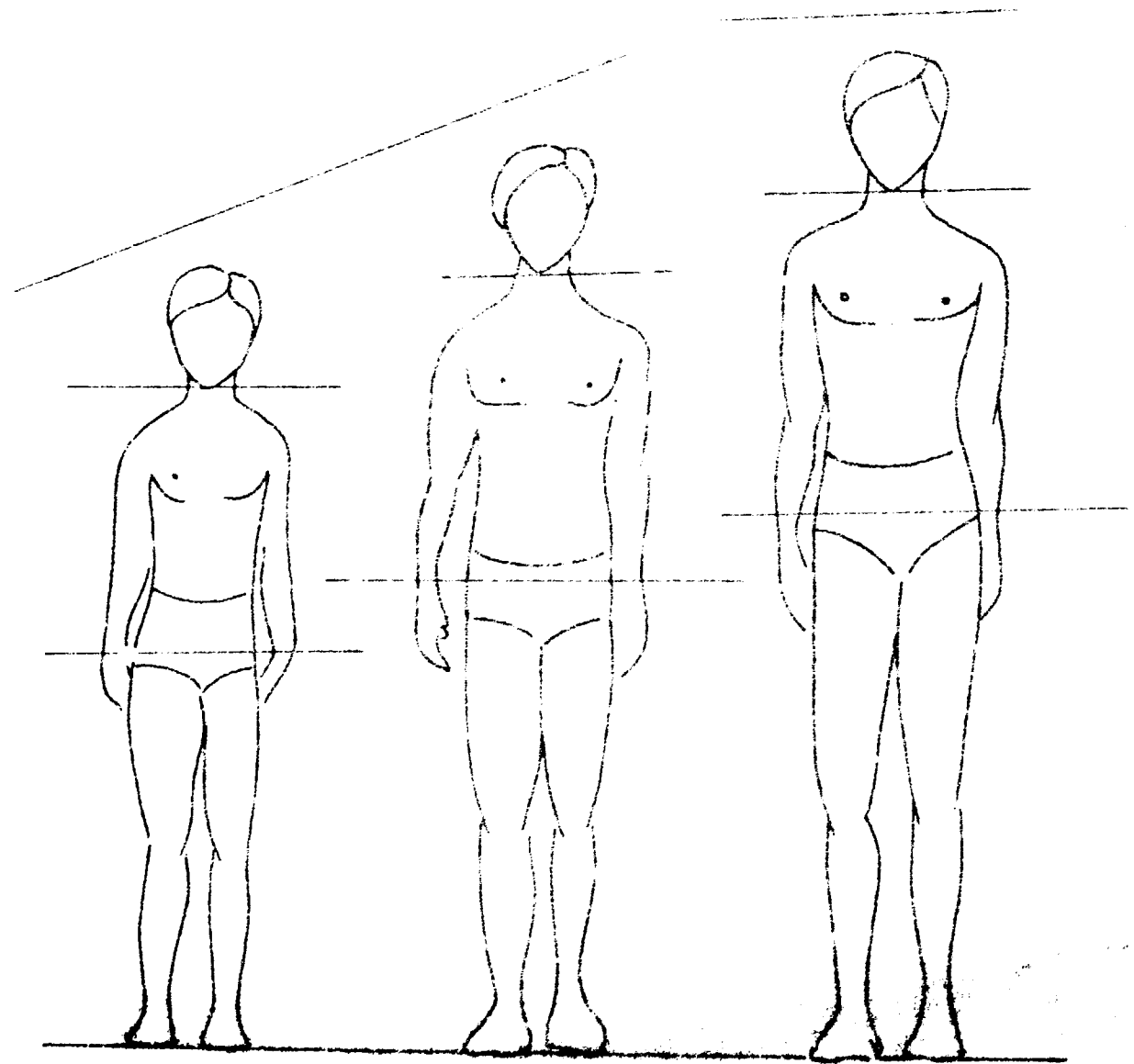
Sizes 100 - 170 are approaching adult proportions only. In figure proportions these sizes apply to a body shape which is not yet fully developed.

LINE OF GROWTH



FROM INFANT SIZE THROUGH SMALL CHILDREN.....

LAWS OF GROWTH

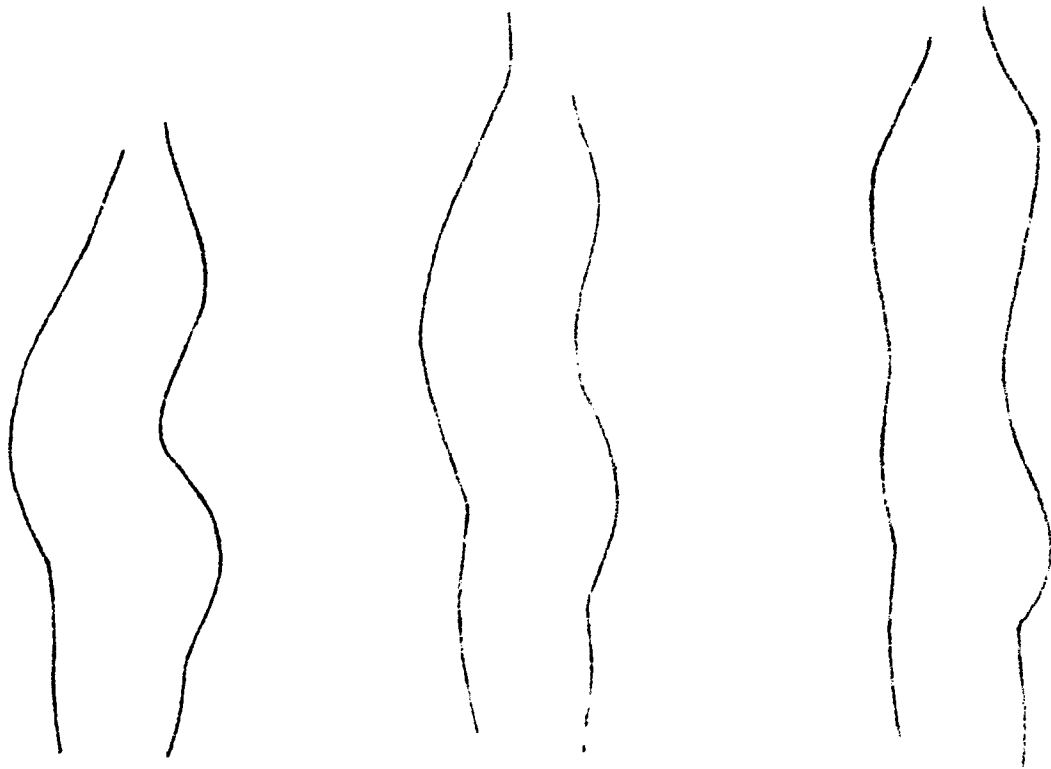


TO TEENAGE AND ADULT SIZE

*W. H. Poy.*

There are some special problems in the construction of children's wear which are very important when planning and preparing the patterns.

1. The change in size and shape of a growing child's figure.



2. The difficulty of fitting children and of obtaining reliable measurements.
3. Special requirements of fit and comfort.

*W. C. Taylor*

## STANDARD MEASUREMENTS FOR INFANTS

AGE GROUP 0 - 5 ( METRIC UNITS)

BODY HEIGHT	63	70	77	84	91	98	105
AGE GROUP	0-1		1-2		2-3	3-4	4-5
BUST	50	51	52	53	54	56	58
WAIST	52	53	53	54	54	55	55
ACROSS BACK	20	20.4	20.8	21.2	21.6	22.4	23.2
HIPS	51	52	54	56	58	60	62
SHOULDER	6	6.5	7	7.5	8	8.25	8.5
ARM LENGTH	23	24.5	26	28.5	31	33.75	36.5
ARM WIDTH	15	15.5	15.5	16	16	16.5	17
WRIST	11	11.5	11.5	12	12	12.5	12.5
NECK BASE	24	24.5	25	25.5	26	26.5	27
NECK TO WAIST	15	17	19	21	23	24	25
DRESS LENGTH	30	33	36	39	42	45	48
EXT. SEAM	35	39	43	47	51	55	59
INT. SEAM	20	23.5	27	30.5	34	37.5	41
CROTCH	15	15.5	16	16.5	17	17.5	18

= 7 =

## STANDARD BODY MEASUREMENTS FOR GIRLS

AGE GROUP 5 - 12 ( METRIC UNITS)

BODY HEIGHT	100	115	120	125	130	135	140
AGE GROUP	5-6	6-7	7-8	8-9	9-10	10-11	11-12
BUST	60	62	64	66	68	70	72
WAIST	56	57	58	59	60	61	62
HIPS	64	66	68	70	72	75	78
ACROSS BACK	24	24.8	25.6	26.4	27.2	28	28.8
SHOULDER	8.75	9	9.25	9.5	10	10.5	11
ARM LENGTH	39.25	41	42.25	44.5	46.5	47.5	49
ARM WIDTH	17.5	18	18.5	19	20	21	22
WRIST	13	13	13.5	13.5	14	14	14.5
NECKBASE	27.5	28	28.5	29	29.5	30	30.5
NECK TO WAIST	26	27	28	29	30	31	32
DRESS LENGTH	52	56	60	64	68	72	76
EXT. SEAM	63	67	71	75	79	82	85
INT. SEAM	44.5	48	51.5	55	58.5	61	63.5
CROTCH	18.5	19	19.5	20	20.5	21	21.5

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## STANDARD BODY MEASUREMENTS FOR GIRLS

AGE GROUP 12-18 (METRIC UNIT)

BODY HEIGHT	145	150	155	160	165	170	175
AGE GROUP	12-13	13-14	14-15	15-16	16-17	17-18	18-19
BUST	75	79	81	84	87	89	91
WAIST	63	64	65	66	67	68	69
HIPS	81	84	87	90	93	96	99
ACROSS BACK	30	31.2	32.4	33.6	34.8	35.6	36.4
SHOULDER	11.5	12	12.25	12.5	12.75	13	13.25
ARM LENGTH	50.5	52	53.75	55.5	57.75	59	60.75
ARM WIDTH	23	24	25	26	27	27.5	28
WRIST	14.5	15	15	15.5	15.5	16	16
NECK BASE	31	31.5	32.	32.75	33.5	34.25	35
NECK TO WAIST	33	34.5	36	37.5	39	39.5	40
DRESS LENGTH	80	84	88	92	96	99	102
EXT. SEAM	88	91	94	97	100	103	106
INT. SEAM	66	68	70	72	74	76	78
CROTCH	22	23	24	25	26	27	28



MEASUREMENTS ALLOWANCES AND PROPORTIONS IN CHILDRENS'

WEAR

In the basic standard block patterns, allowances are made to fit a normal figure in motion.

In order not to restrict a child's movement, garments for children have comparatively bigger allowances than garments for adults.

The biggest allowances are therefore related to the parts of the body where movements are of considerable importance;

1. Bustwidth
2. Backwidth and armhole

The amount thus added for fit vary according to:

- The textile fabrics and their behaviour
- The type of garments and their use

BA Allowances in sportswear are bigger than in formal wear.

LIST OF AVERAGE ALLOWANCES IN STANDARD BLOCK PATTERNS FOR CHILDREN

Note, These are only suggestions and can be modified according to the garment requirements; materials, fit type of garment, etc.

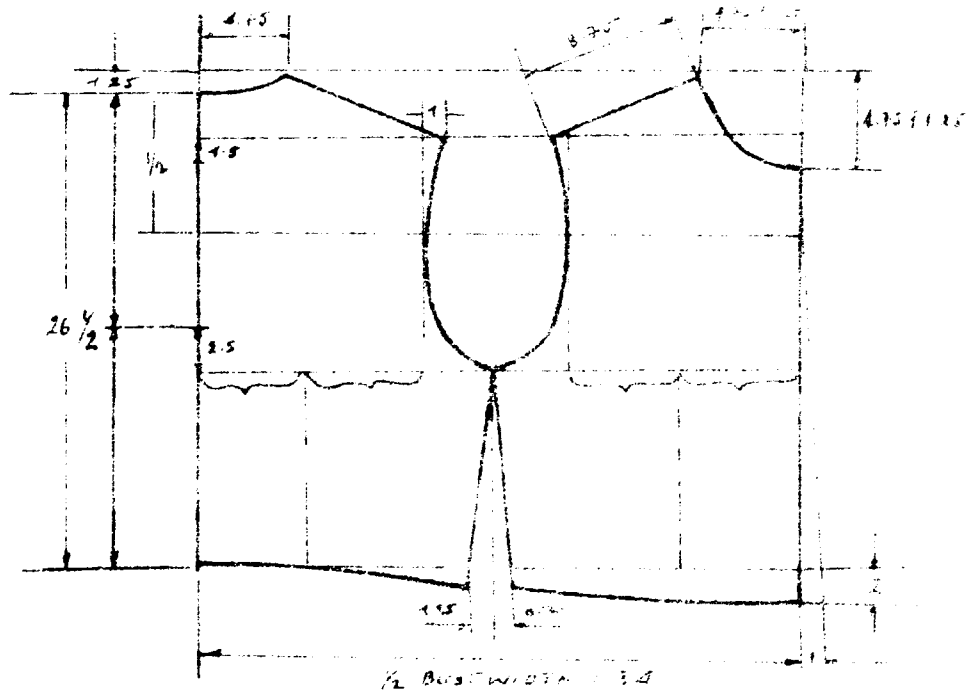
Bustwidth	+6	+8	+10	+12	+14	+16
Hipwidth	+2-4	+4-6	+6-8	+8-10	+10-12	+12-14
Backwidth	+1	+2	+2.5	+3	+4	+5
Armwidth	+5-6	+6-7	+7-8	+8-9	+10	+12
Neckwidth	--	--	+1	+2	+3	+4

When planning outer-garments such as jackets suits and coats, allowances must be made so as to provide for the garments worn underneath.

STANDARD BLOCK PATTERNS

BODICE BLOCK - SIZE 12

APPROXIMATE AGE 20'S - 30'S YEARS



STANDARD	BODY	MEASUREMENTS
BUST WIDTH	60 1/2 - 68 1/2 - 74 - 80 - 84 1/2	
NECK WIDTH	26	
NECK BACK	$7.25 + 0.5 = 4.75$	
NECK FRONT	$4.5 + 1.95 = 6$	
ACROSS BACK	$24 + 2 = 26 + 2 = 13$	
SHOULDER	8.75	
CHUST WIDTH	HALF NECK TO WAIST = 13	
ARMHOLE WIDTH	$18 = 8.5 + 9.5 = 8$	
NECK TO WAIST	26	

5/17/76

DRAFTING PROCEDURE

Standard block pattern for children

1. FRAME Datum and vertical lines
2. LENGTH Neckpoint to waist + 1.25cm
3. WIDTH  $\frac{1}{2}$  bustwidth
4. COMPLETE THE FRAME

HORIZONTAL LINES

5. NECKPOINT  
1.25cm from topline. Important point, mark with X.
6. BUSTLINE  
 $\frac{1}{2}$  Distance between neckpoint and waistline,  
lower the line 3cm.
7. BACKLINE  
 $\frac{1}{2}$  Distance between neckpoint and bustline.
8. SHOULDER LINE  
 $\frac{1}{2}$  Distance between neckpoint and backline,  
raise 1.5cm
9. BACK NECK  
Square line from neckpoint, mark  $\frac{1}{16}$  bustwidth  
+ 0.5cm. Draw a line to topline and shape the  
back neck.
10. ACROSS BACK  
Measure  $\frac{1}{2}$  across back + 1.0cm on the back line.  
Draw a guide line through this point between  
bust line and shoulder line.  
Extend the shoulder point 1.0cm beyond guideline  
and draw the final shoulder.

11. UNDERARM POINT

$\frac{1}{2}$  Distance between center front and center back minus 1.0cm towards back.

Draw a guideline to waist and extend the line 1.5cm below waistline.

12. BACK SIDESLASH

Reduce 1.25cm from waist extension. Draw the neck sideslash to underarm point.

13. FRONT NECK

Back neck width plus 1.25cm. Equal distance for the neck depth.

14. FRONT SHOULDER

Draw a line, given shoulder dimension, from neckpoint to the shoulder line.

15. FRONT CHEST WIDTH

$\frac{1}{2}$  neck to waist, draw a guideline between bust and shoulder lines.

16. ARMPHOLE

Measure the armpole width on bustline from back guideline.

17. FRONT SIDE SLASH

Reduce 0.5cm from waist extension and draw the front side slash.

18. EXTENDED CENTER FRONT LINE

Lower the waist line 2.5cm and extend the center frontline 1.5cm; draw center front line to the new point.

19. FRONT NECK LINE

Shape the front neckline.

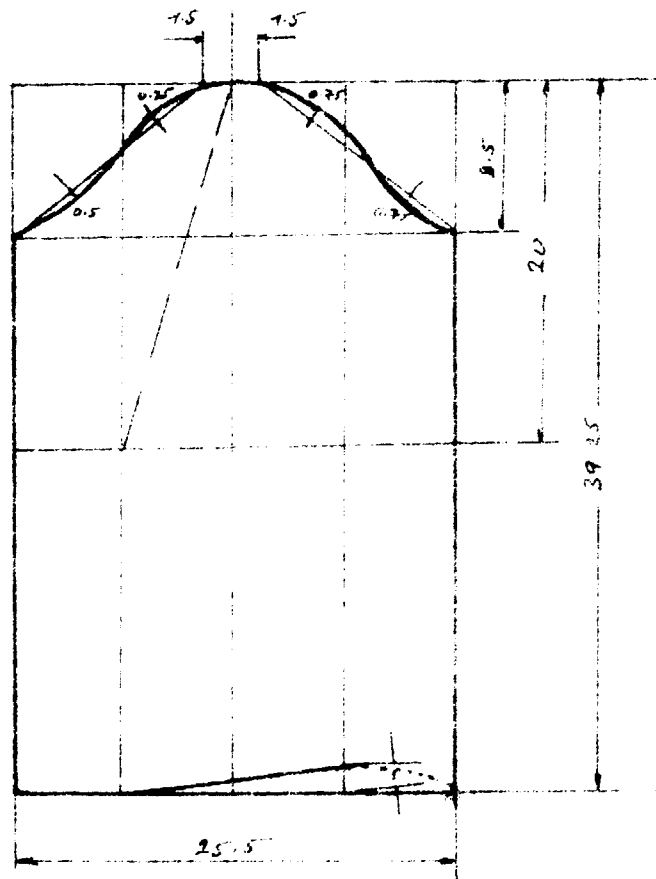
20. WAIST DARTS

$\frac{1}{2}$  Distance between original C.F line and the armpole guideline, report at the back.

FINAL WAIST LINE

Shape the waistline, center front to center back through extended side seam points.

STANDARD BLOCK PATTERN  
 SLEEVE BLOCK SIZE 10  
 APPROXIMATE AGE 6-8 YEARS



STANDARD BODY MEASUREMENTS

ARMLNGTH	$48 - 8.75 = 39.25$
TOP ARMWIDTH	$17.5 + 8 = 25.5$
DEPTH OF CROWN	$25.5 \div 3 = 8.5$
ELBOW	$17.5 + 2.5 = 20$
WRIST	$13 + 4 = 17$

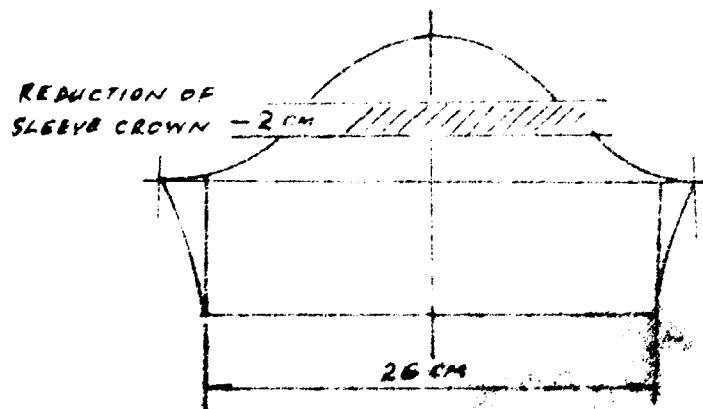
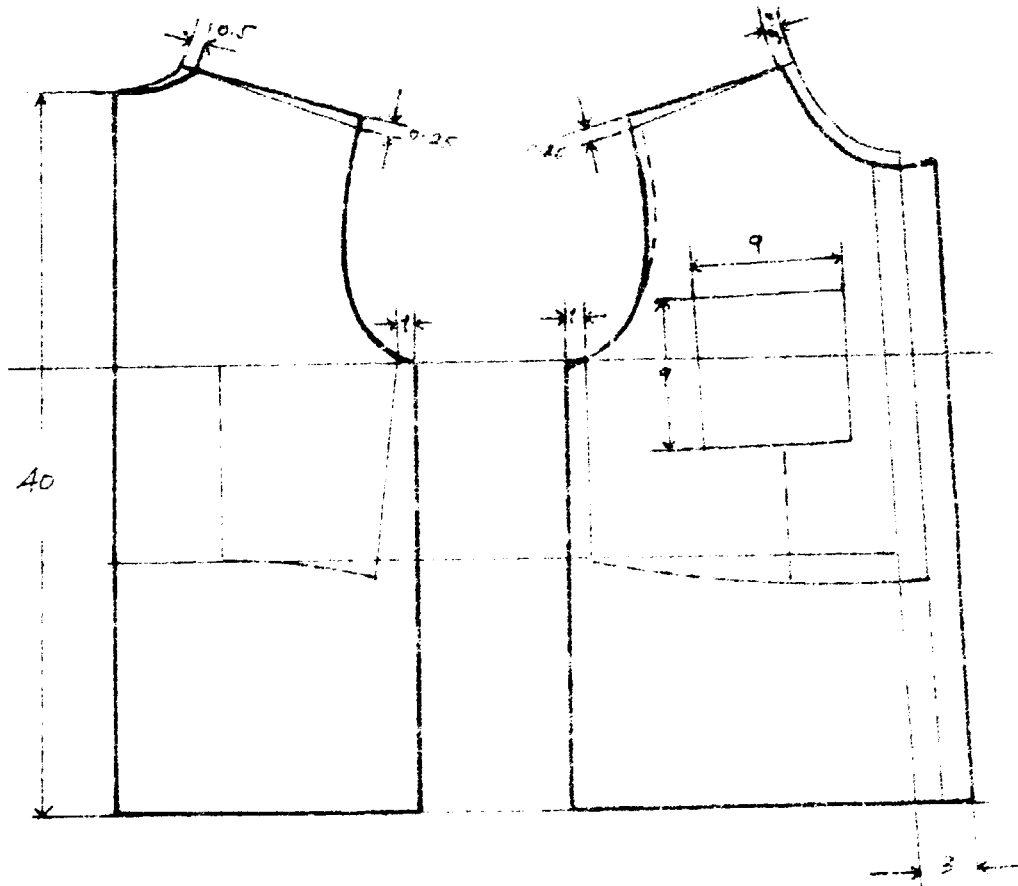
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DRAPING PROCEDURE  
STANDARD BLOCK PATTERNS FOR CHILDREN  
SLEEVE BLOCK

FRAME

1. Draw the outline, length by width of sleeve.
2. Draw the center line along length of sleeve.
3. Divide the width into 4 equal sections and draw guidelines.
4. DEPTH OF CROWN  
1/3 of sleeve width from the topline
5. UNDERARM  
Draw an underarm line.
6. SLEEVE CROWN  
Mark 1.5cm on each side of center line (topline)  
Draw guideline to underarm points.  
Divide into 4 sections each  
Mark off points for crown through guide marks.
7. ELBOW LINE  
 $\frac{1}{4}$  bust width plus 2.5cm and square a line across.  
Draw a guideline from center top to elbow point.
8. WRIST LINE  
Shorten the sleeve 1.0cm on for arm line and extend the line to back line full length.

PATTERN ADAPTATION  
PREPARATION OF CHILD'S T-SHIRT SIZE 110



SLEEVE CROWN = ARMHOLE + 1 CM


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PATTERN ADAPTATION

PATTERN AND QUALITY SPECIFICATIONS

CHILD'S T - SHIRT WITH POCKET

Using the standard blouse and sleeve sizes in the appropriate size to prepare a shirt according to sketch.



STANDARD	BODY MEASUREMENTS	
	BUST	60 CM.
	ACROSS BACK	24 "
	SHOULDER	8.75 "
	NECK TO WAIST	26 "

CLOTHING MEASUREMENTS

Length of shirt	Center back	40cm
Width "	Bust level	70cm
Length of sleeve	Top arm	13cm
Width "	Hem level	20cm
Sleeve crown		31.5cm
Armhole width		30cm

SEAM ALLOWANCES

Shoulder, Armhole, sleeve crown	15mm
Side seam	12mm
Neck	7mm
Pockets	7mm
Hem	35mm

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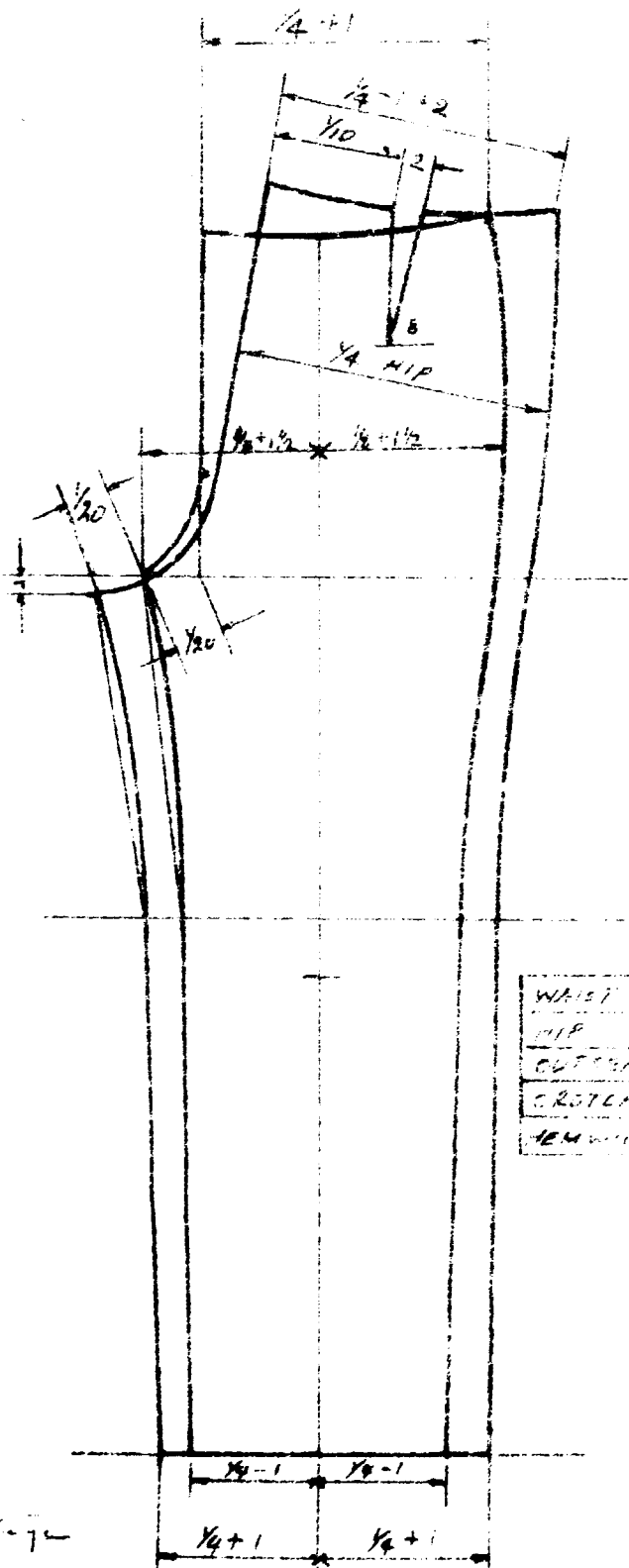


ADAPTATION OF STANDARD BLOCK PATTERN  
TO GIVEN STYLE

WORK PROCEDURE

1. Make the outline of bodice and sleeve block leaving sufficient of space outside and between the pattern pieces for pattern adjustments. Bustline to be kept at equal level front and back.
2. Determine length and width of the garment.
3. Make adjustments for more ease in the garment by adding extra width at sideseam and shoulder seam.
4. Equalize length at shoulder seam and redraw armhole shape.
5. Reduce the sleeve crown to provide for more freedom of movement in the arm.
6. Adjust the sleeve length accordingly.
7. Adjust sleeve width by equalizing front and back with front and back armhole keeping 1 - 1.5cm. ease in the sleeve crown.
8. Adjust sleeve width and sleeve length.
9. Make adjustments for style features and complete the pattern including seam allowances, facings, button extension and pockets.

STANDARD BLOCK PATTERN  
CHILDRENS TROUSERS SIZE 10  
APPROXIMATE AGE 6-7 YEARS



		12	14	16	18
WAIST	$54 + 2 = 56$	19	20	21	22
HIP	$64 + 2 = 66$	33	34	35	36
CUTSLAM	68				
CROTCH	18.5				
HEM WIDTH	32	15	18		

65 f - 7 -

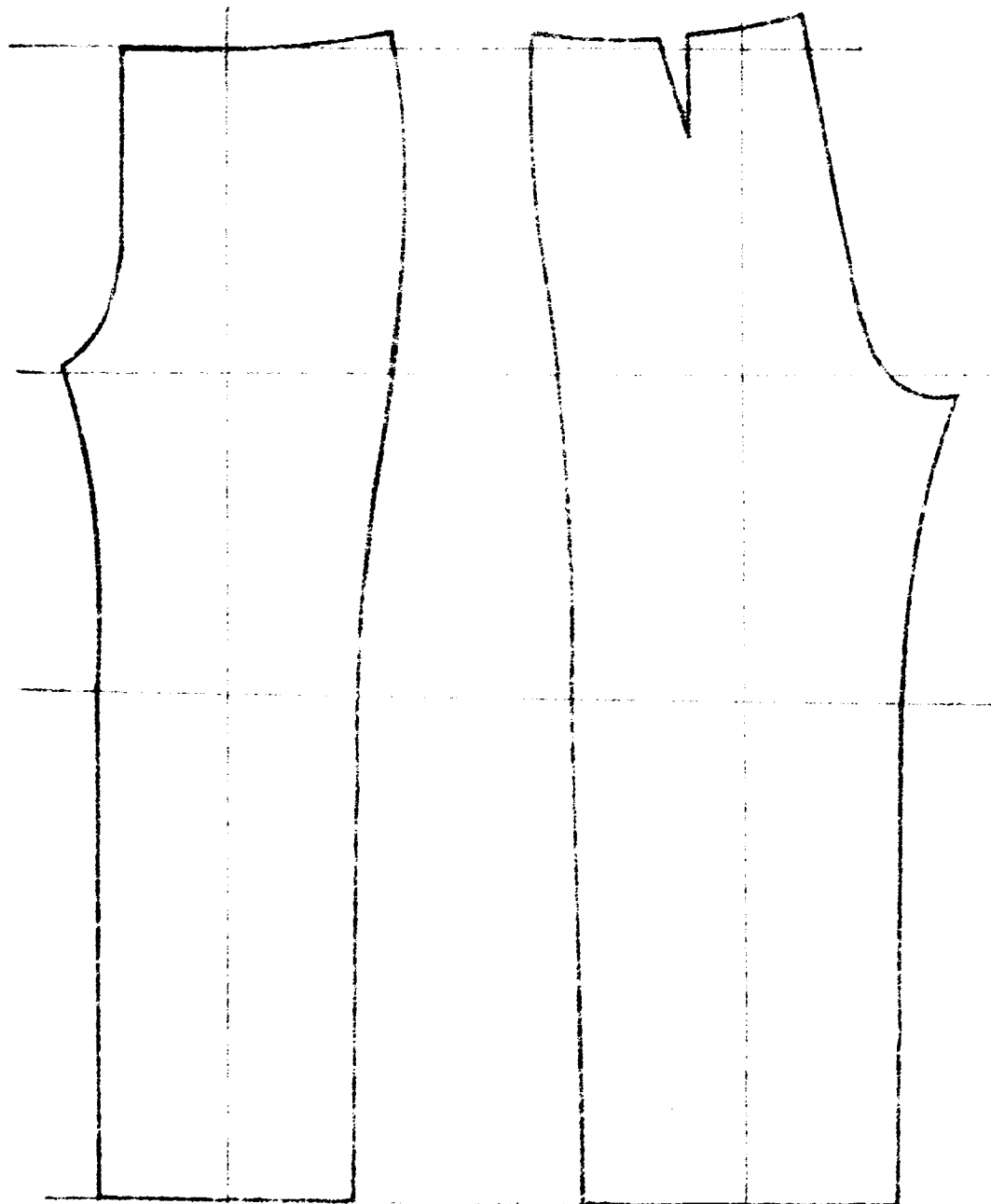
PATTERN ADAPTATION

FRONT AND BACK SEPARATED

FOR THE PURPOSE OF PATTERN ADAPTATION

CENTER FRONT

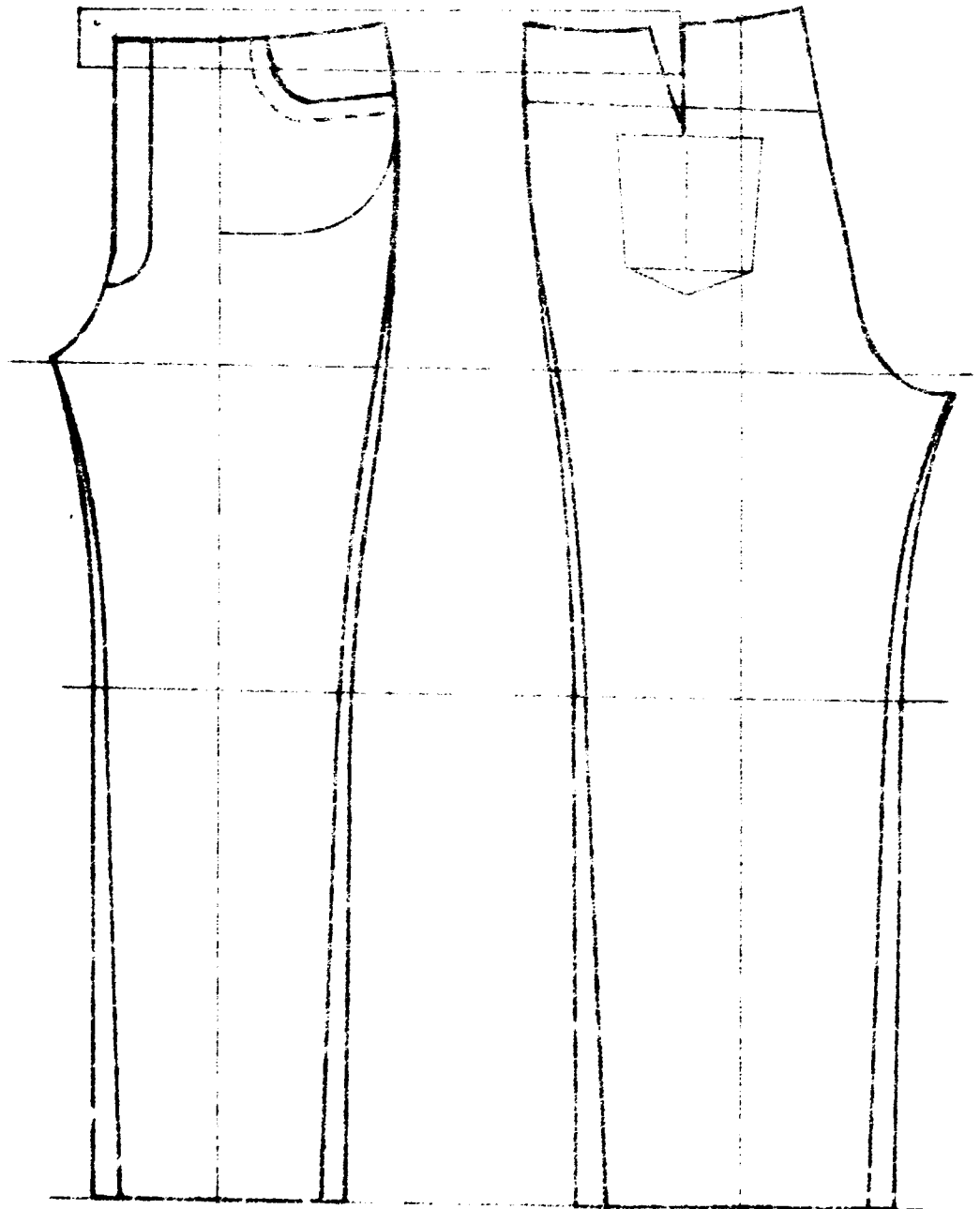
CENTER BACK



*large*

PATTERN ADAPTATION

TIGHT FITTING JEAN STYLE WITH BACK YOKES,  
BACK PATCHED POCKETS, CURVED FRONT POCKETS  
AND WAIST BAND DRAFTED ON THE TROUSER BLOCK



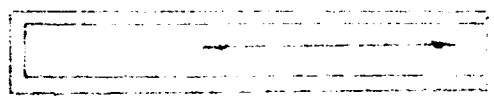
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PATTERN ADAPTATION

BACK YOKE, FLYFRONT, POCKET AND WAISTBAND

PATTERN COMPLETELY TRACED FROM THE JEANSIZE DATA

WAIST BAND CUT 1



FLYFRONT - CUT 2



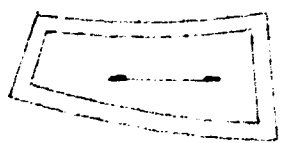
FRONT FACING CUT 2



FRONT POCKET BAG CUT 2



BACK YOKE CUT 2



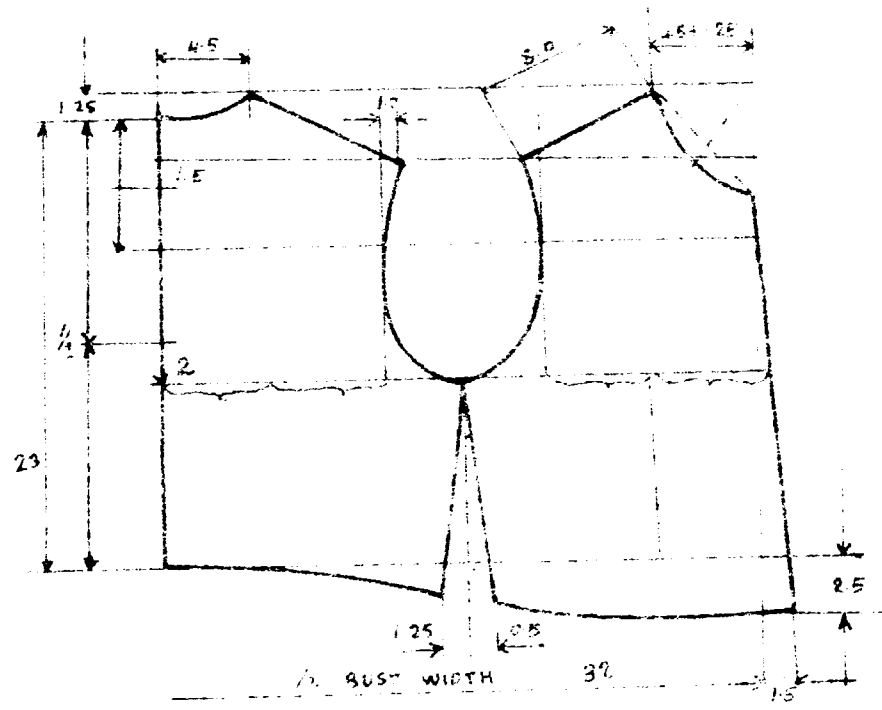
BACK POCKET CUT 2



STANDARD BLOCK PATTERN

BODICE BLOCK SIZE 31

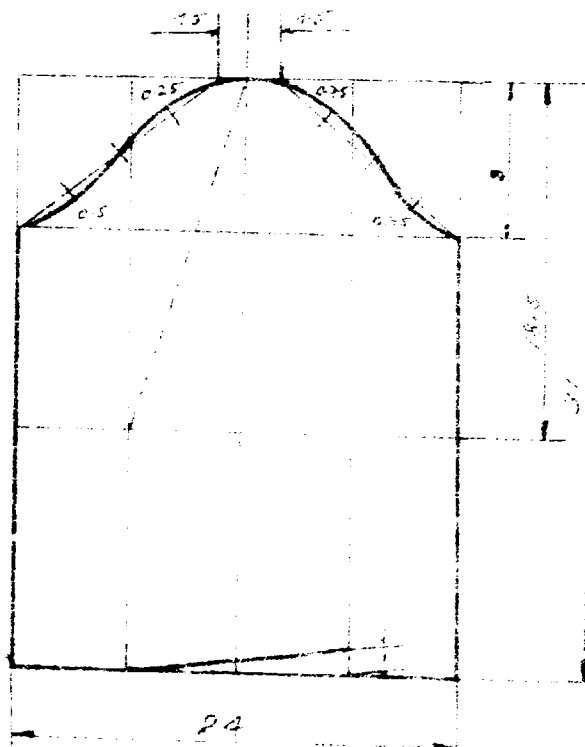
APPROXIMATE AGE 2 - 3 YEARS



STANDARD BODY MEASUREMENTS	
BUST WIDTH	$54 + 10 = 64 \div 2 = 32$ (14/8/11)
NECK WIDTH	26
SHOULDER WIDTH	8
ACROSS BACK	$4 + 0.5 = 4.5$
ACROSS FRONT	$4.5 + 1.25 = 5.75$
CHEST WIDTH	$21.6 + 2 = 23.6 \div 2 = 11.8$
ARM HOLE WIDTH	$\frac{1}{4} = 8 \div 5 = 7.5$
NECK TO WAIST	23

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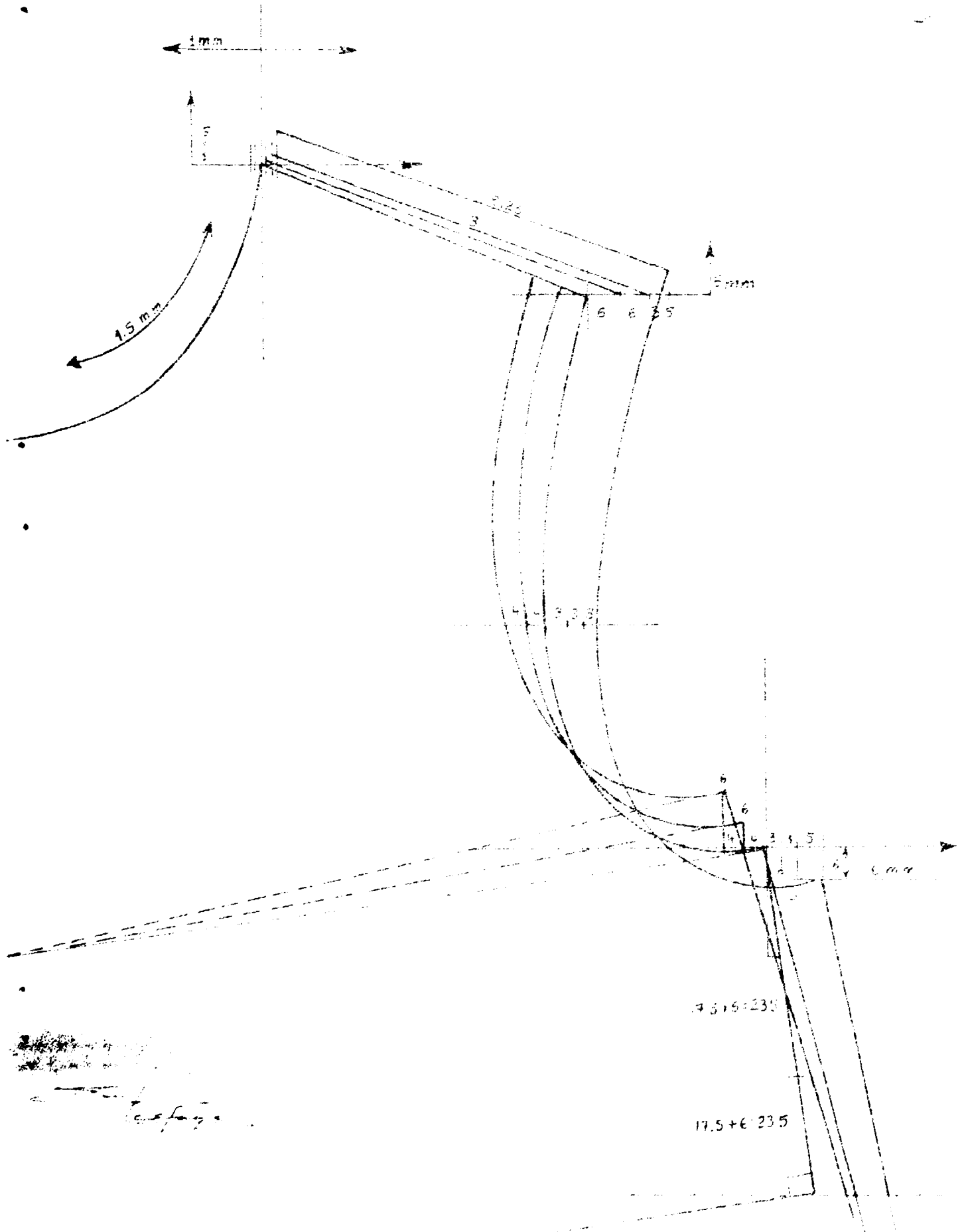
STANDARD BLOCK PATTERN  
SLEEVE BLOCK SIZE 91  
APPROXIMATE AGE 2-3 YEARS



STANDARD BODY MEASUREMENTS		
ARMLENGTH	$39 - 8$	$= 31$
TOP ARMWIDTH	$16 + 8$	$= 24$
DEPTH OF CROWN	$24 \div 3$	$= 8$
ELBOW	$16 + 2.5$	$= 18.5$
WRIST	$12 + 4$	$= 16$

*Handwritten signature*

GRADING OF STANDARD BLOCK PATTERN FOR CHILDREN  
DETAIL OF FRONT SHOULDER AND ARMHOLE



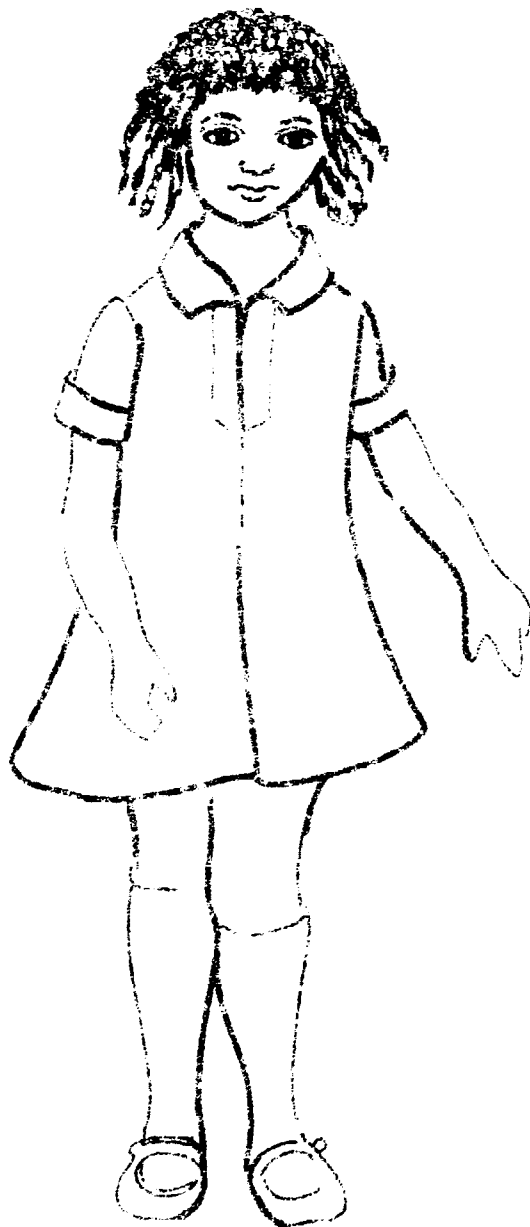
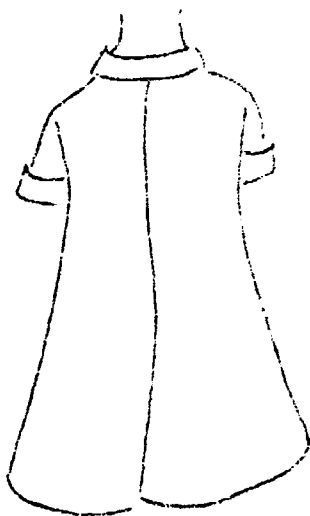


PRODUCT SPECIFICATIONS

CHILD'S DRESS SIZE 91 AGE 2-3 YEARS

MEASUREMENTS

BUST	54	CM
WAIST	54	CM
ACROSS BACK	21.6	CM
SHOULDER	8	CM
NECK WIDTH	26	CM

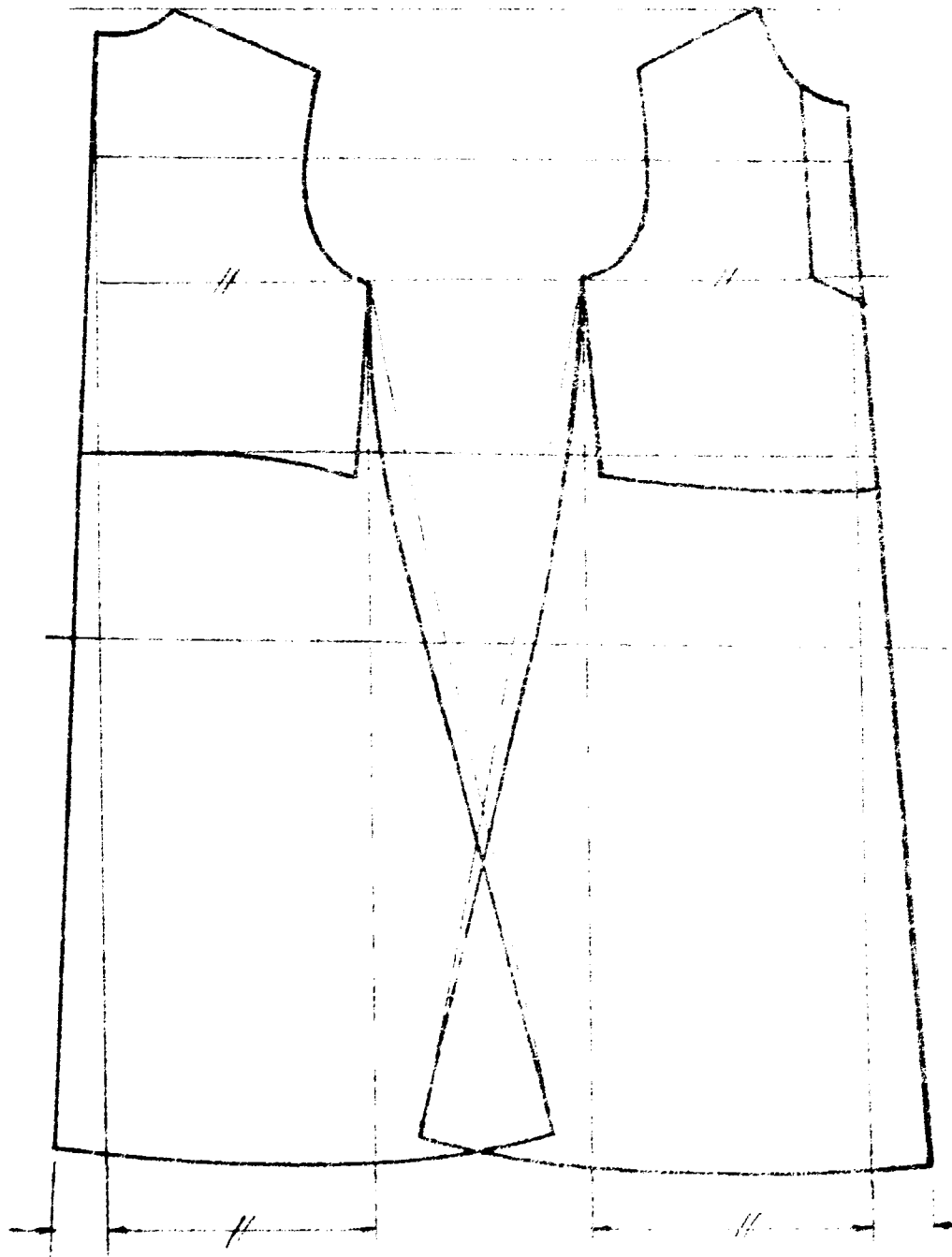


MATERIAL	100% COTTON
LENGTH	0.7 METERS
WIDTH	0.9
INTERLINIG	0.2
THREAD	

*For page*

PATTERN ADAPTATION

CHILDS DRESS DEVELOPED FROM THE  
STANDARD BUSICK BLOCK SIZE 4



as before

WORK PROCEDURE

CHILD'S DRESS SIZE 91

Layout

Transfer of the pattern (tracing)

Cutting

Marking

Assembling

1. LAYOUT

Fold material, check the grain and lay in the pattern pieces.

2. TRANSFER OF THE PATTERN

Transfer the outline of pattern pieces to the cloth by tailors chalk.

3. CUTTING

Cut out pattern components.

4. MARKING

Mark seams and hem widths, balance marks, center folds, turnings, inlays etc.

CUTTING AND MAKING CHILD'S DRESS SIZE 91

Before demonstration check all pattern components related to style;

1. Front
2. Back
3. Sleeve
4. Cuff
5. Top collar
6. Undercollar
7. Front placket

SEAM ALLOWANCES ARE INCLUDED IN THE PATTERN

Center back	2	cm
Center front	2	cm
Shoulder	1.5	cm
Sideseam	1.5	cm
Sleeve	1.5	cm
Armhole	1.0	cm
Sleeve crown	1.0	cm
Neck	0.8	cm
Collar	0.8	cm
Front placket	0.8	cm
Cuff	0.8	cm
Hemming	5.0	cm

PROCEDURE WHEN PLANNING THE LAYOUT

1. Check cloth length relative to the pattern.
2. Check cloth width
3. Mark defects in the fabric.
4. Identify right and wrong side
5. Identify grain and design
6. layout large components first
7. Fit-in small components
8. Check seam allowances, turnings and trims.
9. no overlapping of pattern pieces
10. no excessive gaps between pattern pieces
11. Material saving should be the main focus
12. Observe grain direction
13. Check pattern components relative to the design
14. Check actual fabric-consumption.



CUTTING AND MARKING

1. LAYOUT  
Fold material on the double, check the grain and lay-in the pattern pieces.
2. TRANSFER OF THE PATTERN  
Transfer the pattern to the cloth
3. CUTTING  
Cut out the dress components maintain clean cut lines.
4. MARKING  
Mark seam and hem widths, balance marks and centers with short scissor on cut edges.  
Check marks for pockets, right and wrong side.
5. ASSEMBLING  
Edge-finish the following seams:
  - (a) Center back
  - (b) Side
  - (c) Shoulder
  - Fold and press the edges of the center front trimming.
  - Place the trimming flat on the front piece and edgestitch.
  - Edge-finish the center front seam.
  - Stitch the center front seam from the trimming, point to the hem.
  - Under-press the center front seam.

6. **SEAMS**

- Stitch the center back seam
- Stitch the shoulder seams
- Under-press all seams

7. **PREPARE THE COLLAR**

Place the interlining on the wrong side of the undercollar, pin the top and undercollar together. Maintain adequate ease on top collar.

8. **STITCH TOP AND UNDERCOLLAR**

Equal ease on collar to maintain good shape and avoid wrinkles.

Cut the corners before turning the collar.

Turn and press the collar, keep the topcollar, folded edge, slightly overlapping the under collar edge. Edge-finish the neck with the facing piece.

Turn the facing and front seam to the wrong side, press and top stitch the facing around the neck.

Stitch the side seams.

9. **PREPARE THE SLEEVE**

Stitch the cuffs and the sleeve edge, wrong side of sleeve to right side of trimming.

Turn the cuffs to the right side, edge stitch.

Stitch the sleeve seams

Insert the sleeve into armhole, observe the balance marks, Stitch from sleeve side maintaining ease on the crown.

Edge finish the armhole.

Underpress all seams

Turn the hem, stitch and press.

Final press.