



Faculty of Engineering
Department of Textile Engineering

REPORT ON
Industrial Attachment
At
Amazing Fashion Limited.

Course Title: Industrial Attachment

Course Code: TE-431

Submitted By

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A attachment is submitted in partial fulfillment of the requirement for the degree of Bachelor of Science in Textile Engineering
Advance in Fabric Manufacturing Technology
Duration: From Oct 1, 2018 to Dec 1, 2018

DECLARATION

We hereby declare that, this Industrial Attachment on **Amazing Fashion Limited** done by us under the supervision of **Fahmida Siddiqa, Senior Lecturer**, Department of Textile Engineering, Daffodil International University. We also declare that this Industrial Attachment Report has not been submitted anywhere for award, degree or diploma.

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LETTER OF APPROVAL

November 26, 2018

To

The Head

Department of Textile Engineering

Daffodil International University

102, Shukrabad, Mirpur Road, Dhaka 1207

Subject: Approval of Industrial Attachment Report of B.Sc. in TE Program

Dear Sir,

I am just writing to let you know that the report titled as “**Industrial Attachment**” on **Amazing Fashion Ltd** has been prepared by the student bearing ID 143-23-4032, ID 151-23-4274 is completed for final evaluation. The whole report is prepared based on two months industrial training experiment report on **Amazing Fashion Ltd**. The students were directly involved in their Industrial activities and the report become vital to spark of many valuable information for the readers.

Therefore, it will highly be appreciated if you kindly accept this Industrial report and consider it for final evaluation.

Yours Sincerely

Signature-

Fahmida Siddiqua

Senior Lecture

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ACKNOWLEDGEMENT

First of all we express our gratitude to our Almighty for blessing, approval, protection, mental power & wisdom in all aspects of our lives & also for giving us the opportunities to complete the industrial attachment successfully. Alhamdulillah.

We pay gratitude to the people **Amazing Fashion Ltd.** Those who have made significant contribution in achieving hands of knowledge.

Daffodil International University has given us the opportunity to perform the internship with Amazing fashion Ltd. We are deeply indebted to our supervisor of **Fahmida siddiqa** Department of **Textile Engineering**. Whose help suggestion and encouragement helped us in all the time to research and writing the report.

We would like to pay special thanks to **Prof. Dr.Md. Mahbul Haque**, Head of the **Textile Department, Daffodil International University**, for giving us the opportunity to accomplish the attachment. I also thanks to **Prof. Dr. Mahbul-UL Haque Majumdar, Founder & Dean of FSIT** and also to **Professor Dr. M. Shamsul Alam**, Dean of Faculty of Engineering, Daffodil International University for their stimulating support and encouragement.

We would like to express our sincere gratitude to Human resource Manager of Amazing fashion Ltd, who has allowed us to work in the organization.

We would like to thanks the Chairman, Managing Director, General Manager, Production Manager, Merchandising Manager, Administration Manager for assisting me to gather information about various processes and giving us scope for doing Internship in the factory as well as for giving scope to work in their respective section.

DEDICATION

“TO OUR DIGNIFIED PARENTS AND TEACHER
MAY THEY LIVE LONG”

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CHAPTER-1

EXECUTIVE SUMMARY

1.EXCUTIVE SUMMARY

We performed our internship on The Amazing Fashion Ltd. By achieving practical knowledge from the industrial attachment it is possible to apply the theoretical knowledge in the technical field. For any technical education, practical experience is almost equally necessary in association with the theoretical knowledge. The industrial attachment is the most effective process of achieving the practical experiences.

We performed our internship on The Amazing Fashion Ltd. which is situated on plot#10, Dagerchala Road, Mouza-Baliara, P.O- National University, Gazipur, Bangladesh. The length of our training period during two months. We were joining our training on **Oct 1, 2018** and it finished on **Dec 1, 2018**. In a short span the company received the recognition as one of the market leaders. In this industry there are several sections such as Knitting, Knitting Store, Sample and CAD, Cutting and Quality, Printing, Sewing and Quality, Work Study, Finishing, Merchandising, HR, Admin and compliance section etc. All of this sections help us to improve our knowledge.

Their knitting section use various modern machineries for get better quality of fabric. They produce different types of knit fabric such as, Single jersey, Double Jersey, Lycra, Rib, Interlock, Terry, etc. They use high tech machineries to produce a quality garments product. They also add new machineries to increase their production line. Their IE section are more strong than any other textile industry.

The Amazing Fashion Ltd. is a complete knit composite industry. They have a better garment section and they produce quality product for reputed buyer. They use modern machineries their all Section.

CHAPTER-2

INFORMATION ABOUT FACTORY

2.1 Introduction

Textile technology education is based on industrial ground. Theoretical background is not sufficient so, industrial training is an essential part of study to make a technologist technically sound in this field. Industrial training provides us that opportunity to gather practical knowledge. Textile and RMG (Ready Made Garments) are leading export-led industries in Bangladesh, in respect of foreign currency earning and employment. Recently, in the past-MFA era, the composite knitting industries are playing the crucial roles in country's RMG sector. Among Them, The Amazing Fashion Ltd has occupied a pivotal Place. It has been possible because of its multi-dimensional and epoch-making activities since its inception in 2007. The Amazing Fashion Ltd. factory is located at Degerchala Road, Gazipur - 5 minutes' drive from the Hariken bus stop, Gazipur , Dhaka. The total factory space is 2,56,332 sft, including one 6storied, one 1-storied and one 3-storied and three 1-stored buildings. The factory arena is highly protected with boundary walls and private security guards. A camp of Bangladesh Govt. Ansar force in also established within the premises to confirm cent per cent security.

The Amazing Fashion Ltd. is truly integrated commitment. This Industries all division has the capability to offer a complete product range for the export & domestic textile markets. With high advanced technology & an emphasis on developing local human resources, this Industry has the potential to make an important contribution to the nation's growing Knit garments export sector.

The rationale behind the existing structure & future expansion of the textile division is to capture value added at each stage of the Knitting process.

The Amazing is a composite unit, having knitting, dyeing, finishing and sewing units under a single roof. Besides, they have our own printing, embroidery and washing units on the same premises. All these unit work as an integrated whole to meet the buyer's stipulated time and need based demands.

Mainly they export T-shirt and different types of men's, women's and kid's knit apparels made from various kinds of knit fabrics.

2.2 Company history

The Amazing is a composite unit, having knitting, dyeing, finishing and sewing units under a single rjjAmazing Fashion Limited started its operation in January 2007 as a manufacturer of knit based readymade garments, The Company has growth to include remarkable design and manufacturing capabilities in garments sector and its export volume has increased by 300% in 9 year's. The organization maintains a policy of honesty and sincerity in its dealings and oriented towards catering to customer satisfaction.

2.3 General information about the factory

Company Name	Amazing Fashion Limited
Managing Director	A.L.M Ziaul Haque
Corporate Office	House# 445, Road 07, DOHS Baridhara, Dhaka- 1206, Bangladesh
Factory Address	Plot# 10, Dagerchala Road, Mouza-Baliara, P.O- National University, Gazipur Dhaka, Bangladesh.
Year of establishment	January 2007
Listing Status	Private listed company
Average annual turn over	35 million
Total work force	1800
Daily Working hour	08 AM- 08 PM

Factory Equipment	All types of Knit item for men, women, young fashion and kids, such as T-shirt, Polo shirt, Pant, Sweatshirt, Jacket
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2.4 Principle Strategy

1. Provide extensive product variety at mid range quantities rather than focus on only basic items. At current capacity we handle 140 styles on a monthly basis.
2. Ensure long term customer relationship through timely delivery of superior quality product at a competitive price.
3. Continuously upgrade and sustain work place environment to prioritize workplace safety, job satisfaction and continuous development through employee participation and idea generation.

2.5 Organizations Culture

Amazing Fashion Limited have an effective functional structure where individual department is lead by a senior manager who also ensures interdepartmental coordination for meeting overall goals in the order cycles. Within the departments there are small groups of young professionals performing similar task which creates a competitive environment. We have established a horizontal culture which motivates employees to participate in team problem solving and generate ideas geared towards company growth and development for which they are often rewarded aside from task performance rating.

2.6 Major Buyer

1. OVS	2. UPIM
3. COIN	4. KARSTADT
5. Charles Voegele	6. ZARA
7. M & Co.	8. BERSHKA
9. Bensherman	10. Etams

2.7 Annul Turnover

We have been working with these customers for over 7 years. Our annual turnover for the fiscal year was USD 25 million. With addition of production capacity operational July 2016, estimated export volume is expected to exceed USD 35 million in fiscal year 2017-2018

2.8 Product Range

Main Product Line	All types of Knit item for men, women, young fashion and kids, such as T-shirt, Polo shirt, Pant, Sweatshirt, Jacket
Major Accessories	All types sequence, lace, button, zipper, stone, varieties of print, appliqué & embroidery, badge, patch, belt, buckle etc.
Composition	100% cotton, CVC, PC, TC, viscose, cotton/elastane, viscose lycra, modal etc.
Major Fabrication	Single Jersey, Interlock, RIB (1x1, 2x2, 3X4, 2X1, Lycra Rib etc),
	Pique, Fleece, Terry,
	Yarn dyed Feeder & Engineering Stripe, All over printed fabrics, Jacquard design, Lurex, Waffle, Drop Needle. etc.

2.9 Fabric Production Capacity

Our supply chain comprised of sister concerns and long term knitting, dyeing and AOP partner factories is one of our biggest strength in development and production of wide

range of fabrics. Similar to Toyota’s ideology (Kiatsu) we believe in maintaining a strong bond and growing together with our supplier partners. We have our own designated quality controllers and production officers present 24 hours in these factories to ensure quality and timely production of fabrics.

2.10 Major Knitting Partner

Major Knitting Partners	Daily Maximum capacity allocation (Kgs)		Major Dyeing Partners	Daily Maximum capacity allocation (Kgs)
Amazing Fashions	5000		Karoni	12000
NRG	12000		Wisteria	3000
MM group	3000		Divine	3000
Mondol	3000		NRG	3000
Cita	2000		Universal Yarn Dyeing	6000

All over Print Partners	Daily Maximum capacity allocation (Kgs)
Intermax	2000
Divine	2000
Formosa	1000
A one Pola	2000

2.11 Major Garments Production

Category A	Category B	Category C
1. Tee Shirts	1. Fashionable tops	1. Band Collar Polo
2. Leggings	2. Ladies dresses	2. Golf shirts

3. Skirts	3. Sweat shirts	3. Placket neck and Basic Polo
4. Pyjama sets	4. Jogging Pants	4. Fancy jackets
5. Under wear	5. Ladies and Men's Shorts	

2.12 Garments Production Capacity

Production Cluster	Machines per assembly line set up	Per Line Daily productivity (80%)	Existing assembly lines	Additions in July 2016	Current Production (Daily)	Projected Production effective July 2016 (Daily)
Category A	21-28 machines (Basic)	1800	10	4	18000	25200
Category B	29-38 machines	1500	8	4	12000	18000
Category C	38-75 (Critical items)	1400	7	2	9800	12600
				Total	<u>39800</u>	<u>55800</u>

2.13 Lead Time

1.Lab dip submission within 7 working days of receiving colour reference.

2.All over print and yarn dyeing strike off submission within 10 working days of receiving colour reference and design.

3Sample submission within 10 working days on fabric confirmation.

4.Shipment in 45 days after fitting, design, colour and print approvals for critical items such as Polo shirts and 30 days for basic items. This may vary depending on quantity of garments or nature of fabric as well as on approval lead times or changes made my customer.

2.14 Quality Measures

1.100% incoming material inspection and monthly supplier evaluation.

2.100% quality check between inter departmental material movement (cutting □ printing and embroidery □ sewing □ finishing □ packaging).

3.In line sewing and finishing Quality Control.

4.100% pre final shipment quality check.

5.Weekly Internal and supplier independent audits from head office.

2.15 Compliance certification

ACCORD

BSCI

WRAP

OEKO-TEX

ISO 9001:2008

2.16 Banking Information

Bank Name	THE CITY BANK LIMITED		
Address	City Bank Center, 136 Gulshan Avenue, Gulshan, Dhaka 1212, Bangladesh		
Telephone numbers	880-2-8813483, 8814375, 8813126	Fax number	880-2- 9884446
Company A/C number	6331458568001	Swift Code number	CIBLBDDH
Webpage	www.thecitybank.com	E-mail	info@thecitybank.com

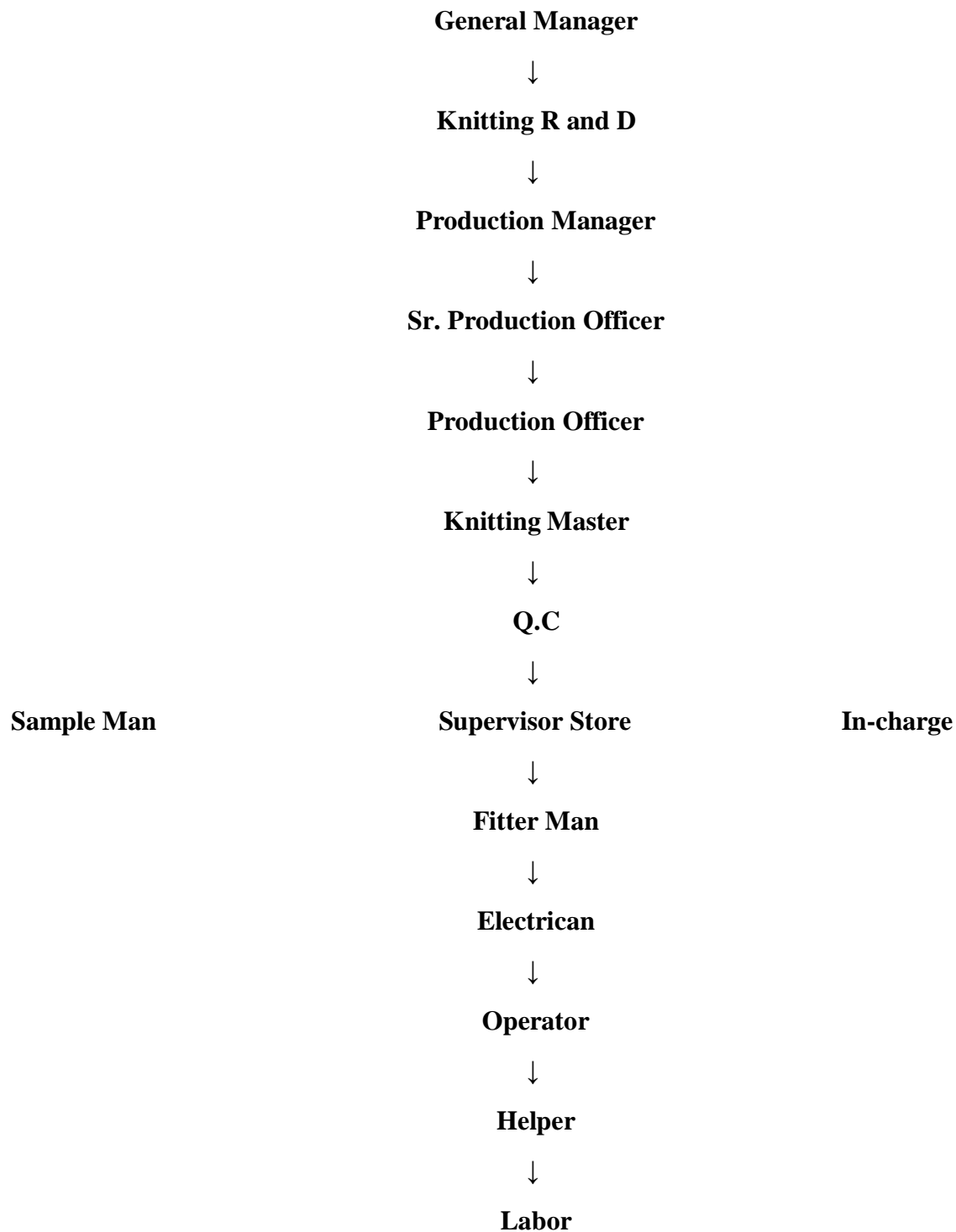
CHAPTER-3

DETAILS OF ATTACHMENT

3.1.1 Knitting Section

Knitting is considered to be the second most frequently used method of fabric construction, after weaving. It is one of the several ways to turn thread or yarn into cloth. It is similar to crochet in the sense that it consists of loops pulled through other loops. In other words, knitting is the process of construction of a fabric made of interlocking loops of yarn by means of needles. The loops may be either loosely or closely constructed, according to the purpose of the fabric. The loops or stitches are interlocked using a needle which holds the existing loop and a new loop is formed in front of the old loop. The old loop is then brought over the new loop to form the knitted fabric. Knitting is different from weaving in the sense that a single piece of yarn can be used to create fabric. The knitted fabric consists of horizontal rows known as courses and vertical columns of loops known as Wales. Today, knitting is practiced manually, or with the help of machines. Knitted fabric has certain special characteristics that make it suitable for creating a wide range of garments and accessories like tights, gloves, underwear and other close-fitting garments. The structure of the loop of knitted fabric stretches and molds to fit body shapes. The air trapped by the interlocking loops keeps the wearer warm. The popularity of knitting has grown a lot within the recent years owing to the adaptability of various man-made fibers, the increased versatility of knitting techniques and the growth in demand for wrinkle-resistant, stretchable, snug-fitting fabrics (particularly in the range of sportswear and other casual apparels). Today, knitted fabrics form an integral part of hosiery, underwear, slacks, sweaters, suits and coats, rugs and other home furnishing items. Knitting industry has two main divisions: One division produces knitted goods for apparel manufacturers, for sewing centers, for consumers and for others. Other division produces completed apparel like hosiery, sweaters and underwear.

3.1.2 Organisation structure of knitting section



3.1.3 Section Layout



3.1.4 Raw Materials of Knitting Section

Yarn :

100% cotton

Polyester

CD

PC

CVC

CB

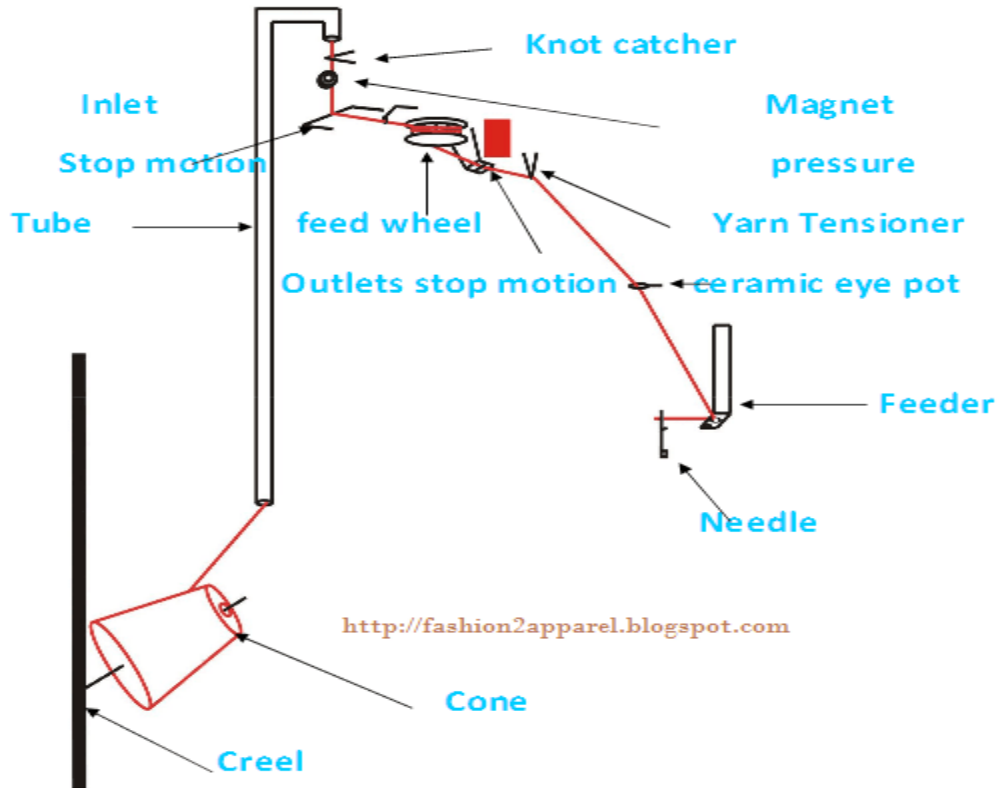
3.15.5 Yarn Collect From

- 1.Badsha Textile Ltd.
- 2.Aman Textile
- 3.Padma Spinning Mill
- 4.Beximco synthetics ltd

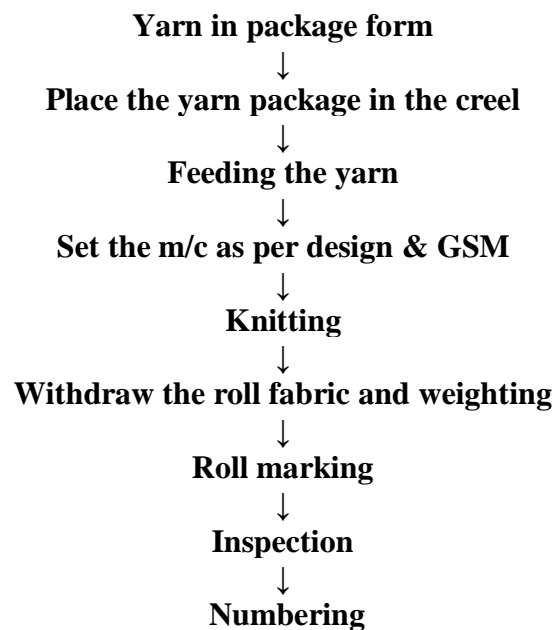
3.1.6 Machine Used in Knitting Section

Machine Type	Quantity	Origin	Total
Single Jersey	6	Taiwan	
Rib	5	Taiwan	
Flat Bed	4	Taiwan	15

3.1.7 Yarn Path of Machine



3.1.8 Process Flow Chart of Knitting



↓
Dispatching

3.1.9 Description of Production Process

1. Firstly, knitting manager gets a production sheet from the merchandiser as accordance as consumer requirements then he informs or orders production officer about it.
2. Production officer informs technical in charge and knows about machine in which the production will be running.
3. Technical in charge calls for leader of mechanical fitter troops, they two take decision about machine for production considering machine condition, production capacity, maintenance complexity, etc.
4. Production officer with experienced mechanical fitter adjusts required stitch length and grey GSM for required final GSM.
5. Supervisor checks daily production regularity and make operator conscious about finishing due time.
6. Operators operate machine in high attention as if there were no faults in the fabrics. If he thinks or sure about any fabric fault, then he calls for the mechanical fitters in duty. Mechanical fitter then fixes it if he can or he informs technical in charge. Then he comes in spot.
7. After required production and final inspection in 4-point system, they sent in dyeing section.

3.1.10 Production Parameter

- Machine Diameter
- Machine rpm (revolution per minute)
- No. of feeds or feeders in use
- Machine Gauge

- Count of yarn
- Required time (M/C running time)
- Machine running efficiency

3.1.11 Method of Increasing Production

1. By increasing m/c speed:

Higher the m/c speed faster the movement of needle and ultimately production will be increased.

2. By increasing the number of feeder: If the number of feeder is increased in the circumference of cylinder, then the number of courses will be increased in one revolution at a time.

3. By using machine of higher gauge: The more the machine gauge, the more the production is. So by using machine of higher gauge production can be increased.

4. By imposing automation in the m/c:

a) Quick starting & stopping for efficient driving system.

b) Automatic m/c lubrication system for smoother operation.

c) Photo electric fabric fault detector.

5. By imposing other developments:


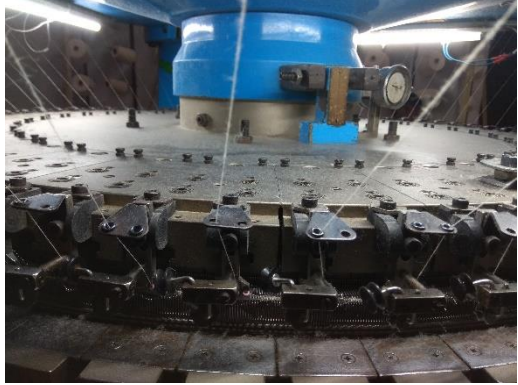
a) Using creel-feeding system.

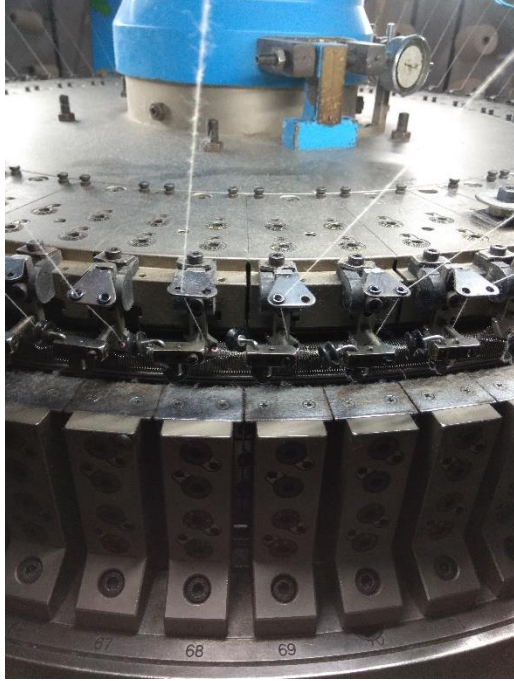


b) Applying yarn supply through plastic tube that eliminates the possibilities of yarn damage.c)



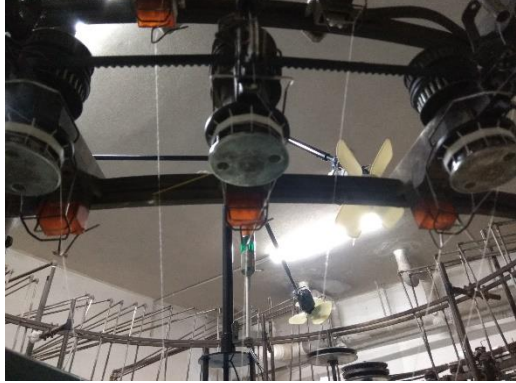
Using yarn feed control device.

Using auto lint removal.

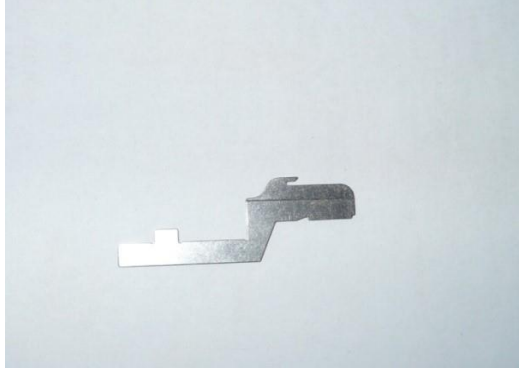



3.1.12 Different parts of Knitting machine

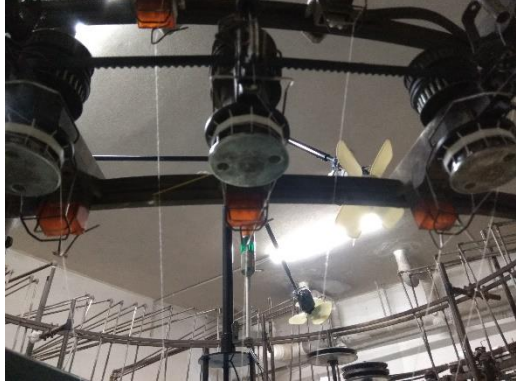


Parts Name	Photo	Function
Cam box		<p>Cam is a device which converts rotary machine drive into a suitable reciprocating action for the needles and other elements. The cams are carefully profiled to produce precise time movement and dwell periods and are two types, engineering and knitting cams.</p>
Feeder		<p>Feeder is a device where yarn passes through the knitting section</p>

<p>Feeder ring</p>		<p>It is a ring where all feeders are placed together</p>
<p>Take up roller</p>		<p>This part is used to take up the fabric from cylinder</p>
<p>Base Plate</p>		<p>To stand the machine</p>

<p>On Off and slow button</p>		<p>To stop and start the Machine.</p>
<p>Led screen</p>		<p>To count production (Automatic)</p>
<p>Wheel</p>		<p>To control the speed of MPF.</p>

<p>Creel</p>		<p>Creel is a part of knitting machine. Here yarn packages are stored for yarn feeding in the machine</p>
<p>Adjustable fan</p>		<p>This part removes lint, hairy fibre from yarn and others</p>
<p>Needle</p>		<p>Needle is a primary knitting element, which makes the loop.</p>

<p>Sinker</p>		<p>It is most important element of the machine,make loop formation,hold down the loop.</p>
<p>Cam</p>		<p>To make fabric design.</p>
<p>DDQ Pulley</p>		<p>This part is used to control stitch length and GSM of the knitted fabric</p>
<p>Cylinder</p>		<p>Needle truck are situated here.</p>

<p>Stopper light</p>		<p>Fault is present the stopper light indicate it.</p>
<p>Lykra stop motion</p>		<p>When lycra is broken it stop the machine.</p>
<p>Automatic oiler</p>		<p>It gives the machine oil all the truck automatically.</p>

3.1.13 GSM depends on

- Type of yarn
- Yarn Count
- Stitch length
- Fabric Structure.
- Finishing process.

- Depth of shade.
- Stitch density.
- Machine gauge.

3.1.14 Knitting Calculation

- WPI: Wales per inch is called WPI.
- CPI: Course per inch is called CPI.

3.1.15 Needle calculation:

Single jersey circular knitting machine needle = ΠDG

Rib/Inter lock /Double jersey circular knitting machine needle = $\Pi DG \times 2$ (two needle bed is here)

Single bed flat knitting m/c needle = width \times gauge

V bed flat knitting m/c needle = $2 \times$ width \times gauge

Here, D = cylinder diameter, G = Machine gauge, Needle pitch = $1/G$.

GSM: Grams per square meter of the fabric are called GSM.

GSM = $\{WPI \times CPI \times \text{stitch length (mm)} \times 0.9155\} / \text{Count(Ne)}$

Stitch density = $(WPI \times CPI) \text{ inch}^2 = (WPC \times CPC) \text{ cm}^2$

No of sinker = No of needle

No Wales = No of needle

No of course = No of feeders = No of yarn (per revolution of cylinder)

Course per minutes = No of feeders \times cylinder rpm **Course**

length = yarn required for each course.

Fabric width = wale spacing \times Total no of Wales = $(1/WPI \times \text{No of Needles}) \text{ inch} = (\text{No of Needles}/WPI \times 39.37) \text{ meter}$

For single jersey fabric = $(\Pi DG/WPI \times 39.37) \text{ meter (open width)} = (\Pi DG/WPI \times 39.37) \text{ meter}/2$ (Folded/Tubular width)

For double jersey fabric = $(2 \times \Pi DG/WPI \times 39.37) \text{ meter (open width)} = (2 \times \Pi DG/WPI \times 39.37) \text{ meter}/2$ (Folded/Tubular width).

Fabric Length = Course spacing × Total course per hour = $\{(Feeder \times cylinder\ rpm \times 60) / CPI\}$
 inch/hour = $\{(Feeder \times cylinder\ rpm \times 60) / CPI \times 39.37\}$ m/hour

Production calculation:

Production per hour = $\{IIDG \times S.L(mm) \times No.\ of\ Feeder \times RPM \times Eff \times 60\} /$
 $\{2.54 \times 36 \times 840 \times Ne \times 2.2046\}$ kg

3.1.16 Inspection Procedure

Generally, a fabric roll is cut when it reaches its ‘set cut length’ in the circular knit m/c but the roll might cut before reaching the pre-set length if required and weight is recorded other number, quantity, GSM, Knitter, Shift, Style, Yarn lot, Roll Quantity, Machine Revs, m/c no. etc. are written on the knit card. All rolls are kept in front of the inspection m/c time to time and are inspected over the inspection visually in a pre-set speed (m/min) against light. For any major/minor faults like thick-thin place, barre mark, fall out, contamination / fly, holes, oil lines, needle lines, slubs etc. are recorded in inspection report to classify the fabric based on the four point system. In case of fly and contamination, fabric is approved for color while minor needle lines or minor stripes, fabric is approved for white. The concerned inspector records all the details of inspection result on the knit card and inspection report. Collar and cuff is cut when it reaches its ‘set cut no of pieces’ in the flat knit m/c. and kept in front of the inspection table. These are inspected visually under the light box. Any major or minor faulty collar / cuff like having wrongly design, first round problem etc. are properly counted and recorded

3.1.17 Investigation

The four-point system is followed to inspect the body and rib fabric. The defects found and points given against them are recorded in the daily body and rib inspection report and daily collar and cuff inspection report.

3.1.18 Following tables shows the four-point grading system

Four Point Grading System	
Size of Defects	Penalty points

0-3''	1
Over 3'' - Not over 6''	2
Over 6'' – Not over 9''	3
Above 9''	4

3.1.19 Fabric Fault in Knitting and Their Causes

- 1. Holes or cracks:** Bad needle, take down mechanism too light, high tension on yarn, bad yarn, needle too tight in their slots, dial height too high or too low, badly tied knots, improper stitch setting.
- 2. Drop stitches or cloth fall out:** Take down mechanism too loose, defective needles, wrong needle timing set and needle tricks closed.
- 3. Vertical lines:** Defective needle, dirt in needle slots, needle too loose or too tight in the slots, needles not enough lubricated.
- 4. Barre or horizontal stripes:** Bad yarn, uneven tension, yarn slippage in positive feed, improper stitch cam setting.
- 5. Oil lines:** Fibers & fluff accumulated in the needle tricks, which remain soaked with oil.
Excessive oiling of the, needle beds.
- 6. Needle Lines:** Bent Latches, Needle Hooks & Needle stems Tight Needles in the grooves
Wrong Needle selection (Wrong sequence of needles, put in the Cylinder or Dial)
- 7. Sinker Lines:** Bent or Worn out Sinkers Sinkers being tight in, the Sinker Ring grooves **8.**
Contamination: Presence of dead fibers & other foreign materials, such as; dyed fibers, husk & synthetic fibers etc.
- 9. Broken Needle:** High Yarn Tension Bad Setting of the Yarn Feeders Old & Worn out Needle set.
- 10. Rust marks:** Rusty needle Rust in tricks.
- 11. Mixed yarn:** Different yarns are feed.

3.1.20 Type of Knit Fabrics Produced

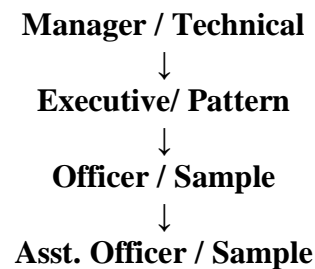
1. Single Jersey
2. Single Jersey Lycra
3. 1×1 rib4. 2×2 rib
5. 2×1 rib
6. Interlock
7. Terry
8. Fleece

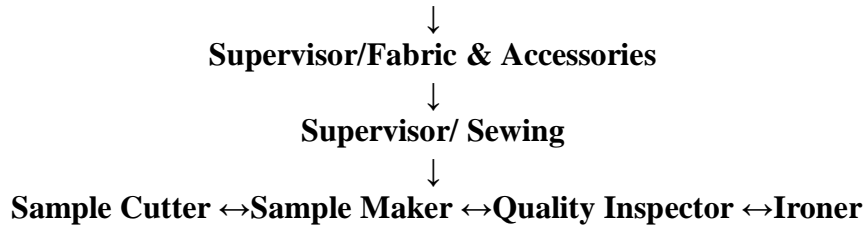
3.2.1 Sample section

Sample section is one of the important section in apparel industry. Because sample plays vital role in attracting buyers and confirming the order, as the buyers generally places the order once satisfied with the quality and responsiveness of the sample.



3.2.2 Organogram of sample section





3.2.3 Sample Developing Procedure

1st sample:

The processes of 1st sample are given in bellow:

- Receive spec sheet of garments from buyer.
- Make pattern as per measurement.
- Check the pattern which has made.
- If necessary Check shrinkage, twisting, bowing before pattern making Cutting fabric as per pattern.
- Collect accessories.
- Start sewing.
- M/C specified.
- Check the sample to ensure it, ok.
- Actual size required.
- Actual fabric construction, send it to buyer for approval.

Development sample:

After approving of 1st sample, the work of development sample is start. The process of Development sample is given in bellow.

- Make pattern as per measurement, if buyer change the measurement to observe the counter sample.
- Actual size required
- Check the pattern which has made.
- Collect actual color fabric. **G.S.M** should be ok.
- Cutting fabric as per pattern.
- Collect actual accessories.
- Start sewing.
- M/C specified.
- Check the sample to ensure it, ok
- Send it to buyer for approval

3.2.4 Material requires during sample developing

- ✓ Tech file.
- ✓ Embellishment art file.
- ✓ Measurement chart.
- ✓ Actual sample.

3.2.5 Machine on the floor

Machine Name	Brand Name	Number of Machine
Plain	Juki	20
Over kock	Juki	20
Over lock	Pegasus	3
Flat lock	Pegusus	7
Pipe cutter	Genesee	1
Thread distributor	Max-20x	1
Button hole machine	Juki	1
	Total	53

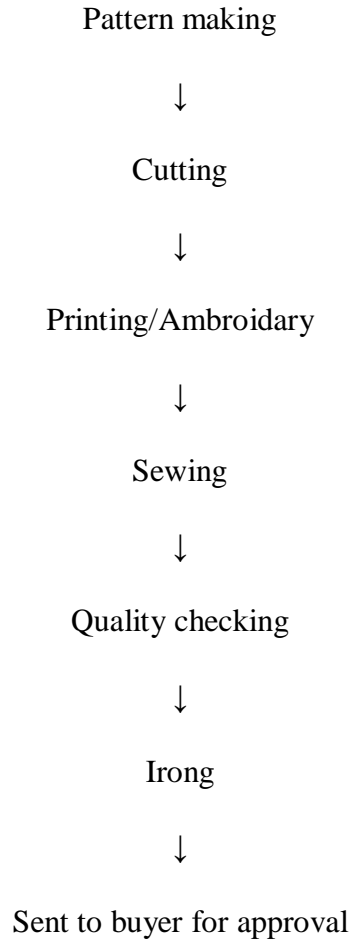
3.2.6 Process flow chart of sample making

Contact with buyer



Receive specification sheet



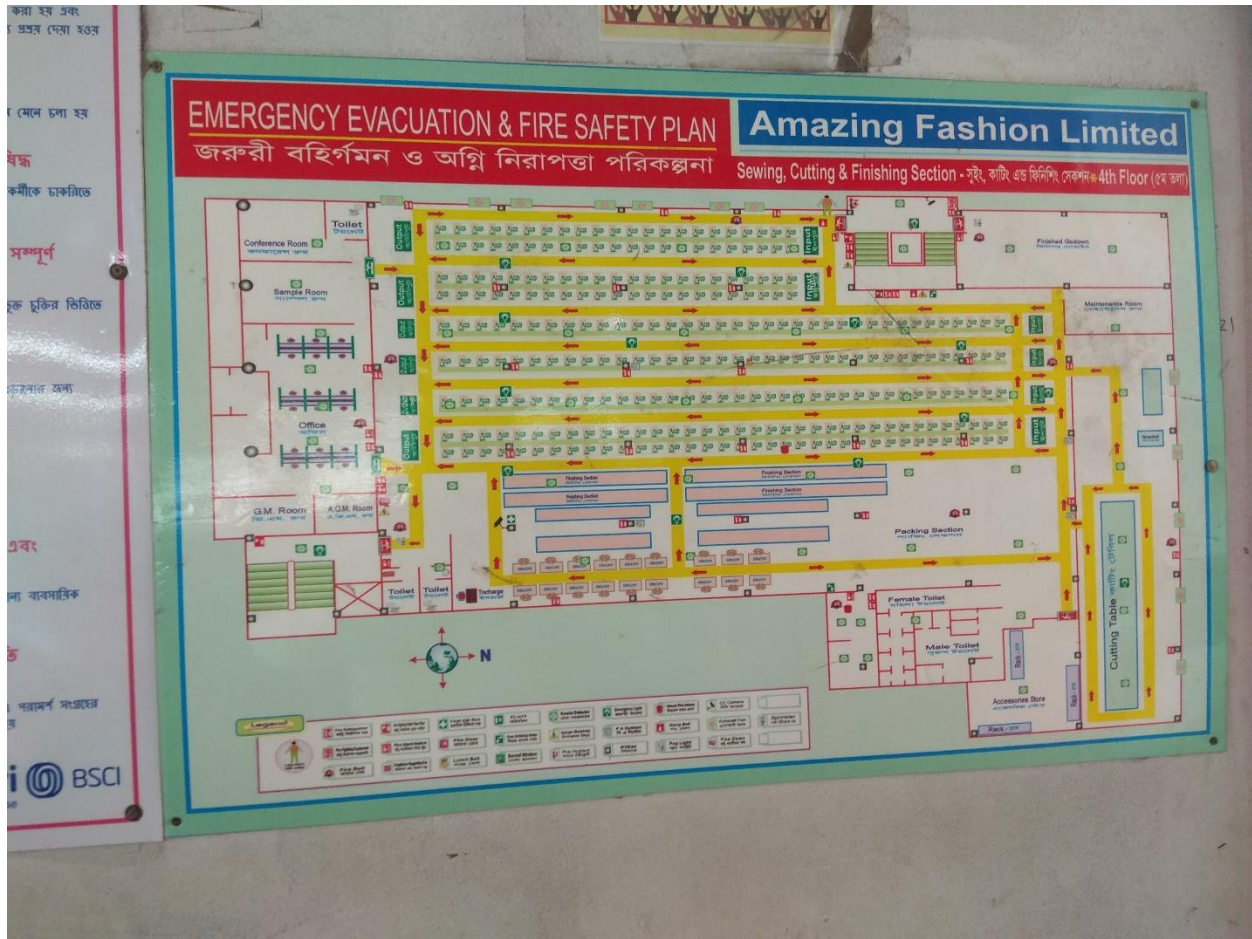


3.2.7 Different types of sample

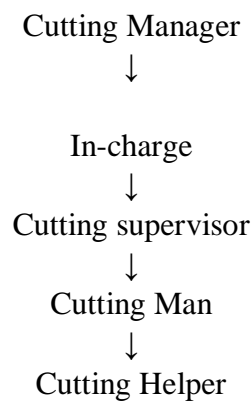
1. Development sample
2. Salesman Sample
3. Photo Sample
4. Approval Sample
5. Size set Sample
6. Mock up Sample
7. Pre-production Sample
8. Production Sample
9. Shipping Sample

3.3.1 Cutting section

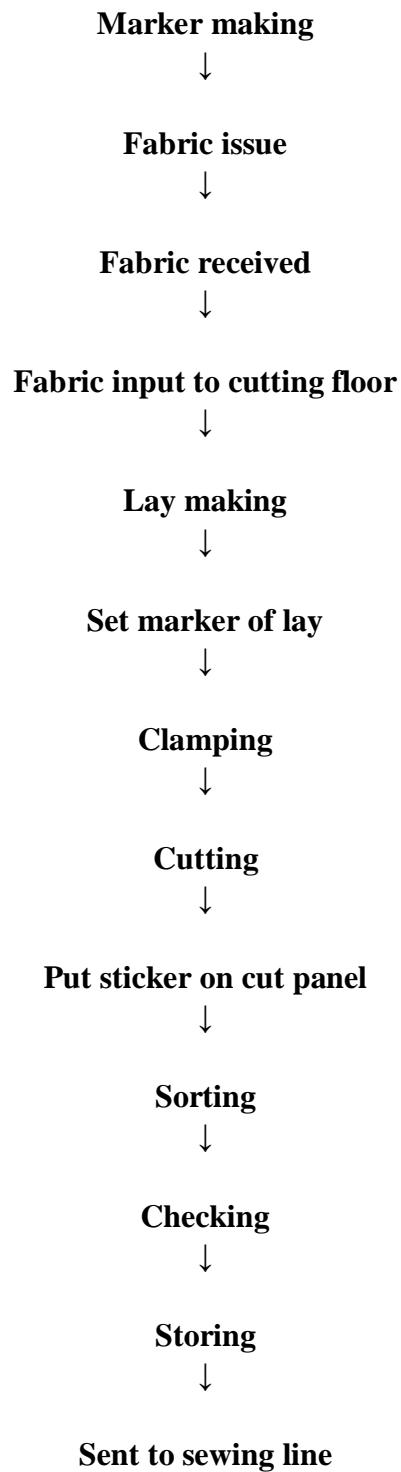
3.3.2 Layout of cutting section



3.3.3 Organogram of cutting section



3.3.4 Flow chart of cutting



3.3.5 Machine & equipment's are used in cutting section:

- ✓ Marker paper
- ✓ CAD system
- ✓ Cutting table
- ✓ Measuring tape
- ✓ Pencil
- ✓ Gum tape/ scotch tape
- ✓ Weight scale (machine)
- ✓ Clamp
- ✓ Ruler
- ✓ **Scissors**
- ✓ Cutting machine
- ✓ Metal globes
- ✓ Bundle card

3.3.6 CAD machine Details

Machine details

M/C Name: portrait inkjet plotter

Model: Tw-1800Ap

Rated voltage: 220 V

Rated frequency: 50 HZ

Rated power: 300 W

3.3.7 Fabric Spreading

Means smooth lying out of fabrics as per marker direction. Fabric spreading is the preparatory process for cutting. In this processing no. of plies up to 300 is possible in one lay.

So Alignment of plies: -

1. During spreading, each ply must be parallel to another plies at one side of the fabrics.
2. Correct Ply Tension: Uniform tension to be maintained during spreading for all plies.
3. Fabric must be flat: Fabric must be spread in flat form, i.e. fabric must be fold free or crinkle Free State.
4. Each ply must be covered the area of marker.

5. Fabric must be spread at one side of the spreading or cutting table, to avoid wrong direction
6. Check or Stripe to be matched. Metal spike to be used during spreading check or stripe fabrics, when needed .



3.3.8 Things to remember during fabric spreading

1. Use Paper for the first ply in case the table surface is rough or when fine fabrics are being spread.

2. Identify the defects noticed in the fabric by means of stickers
3. Use lubricated paper for separating layers.

3.3.9 Defects of cutting

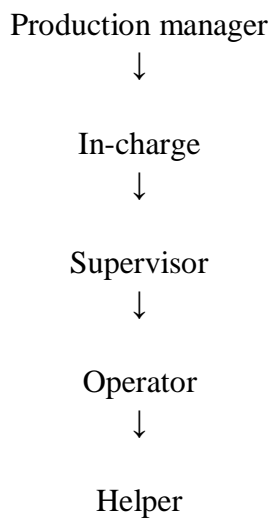
- ✓ Measurement not ok
- ✓ Marker problem
- ✓ Shade variation in body parts
- ✓ Numbering mistake
- ✓ Crease mark for machinery problem
- ✓ Shrinkage problem
- ✓ Spot, dirt, oil mark on fabric
- ✓ Fabric edge is not properly cutting
- ✓ Size variation

3.4.1 Sewing Section

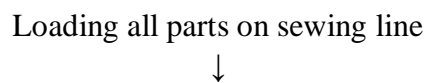
Plan Layout Of Sewing Section

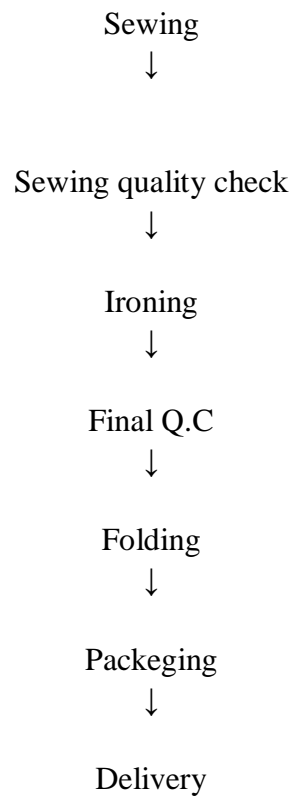


3.4.2 Organogram of sewing



3.4.3 Process flow chart of sewing





3.4.4 Machine in sewing floor

Machine Name	Brand Name	Country of origin
Plain m/c	JUKI	Japan
	BROTHER	Japan
	YAMATA	China
Flat kock m/c	JUKI	Japan
	PEGASUS	Japan
Over lock m/c	JUKI	Japan
	BROTHER	Japan

	PEGASUS	Japan
Button Attach m/c	JUKI	Japan
Button hole m/c	JUKI	Japan
Snap button attach	SEWKEY	China
Bar tuck sewing	JUKI	Japan
Kansai m/c	KANSAI	Japan

3.4.5 Types of sewing machine

1. Plain sewing machine.
2. Over-lock sewing machine.
3. Flat lock sewing machine.
4. Bar take sewing machine.
5. Button holing sewing machine.
6. Button attaching sewing machine.
7. Blind stitching sewing machine.
8. Eye-light /snap button sewing machine.
9. Kansai sewing machine

3.4.6 Industrial Engineering (IE)

Industrial Engineers work with man ,machine and material.

The prime of objectives of industrial engineering are

- (1) To increase productivity,
- (2) To eliminate waste and non-value-added activities, and

3.4.7 Production and Productivity

Production is the total output per day week or per year.

Productivity is within standard allowed minute ow many piece are coming out of machine.

3.4.8 Standard Minute Value (SMV)

SMV is the process completed time of a standard operator in the standard environment.

SMV= Basic time + Allowance

Basic time= Observed time X Rating/100

3.4.9 Line Balancing

Line Balancing is leveling the workload across all processes in a cell or value stream to remove bottlenecks and excess capacity

3.4.10 Importance of Line Balancing

1. Line balancing helps to know about new machine required for new style.
2. It becomes easier to distribute particular job to each operator.
3. It becomes possible to deliver goods at right time at the agreed quality for list cost.
4. Good line balancing increase the rate of production.
5. Good balancing reduces production time

3.4.11 Bottle neck

When any process is stored in front of an operator and then production becomes slow then it is called a bottleneck.

3.4.12 Bottleneck in a line is occurred for following reason

1. Worker selection wrong.
2. Wrong work flow / sequence of works.
3. Non balance allocation of elements.
4. Workers absenteeism.
5. Machine disturbances / out of order.
6. Lack of supply
7. Quality problem
8. If anybody becomes sick.

3.5 Finishing

After washing the garments are sent to the finishing department.

A quality inspector should confirm various matters according to the buyer's instruction in the final inspection stage of garments. These are-

- ✓ Shade variation from one part to another part of garments,
- ✓ Garments measurement with allowance from buyers provided measurement chart,
- ✓ Collar and sleeves balanced,
- ✓ Pockets correct,
- ✓ Absence of fabric faults and stains,
- ✓ Patterns matching,
- ✓ Absence of miss stitching,
- ✓ Seams finished correctly,
- ✓ Accessories correctly applied and working,

3.6 Type of packing:

- 3 -Solid size packing (One size garment)

- 4 -Ratio packing (Similar color, different size)
- 5 -Assort packing (Different color, different size)

After finishing the product is ready for shipment

3.7 MERCHANDISING

3.7.1 MERCHANDISING MANAGEMENT

This department is very much important for every garment industries. Merchandiser is a data bus between buyer and seller. Merchandising department perform the activities from collecting order to reaches the product on buyer. This department is responsible for providing all the raw materials needed for all kinds of garments products. Merchandising management constitutes the most significant part of textile companies. A company starts their activities by starting the activities of a merchandiser. When a company receives an email from buyer, then the activities of a merchandiser start and a merchandiser always look after all activities from production to shipment.

1. Receive email of the buyer or buying house
2. Determine the actual price of the product
3. Send sample of the product
4. Ensure a good quality of product
5. Follow up the production process.
6. Monitoring the payment

3.7.2 Organ gram of Merchandising Section

Manager

Asst. Manager

Teaam Leader

Sr. Merchandiser Executive Asst.Merchandiser

Trainee Merchandiser

3.7.3 Process Flow chart of Merchandising

Merchandiser order sourcing



Co-operation with buyer



Collection order



Costing

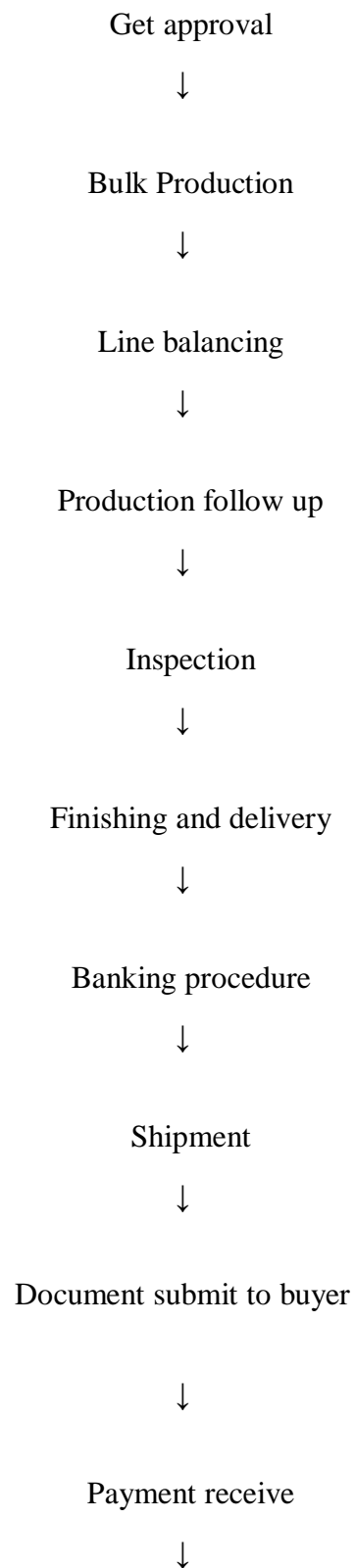


Sent to the buyer



If ok then sample production(According to buyer
necessity)





Feed-back collection



File closing



Marketing for new order

CHAPTER-04

IMPACT OF INTERNSHIP

4.1 Sample:

- ✓ We have seen here how they make pattern by manually and computerized.
- ✓ We have seen here how automatic cutter machine work.
- ✓ We have learned how they make sample.

4.2 Cutting:

- ✓ We have seen here marker making & planning.
- ✓ We have learned how lay planning & according to lay how fabric consumption is done.
- ✓ We have learned how fabric is spread on the table & cutting, sorting etc.
- ✓ We have also taken some idea about cutting machine.

4.3 Sewing:

- ✓ We have learned how operation breakdown, SMV calculation, line layout, line balancing, target setting is done.
- ✓ We have seen here how fabric is sewn.
- ✓ We have seen here lot of sewing machine & their function

4.4 IE department :

In the sewing section I have learned about some activities of IE department as SMV, line balancing, motion study etc

4.5 Finishing Department :

Here, I have learn about different type of checking, how product is packed etc.

4.6 Merchandising :

- ✓ I have seen how they dealing with a buyer.
- ✓ I have learned how they develop sample.
- ✓ I have seen how they prepare TNA and swatch card.
- ✓ I have also learned how consumption & costing.

CHAPTER-5

CONCLUSION

5. Conclusion

Now –a-day’s textile field becomes very competitive & the buyer wants 100% quality product. For this reason it is very important to know about the latest technologies in textile sector. To produce a quality product as a textile engineer we must have a vast knowledge about the production parameters & how to produce a high quality product. To accommodate the theoretical study with technical & practical things industrial training (Internee) is very important. In our training period we have observed that Amazing fashion ltd. produce high quality fabric and fulfill the special requirements from the different types of buyers by following different internationally recommended standard method. In our training period we have learned many things such as different types of machines & their functions, techniques, and the management system. In this training period we have also learned how the desired product is made ready for shipment from the starting to the end. In this training period we have got an idea about the responsibility of different departments of the factory. So we think this industrial training will help us in future.