



Faculty of Engineering

Department of Textile Engineering

REPORT ON

Industrial Attachment

At

Cotton Field (BD) Ltd. (Mondol Group)

Course Title: Industrial Attachment

Course Code: TE-431

Submitted By

Name: Md. Rahid Hasan ID: 151-23-4268

Sazib Sheikh 151-23-4166

Supervised By

Mousumi Rahaman Hashi

Lecturer

Department of Textile Engineering

Daffodil International University

This Report Presented in Partial Fulfillment of the Requirements for the Degree of **Bachelor of Science in Textile Engineering.**

Advance in Apparel Manufacturing Technology

Duration: From October 09, 2018 to November 25, 2018



DECLARATION

We hereby declare that, this work has been done by us and not copied from elsewhere; we also declare that neither this report nor any part of this report has been submitted elsewhere for award of any degree or diploma.

SUBMITTED BY:

Md. Rahid Hasan

ID: 151-23-4268

.....

Signature

Sazib Sheikh

ID: 151-23-4166

.....

Signature

LETTER OF APPROVAL

It is herewith certified that **Md. Rahid Hasan & Sazib Sheikh** bearing ID: 151-23-4268 & 151-23-4166, Department of Textile Engineering, Daffodil International University, Dhaka, Bangladesh, has carried out their Industrial attachment at "**Cotton field (BD) Ltd.**" under my direct supervision. They have successfully carried out their internship and ready to present their report, which is required in partial fulfillment of their B.Sc. degree.

I have gone through the final draft of the report and recommend its submission for the degree of Bachelor of Science in Textile Engineering.

.....

Supervisor

Mousumi Rahaman Hashi

Lecturer

Department of Textile Engineering

Faculty of Engineering

Daffodil International University

ACKNOWLEDGEMENT

First of all We would like to express our devotion to the most gracious and the most merciful Allah, Alhamdulillah, since We have been able to finish our Industrial attachment after two months long hardworking.

We wish to express our gratitude to our supervisor, Mousumi Rahaman Hashi, Department of Textile Engineering, Daffodil International University, for giving us the opportunity, trust and freedom that allowed us to explore in the field of our industrial work. It is indeed a great pleasure for us to express our sincere and profound gratitude to her for her scholastic guidance, constructive suggestions and encouragement which we received from her in order to complete internship and to write this dissertation.

A very special gratitude goes to Dr. S.M. Mahbub Ul Haque Majumder, Founder and Professor, Department of Textile Engineering, Daffodil International University.

We are indebted to Dr. Md. Mahbubul Haque, Professor & Head, Department of Textile Engineering, Daffodil International University for his unremitting and valuable guidance and suggestions.

We also like to give special thanks to **Haji Abdul Majid Mondol** Chairman of **Mondol Group** who allowed us to do industrial attachment in his factory for 2 months.

We are also very much grateful to Bidhan Chanda Asst. Manager (Planning), Cotton Field (BD) Ltd. for his suggestion and support. Many thanks for everything.

Our special thanks go to all production officers, supervisors and stuffs of The Cotton Field (BD) for their helpful hands and cordial co-operation.

Finally, we are grateful to all of my teachers who have helped us all over the four years in this Textile Engineering Department.

DEDICATION

It is our genuine gratefulness and warmest regard that we dedicate this work to our beloved Parents & respected Teachers.

Table of Content:

CHAPTER 1: EXECUTIVE SUMMARY	10
1.0 EXECUTIVE SUMMARY	11
CHAPTER 2: INFORMATION ABOUT FACTORY	12
2.1 Introduction:.....	13
2.2 History of Project Development:	13
2.3 General Information about the Factory:.....	13
2.4 Location:	15
2.5 Activities of Administration:	15
2.6 Responsibility of Production Manager:	16
2.7 Mission:.....	16
2.8 Vision:.....	16
2.9 Buyers Profile:	17
CHAPTER 3: DESCRIPTION OF THE ATTACHMENT	20
3.1 STORE SECTION:	21
3.2 Store Department:	21
3.2.1 Different types of accessories:	21
3.2.2 Fabric Storage:	22
3.3 Fabric Inspection:.....	23
3.4 Pattern:	24
3.4.1 Working pattern:	24
3.4.2 Production pattern:.....	24
3.4.3 Pattern Grading:	25
3.4.4 Sample Garment:.....	25
3.5 CAD SECTION:	26
3.5.1 Flow Chart:	26
3.5.2 Objectives of CAD:.....	26
3.5.3 Machineries:.....	26
3.6 Marker Making:	26
3.6.1 Types of marker:	27
3.6.2 Objectives of Marker Making:	27

3.6.3 Marker Efficiency:	27
3.7 CUTTING SECTION:	28
3.7.1 Cutting Flow chart:	28
3.7.2 Fabric spreading:	28
3.7.3 Problems may occur during spreading:	30
3.7.4 Cutting following points-	30
3.7.5 Cutting Problems:	30
3.8 PRINTING SECTION:	30
3.8.1 Printing Flow Chart:	31
3.8.2 Types:	31
3.9 SEWING SECTION:	34
3.9.1 Organogram of Sewing Section:	35
3.9.2 Needle:	35
3.9.3 Various types of Needle used in different sewing machine:	35
3.9.4 Needle Size:	36
3.9.5 Sewing thread:	37
3.10 Process Flow Chart of T-Shirt Manufacturing:	37
3.11 Process Flow Chart of Polo Shirt Manufacturing:	38
3.12 Inspection:	39
3.13 Sewing Machine of Cotton Field:	39
3.14 Different types of sewing fault:	44
3.15 QC SECTION (Quality control):	44
3.15.1 Work Flow Chart:	44
3.15.2 Quality Management	45
3.15.3 Quality Policy:	45
3.15.4 Objective of quality control:	45
3.15.5 Quality Management system:	46
3.16 FINISHING SECTION:	47
3.16.1 Flow Chart:	47
3.16.2 Ironing:	47
3.16.3 Pressing:	48
3.16.4 Objective of Ironing:	48

3.16.5 Final Inspection:.....	48
3.16.6 Packing:.....	49
3.16.7 Cartoon:.....	49
3.16.8 Fault Marking:	51
CHAPTER 4: IMPACT OF INTERNSHIP	53
4.1 Impact of fabric inspection section:	54
4.2 Impact of Cad section:	54
4.3 Impact of Sample Section:	54
4.4 Impact of Cutting Section:	54
4.5 Impact of Sewing Section:	55
4.6 Impact of Finishing Section:	55
CHAPTER 5: CONCLUSION.....	57
5.0 CONCLUSION:.....	58

List of Figure

SL NO.	Figure Description	Page No.
Figure 1	Location	14
Figure 2	Buyers Profile	16, 17, 18
Figure 3	Fabric Inspection Machine	23
Figure 4	Hydraulic Heat & Press Machine	32
Figure 5	Plain Machine	39
Figure 6	Over Lock Machine	40
Figure 7	Bar Tack Machine	41
Figure 8	Button Attaching Machine	42
Figure 9	Ironing	47
Figure 10	Final Inspection	48
Figure 11	Cartoon	49
Figure 12	Fault Marking	50, 51

CHAPTER 1: EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

The Industrial Attachment is that the only means for attire producing student to be achieved the information concerning the sensible field of the Textile producing. It brings a chance to all or any the learners to complement their educational information by active with the specialists of the sensible field of textile.

We performed our internship on Cotton Field (BD) Ltd, which is situated on Gazipura 27, Gazipur. The length of our training period almost two months. We were joining our training on October 09, 2018 and it finished on November 25, 2018. In a short. In this industry there are several sections such as, Sample Section, Fabric Finishing Section, Cutting Section, Sewing Section, IE and Planning Section, Inventory Store, Zipper Store, Accessories Store, Packing and Delivery Section etc. All of the sections help us to improve our knowledge.

In this report we tried to cover a short profile of Cotton field (BD) Ltd and major customers of Cotton field (BD) Ltd. and their different activities.

It is our pleasure that we had an opportunity to complete our two month internship at Cotton field (BD) Ltd. which is one of the most modern industries of the country.

CHAPTER 2: INFORMATION ABOUT FACTORY

2.1 Introduction:

The industrial attachment is that the method, that builds understanding of the performer, which improves his knowledge in boosting productivity and services. University education immense theoretical data additionally as additional sensible attachment, in despite of these industrial attachment helps to be aware of technical support of recent machinery, skills concerning numerous process stages. it's additionally enough sensible data concerning production management, work study, efficiency, engineering, purchasing, utility and maintenance of machinery and their operation techniques etc.

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.

2.2 History of Project Development:

Mondol Group is one of the pioneers in Garments Manufacturing in Bangladesh. The journey started in 1991 with Mondol Apparels Limited with only 200 people. Their skilled manpower and officials are helping to achieve the leading position. They are purely professionals, vastly experienced. The combination of organized managerial and technical term in one hand and latest, advanced and balanced technology on the other hand made the project one of the top to be referred in this field in the country.

2.3 General Information about the Factory:

1. Mondol Group was established in 1991.
 2. Mondol Group deals in Apparels.
 3. 8 associate factories.
-
01. Name of factory: Cotton field (BD) Ltd.
 02. Head Office : Mondol Group
 03. Founder and directors : Haji Abdul Majid Mondol
Managing Director : Abdul Momin Mondol

Sr. General Manager PPC : N A Shantha (Srilanka)

04. Factory Space :
05. Daily working hours : 8:00 am to 8:00 pm (with 1 hour lunch break). 8:00 pm to 8:00 am
06. Work force : 1342. Man=673, woman=669
07. Facility : Own premises & transport facility
- GSP Facility
- Modern Machinery and techniques.
- High quality production.
08. Efficiency : High skilled technician, staff & workers.
09. Fabric Sourcing: China, India, & from Local suppliers.
10. Main Market : Italy, Germany, Spain, EK, USA.
11. Payment Terms: L/C at Sight.
12. Product Range: Men, ladies and kids woven pants, shorts, Underwear (Male & Female), bottoms (Basic & Cargo).
13. Major Buyer: Matalan, Spring Field, Ostin. CMS, etc.

2.4 Location:

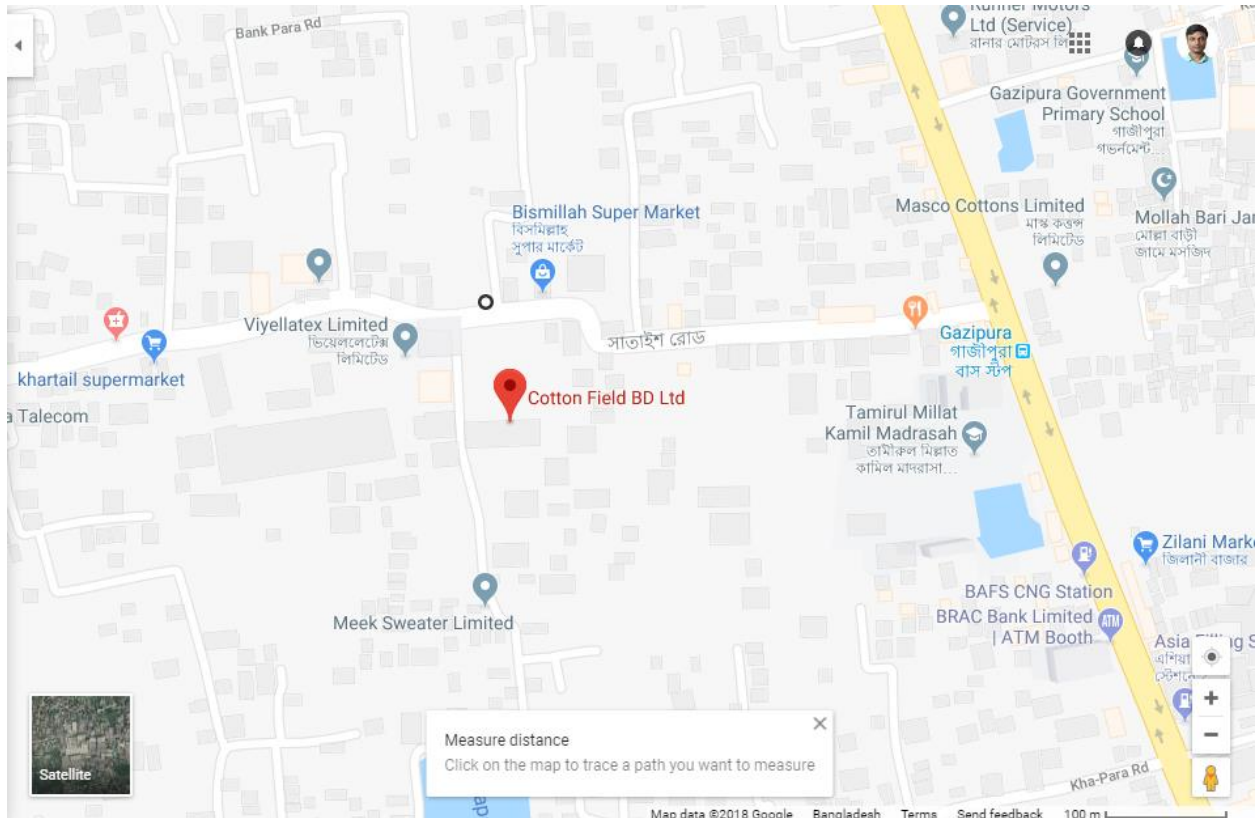


Fig: Location.

2.5 Activities of Administration:

- To monitoring the attendance sheet of the worker.
- To monitoring the register book where suggested workers' attendance & overtime.
- Following the policies of the company to new recruited workers.
- Recruited new workers via following the guidelines of the company.
- Checking the various types of Bills

- Prepare salary sheet after end of the month.
- To problem ID Card.

2.6 Responsibility of Production Manager:

- To match production sample with target sample.
- To collect production sample matching for next production.
- To identify disputed garments & report to director.
- Also execute overall floor works.
- To maintain loading & unloading record.
- Any other assignment given by higher authority.

2.7 Mission:

Mondol Group aspires to achieve its vision through:

- Effective and efficient use of resources
- Adoption of modern management and production methods
- Ensuring high employee morale and loyalty
- Providing invaluable supply chain solution thus becoming irreplaceable to the customer
- Reducing risk to the business through diversification
- Increasing global exposure
- Rigorously following the market.

2.8 Vision:

- Its visions to provide customers with the highest possible quality of service and product.
- To be an invaluable business partner with all counterparts.
- To achieve this through the most efficient and modern management practices.
- To be established as a leader in industrial production in diversified products and services.
- To make a positive global contribution.

2.9 Buyers Profile:



Buyer : Carrefour
Country : France



Buyer : Matalan
Country : UK

SPRINGFIELD

Man & Woman

Buyer : Spring Field
Country : Spain



Buyer : ZARA
Country : Spain



Buyer : Coin
Country : Italy



Buyer : Coop
Country : Italy



Buyer : Lotto
Country : Italy



Buyer : Pizzaitalia
Country : Italy

CHAPTER 3: DESCRIPTION OF THE ATTACHMENT

3.1 STORE SECTION:

3.2 Store Department:

Cotton Field (BD) Ltd. Store department has a separate area located in the ground floor. Cotton Field (BD) Ltd. Have a large and modern store department. Different type of fabric, accessories, yarn storage.

3.2.1 Different types of accessories:

Button:

1. Plastic: clear (2 & 4 holes), Horn (2 & 4 holes), chock.
2. Metal: 4-hole metal or Alloy button, shank button, snap button, press button, Ring snap, Rivet button.

Label:

- Main label
- Name label
- Care label
- Size label
- Wash label
- Care label
- Patch label
- Regular label etc.

Zipper:

- Nylon zipper
- Metal zipper

Elastic:

- Adjustable elastic
- Plain elastic

Tape:

- Twill tape
- Canvas tape
- Silicon tape etc.

3.2.2 Fabric Storage:

Cotton Field (BD) Ltd has a large fabric store. Capacity of fabric storage is 250000 yards. Above 40 people work here to receive and handling fabric roll. Responsibility of fabric stores in-charge to store the fabric safely & correctly. Fabric stores in charge records every day fabric stock and Register.

Fabric types:

- Cotton Poplin
- Cotton Yid Check
- Cotton Twill
- Cotton Canvas
- Cotton Denim
- Single Jersey
- 2×2 Rib
- Place
- Linen Fabric

- Various types of pocketing Fabric
- Knitted/ Interline Cotton Fusing etc.

3.3 Fabric Inspection:

Fabric inspection is the most important in garments sector. Fabric inspection section has separate area is located in the ground floor. There are 2 fabric inspection machine in fabric inspection section.

They inspect the fabric according to 4 point system. After inspection fabric is wound on roller.

Defect Length	Penalty Point
Less than 3 inch	01
Less than 3-6 inch	02
Less than 6-9 inch	03
Less than 9 inch	04
Any Hole	04



Figure: Fabric Inspection Machine.

3.4 Pattern:

The individual part of apparel which is shaped by a hard paper like drawing sheet is called pattern. It is classified into 2 types as follows-

3.4.1 Working pattern:

The pattern which is used to make sample garment that is called working or master pattern.

3.4.2 Production pattern:

The pattern which is used for bulk production that is called production pattern.

3.4.3 Pattern Grading:

After developing pattern, pattern master decreases or increases master pattern stepwise, it is called pattern grading. Like this

$$S \leftrightarrow M \leftrightarrow L \leftrightarrow XL$$

Before making a sample pattern making according to sketch and measurement or directly from samples a very important.

The construction of pattern is done by two methods like-

1. Manual construction of pattern
2. Computer aided construction of pattern

In Cotton Field (BD) Ltd. they use manual methods of construction of pattern.

On pattern the following instructions must be marked-

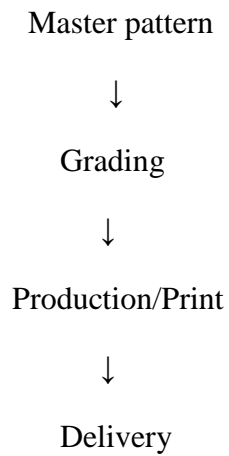
- Name of the pattern
- Style
- Size
- Grain direction
- CFL & CBL
- Seam allowances
- Balance mark

3.4.4 Sample Garment:

The patterns are used to cut the fabric. Then the garment component in fabric form is used to sew the garment. Sample garment manufacturing is to be done by very efficient and technically sound person.

3.5 CAD SECTION:

3.5.1 Flow Chart:



3.5.2 Objectives of CAD:

- Make guiltless pattern.
- Save the time factor.
- Reduce wastage.
- Make marker planning in best way.
- Maximum output in a short time

3.5.3 Machineries:

1. Camera
2. Computer
3. Plotter machine
4. Plotter cutter

3.6 Marker Making:

Marker is a thin paper which contains all the pattern pieces of a garment. It is made just before cutting and its purpose is to limit the wastages. The width of a marker is equal to the width of the fabric and it need to not be larger than the width of the fabric i.e. the width of the marker is saved much less than or equal to the width of the Fabric. The pattern pieces should be positioned very carefully in such a way that it will obviously limit wastages.

3.6.1 Types of marker:

1. Normal marker
2. Line marker
3. Block marker

3.6.2 Objectives of Marker Making:

- To reduce cost.
- To enhance the satisfactory of the garments
- To limit the reducing time;
- To facilitate large scale production.

3.6.3 Marker Efficiency:

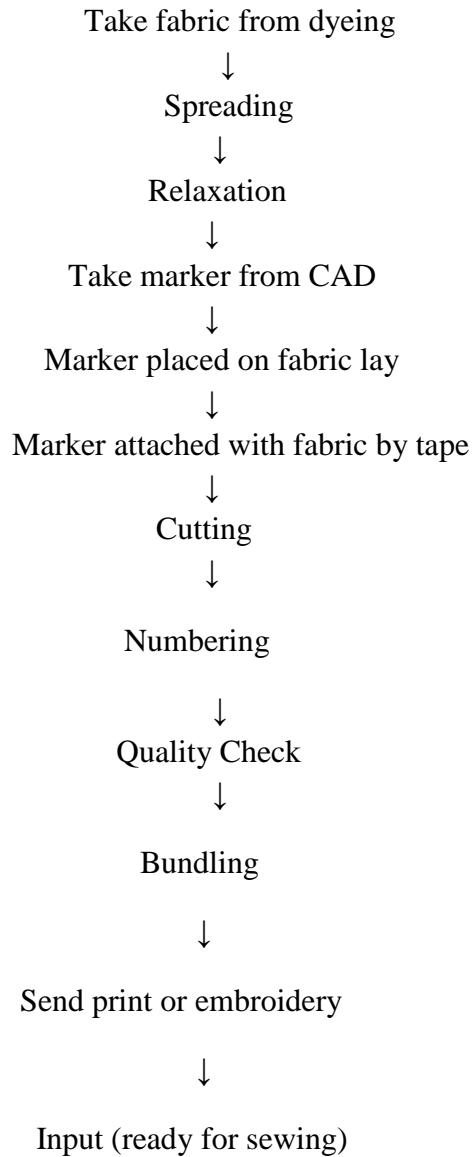
$$\text{Marker Efficiency} = \frac{\text{All pattern on the marker}}{\text{Total area of the marker}} \times 100\%$$

If marker efficiency is more, then fabric wastage % is low.

If marker efficiency is low, then fabric wastage % is more.

3.7 CUTTING SECTION:

3.7.1 Cutting Flow chart:



3.7.2 Fabric spreading:

Fabric spreading means the smooth laying out of fabric with respect marker length and width which is specified.

When spreading is done the following basic requirements maintained-

1. Alignment of plies
2. Correct or uniform ply tension
3. Smooth surface of fabric
4. Static electricity free during spreading
5. Fusion free for synthetic fabric
6. Matching of stripe or check
7. Distortion free of plies



Figure: Fabric Spreading.

3.7.3 Problems may occur during spreading:

1. Misalignment of plies
2. Mismatching checks or stripes
3. Wrong direction of plies
4. Incorrect tension of plies
5. Fabric relaxation
6. Narrow width fabric
7. Shaded fabrics
8. 100% straight marker

3.7.4 Cutting following points-

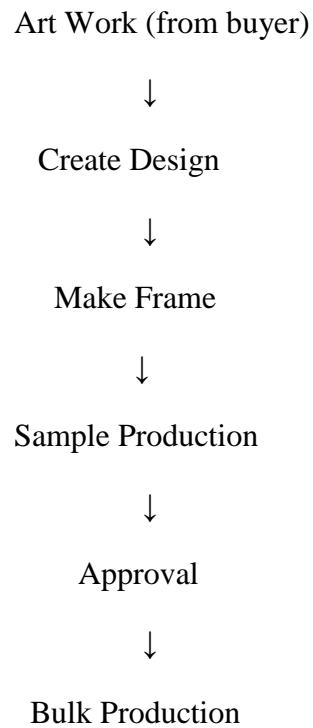
1. Inaccurate cutting
2. Numbering
3. Wrong size in the bundle
4. Proper bundling and input for sewing
5. Wrong drill

3.7.5 Cutting Problems:

- Shrinkage: S/J=5%, PK/Terry=7% Acceptable
- Bowing (deviation of weave from actual position)
- Twisting: Low GSM high twisting (5% allowance)
- High GSM low twisting (5% allowance)
- Neps
- Running Shade

3.8 PRINTING SECTION:

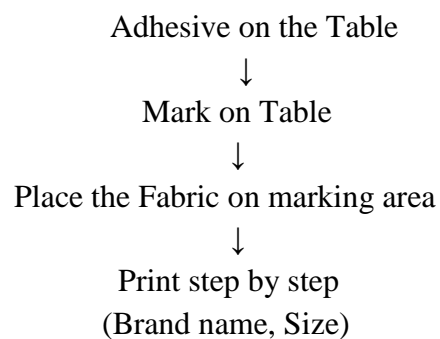
3.8.1 Printing Flow Chart:

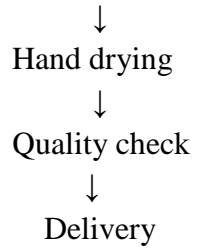


3.8.2 Types:

3.8.2.1 Screen Printing:

Flow chart:





3.8.2.2 Types of Screen printing:

1. Rubber print
2. Glitter print
3. Pigment print
4. Dexus print
5. Flock print
6. High-density print

3.8.2.3 Faults of Screen Printing:

1. Fabric Shrinkage.
2. Improper Adhesive.
3. Shade condition.

3.8.3.1 Heat and Press (Sticker) Printing:



Fig: Hydraulic Heat and Press Machine.

Name: Hydraulic Heat and Press

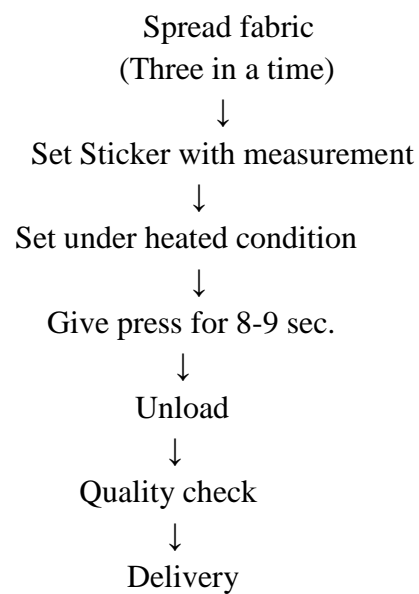
Weight: 6 kg (pressure)

Temperature: 180c

Time: 8-9 sec

Capacity: 2000-2200 pcs/12hrs

Flow Chart:



3.8.3.2 Faults of Heat and Press:

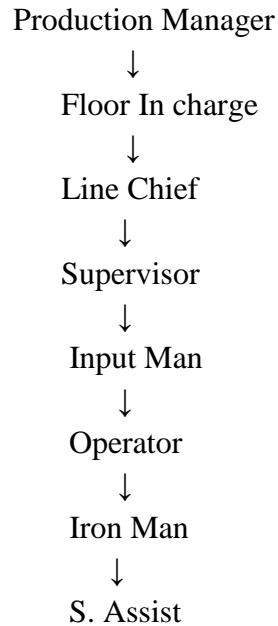
1. Position missing
2. Print missing
3. Uneven print
4. Improper size level

3.8.3.3 Equipment for make printing past:

1. Rubber White
2. Rubber Clear
3. Water
4. Vender
5. Color

3.9 SEWING SECTION:

3.9.1 Organogram of Sewing Section:



3.9.2 Needle:

Needle is used to sew the fabric by thread. Way of needle movement is retained to:

1. Seam Strength
2. Seam Appearance
3. Seam Durability

3.9.3 Various types of Needle used in different sewing machine:

DB= Single needle plain machine
DC= Over lock m/c
UY= Flat lock m/c
DP5= Bar tack m/c

DP17= Button Attaching m/c
TV7= Single needle chain stitch m/c
TV64= Feed of the Arm m/c
UO= Kansai m/c

3.9.4 Needle Size:

Needle size of different types for different fabric sewing is important. It is selected by two systems as follows -

Metric system: Needle Size=Blade dia in mm x 100
=0.8mm x 100
=80Nm

Singer System: By a no. 5, 7, 9, 10, 11, 12, 14, 17, and 14

To select needle following factors should be considered as follows:-

1. Needle size
2. Total needle length Butt of needle eye length
3. Shank dia

During sewing needle damage is common fault. The following factors are

1. Needle heat
2. Improper needle size
3. Improper needle point
4. During sewing of hard & harsh fabric

During sewing of fabric it could be damages for following factors:

1. Wrong needle point
2. Quality of needle is low
3. Damaged needle
4. Wrong needle & thread

3.9.5 Sewing thread:

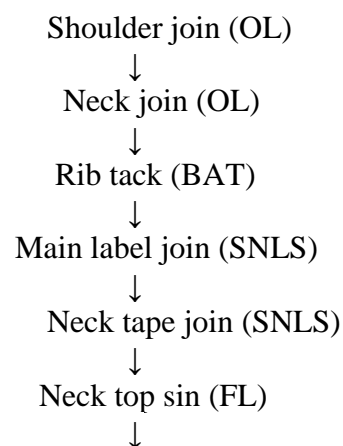
Normal thread or yarn is use to make fabric but sewing thread is especially prepared to sew the fabric which is included with different types of finishes for following purpose-

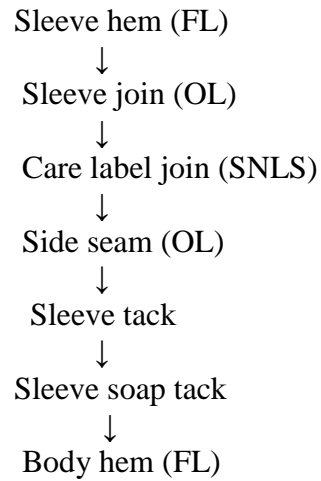
1. To reduce friction between thread &needle
2. To reduce damage of synthetic thread with heat
3. To sew easily and properly
4. To adjust special purpose
5. To reduce sewing thread breakage

To select a sewing thread the following factors should be considered:

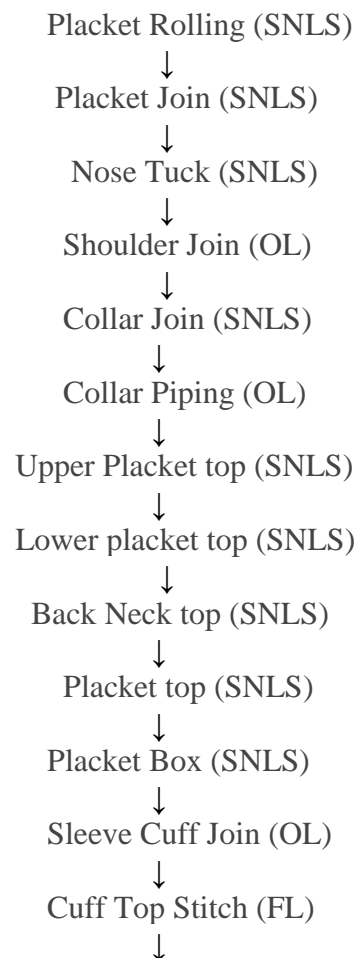
1. Needle size
2. Fabric type
3. Weight of fabric
4. Stitch type
5. Type of seam
6. Seam strength
7. Desired use of thread

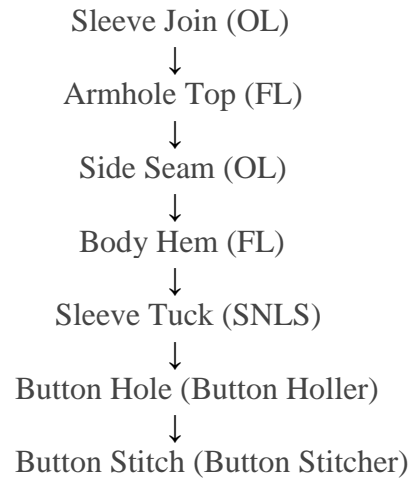
3.10 Process Flow Chart of T-Shirt Manufacturing:





3.11 Process Flow Chart of Polo Shirt Manufacturing:





3.12 Inspection:

Final inspection has been done in garments by AQL system

The defects identified in garments finished fabric:

1. Broken ends
2. Broken picks
3. Reed marks
4. Broken pattern
5. Thick and thin place
6. Rough surface cloth
7. Iron stain
8. Holes in the cloth
9. Shading
10. Shuttle marks

3.13 Sewing Machine of Cotton Field:

1. Plain Machine:



Fig: Plain Machine.

Properties:

1. One needle
2. Two tensioners
3. Three guide
4. One hook
5. Two thread
6. One bobbin case
7. One magnate guide

Application:

1. Bottom hemming
2. Belt top seem stitch
3. Belt joint stitch
4. Loop tack stitch
5. Pocket joint stitch
6. Zipper joint
7. Flap make
8. Flap top stitch
9. Flap joint
10. Fly top stitch
11. Flap 1/4 stitch
12. Front rise stitch
13. Back rise stitch

2. Over lock Machine:

Overlock stitching was invented by the Marrow Machine Company in 1881. An overlock stitch sews over the edge of one or two pieces of cloth for edging, hemming or seaming. Usually an overlock sewing machine will cut the edges of the cloth as they are fed through (such machines are called 'sergers') though some are made without cutters. The inclusion of automated cutters allows overlock machines to create finished seams easily and quickly.



Fig: Over lock Machine.

Properties:

1. 4 thread
2. 4 tensioners
3. 2 knives (up / down)
4. 2 needle for 5 thread
5. 1 needle for 3 thread
6. 3 looper for 5 thread
7. 2 looper for 3 thread

Applications: For Join purpose.

3. Bar Tack Machine:

Bar tacking is accomplished by sewing a very tight zigzag stitch across the width of the material. In some cases, the manufacturer may go over the bar tacking again, causing the stitch to have an x-like form. Usually, very strong threads are chosen for bar tacking so that they will stand up to high pressure. When done correctly, bar tacking can help support loads of up to 400 pounds (almost 200 kilograms). Many backpacking companies in particular pride themselves on the number of bar tacks integrated into their products, claiming that they will wear harder and longer than the competition.



Fig: Bar Tack Machine.

Applications:

1. To created bar tack stitches in garments.
2. Loop attach
3. Fly make
4. Pocket side
5. Front side
6. Back pocketing
7. Zipper lay

4. Button Attaching Machine:



Fig: Button Attaching Machine

Properties:

1. 3 thread or 4 thread
2. 1 needle
3. Contains bobbin case
4. 2 looper
5. Contains a hammer

Applications:

1. To make eye late hole in garments.

5. Snap Button Attach Machine:

Properties:

1. Not use any types of thread & needle.
2. It has button attach stage.
3. Snap stage has two parts.

Applications:

1. To attach snap button in garments.
2. To attach sub button.

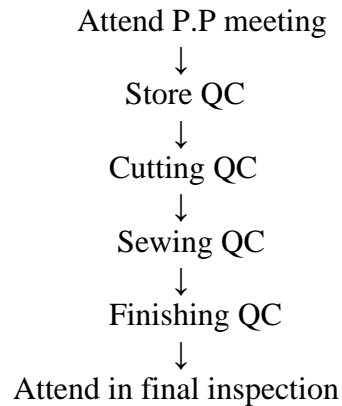
3.14 Different types of sewing fault:

1. Skip/ Drop stitch
2. Uneven stitch
3. Over stitch
4. Joint stitch
5. Raw edge
6. Tension loose
7. Broken stitch
8. Puckering
9. Open stitch
10. Oil spot
11. Shading
12. Incorrect stitch per inch
13. Pleat
14. Needle cut
15. Wrong Thread
16. Wrong size/ care label
17. Slanted
18. Wrong button placement
19. Run off stitch

3.15 QC SECTION (Quality control):

3.15.1 Work Flow Chart:

Sample QC
↓



3.15.2 Quality Management

Quality management refers to the planned and systematic activities implemented in a quality system so that quality requirements for a product or service will be fulfilled. It is the systematic measurement, comparison with a standard, monitoring of processes and an associated feedback loop that confers error prevention. This can be contrasted with quality control, which is focused on process outputs.

3.15.3 Quality Policy:

MONDAL follows stern quality benchmarks to achieve flawless output. The company is equipped with man and machine to comply with the ever rising global standards. Some of the measures adopted in this regard are - Use of fabric screening machines, color and shade matching equipment and metal detectors to ensure making perfect and safe products. Centralized research and development activity as part of continuous strive towards raising product quality and productivity, improving efficiency and cost reduction. Regular and rigorous training for every employee has been made mandatory for him/her to achieve acceptable level of performance. Separate training facilities in each factory unit to continuously enhance the skills and perfection of the workers.

3.15.4 Objective of quality control:

- Research/Investigate
- Selection of raw material
- Process control
- Process development
- Product testing
- Specification check

3.15.5 Quality Management system:

Assurance Quality

- Off line
- On line

Offline Quality assurance test:

The entire offline QA test for finished fabric of MONDAL can be grouped as-

1. Physical test
2. Chemical test

The applicable **QA physical test** for finished fabric is as follows-

1. Tensile strength test
2. Abrasion resistance test
3. Pilling resistance test
4. Crease resistance test

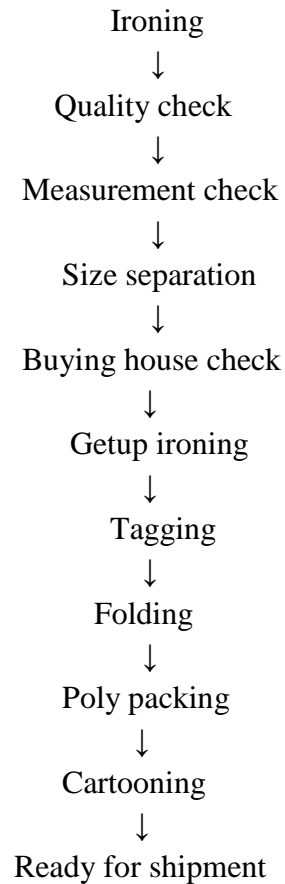
Online Quality Assurance Test:

The entire online QA test for finished fabric of MONDAL can be grouped as-

1. Pattern measurement
2. Marker making
3. Fabric spreading
4. Cutting check
 - Fabric fault
 - Shade variation
 - Size measurement
 - Cutting pieces matching
5. Sewing inspection
6. Packing & finishing

3.16 FINISHING SECTION:

3.16.1 Flow Chart:



3.16.2 Ironing:

This section includes process from Ironing to send to buyer. After making, it should be treated by steam ultimately make the garments attractive as per buyers approved sample.

The process by which unwanted crease and crinkle are removed with the view of increasing smoothness, brightness and beauty of the garments is called finishing. In the garments industries it is called ironing. This process plays an important role to grow attractiveness to the buyers.



Fig: Ironing.

3.16.3 Pressing:

After passing through the inspection table, each garment is normally ironed/pressed to remove unwanted crease and to improve the smoothness, so that the garments looks nice to the customer. Folding of the garment is also done here for poly packing of the garments as per required dimension.

3.16.4 Objective of Ironing:

1. Remove of unwanted creases and crinkles.
2. To apply creases where necessary.
3. Shaping.
4. Under pressing.
5. Under pressing.
6. Final pressing.

3.16.5 Final Inspection:

It is the last stage of the manufactured garments on behalf of the garment manufacturing organization, to detect any defective garments before packing.



Fig: Final Inspection.

Mainly Checking:

1. Oil **spot**
2. Size mistake
3. Foreign materials
4. **Sewing** missing
5. Puckering
6. Shoulder- sleeve up down
7. Back tape missing

3.16.6 Packing:

After Final inspection, the garments are poly-packed, dozen-wise, color wise, size ratio wise, bundled and packed in the cartoon. The cartoon is marked with important information in printed form which is seen from outside the cartoon easily.

3.16.7 Cartoon:

Generally there are three types of cartoon. They are:

1. Depend on Stitching:

- Stitching Carton.
- Non-Stitching Carton.

2. Depend on ply:

- 3 Ply Carton
- 5 ply Carton
- 7 ply Carton

3. Depend on Size:

- Master Carton.
- Inner Carton.

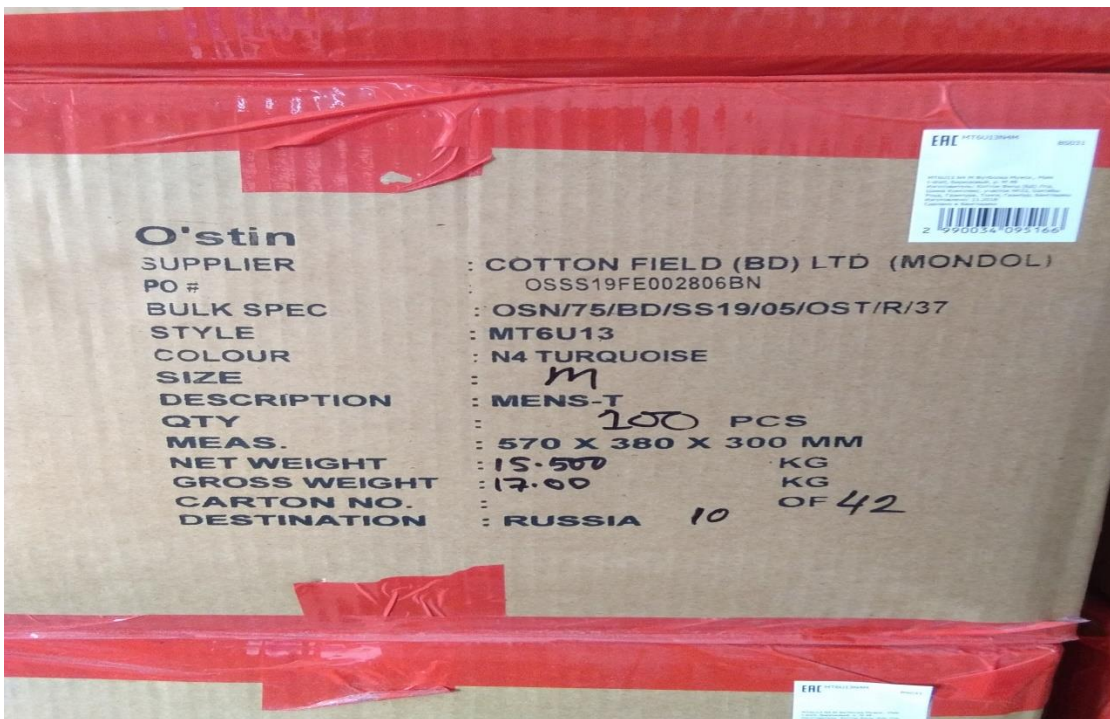


Fig: Cartoon.

3.16.8 Fault Marking:



Fig: Front Tap Missing.



Fig: Yarn Breakage.

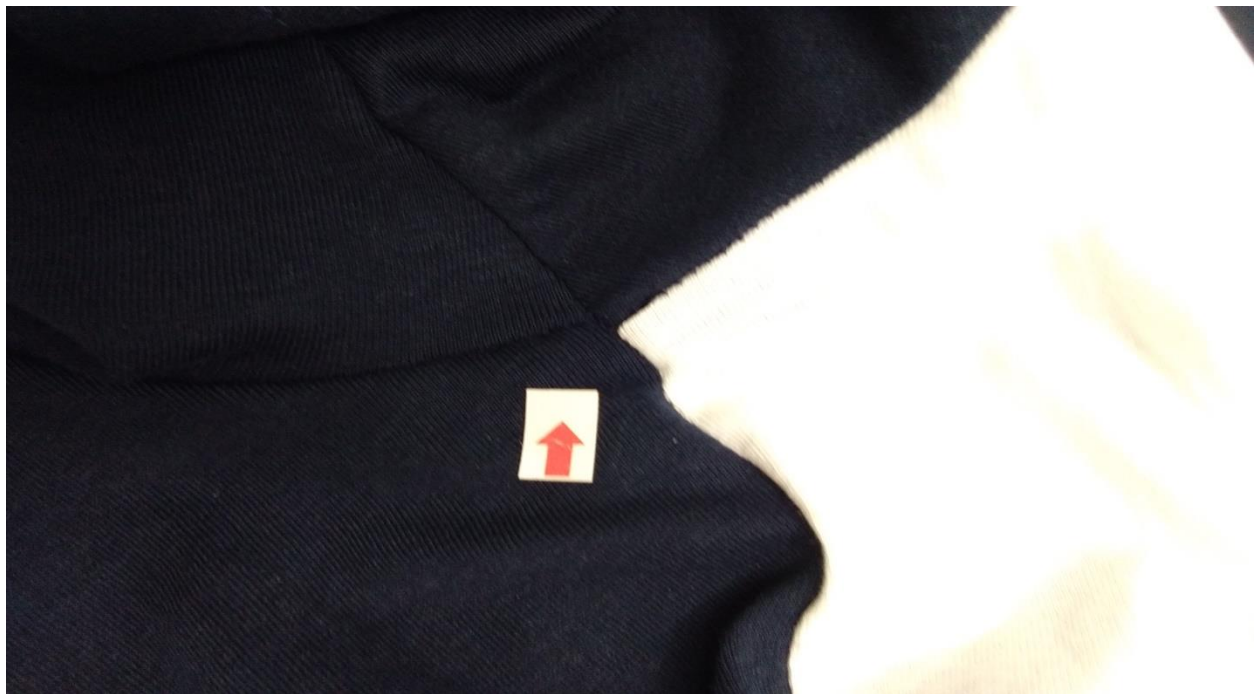


Fig: Loose Stitch.

CHAPTER 4: IMPACT OF INTERNSHIP

4.1 Impact of fabric inspection section:

- Learned about machine use in fabric inspection.
- How to use 4 point system.
- Different types of fault on fabric.
- How to check shading.
- Woven and knitting fabric inspection system.

4.2 Impact of Cad section:

- How To make pattern.
- Side size making/grading
- Marker making.
- Drawing board
- Printing machine.

4.3 Impact of Sample Section:

- Sample section is called a mini-industry.
- Know Different types of sample.
- Skilled worker works in sample section.
- Introducing with cad and the digitizing board in CAD room.
- Preparing a pattern for an individual size & design.
- Understood how to make marker from a pattern by software in CAD room.

4.4 Impact of Cutting Section:

- Different types of cutting machine use in the cutting section (i.e. Straight knife cutting machine, Round knife cutting machine, Band knife cutting machine etc.).
- Learned the process of fabric spreading.
- Fabric cutting according to the marker.
- Well sharpened blade.
- Use of anti-fusion paper.
- Less cutting speed.

- Understood different process of fabric lay.
- Use of metal gloves for fabric cutting process with different cutting machines.
- The panel check process for different type of fabric of different style and design.
- Understand how numbering and bundling is done.
- The role of input man in the industry.

4.5 Impact of Sewing Section:

- Different types of sewing machine.
- Different parts of a T-shirt (i.e. back part, front part, assembly, jacket etc.).
- Different body parts sewing or joining process of a T-shirt.
- Learned about different type of machines used in a sewing floor (i.e. Single or double needle lock stitch machine, Multi needle chain stitch machine, Over lock machine, Bar tag lock stitch machine etc.).
- Observed the ironing and fusing process for different body parts (i.e. single flay double flay etc.).
- Different types of stitch.
- Learned about Standard Minute Value (SMV) of different sewing process.
- The process of determining operator's efficiency in an individual process for a shirt.
- Cleared the conception about production of a sewing floor.
- Line inspection and table inspection.
- The importance of final inspection at the end of every sewing line.
- Also got experienced in making capacity graph of a sewing line of a definite style and design.
- Maintenance sewing section working process.

4.6 Impact of Finishing Section:

1. Various type of finishing process after sewing and washing.
2. Different type of machines used in finishing section (i.e. iron machines , Metal detector machine etc.).
3. Different type of iron machines Use in finishing section.
4. Learned about various type of accessories used to attach to the garment (i.e, Hang tag, Price tag, Name label, Care label ,Size label, Care label, Barcode label etc.).
5. Observed the application of different chemicals for the removal of various type of stain.
6. Different type of folding process (i.e. Standard fold, Semi-standard fold, Hanger fold, Solid Folding, half fold, Full fold etc.).

7. Cleared the conception about different packing type (i.e. Master pack, Blister pack, Solid Size Packing, Semi stand up pack, Coffin pack etc.) and packing ratio.
8. Finally realized why finishing section is unavoidable in garments industry for making the garment attractive and decorative for selling purpose.

CHAPTER 5: CONCLUSION

5.0 CONCLUSION:

Industrial training sends me to the expected destiny of practical life. The completion of the almost two month Industrial training at the “Cotton Field (BD) Ltd.” have got the impression that factory is one of the modern export oriented complex in Bangladesh. It has earned “very good reputation” for it best performance over many other export oriented textile mills.

During my training period, talking with the production Director of this factory we know that the factory fulfilling the countries best export oriented finished garments due to its modern machinery & good management system. We enough fortunate that we have got an opportunity of having an industrial training in this factory. During the training period we received cooperation and association from the authority full & found all man, machines & materials on appreciable working condition. All stuffs & officer were very sincere & devoted their duties their duties to achieve their goal.