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EXPORT PROMOTION
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BARBADOS

Technical report: Assistance to the Barbados garment industry*

Prepared for the Government of Barbados
by the United Nations Industrial Development Organization
acting as executing agency for the United Nations Development Programme

Based on the work of Ian H. Bastow
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United Nations Industrial Development Organization
Vienna

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CONTENTS

- I. ACKNOWLEDGEMENTS
 - II. INTRODUCTION
 - III. TERMS OF REFERENCE
 - IV. THE PROJECT
 - V. POST PROJECT ACTIVITIES
 - VI. TRAINING
 - VII. RECOMMENDATIONS FOR THE FUTURE
- ANNEX 1

1. ACKNOWLEDGEMENTS

The writer would like to thank the Barbados Export Promotion Corporation (BEPC) the Government agency to which the writer was attached and in particular Mr. Philip A.W. Williams, Executive Director, Ms. P. Griffith, Assistant Director, Operations, Ms. Charmaine St. John, Marketing Officer and indeed the staff of the BEPC for their unstinting help and friendliness.

The writer would also like to thank the Resident Representative Mr. Rolf Stephanson and his UNDP staff, particularly Mr. D. McIntosh, Senior Programme Officer and Mrs. J. Russel. Mr. P. Ryan SIDFA-UNIDO/Vienna.

Last but not least Mr. A. Eraneva the writer's back stopping officer and Mr. Kalinowski and staff at UNIDO/Vienna.

INTRODUCTION

Background Information

The garment industry in Barbados comprises small and medium-sized enterprises supplying both the domestic market and attempting to export to the USA. Much of the current export takes place within the framework of the US PL 807 which permits re-import of garments from US made fabrics and cut in the US but made up in Barbados. This system, however, offers only a short-term solution for Barbados since it depends on low cost for competitiveness. The labour in Barbados is not particularly cheap and becomes increasingly more expensive. Furthermore, the production and quality of production are low. There is thus an acute need for training and technical assistance.

The project

The concept of the project was to assist six small garment manufacturers to:

- a) produce a sample collection of ladies outerwear garments for the Puerto Rico market;
- b) secure orders for it;
- c) manufacture and deliver the orders;

In order to help achieve the above, Barbados Export Promotion Corporation (BEPC) sought the help of the United Nations who then fielded three experts, a Garment Designer, a Pattern Maker and a Garment Factory Manager (the writer). The Designer commenced her duties in September 1985 and the Garment Factory Manager and the Pattern Maker their duties in January and February, 1987 respectively.

III TERMS OF REFERENCE

- Post Title - Production management in the garment Industry
- Purpose of Project - Assistance to the garment industry.
- Duties - As a member of a team of three - a Garment Designer, a Production Manager and a Pattern Maker/Grader - attached to the Barbados Export Promotion Corporation (BEPC), the expert will assist a group of small garment manufacturers in Barbados (6) who are trying to gain access to the US and Puerto Rican market. With the objective of increasing productivity, reducing material losses and improving the quality of products he will advise on:
- all aspects of production, plant layout, work flow, system of operation, quality control, efficiency - covering, cutting, sewing and pressing;
 - general factory organization.

The expert will also be expected to prepare a technical report setting out the findings of the mission and recommendations to the Barbados Export Promotion Corporation on further action which might be taken.

IV THE PROJECT

The concept of the project was to assist six garment manufacturers to:

- (a) product a sample collection of high quality ladies outerwear for the Puerto Rico market;
- (b) secure orders;
- (c) manufacture and deliver the orders;

The situation of the project when the writer joined it in January 1987 was:

- (a) four out of the six companies had dropped out, for a variety of reasons;
- (b) the designs were conceived and selling samples made and sent to Puerto Rico;
- (c) the two remaining companies were Maxrone and Hooper Garment Factory.

The situation of the project when the Pattern Maker/Grade joined it in February 1987 was:

- (a) orders were received from Puerto Rico as follows:-

Maxrone 292 in 18 styles
Hooper Garment Factory 61 in 14 styles
worth a total of US\$8 111.00

(the completed orders had to be shipped from Barbados by the 5th April).

- (b) many of the styles as conceived and presented were more suited to haute couture, meaning there were complicated to make and required highly skilled labour, some specialist machinery and off-pressing equipment. These aspects should have been taken into consideration when designing the garments and were later a handicap when producing the orders. The high number of difficult styles to grade (32) and the very short time scale (one month) to do so did not allow for any diviation towards simplification of design and manufacture by the Pattern Maker/Grader and the Garment Factory Manager.
- (c) The flimsy paper master patterns (usually the middle size (12) was transferred onto pattern cards prior to the arrival of the Pattern Marker/Grader by a designer who was not connected with this project. Without that invaluable contribution it is doubtful whether the patterns could have been graded in time for the manufacturers to produce the garments for the deadline in April.
- (d) Manufacturing specifications were made for most of the styles and featured simple diagrams with notes recommending how the garments should be assembled and in what order the sequence of operations should take. (see Annex 1).
- (e) By the end of January and the beginning of February, 1987 the two manufacturers knew the extent of their orders. For some reason the manufacturers delayed ordering the fabrics required for the above orders from the USA. By the time the fabrics were landed in Barbados and processed through Customs the time has moved to the middle of March 1987. Maxrone

started cutting orders on 16th March and Hooper Garment Factory on 26th March. The orders were to have been despatched by the 5th April but this was later extended to 15th April.

From the commencement of the cutting of the orders the Garment Factory Manager concentrated his activities on, in the case of Maxrone, reorganizing the layout of the factory floor and giving help, advice and support to the cutters and to the machinists. In the case of Hooper Garment Factory the bulk of the orders (61 pieces) was made by one person to whom help, advice etc. was given.

Whilst the orders were being manufactured by Maxrone, the Garment Factory Manager liaised almost exclusively with the floor supervisor/machinist whilst the two principals hardly ever made an appearance onto the factory floor. The garments were finally despatched on 15th April some 10 days later than originally planned. Had the fabrics been ordered on receipt of the orders late delivery would have been avoided. In the case of Hooper Garment Factory the person who made the garments was Mrs. Hooper senior, not only is she knowledgeable but also keen to learn. The garments were despatched on 12th April.

Unfortunately there were further delays in the Puerto Rican Customs before the garments were delivered to the shops as follows:-

Hooper Garment Factory

Arrived Puerto Rico	Invoiced	Released	Cleared Custom
13-4-87	15-4-87		8-5-87

last Delivery to shops

8-5-87

Maxrone

Arrived Puerto Rico	Invoice Released	Cleared Customs
16-4-87	23-4-87	28-4-87

First Delivery to shops

19-5-87

It was inevitable because of the foregoing, the garments were 2/3 weeks late into the shops and so missed the start of the selling season. The writer understands that some of the shops were reluctant to receive the goods which is hardly likely to inspire confidence in the future.

V POST PROJECT ACTIVITIES

On the 4th May a meeting was called by Mr. Philip A.W. Williams, Executive Director of the BEPC to discuss the future activities of the Garment Factory Manager and the Pattern Maker/Grader now that the original project was completed. It was proposed to the writer and Mr. Foley (the Pattern Maker/Grader) that help should be given to 8 selected (by BEPC) companies which had export potential. The nature of the help would be to design a range of garments for each company in order that they may penetrate the Puerto Rico and other markets. It would be similar in concept to the project just finished except that the range of garments to be designed would be ladies and gents wear and not just high fashion ladies as previously. By mutual consent the writer and Mr. Foley divided the companies up into ladies wear and gents wear, so that it would be easier to concentrate ones efforts, the writer concentrated on the gents wear companies. From the list of eight companies two lost enthusiasm and dropped out which left six. A further decision was made to have sample garments ready for the Puerto Rican buying period of August/September 1987 for delivery of finished goods around January/February 1988. The two companies the writer concentrated on were:

Glen Parker and Mico

The following shows the time table spent with each company and the activity.

Glen Parker

Month	Number of days	Activity
May	12	Developing Miami Vice Jacket
June	10	Developing Miami Vice Jacket Plus 4 Pleat Trouser.
July	13	Developing Mens 3 Piece Suit and Boys 3 Piece Suits
August	1	Developing Mens 3 Piece Suit and Boys 3 Piece Suits
September	7	Grading Mens Regular - Long-Short Fitting Jackets.
October	9	Grading Mens Regular Plus Boys Centre Vent Side Vent Jackets.
November	9	Grading Mens Regular Plus Boys Centre Vent Jackets.
Total No.	<u>61</u>	

Note - There is a potential order of BDS\$250.000.00 for Mens 3 Piece Suits and Boys 3 Piece Suits from Trinidad and Tobago based on the Writer's Patterns.

Note - There is a Trial Order of 6 Dozen Mens 3 Piece Suits in Regular-Long and Short Fitting From Cave Shepherd (A local Department Store). Based on the writer's patterns.

Note - Time was spent showing the designer how to grade a Mens Jacket.

Mico

Month	Number of days	Activity
May	1	Evaluation of a Mico Sample Jacket and Trouser
June	4	Developed a Casual Unlined Casual Jacket
July	4	Developed a 6 Reverse Pleat Trouser for Puerto Rico.
August	13	Graded above Trousers, supervised 5 Sample Trousers for Puerto Rico.
September	14	Developed a Deep Pleated Jacket
October	<u>7</u>	Graded the above Deep Pleated Jacket
Total No.	<u>43</u>	

Note - A trial order of 1500 6 Reversed Pleat trouser cut and made.

Note - The Deep Pleated jacket will be offered for sale in sprint 1988.

Apart from the two companies above time was spent in two other areas as follows:

Pan Indiana

Month	Number of Days	
June	3 1/2	
July	4	Time Study and Management Problems
August	<u>1/2</u>	
Total	<u>8</u>	

Barbados Development Bank

June	
July	7 Appraisal Factory Visits Resulting in Written Reports.

VI TRAINING

THE PROJECT

Due to the very short amount of time available the writer could only achieve a minimum amount of training and that was on the actual garments being produced to fulfil the orders received from Puerto Rico. For example it was only after the Pattern Maker/Grader had completed his work on a pattern that the writer could study both the made up of sample of a garment and relate it to the pattern produced. At that stage a machining specification would be drawn up (see annex 1). Specifications were drawn up for most of the styles in this way. Then when a style was being introduced onto the machine room floor the specification and the sample garment would be discussed with the machinists and their particular operation would be explained in as much detail as necessary. When that style was completed it was onto the next and the same procedure over again. That was the maximum training that time would allow. It must be remembered that the orders had to be completed in less than one month.

Post Project

Mico - with regard to the six reverse pleat trouser the method of construction was in line with their own current production methods. In the case of the deep pleated casual jacket, with the exception of the pleat arrangement the methodology of construction was in line with their current production method. However a machining specification was drawn up to show how the pleat arrangement should be carried out.

This was done because no one could be spared from the management team for the writer to instruct because of the heavy commitment of current orders.

Glen Parker - here the writer introduced into the factory the very latest techniques in modern jacket construction, in line with the patterns he produced. Time was spent teaching four machinists how the garment should be constructed. So now there is a nucleus of machinists who can put together, proficiently, a jacket designed in the most modern method. The Glen Parker designer was shown in practical detail the correct way to grade a range of jacket patterns and how to alter same for long and short fittings.

VII RECOMMENDATIONS FOR THE FUTURE

It is felt in many circles in Barbados that the standard of the machining skills is very low. The writer does not altogether subscribe to that. Most women world wide seem to have a natural optitude towards sewing, the Barbadian machinist is no exception. The fact that the Barbadian machinist sews slowly and or without much idea of quality is not the fault of the machinist but of the management. It is the management who sets the pace at which the machinist will work, it is the management who will set the desired quality standards, it is management who will teach new machining techniques. With this though in mind, management, and that means senior management, must be taught their skills of clothing management. To that end the writer would like to recommend that experts should be brought to Barbados to give lectures and seminars on the following:-

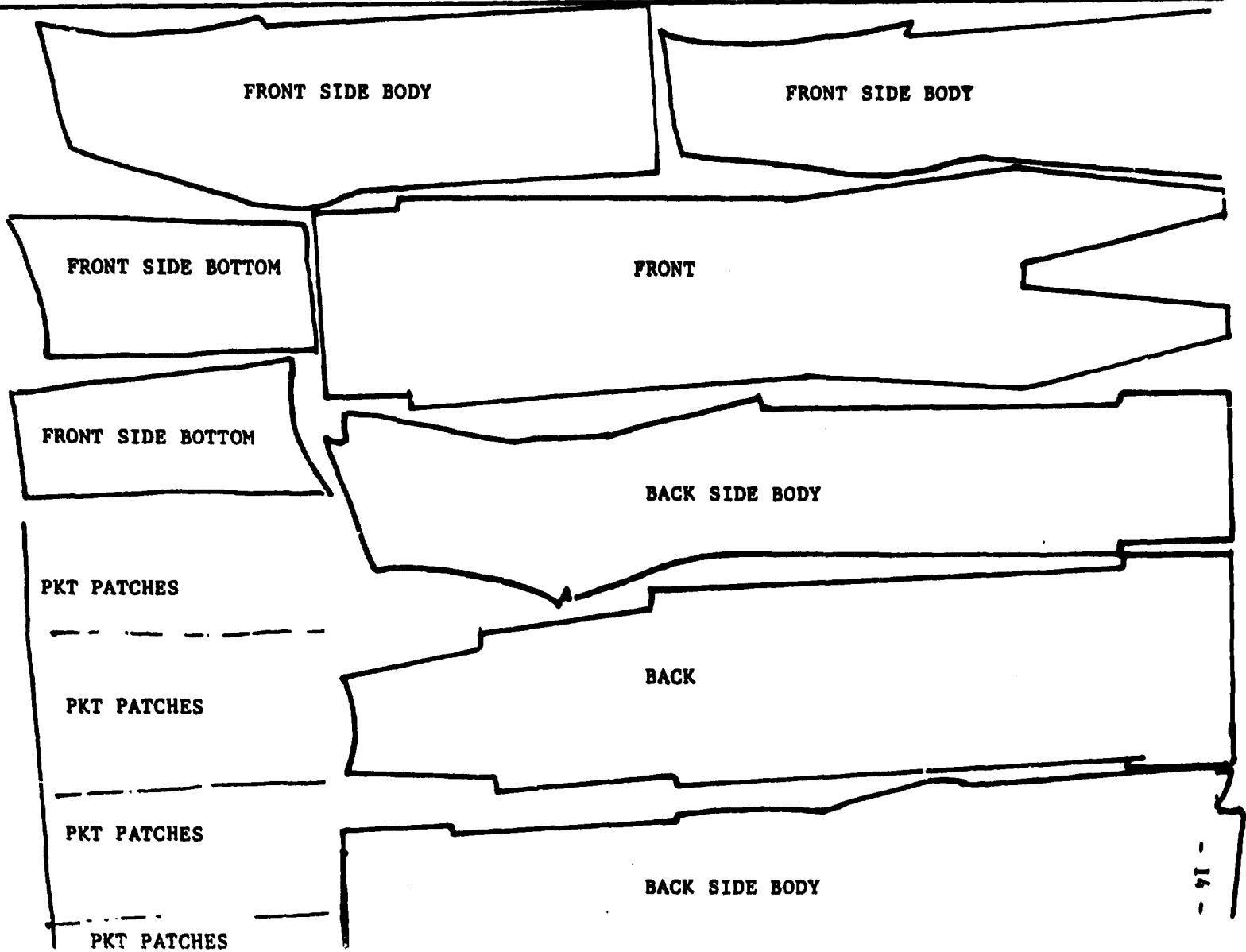
- a) quality control
- b) costings i.e. labour, cloth and trimmings and how to monitor same.
- c) time study, motion study and line balancing
- d) materials handling in the sewing room and sewing room layout.

School leavers with the necessary education standard for higher education, should be encouraged to study abroad garment technology and design. For example, there are some excellent sandwich courses in the UK where the student will learn theory at college and be attached to a clothing company to learn the practical side. In the case of examinations set by the Clothing and Footwear Institute of the United Kingdom the qualification of Associateship gained by the examination route has been recognised as a degree equivalent in the UK.

ANNEX 1

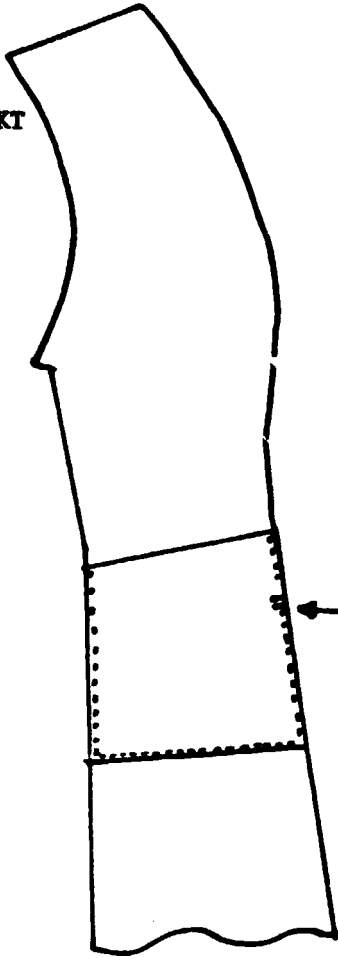
STYLE UN 225

SIZE = 2 yds 24 ins.

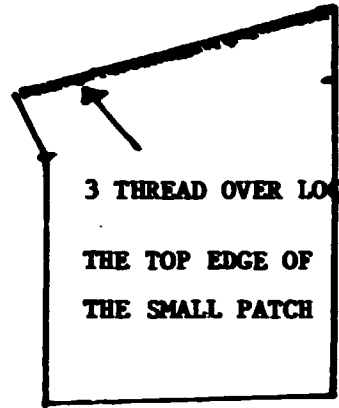


STYLE UN 225

SEW ON PKT

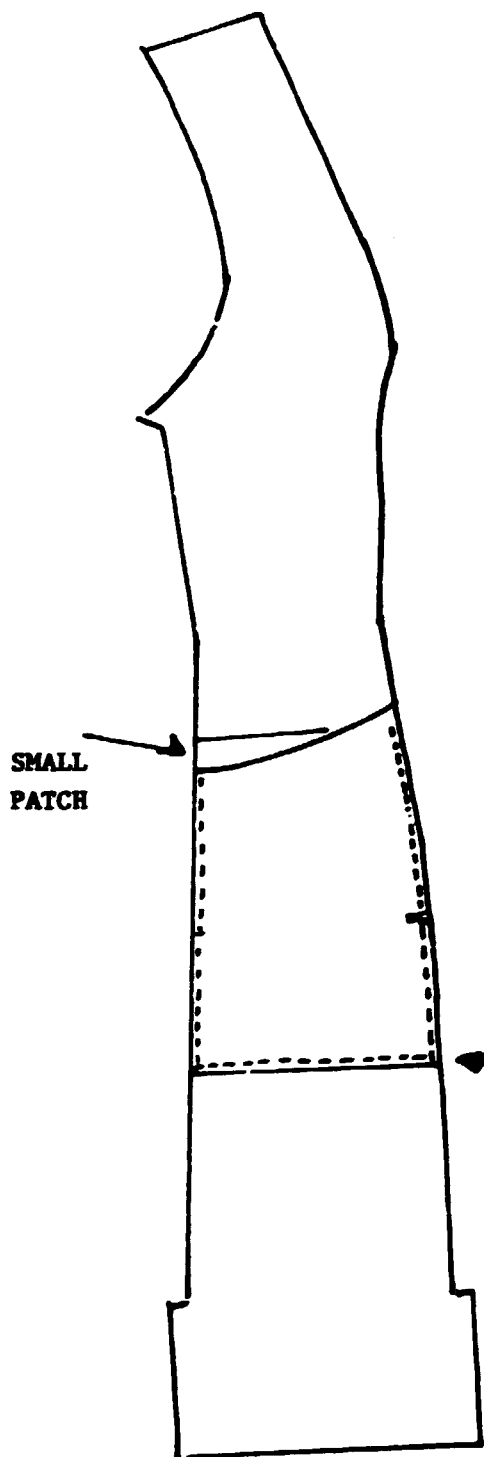


SEW ON THE SMALL PATCH
WITH LOCK STITCH KEEPING
NOTCH TO NOTCH



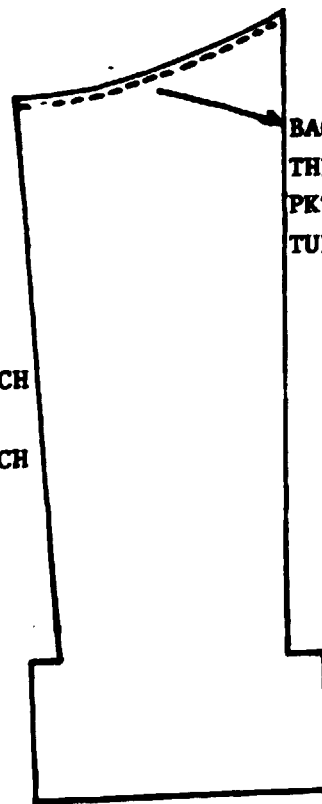
3 THREAD OVER LOCK
THE TOP EDGE OF
THE SMALL PATCH

SEW ON PKTS

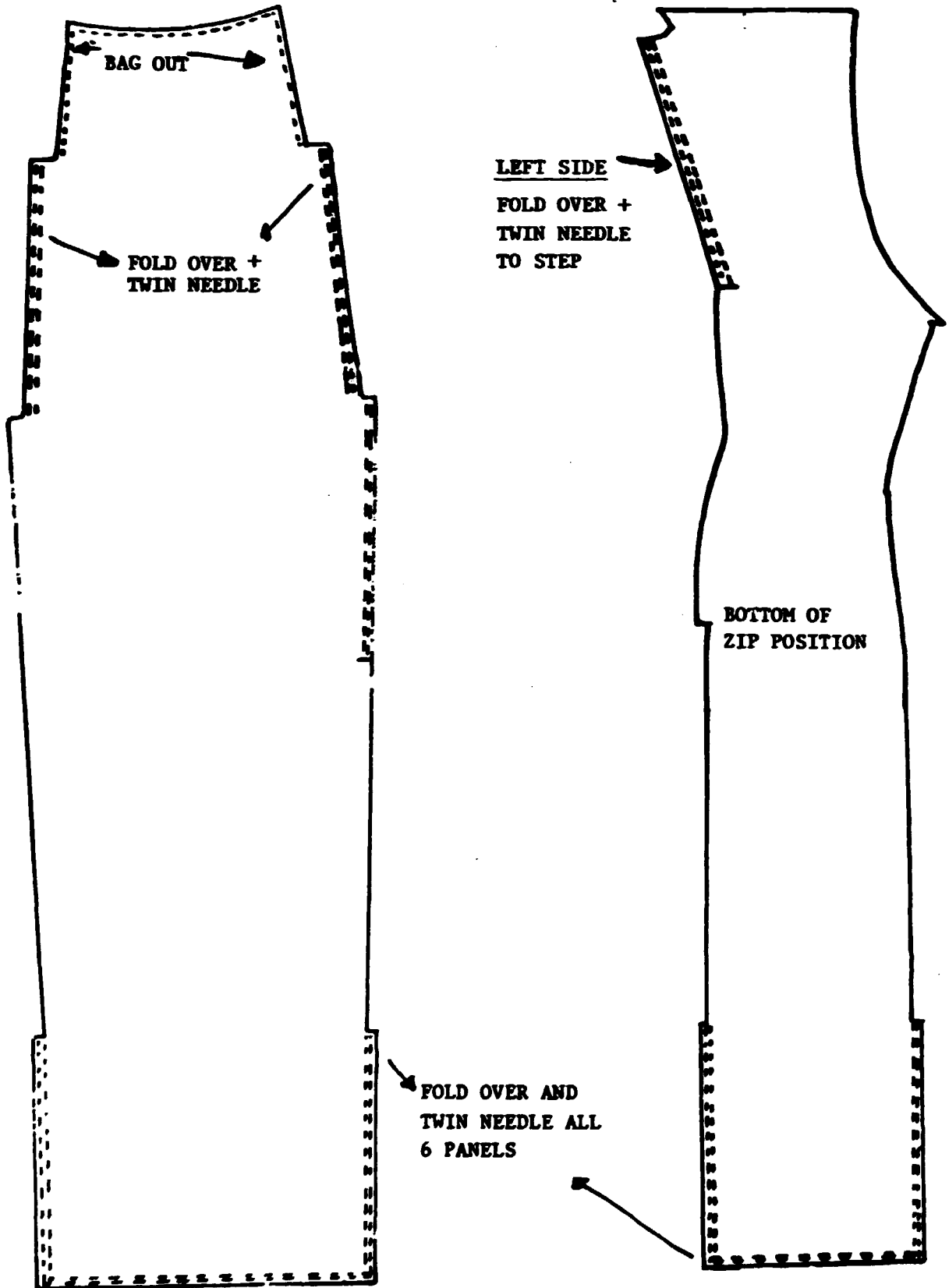


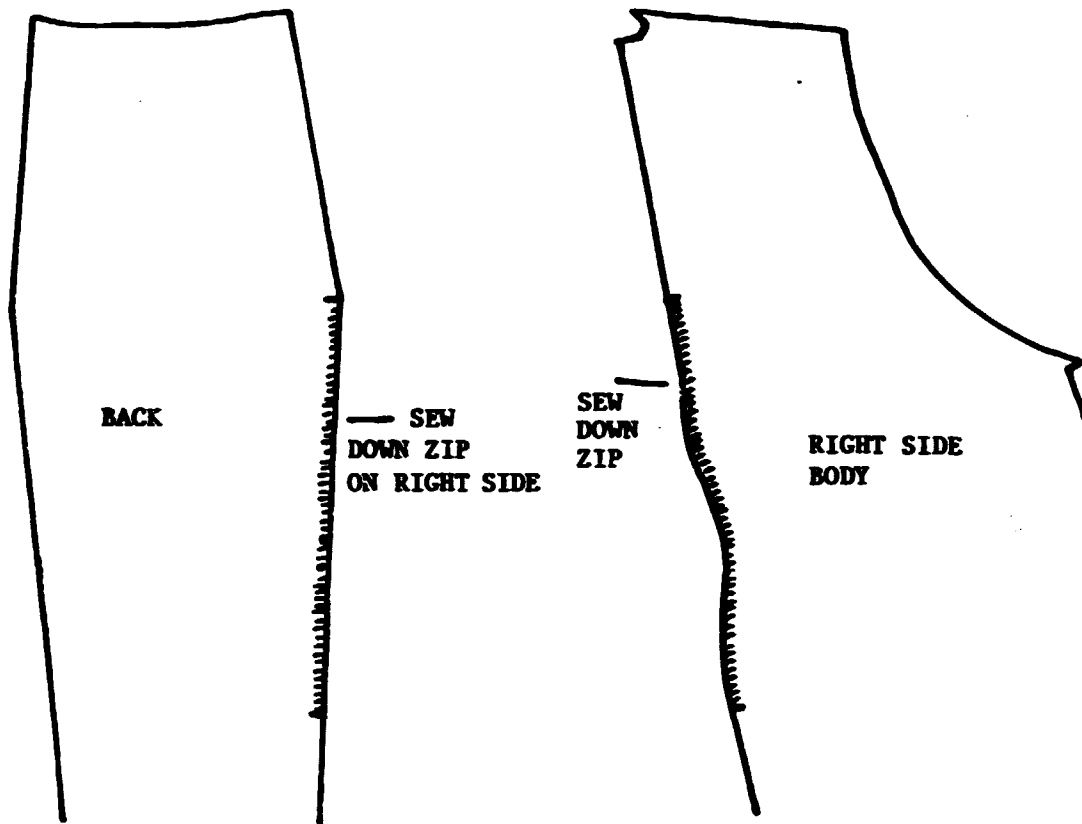
SMALL
PATCH

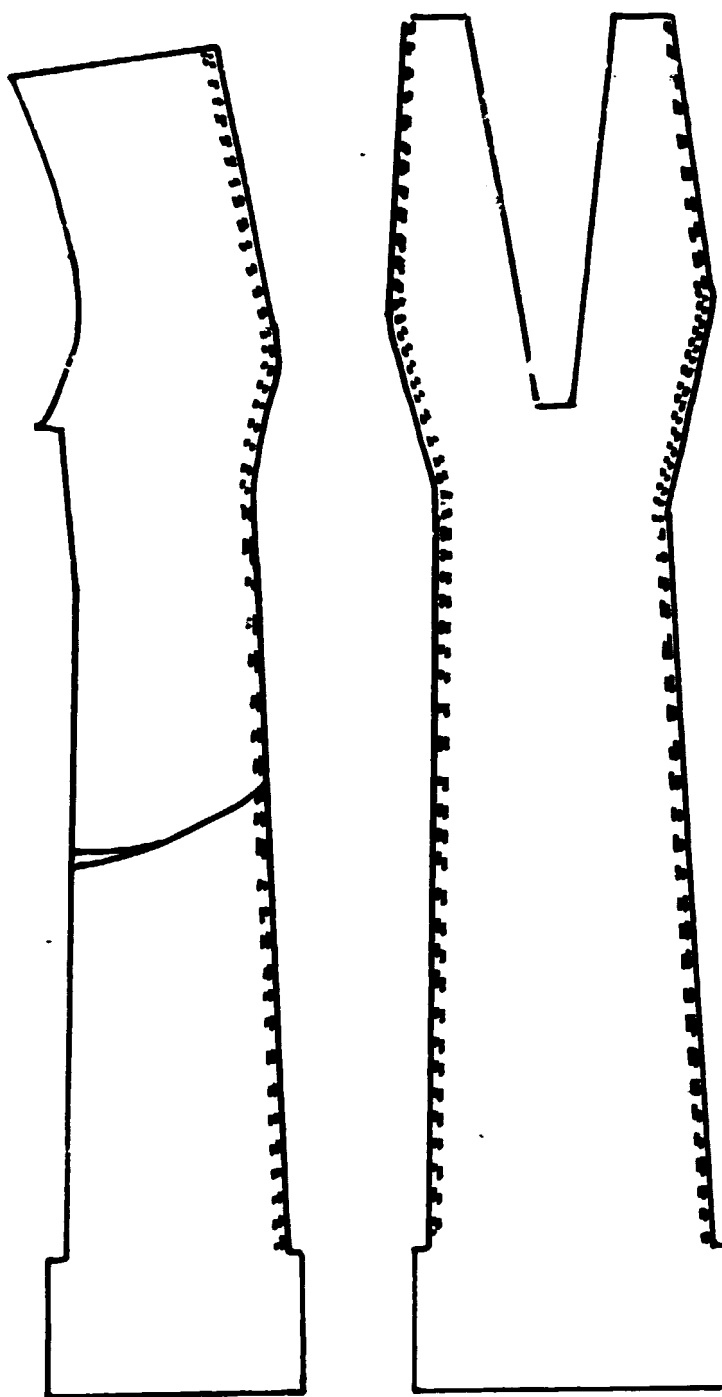
SEW ON THE OUTER PATCH
WITH A LOCK STITCH
KEEPING NOTCH TO NOTCH



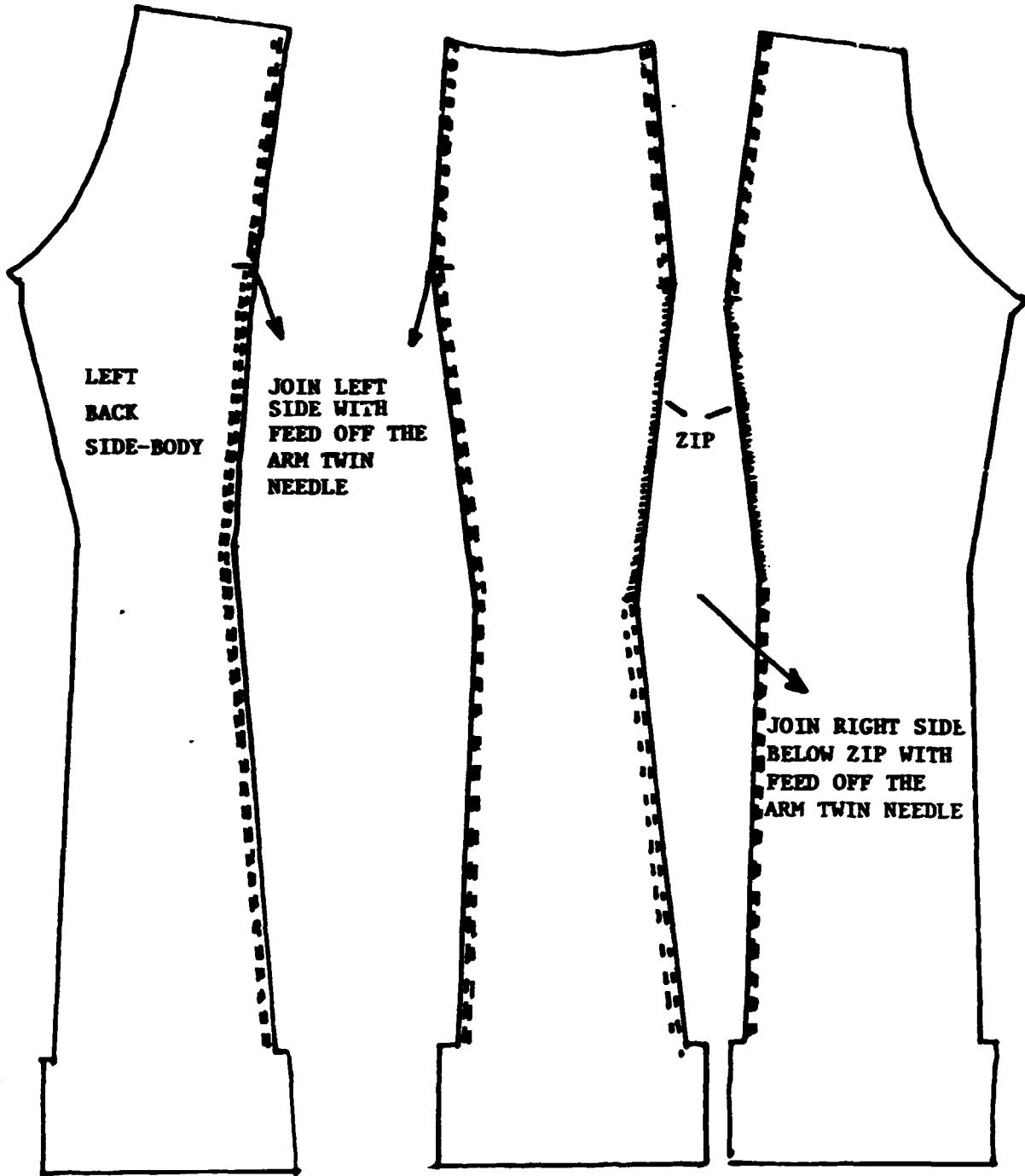
BAG OUT
THE OUTER
PKT
TURN THEM



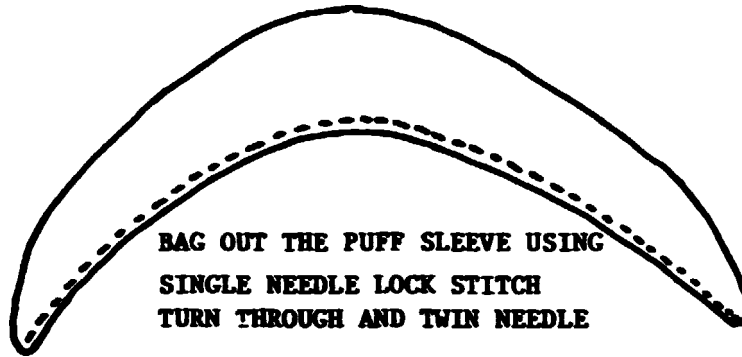




JOIN SIDE BODIES TO FRONT WITH
TWIN NEEDLE FEED OFF THE ARM
M/C

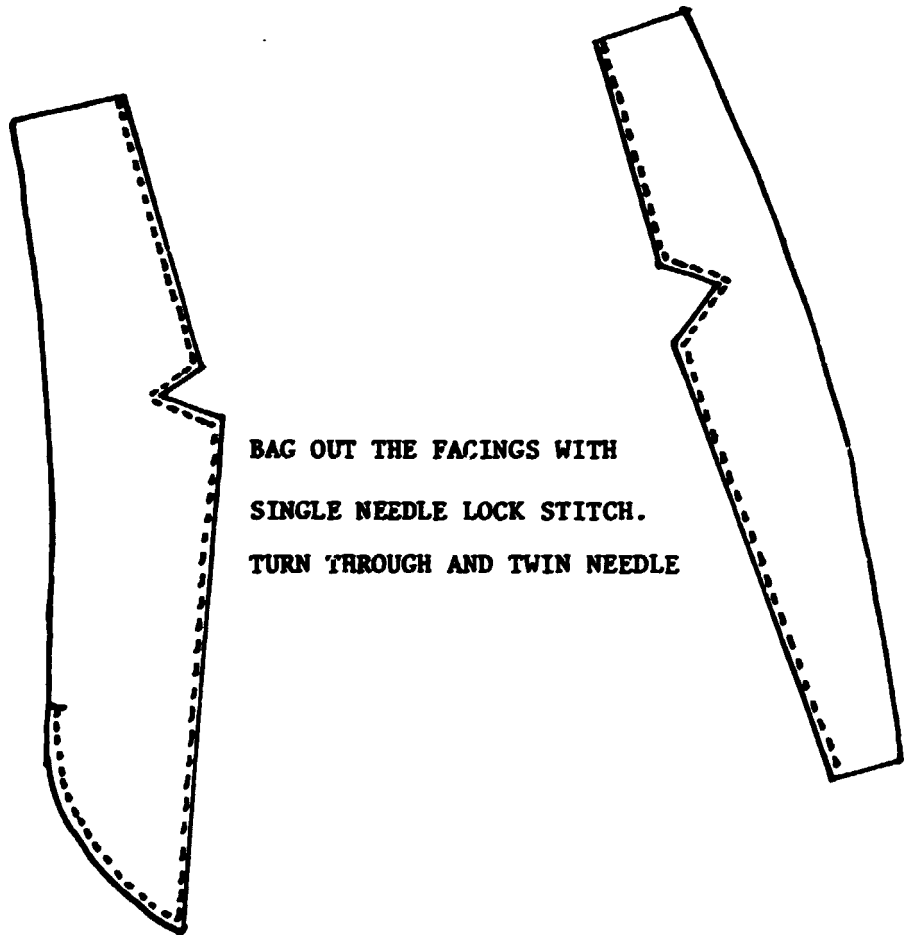


CLOSE THE SHOULDERS



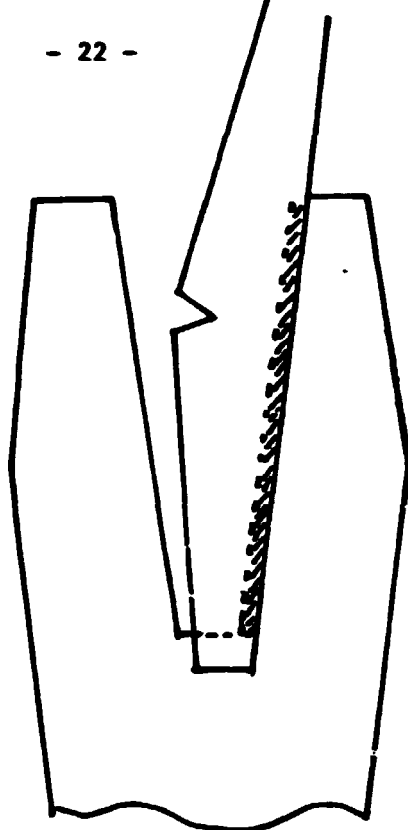
**BAG OUT THE PUFF SLEEVE USING
SINGLE NEEDLE LOCK STITCH
TURN THROUGH AND TWIN NEEDLE**

**OVERLOCK THE PUFF SLEEVES ONTO FRONTS AND BACKS.
TWIN NEEDLE ROUND THE ARM HOLE FROM SIDE SEAM TO SIDE SEAM**

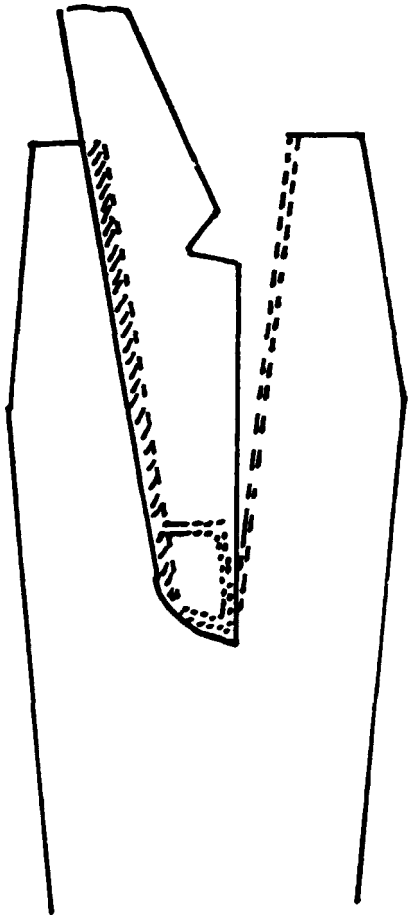


**BAG OUT THE FACINGS WITH
SINGLE NEEDLE LOCK STITCH.
TURN THROUGH AND TWIN NEEDLE**

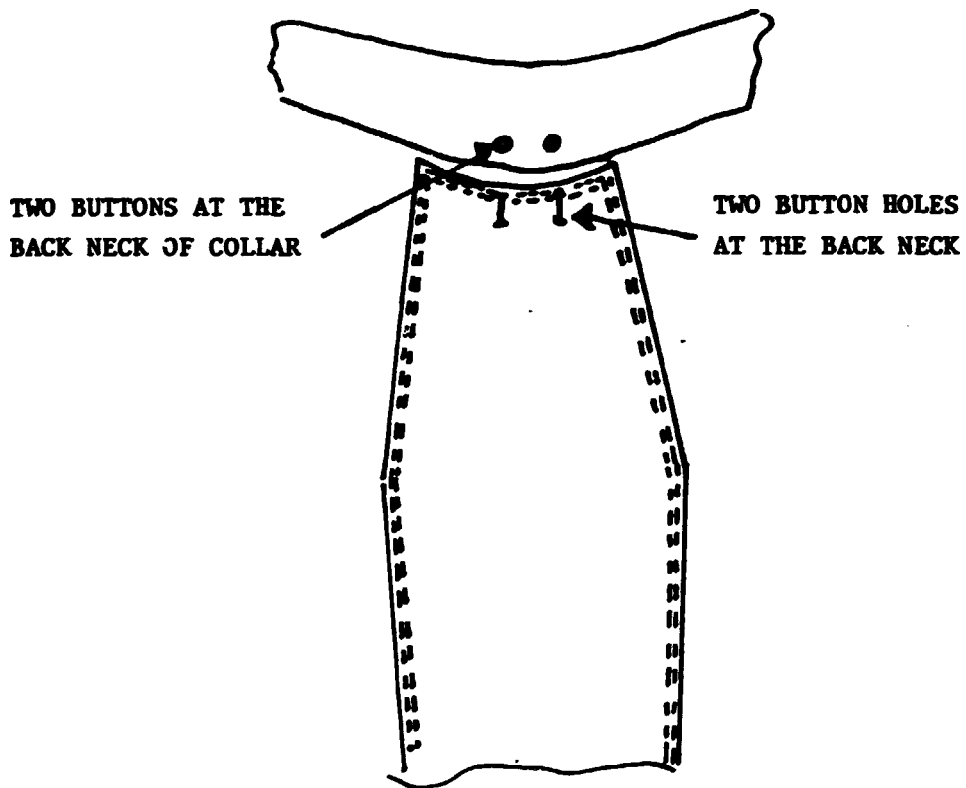
JOIN THE FACINGS AT CENTRE BACK POSITION



LEFT SIDE
SANDWICH THE FRONT IN BETWEEN
THE FACING + TWIN NEEDLE



RIGHT SIDE
SANDWICH THE FRONT IN
BETWEEN THE FACING + TWIN
NEEDLE AND COVERING THE
BOTTOM OF THE LEFT FACING



TWO BUTTONS AT THE
BACK NECK OF COLLAR

TWO BUTTON HOLES
AT THE BACK NECK

MAKE UP SHOULDER PAD COVER.
SEW ON VELCRO AND ALIGN WITH SHOULDER
SEAM. SEW VELCRO ONTO SHOULDER SEAM.