Competency Based Learning Material (CBLM)

Mid-Level Management for RMG

Level-4

Module: Perform Sewing Machine Operation

Code: CBLM-RMGT-MLM-01-L4-EN-V1

National Skills Development Authority
Prime Minister's Office
Government of the People's Republic of Bangladesh

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The CBLM on "Perform Sewing Machine Operations" is developed based on NSDA approved Competency Standards and Competency Based Curriculum under Mid-Level Management Level-4 Occupation. It contains the information required to implement the Mid-Level Management Level-4 standard.

This document has been prepared by NSDA with the help of relevant experts, trainers/professionals.

All Government-Private-NGO training institutes in the country accredited by NSDA can use this CBLM to implement skill-based training of Mid-Level Management Level-4 course.

Approved by

---th Authority Meeting of NSDA

Held on ----------

How to use this Competency Based Learning Material (CBLM)

The module, Maintaining and enhancing professional & technical competency contains training materials and activities for you to complete. These activities may be completed as part of structured classroom activities or you may be required you to work at your own pace. These activities will ask you to complete associated learning and practice activities in order to gain knowledge and skills you need to achieve the learning outcomes.

1. Review the **Learning Activity** page to understand the sequence of learning activities you will undergo. This page will serve as your road map towards the achievement of competence.

2. Read the **Information Sheets.** This will give you an understanding of the jobs or tasks you are going to learn how to do. Once you have finished reading the **Information Sheets** complete the questions in the **Self-Check.**

3. **Self-**Checks are found after each **Information Sheet**. **Self-Checks** are designed to help you know how you are progressing. If you are unable to answer the questions in the **Self-Check** you will need to re-read the relevant **Information Sheet**. Once you have completed all the questions check your answers by reading the relevant **Answer Keys** found at the end of this module.

4. Next move on to the **Job Sheets. Job Sheets** provide detailed information about *how to do the job* you are being trained in. Some **Job Sheets** will also have a series of **Activity Sheets**. These sheets have been designed to introduce you to the job step by step. This is where you will apply the new knowledge you gained by reading the Information Sheets. This is your opportunity to practise the job. You may need to practise the job or activity several times before you become competent.

5. Specification **sheets**, specifying the details of the job to be performed will be provided where appropriate.

6. A review of competency is provided on the last page to help remind if all the required assessment criteria have been met. This record is for your own information and guidance and is not an official record of competency

When working though this Module always be aware of your safety and the safety of others in the training room. Should you require assistance or clarification please consult your trainer or facilitator.

When you have satisfactorily completed all the Jobs and/or Activities outlined in this module, an assessment event will be scheduled to assess if you have achieved competency in the specified learning outcomes. You will then be ready to move onto the next Unit of Competency or Module

Table of Contents

Module Content

Unit Title: Perform Sewing Machine Operations

Unit Code: OU- RMGT-MLM-01-L4-V1

Module Title: Performing Sewing Machine Operations

Module Description: This module covers the knowledge, skills and attitude to perform sewing machine operations. It specifically includes interpreting operation flow chart, identifying garments and garments parts, interpreting basic adjustment on sewing machines, and operating sewing machines.

Nominal Duration: 40 Hours

Learning Outcomes:

Upon completion of this module the trainees must be able to:

1. Interpret operation flow chart
2. Identify garments and garment parts
3. Adjust sewing machines
4. Operate sewing machines

Assessment Criteria:

1. Operation flow chart of garment manufacturing process is identified and described.
2. Steps within the operation flow chart are interpreted.
3. Types of garments are identified for construction.
4. Garment parts and points of garment are identified as per sample.
5. Methods of measuring garments are outlined.
6. Types of sewing machine are identified.
7. Functions of different types of sewing machines are explained.
8. Parts of sewing machines are identified.
9. Basic setting and adjustments of sewing machines are performed.
10. Single needle machine is operated as per job requirement.
11. Overlock machine is operated as per job requirement.

Learning Outcome 1: Interpret Operation Flow Chart

Assessment Criteria	1. Operation flow chart of garment manufacturing process is identified and described. 2. Steps within the operation flow chart are interpreted.
Conditions and Resources	1. Real or simulated workplace 2. CBLM 3. Handouts 4. Laptop 5. Multimedia Projector 6. Paper, Pen, Pencil, Eraser 7. Internet facilities 8. White board and marker 9. Audio Video Device
Contents	1 Garments Manufacturing 2 Operation flow chart of Garments Manufacturing 3 Steps within the operation flow chart
Training Methods	1. Discussion 2. Presentation 3. Demonstration 4. Guided Practice 5. Individual Practice 6. Project Work 7. Problem Solving 8. Brainstorming
Assessment Methods	1. Written Test 2. Demonstration 3. Oral Questioning

Learning Experience 1: Interpret Operation Flow Chart

In order to achieve the objectives stated in this learning guide, you must perform the learning steps below. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Student will ask the instructor about perform sewing machine operations	1. Instructor will provide the learning materials interpret operation flow chart
2. Read the **Information sheet/s**	2. Information Sheet No:1 Interpret operation flow chart
3. Complete the **Self-Checks & Answer key sheets.**	3. Self-Check No: 1- Interpret operation flow chart Answer key No. 1- Interpret operation flow chart
4. Read the **Job/ Task sheet** and **Specification Sheet**	4. Job/ task sheet and specification sheet Task Sheet No:1-1: Identify the operation flow chart of garments manufacturing process.

Information Sheet 1: Interpret Operation Flow Chart

Learning Objective:

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

1.1 Garments Manufacturing
1.2 Operation flow chart of Garments Manufacturing
1.3 Steps within the operation flow chart

1.1 Garments Manufacturing

Garments manufacturing, also known as apparel manufacturing is a process where the finished fabric is being converted into garments.

Garment manufacturing means cutting, sewing, assembling, processing, repairing, finishing, , or otherwise preparing any garment or any article of wearing apparel or accessories designed to be worn by any individual, including, but not limited to, clothing, hats, gloves, handbags, hosiery, ties, scarfs, and belts, for sale by any persons contracting to have those operations performed and other operations and practices in the apparel industry.

Traditionally Garments manufacturing factories has been divided into two sectors as domestic and export.

A factory produces bulk quantity of garments for a style or design at a time. Prior to start production of an order factory needs to gone through some activities which is known as pre-production. Pre-production process includes sampling, costing, production planning, sourcing of raw material and production pattern making. Fabric cutting, printing, embroidery, sewing, thread trimming, washing, ironing, folding and packing are the production functions.

Garment manufacturing is a sequential process such as designing, sampling, marking, cutting, sewing, checking, finishing, pressing, packing etc. In this process, raw materials are converted into finished products.

1.2 Operation Flow Chart of Garments Manufacturing:

Design

↓

Sample Making

↓

Pattern Making

↓

Pattern Grading

↓

Marker Making

↓

Fabric Spreading

↓

Fabric Cutting

↓

Numbering & bundling

↓

Print/ Embroidery

↓

Assembling the part by sewing

↓

Sewing quality inspection

↓

Ironing/ Pressing

↓

Hang Tag

↓

Final Inspection

↓

Packing

↓

Cartoning

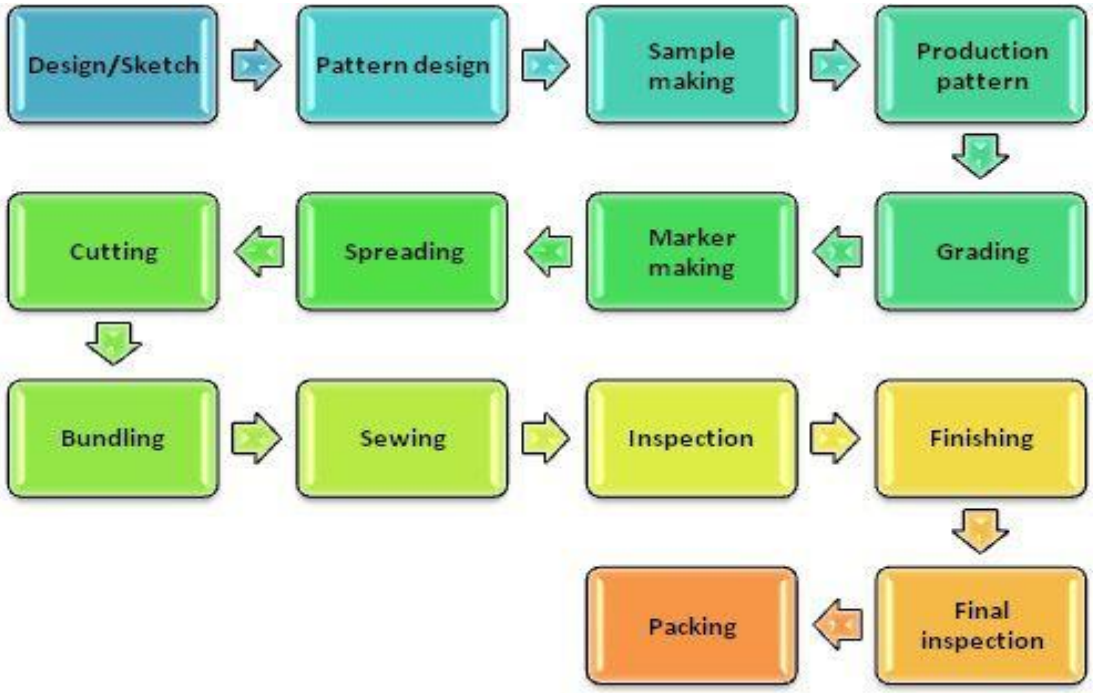
↓

Inspection

↓

Shipment

1.3 Steps within the operation Flow Chart:



- **Design:** A particular style of design/ sketches with measurement mainly comes from the buyer to manufacturer. It is nothing but one kind of engineering art including all the measurements of a particular style.

- **Sample Making**: Sample making or sampling is a process where factory develop garment samples according to buyer's specified design.

- **Pattern Making:** Pattern is a hard paper on which different component of garments of a particular style are sketched according to the measurement of the garments.

- **Pattern grading:** Pattern grading is the process of turning a sample size (sometimes referred as base size) into an additional smaller or larger size. Pattern grading is done using a size specification sheet.

- **Fabric Spreading:** In this process fabric laid on a big table which is used for cutting. Fabric spreading is important because if fabric do not lay properly then outcome product (after cutting) was not correct. So, when the fabric goes for production then it makes difficulties in making garments.

- **Fabric Cutting:** Fabric is a single piece of sheet. When we need garments then we need to cut. Cutting is final step of sample, marker and fabric spreading. Because next process is sewing.

- **Sewing:** Sewing is a process where two pieces of fabric are joined together. Many factors are related with sewing. (i.e.: Needle size, Machine type, Thread count,

Worker capacity, Production line etc.) So sewing section is not only fabric join, it is the core part of a garment manufacturing industry.

- **Embellishment:** Embellishments, ornamentations, and decor are elements that enhance the appearance of clothing or fashion accessories and increase their financial value. These decorative elements are usually added to materials but serve no functional purpose. In sewing and crafts, embellishment refers to the addition of decorative elements using visual arts. Fabric embellishments are used to make fabrics more beautiful and attractive by adding decorative patterns.

- **Garments Finishing:** Finishing is very important section in the garment industry. In this sector we take the finished goods from sewing section and keep records, then after suckering it we send to iron section.

- **Final Inspection:** Final inspection is an important part and last step of garments finishing. Normally final inspection is made by buyer. Buyer checks the garments according some rules like Accepted Quality Level (AQL).

Self-Check Sheet - 1: Interpret Operation Flow Chart

Questionnaire:

1. Wtite down the types of samples?
   Answer:

2. What is working pattern?
   Answer:

3. What is production pattern?
   Answer:

4. What are the methods of pattern making?
   Answer:

5. What are the types of markers making?
   Answer:

6. What are the elements of sewing?
   Answer:

Answer Key - 1: Interpret Operation Flow Chart

1. Wtite down the types of samples?
   Answer: Types of samples:
   - First pattern sample
   - Development sample
   - Second pattern sample
   - Counter sample
   - Salesman sample
   - Photo sample
   - Approval sample
   - Pre-production sample
   - Production sample
   - Shipment sample

2. What is working pattern?
   Answer: Working pattern: Working pattern is made according to the exact dimension of particular style without allowance. This is use for sample making.

3. What is production pattern?
   Answer: Production pattern: Production pattern is made according to the exact dimension of particular style with allowance. This is used for garments production.

4. What are the methods of pattern making?
   Answer: Method of pattern making: There are two types of pattern making method. These are:
   - Flat method.
   - Modeling method.

5. What are the types of markers making?
   Answer: Types of markers making:
   - Manually marker making process
   - Computerized marker making process

6. What are the elements of sewing?
   Answer: Elements of sewing:
   - Sewing Machine
   - Needle
   - Thread/Yarn
   - Cut panels

Task Sheet-1: Interpret Operation Flow Chart

Job Purpose:

1. Understand the interrelation of garments production department as a mid-level manager.
2. Identify the operational sequence of garments manufacturing.

Precautions:

1. Maintain health and safety precautions throughout the process.

Steps:

1. Collect the job sheet and specification sheet for reference.
2. Read and thoroughly understand the job sheet and specification sheet to gain insights into the project requirements.
3. Gather relevant documentation, such as process flow charts of garment production,
4. Restore the workplace to its original condition, ensuring cleanliness and organization.

Learning Outcome 2: Indentify Garments and Garment Parts

Assessment Criteria	1. Types of garments are identified according to fabric construction 2. Garment parts and points of garment are identified as per sample. 3. Methods of measuring garments are outlined.
Conditions and Resources	1. Real or simulated workplace 2. CBLM 3. Handouts 4. Laptop 5. Multimedia Projector 6. Paper, Pen, Pencil, Eraser 7. Internet facilities 8. White board and marker 9. Audio Video Device
Contents	1 Types of garments 2 Garments parts and points 3 Measuring methods
Training Methods	1. Discussion 2. Presentation 3. Demonstration 4. Guided Practice 5. Individual Practice 6. Project Work 7. Problem Solving 8. Brainstorming
Assessment Methods	1. Written Test 2. Demonstration 3. Oral Questioning

Learning Experience 2: Indentify Garments and Garment Parts

In order to achieve the objectives stated in this learning guide, you must perform the learning steps below. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Student will ask the instructor about perform sewing machine operations	1. Instructor will provide the learning materials identify garments and garment parts
2. Read the **Information sheet/s**	2. Information Sheet No:2 Identify garments and garment parts
3. Complete the **Self-Checks & Answer key sheets.**	3. Self-Check No: 2- Identify garments and garment parts Answer key No. 2- Identify garments and garment parts
4. Read the **Job/ Task sheet** and **Specification Sheet**	4. Job/ task sheet and specification sheet Task Sheet No:2-1: Take the measurement of any top item garments (Shirt).

Information Sheet 2: Indentify Garments and Garment Parts

Learning Objective:

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

2.1 Types of garments
2.2 Garments parts and points
2.3 Measuring methods

2.1 Types of garments

Garments can be classified in many ways based on use, season, fiber content, fiber types, fabrics type, manufacturing, wearing position, and many other factors.

2.1.1 As per types of fabric:

Garments are made from fabric. There are three types of fabric. According to types of fabric garments are classified in three categories.

- **Woven:** Woven garments are made from woven fabric. Woven Garments Example: Shirt, pants, blazer, etc.
- **Knit**: Knit garments are made from Knit fabric. Knit Garments are Knitted sweaters, T-shirts, Polo shirts, jerseys, pullovers, Polo, cardigans, trousers, etc.
- **Non-woven:** Non-woven garments are made from non-woven fabric. Nonwoven garments Example: Diapers, Baby bibs, Medical textiles, Face Mask, Sanitary materials, etc.

2.1.2 As per wearing position:

- **Top:** Top garment is what is used to wear at the top part of the body, not worn below of umbilicus. Examples of Top garments are shirts, T-shirts, Polo shirts, bras, etc.
- **Bottom:** The bottom garment is what is used to wear at the bottom part of the body, generally worn at the umbilicus or below the umbilicus of humans. Bottom garment examples are pants, underwear, leggings, etc.

2.1.3 As per Season:

- **Winter:** Examples of winter garments are jackets, shoes, coats, jackets, hats, scarves and gloves or mittens, earmuffs, but also warm underwear like long underwear, union suits, and socks.
- **Summer:** Summer clothing examples are T-shirts; Dress; Singlet; Cap; One-piece bathing suits; Hawaiian shirts; Sunglasses; Swim trunks; Straw hats, etc.
- **Spring:** Singlet, Spring Sweater, Cardigan, White Jeans, Short Sleeve Sweater.
- **Autumn:** Shirt, T-shirts etc.
- **Late Autumn:** (shirt (design)

2.1.4 List of different garments:

For mens→

- T-Shirt
  - ✓ Round neck
  - ✓ V Neck
  - ✓ Y Neck
  - ✓ Raglan
- Polo shirt
- Tank top
- Mens hoodie
- Woven shirt
- Pullover shirt
- Padded jacket
- Cargo pant
- Bermuda Short
- Pullover
- Cardigan
- Coat
- Blazer

For ladies→

- Sleeveless polo
- Jegging
- Legging
- Gown
- Halter dress
- One shoulder dress
- Bodycon dress
- Skirt
  - ✓ Gypsy
  - ✓ Pencil skirt
  - ✓ A line skirt
  - ✓ Circle skirt

2.1.5 Identification different garments:

Item	Image	Features
Round neck T-Shirt		▪ Round neck T-Shirt is a short-sleeved casual top having the shape of a T when spread out flat. ▪ Neck is round
V-Neck T-Shirt		▪ V-neck T-Shirt is a short-sleeved casual top having the shape of a T when spread out flat. ▪ Neck is V shaped
Y-Neck T-Shirt		▪ Y-neck T-Shirt is a short-sleeved casual top having the shape of a T when spread out flat. ▪ Neck is Y Shaped

Raglan T-Shirt		▪ A raglan T-shirt is characterized by the sleeves which extend completely to the collar in one piece. ▪ The seam goes from the underarm **to** the collar
Polo Shirt		Polo shirt is a casual short-sleeved cotton shirt with a collar and several buttons at the neck.
Tank Top		Tank top is a type of knit **shirt** that covers the **upper** part of the body but not the arms and is pulled on over the head.
Mens Hoodie		A hoodie (also called a hooded sweatshirt, hooded jumper or hoody) is a sweatshirt with a hood. Hoodies often include a muff sewn onto the lower front, and (usually) a drawstring to adjust the hood opening.
Woven shirt		Woven shirt is a garment made of woven fabric for the upper body. This shirt has a formal collar, a full-length opening at the front from the collar to the hem and sleeves with cuffs.
Pullover shirt		A **popover** is a woven **shirt** with a placket that only goes partially down

Cargo Pant		Cargo pant is a loose-fitting casual cotton trousers with large patch pockets halfway down each leg.
Bermuda Short		Bermuda shorts is a casual knee-length shorts.
Pullover		Pullover is one kind of sweaters that is worn over the upper body. It is designed to be pulled over the head instead of buttoning or zipping.
Cardigan		Cardigan is one kind of sweaters with an opening at the front. It is typically button or zipped or kept open.
Blazer		A blazer is a type of jacket resembling a suit jacket, but cut more casually. A blazer is generally distinguished from a sport coat as a more formal garment and tailored from solid colour fabrics. Blazers often have naval-style metal buttons to reflect their origins as jackets worn by boating club members.
Ladies' Sleeveless polo		Ladies sleeveless polo shirt is a casual sleeveless cotton shirt with a collar and several buttons at the neck.

Jegging		Jegggings are similar to leggings but they are made of stretchy denim. Jeggings may have belt loops and fake pockets. Sometimes they may have front fastening facility.
Legging		Leggings are garments that are skin tight and cover the legs. Leggings are made of softer and stretch fabric most commonly of knitted fabric having spandex.
Gown		▪ Gown is one kind of dress. ▪ It is a usually loose outer garment from knee- to full-length.
Halter dress		▪ Halter dress is a garment consisting of a skirt with an attached bodice. ▪ It contains halterneck (a style of woman's top fastened behind the neck and waist, leaving the back and arms bare)
One shoulder dress		▪ One shoulder dress is a garment consisting of a skirt and with an attached bodice. ▪ It contains **one-shoulder** neckline (an asymmetrical design element, featuring a strap on one side of the **gown**, and a strapless neckline on the other)

Skirt: A skirt is a garment that hangs below the waist. Types of skirt→
Gypsy, Pencil skirt, A line skirt, Circle skirt


Gypsy

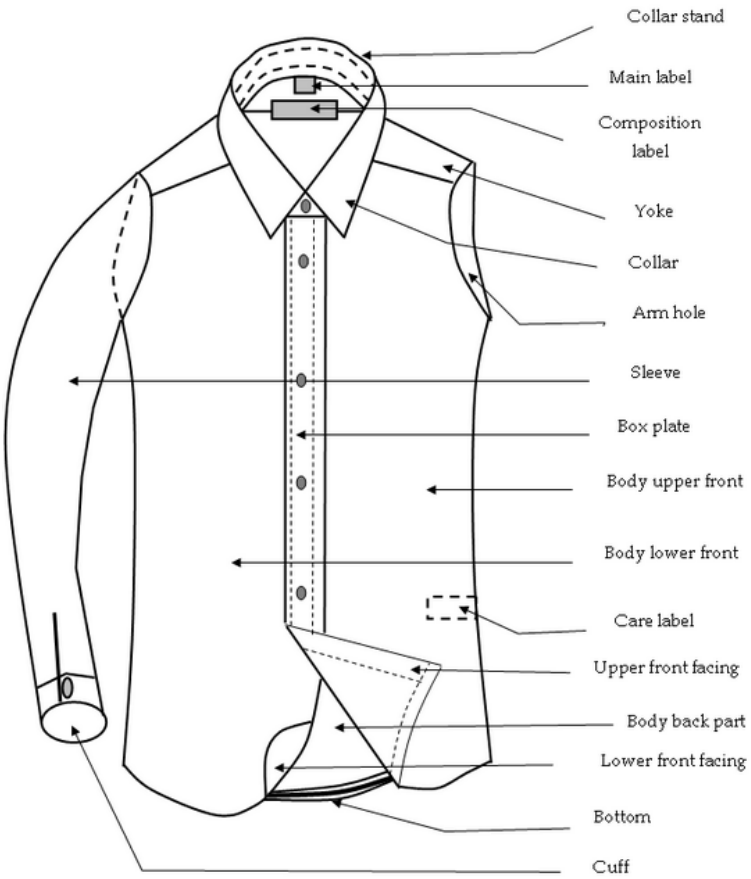

Pencil skirt


A line skirt


Circle skirt

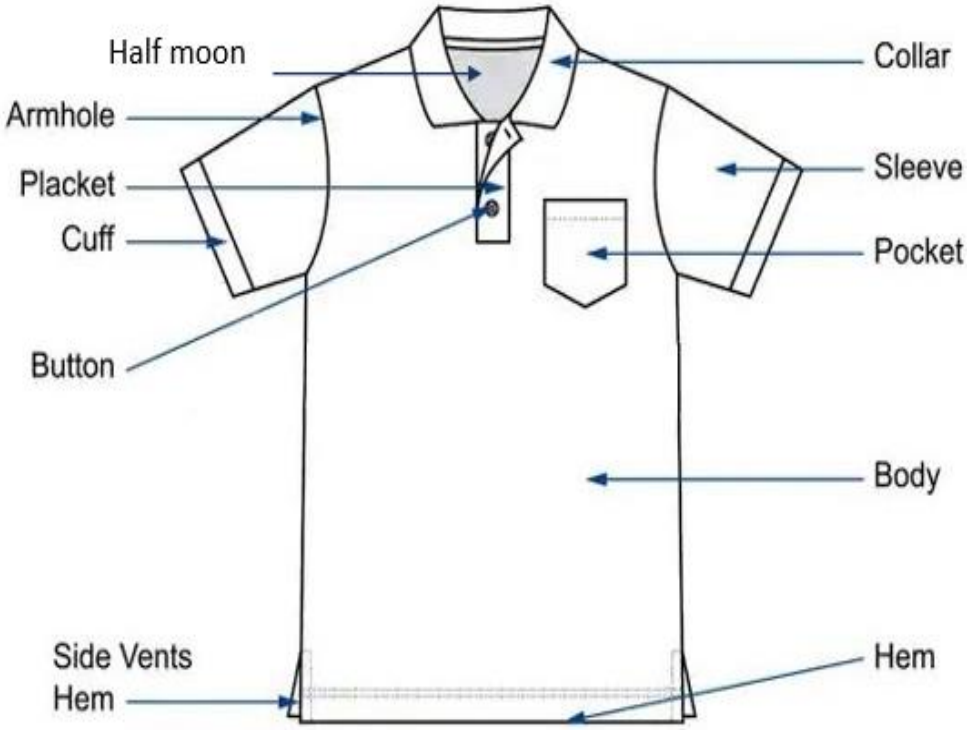
2.2 Garments parts and points

Components of basic shirt:



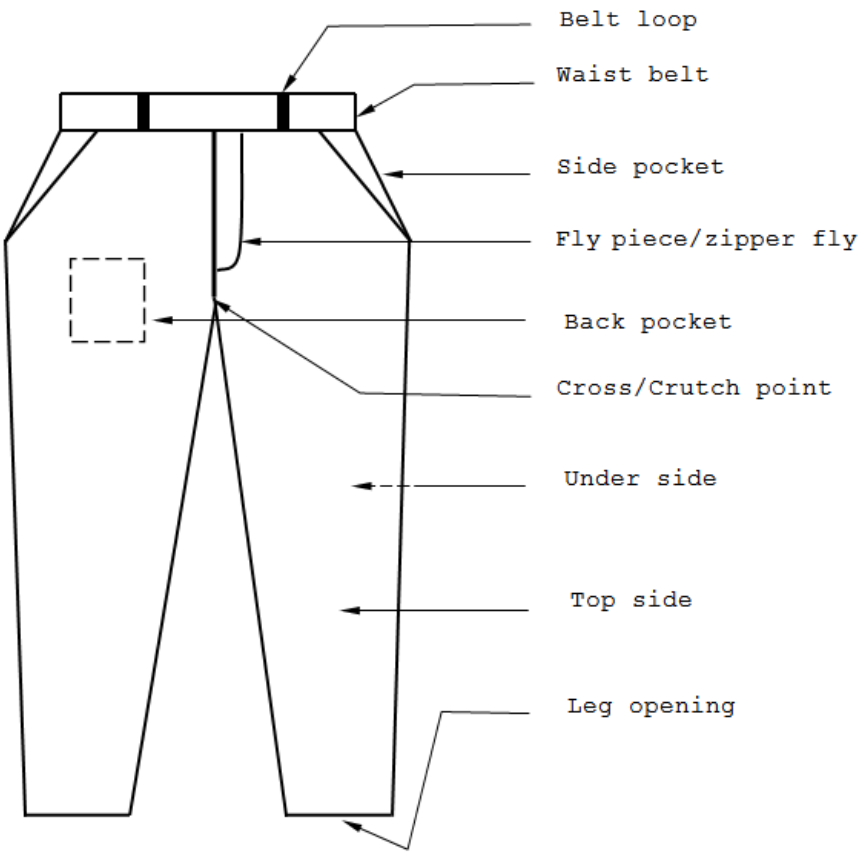
- Collar
- Collar Band
- Yoke
- Left Front Part
- Right Front Part
- Back Part
- Sleeve
- Pocket
- Front Placket
- Upper Sleeve
- Lower Sleeve
- Cuff

Components of polo shirt:



- Collar
- Placket (Inner Placket, Outer Placket)
- Button
- Neck Tape
- Yoke
- Pocket
- Sleeve
- Cuff
- Body
- Bottom Hem

Components of Trouser:



- Belt loop
- Waist belt
- Side pocket
- Fly piece/zipper fly
- Back pocket
- Cross/Crutch point
- Under side
- Top side
- Leg opening

2.3 Measuring methods

Measurement chart:

A measurement chart or measurement sheet contains various size measurements of the required item. By following this sheet pattern has to develop.

Measurement Chart is used to define on a piece or pieces all the Points of Measure (POM) that is required for the Garment Specifications. These Measurements are commonly taken on every pattern through multiple times, to make sure it complies with the Garment Specifications for base and all sizes.

Simply we can say that the chart where all the body measurements for making a particular garment are listed down.

Garment Measurement Points

- Measurement Points of Top Garments
- Measurement Points of Bottom Garments

Measurement Points of Top Garments

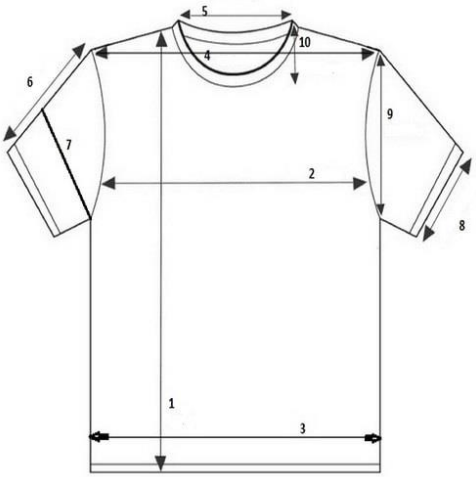
- Chest
- Sleeve Length
- Collar Length
- Shoulder
- Armhole
- Length
- Waist
- Sweep
- Front Length
- Collar Height
- Collar Point
- Band Height
- Cuff Height
- Cuff Opening
- Box Placket Width
- Bin Placket Width
- Pocket Width
- Pocket Length
- Flap Width
- Flap Height
- Back Yoke Height
- Back Pleat Pos from Armhole
- Back Plate
- Sleeve Packet Width
- Sleeve Packet Length
- Sleeve Placket Pos from Edge
- Sleeve Pleat Depth

- Bottom Hem Height
- Sleeve Hem Height

Measurement Points of Bottom Garments

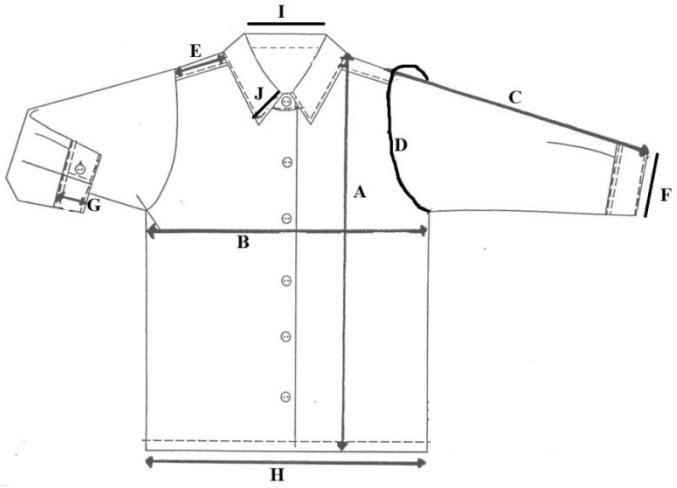
- Waist
- Seat
- Thigh
- Inseam
- Front Rise
- Rise
- Knee
- Bottom Hem
- Waist Band Height
- W/B Loop Width
- W/B Loop Length
- Fly Width
- Fly Length
- Front Pocket Width
- Front Pocket Length
- Back Pocket Width
- Back Pocket Length
- Back Pocket Position from Center Back
- Back Rise Position from W/S at Center Back
- Back Pocket Pos from WB to Side Seam
- Yoke Height at Side Seam
- Bottom Hem Height
- Cargo Pocket Width
- Cargo Pocket Length
- Flap Width
- Flap Height

Understanding sketch of T-Shirt:



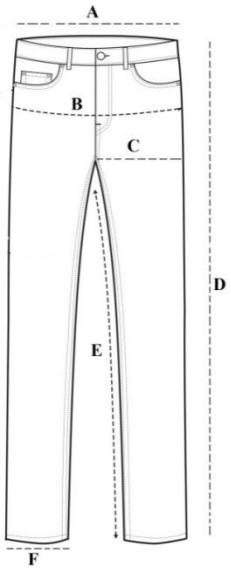
1= Full length HPS front
2=1/2 Chest
3=1/2 Bottom
4=Across shoulder
5=Neck width
6= Sleeve length
7=Bicef
8=Sleeve Opening
9=Armhole straight
10=Neck drop

Understanding sketch of woven shirt:



A=Full length
B=1/2 Chest
C=Sleeve length
D=Armhole depth
E=Shoulder length
F=Sleeve opening
G=Cuff height
H=1/2 Bottom
I=Neck width

Understanding sketch of trousers:



A=1/2 Waist circumference
B=1/2 Hip circumference
C=1/2 Thigh circumference
D=Outseam
E=Inseam
F=Leg opening

Self-Check Sheet - 2: Indentify Garments and Garment Parts

Questionnaire:

1. Wtite the types of garments as per fabric.
   Answer:

2. Write the types of garmnts as per position.
   Answer:

3. Write the types of garments as per method of manufacturing.
   Answer:

4. What are the features of round neck T-shirt?
   Answer:

5. What is skirt? Write the types of skirt.
   Answer:

6. Write the components of a basic shirt.
   Answer:

Answer Key - - 2: Indentify Garments and Garment Parts

1. Wtite the types of garments as per fabric.
   Answer: The type of garments
   - Woven
   - Knit
   - Non-woven

2. Write the types of garmnts as per position.
   Answer: Garments position
   - Top
   - Bottom

3. Write the types of garments as per method of manufacturing.
   Answer: Garments as per method manufacturing.
   - Readymade (complete)
   - Tailored (measurement)
   - Furnishing (automated)

4. What are the features of round neck T-shirt?
   Answer: The features of round neck T-shirt
   - Round neck T-Shirt is a short-sleeved casual top having the shape of a T when spread out flat.
   - Neck is round

5. What is skirt? Write the types of skirt.
   Answer: A skirt is a garment that hangs below the waist.
   Types of skirt→ Gypsy, Pencil skirt, A line skirt, Circle skirt

6. Write the components of a basic shirt.
   Answer:
   - Collar
   - Collar Band
   - Yoke
   - Left Front Part
   - Right Front Part
   - Back Part
   - Sleeve
   - Pocket
   - Front Placket
   - Upper Sleeve
   - Lower Sleeve
   - Cuff

Task Sheet-2: Take Measurement of any top item garments (Shirt)

Job Purpose:

1. Understand the measurement points of any top items.
2. Take the measurement of any top items (shirt).

Precautions:

1. Use appropriate tools and documents for data collection and analysis.
2. Take the measurement carefully.
3. Maintain health and safety precautions throughout the process.

Steps:

1. Collect the job sheet and specification sheet for reference.
2. Read and thoroughly understand the job sheet and specification sheet to gain insights into the project requirements.
3. Gather relevant documentation, such as measurement chart, order sheet, sample.
4. Identify the measurement points.
5. If measurement takes from any sample, then spread the sample properly
6. Take the measurement by using measuring scale
7. If measurement takes from any dummy, then a soft roller is used to take the measurement directly from the measuring points of the dummy
8. Write the measuring value in the measurement chart
9. Identify any bottlenecks, delays, or areas of inefficiency in the measurement of any top items.
10. Maintain health and safety standards throughout the process, ensuring the proper handling of materials and adherence to safety protocols.
11. Restore the workplace to its original condition, ensuring cleanliness and organization.

Learning Outcome 3: Adjust Sewing Machines

Assessment Criteria	1. Types of sewing machine are identified. 2. Functions of different types of sewing machines are explained 3. Parts of sewing machines are identified 4. Basic setting and adjustments of sewing machines are performed.
Conditions and Resources	1. Real or simulated workplace 2. CBLM 3. Handouts 4. Laptop 5. Multimedia Projector 6. Paper, Pen, Pencil, Eraser 7. Internet facilities 8. White board and marker 9. Audio Video Device
Contents	1 Types of sewing machine 2 Function of different types of sewing machine 3 Parts of sewing machine 4 Basic setting and adjustments of sewing machine
Training Methods	1. Discussion 2. Presentation 3. Demonstration 4. Guided Practice 5. Individual Practice 6. Project Work 7. Problem Solving 8. Brainstorming
Assessment Methods	1. Written Test 2. Demonstration 3. Oral Questioning

Learning Experience 3: Adjust Sewing Machines

In order to achieve the objectives stated in this learning guide, you must perform the learning steps below. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Student will ask the instructor about perform sewing machine operations	1. Instructor will provide the learning materials adjust sewing machines
2. Read the **Information sheet/s**	2. Information Sheet No:3 Adjust sewing machines
3. Complete the **Self-Checks & Answer key sheets.**	Self-Check No: 3- Adjust sewing machines Answer key No. 3- Adjust sewing machines
4. Read the **Job/ Task sheet** and **Specification Sheet**	3. Job/ task sheet and specification sheet Job Sheet No:3-1: Adjust the SPI (Stitch per Inch) single needle lock stitch machine (Shirt)

Information Sheet 3: Adjust Sewing Machines

Learning Objective:

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

3.1 Types of sewing machine
3.2 Function of different types of sewing machine
3.3 Parts of sewing machine
3.4 Basic setting and adjustments of sewing machine

3.1 Types of sewing machine

Sewing Machine

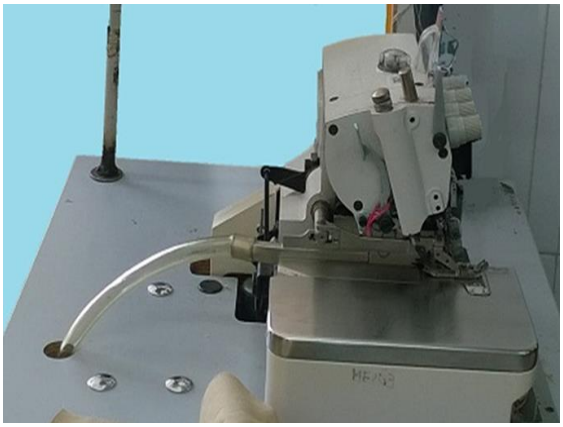
The machine which is used to stitch the fabric and other pliable materials together with threads is known as sewing machine.

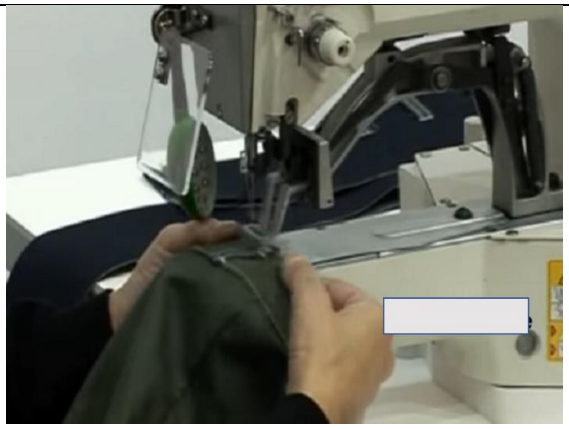
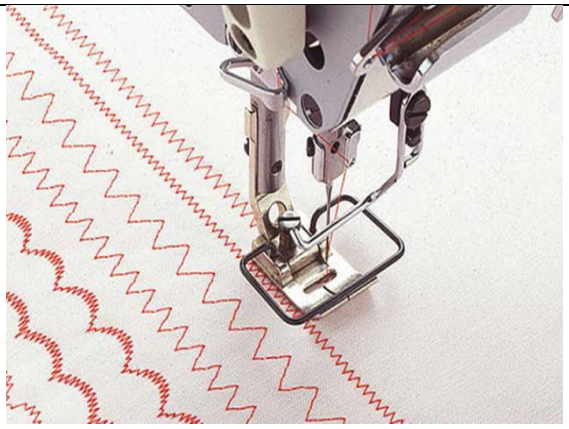
A sewing machine is a textile machine used to stitch fabric, paper, card and other material together with thread. It is an important part of the garment manufacturing industry as well. Sewing machines were invented during the first Industrial Revolution to decrease the quantum of manual sewing done in garment industries.

An industrial sewing machine is power-driven and runs at a very high speed. There are different types of industrial sewing machines. There are some special sewing machines developed for making specific seam and stitch classes.

To have in-depth knowledge of sewing machines, different types of sewing machines are listed in this post. The application of these machines is also mentioned with an example. This would help beginners to visualize the machine's application in making the common products.

Single Needle Lock Stitch Machine This machine makes lock stitches (stitch class 301). Lock stitches are formed with one needle thread and one bobbin thread. This is a widely used sewing machine and used for sewing stitch class 301. Basic to computer-controlled version is available in this machine category. **Purpose:** Single needle lock stitch machines are used for joining two or multiple fabric plies together. The machine is used to sew lightweight, medium weight, and heavy materials.	

Overlock Sewing Machine Overlock machines are available in 3 threads, 4 threads and 5 threads over edge sewing. An overlock machine can form various types of stitches like stitch class 503, stitch class 504 and stitch class 512. Purpose: This machine is used for serging garment panels (for example: trouser panels serging) and for overedge stitch. These types of machines are mostly used in knitted garment sewing for overedge stitch. Like side seam stitch of a t-shirt is done using an overlock machine.	
Flatlock sewing machine This machine is called a cover-stitch sewing machine. Flatlock sewing machines normally come with 2-3 needles. For the bottom cover stitch machine 2 needle threads pass through the material and inter loop with 1 looper thread with the stitch set on the underside of the seam. Flatlock sewing machine form stitches like Stitch class 406. Flatlock machines are available in two types - A flatbed and Cylinder bed. **Purpose:** Flatlock machines are used for hemming sleeve and bottom of the knit's products. A cover-stitch machine can be used in any part of the garment for decorative purpose.	
Feed of the Arm This machine is used in making flat and felt seams. Two-needle threads form the chain stitch. For example, this machine is used for sewing shirt side seams and underarms, and for sewing jeans inseam	

Button Attaching Machine A special machine used only for stitching button in a garment. different sizes of button can be attached in same the machine by changing the settings.	
Button Hole Machine This machine is used for making buttonholes on garments. Buttonholes can be made with different stitch densities. Like in Shirts, Trousers, and Polo Shirts etc.	
Bartack machine Bartack stitch is made to reinforce the seam and garment component. Like in belt loop joining and at the bottom of side pocket opening bartaking is done.	
Zigzag sewing machine: This machine is used for zigzag stitching. Used in bra manufacturing, jacket manufacturing.	

Kansai multi-needle sewing machine Kansai special sewing machine is a multi needle chain stitch sewing machine. This machine is using for sewing waist bands of high heavy to heavy material such as jeans pants, woven pants and working pants. kansai sewing machine is also used cover long stitch, lap seaming, attaching line tapes, inserting elastic and used in cuff of blazer and suits where more than three lines of thread is required to complete the works.	
Double needle lock stitch machine A double-needle lock stitch machine is used to sew two stitch lines at a time on the garment part. This reduces stitching time where a double stitch line is needed to sew.	
Flatlock/Cover stitch Machine These machines are specialised for sewing cover stitches. This functions by interloping of the looper threads with that of needle threads at the underside of the seam. For the top spreader, another thread is interlaced on the top side of the seam between the two needle threads. Stitch class of 400 and 600 are possible with this machine. With such a wide variety of stitching these machines can be sued for binding, flat seaming, hemming in knit garments, attaching elastic, attaching pocket facing in jeans etc.	

Chain stitch sewing machine: There are various types of sewing machine for making of chain stitches with one or more than one threads. In this type of sewing machines, there may have one or more than one needles. With some machines, there is automatic thread trimmer also. There are adjustments of various types of feed mechanism with the chain stitch machine. The SPM of this type of machine may be from 1800 to 6000. Generally, the stitch can be made from 1.4 to 4.5 mm. Chain stitch machines are the most used for sewing of knitted and denim fabrics.	

3.2 Function of different types of sewing machine

Parts of a Sewing Machine and Their Functions:

The basic sewing machine components are shown in Figure-1 and their functions with pictures are described below.

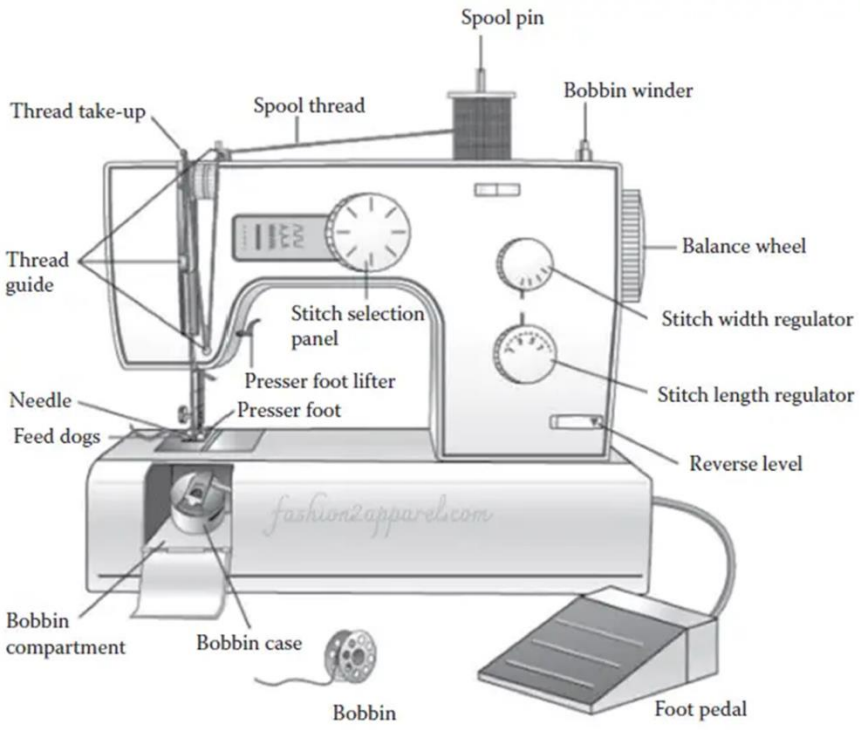
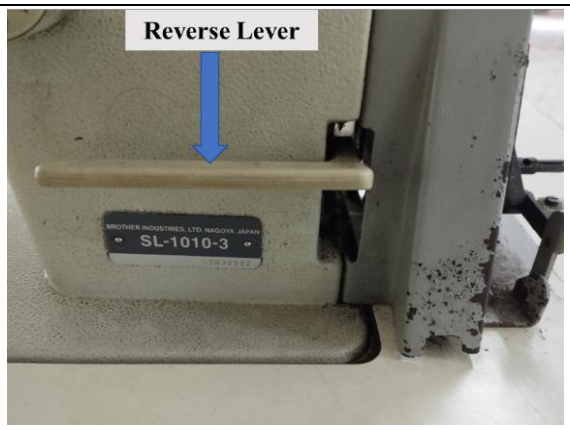
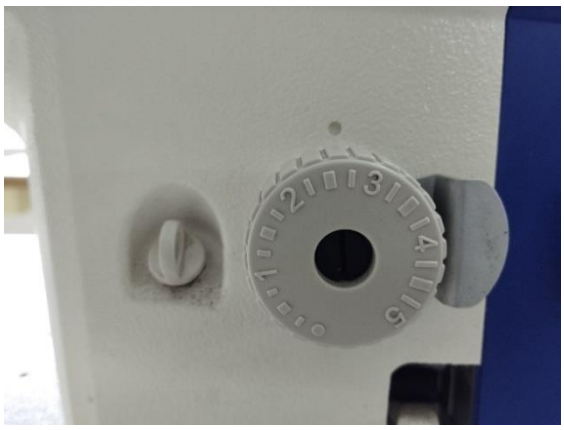
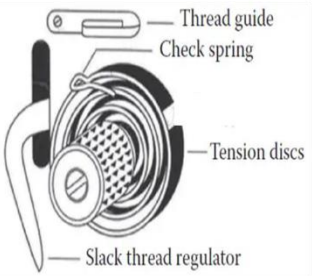
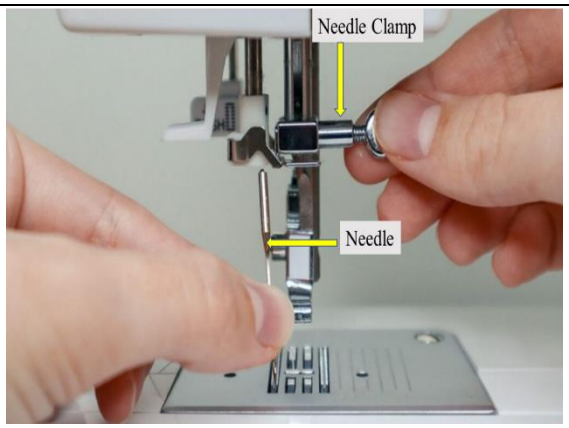
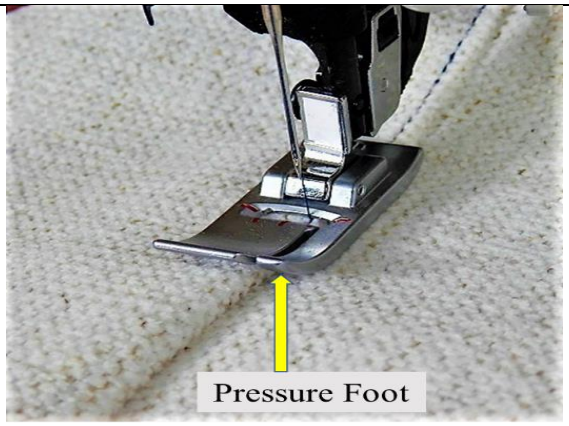
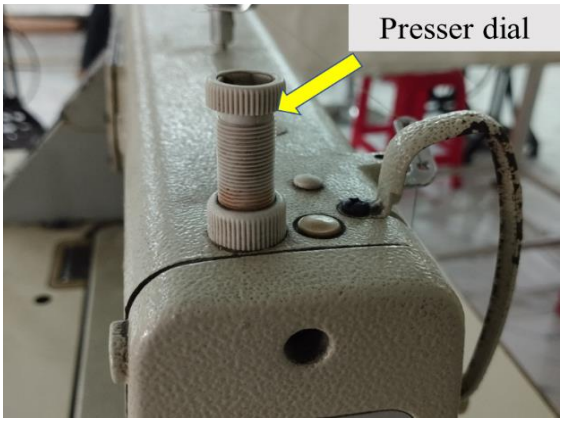


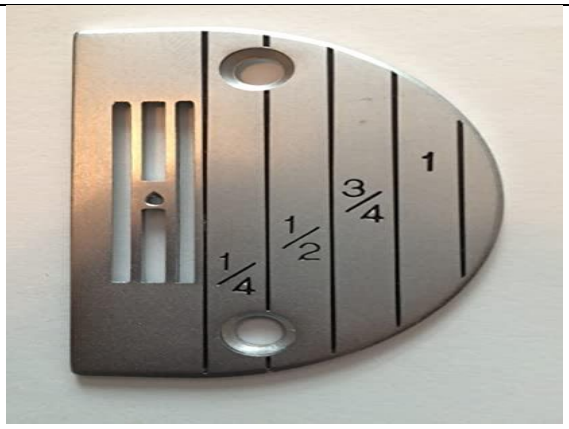
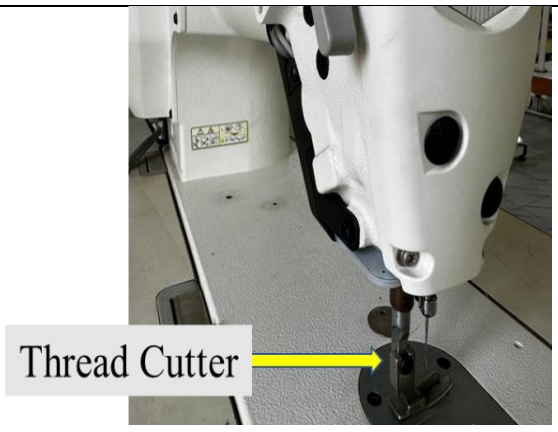
Fig. Different parts of sewing machine

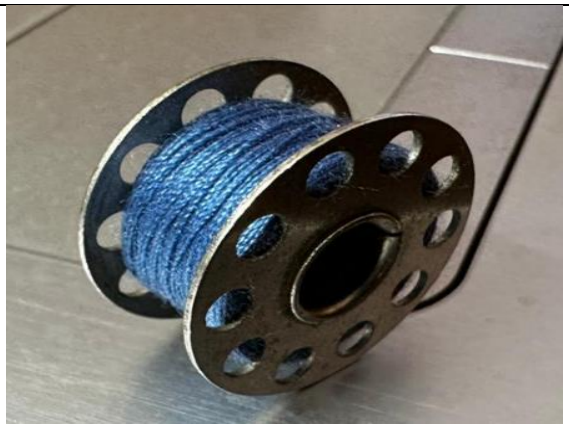
3.3 Parts of sewing machine

Foot pedal: It controls the speed of the machine which depends on the force exerted on it. But it is not an essential part of high-speed sewing machines as the machine speed can be set by one single adjustment and start and stop of the sewing machine is then controlled with the push of a button.	
Hand wheel: It is used for slowly raising and lowering the sewing needle manually to provide better control to position fabric under the needle. The clutch knob positioned inside the wheel acts as a safety feature, that is, when the knob is pulled out, it avoids the needle from jabbing up and down while winding a bobbin.	
Reverse lever: It is situated on the front side of the machine. This is used for making reverse stitching while sewing at the end of every seam to secure it.	
Spool pin and holder: It holds the sewing thread besides controls the sewing thread direction as it goes through the machine.	

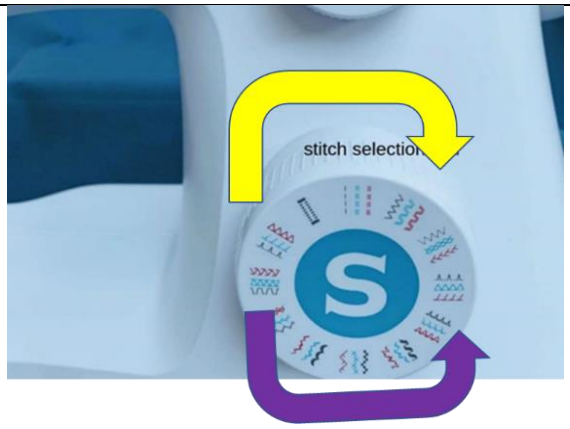
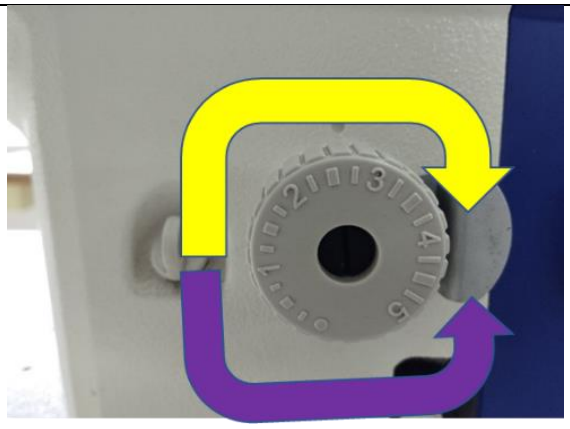
Bobbin winder: It is used to wind the bobbin thread on the empty bobbin. Bobbin winders can be located at the top or right side of the machine.	
Pattern selector: It is used to decide the kind of stitch to be sewn on the fabric, such as straight stitches or zigzag or an embroidery stitch. Based on the machine type, a variety of stitches can be selected beside straight stitches.	
Stitch length adjustment/ Stitch regulator: Stitch length determines the length of the stitch. The range on the machine is from 0 to 4. 0 is the shortest stitch, 4 is the longest. The stitch length adjustment adjusts the length of stitches the sewing machine makes. The adjustment takes place at the feed dog not the machine needle.	
Tension disks: Thread tension determines the looseness or firmness of the stitch. Tensions disks control the pressure applied to the thread for uniform feed to the machine needle. The main functions of tension device is to ▪ Position the thread to needle ▪ Regulate the flow of the thread ▪ Maintain the smoothness in stitching ▪ Control the thread passage precisely	 

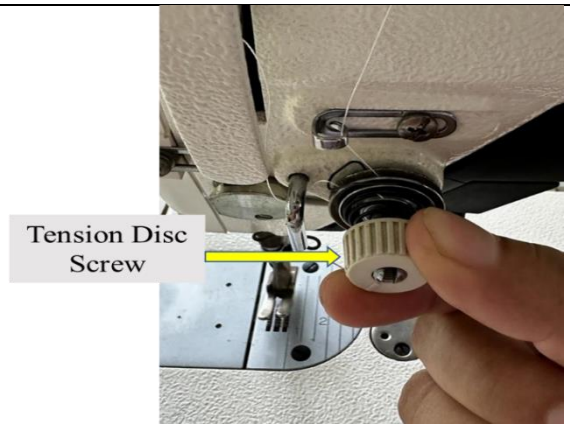
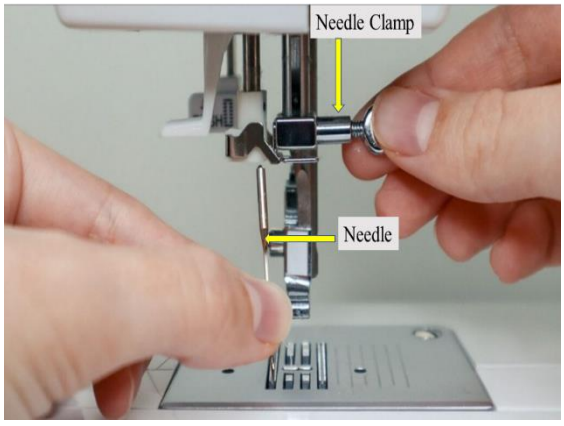
Needle and needle clamp: The needle fits into the needle bar, which holds it in place with a small screw. The needle clamp is used to fix the needle in place.	
Take-up lever: The take-up lever moves up and down during the stitch formation to provide the extra thread while forming the loop and takes back the needle thread after each stitching to set the stitch. It is used to regulate the needle thread tension at an optimum level.	
Presser foot: It is used to grip the fabric from the top counter to the feed dog; therefore, the feed dog can move the fabric through the machine. It applies downward pressure on the material as it is fed under the needle.	
Presser dial: The presser dial determines the quantity of pressure to be exerted on the fabric through the presser foot. Lighter weight fabrics necessitate higher pressure for better control of fabric during stitching and vice versa.	

Feed dog: Feed dogs are a 'teeth-like' component that combines with the presser foot to transport the fabric by one stitch. It also regulates the stitch length by adjusting the fabric movement per stitch.	
Throat plate: It has a hole for the needle to go through to the bobbin casing, a pair of slots for the feed dog to move and stitching guide lines. It is a removable part, which covers the bobbin and bottom of the sewing machine.	
Presser foot lever: It is used to engage and disengage the presser foot on the fabric against the feed dogs gently. When it is in the upward position, the tension disks are disengaged and vice versa.	
Thread cutter: Sewing machine thread cutters are usually located behind the needle of the sewing machine, so that it is convenient while the fabric is moved to the back of the machine, the sewing thread can be cut using the thread cutter.	

Bobbin case: It is the case where the bobbin has to be fixed. This can be found under the needle plate and usually has a piece of plastic that flips up to cover the bobbin case when not sewing. Bobbin cases are not exchangeable in different sewing machines.	
Bobbin: A bobbin is a small package that carries the bottom sewing thread and is fitted onto the bobbin case. Bobbins are filled on the bobbin winder and the thread should be evenly distributed on the bobbin.	

3.4 Basic setting and adjustments of sewing machine

Stitch type setting: Pattern selector is used to decide the kind of stitch to be sewn on the fabric, such as straight stitches or zigzag or an embroidery stitch. Based on the machine type, a variety of stitches can be selected beside straight stitches. By moving pattern selector in both clockwise and anti clockwise direction, stitch type may change.	
Stitch Density adjustment: Stitch regulator is used to adjust the required stich per unit length. By turning the stitch regulator in both clockwise and anti clockwise direction stitch density can be set.	

Adjust the presser foot: ▪ Lower the presser foot lever, to lower the presser foot. ▪ 2. Turn the presser foot dial at the back of the machine to adjust the pressure of the presser foot.	
Adjust needle thread tension: Tension disc is used to adust the needle thread tension by truning the tension disc screw in both clockwise and anti clockwise direction.	
Adjust bobbin thread tension: In bobbin case holder, there is a screw to adjust the bobbin thread tension. A flat screw driver used to rotate the screw in both clockwise and anti-clockwise direction to set the proper bobbin thread tension.	
Change the needle: To change the needle, ▪ At first loosen the needle clamp by turning the screw in anti clockwise direction. ▪ Then replace the old needle by new one. ▪ Finally turning the needle clamp screw in clockwise direction to tighten the needle with the needle clamp.	

Self-Check Sheet - 3: Adjust Sewing Machines

Questionnaire:

1. What is the perpose of sewing machine?
   Answer:

2. Write the function of foot pedal.
   Answer:

3. Write the function of reverse lever.
   Answer:

4. What the main functions of tension device?
   Answer:

5. Write the different parts of sewing machine needle.
   Answer:

Answer Key - 3: Adjust Sewing Machines

1. What is the perpose of sewing machine?

   Answer: The machine is used to stitch the fabric and other pliable materials together with threads.

2. Write the function of foot pedal.

   Answer: Function Foot pedal:

   It controls the speed of the machine which depends on the force exerted on it.

3. Write the function of reverse lever.

   Answer: Reverse Lever is situated on the front side of the machine. This is used for making reverse stitching while sewing at the end of every seam to secure it

4. What the main functions of tension device?

   Answer:

   - The main functions of tension device is to
   - Position the thread to needle
   - Regulate the flow of the thread
   - Maintain the smoothness in stitching
   - Control the thread passage precisely

5. Write the different parts of sewing machine needle.

   Answer:

   Different Parts of Sewing Machine Needle with Their Functions:

   A sewing machine needle contains the below parts:

   - Butt,
   - Shank,
   - Shoulder,
   - Blade,
   - Long groove,
   - Short groove,
   - Needle eye,
   - Scarf,
   - Point,
   - Tip.

Job Sheet-3: Adjust the SPI (Stitch per Inch) single needle lock stitch machine

Job Purpose:

1. Understand stitch density.
2. Adjust the stitch per inch of a required job

Precautions:

1. Wear PPE for sewing.
2. Run the sewing machine carefully.

Steps:

1. Collect the job sheet and specification sheet for reference.
2. Read and thoroughly understand the job sheet and specification sheet
3. Gather relevant documentation, such as required stich per inch, order sheet, sample.
4. Make a stitch on a waste fabric.
5. Measure the stitch per unit length
6. If the number of stitches per unit length is less than requirement, the turn the stitch regulator in clock wise direction.
7. If the number of stitches per unit length is more than requirement, the turn the stitch regulator in anti-clock wise direction.
8. After turning the stitch regulator, again make a stitch on a waste fabric.
9. If the SPI is match with the requirement, then finally make a stitch on a final product.
10. Maintain health and safety standards throughout the process, ensuring the proper handling of materials and adherence to safety protocols.
11. Restore the workplace to its original condition, ensuring cleanliness and organization

Specification Sheet- 3: Adjust the SPI (Stitch per Inch) single needle lock stitch machine (Shirt)

Necessary Personal Protective Equipment (PPE)

Sl. No	Name of PPE	Unit	Quantity
1	Apron	No.	01
2	Mask	No.	01
3	Fingure guard	Pair	01

Necessary tools and equipment

Sl. No	Name of Tools & Equipment	Specification	Unit	Quantity
1	Sewing Machine	Standard	No.	01
2	Pen	Standard	No.	01
3	Pencil	Standard	No.	01
4	Recorder	Standard	No.	01

Learning Outcome 4: Operate Sewing Machines

Assessment Criteria	1. Single needle lock stitch machine is operated as per job requirement. 2. Overlock machine is operated as per job requirement.
Conditions and Resources	1. Real or simulated workplace 2. CBLM 3. Handouts 4. Laptop 5. Multimedia Projector 6. Paper, Pen, Pencil, Eraser 7. Internet facilities 8. White board and marker 9. Audio Video Device
Contents	1 Operation of single needle lock stitch machine 2 Operation of over lock machine.
Training Methods	1. Discussion 2. Presentation 3. Demonstration 4. Guided Practice 5. Individual Practice 6. Project Work 7. Problem Solving 8. Brainstorming
Assessment Methods	1. Written Test 2. Demonstration 3. Oral Questioning

Learning Experience 4: Operate Sewing Machines

In order to achieve the objectives stated in this learning guide, you must perform the learning steps below. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Student will ask the instructor about perform sewing machine operations	1. Instructor will provide the learning materials Operate sewing machines
2. Read the **Information sheet/s**	2. Information Sheet No:4 Operate sewing machines
3. Complete the **Self-Checks & Answer key sheets.**	3. Self-Check No: 4- Operate sewing machines Answer key No. 4- Operate sewing machines
4. Read the **Job/ Task sheet** and **Specification Sheet**	4. Job/ task sheet and specification sheet ▪ Job Sheet No:4-1: Operate the single needle lock stitch machine. ▪ Specification Sheet No:4-1: Operate the single needle lock stitch machine.

Information Sheet 4: Operate Sewing Machines

Learning Objective:

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

4.1 Operation of single needle lock stitch machine
4.2 Operation of over lock machine

4.1 Operation of single needle lock stitch machine

Sewing Machine Operation:

Single Needle Lock Stitch machine or SNLS in used to only for lock stitch that is the stitches of Class 300. But it can not produce all the stitches of this class. This machine is widely used in apparel industry. This is the only machine by which an entire garment can be stitched. Actually, this is done in small tailoring shops. But in industry there are more stitching machine is used in parallel to make a garment perfect.

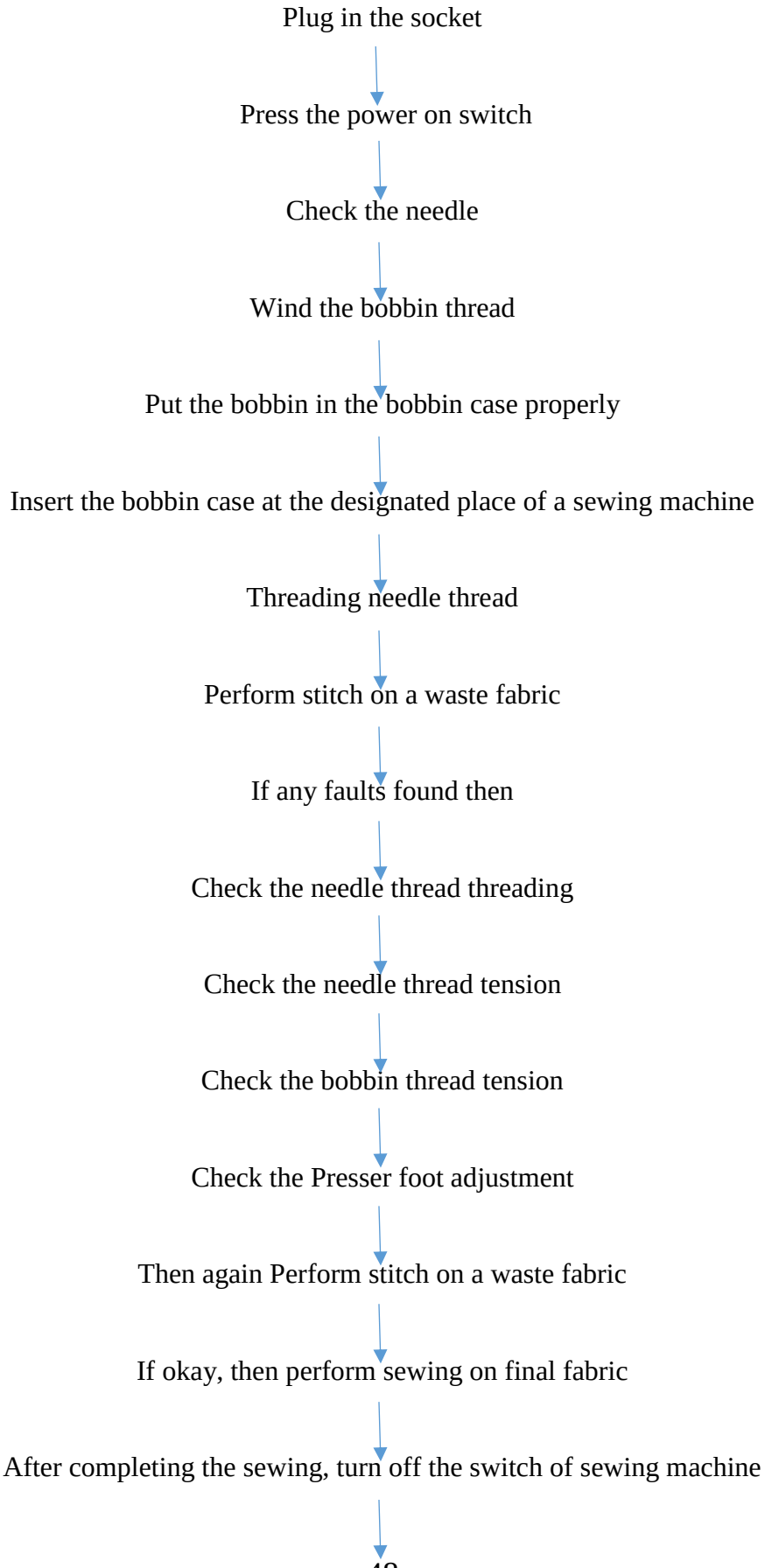
4.1.1 Features of Single Needle Lock Stitch Machine

- Two threads need for a machine, one for needle and another one for bobbin
- Needle thread set in the upper side of fabric and bobbin thread set in the lower side of the fabric in stitch
- Stitching type only lock stitch
- Machine speed is 4000-5000 RPM
- 1 needle in every machine
- Edge cutting, automatic bobbin winding
- Less noise, low vibration, no radiation, and environment-friendly
- SPI generally 7-9
- Sewing Shirts, Jackets, Suits, Over-coats, Bed covers, Curtains, Children's Clothes, Bags, Leather, Wool, Chemical fiber, and Canvas.

4.1.2 Uses:

Single needle lock stitch machine is used to produce lock stitch (300). It is extensively used for joining fabrics collar, cuff, pocket, sleeve, facing etc. Lockstitch type 301 is the simplest, which is shaped from the needle thread and the bobbin thread.

4.1.3 Operation sequence of Single Needle Lock Stitch Machine:



Plug out the socket

Maintain the house keeping

4.2 Operation of over lock machine

Over Lock Machine:

In mass garment manufacturing, after lock stitch machines, overlock machines are mostly used one among many sewing machine types. Overlock machine also known as serger, over edge sewing machine and interlock sewing machine. An industrial overlocker is primarily used to sew edges of a cloth piece with clean finish.

4.2.1 Types of Overlock Sewing Machine

An overlock / over edge machine is a high-speed sewing machine. This is the quickest performing machine for giving overedge stitches. Overlock Machines Are available in following Specifications.

- 2 Thread Overlock machine
- 3 Thread Overlock Machine
- 4 Thread Overlock Machine
- 5 Thread Overlock Machine
- 6 Thread Overlock Machine

4.2.2 Features of overlock machines

- **Cutting device**: Overlock machines are equipped with a cutting device (knife) that cuts fabric edges (excess margin) while stitching.
- **Adjustable seam width**: Width of a seam can be set based on seam width needed in a design.
- **Stitch density (SPI):** Stitch density can be changed in these machines
  Safety stitch can be sewn by overlock sewing machines.
- **Thread consumption by overlocker** - thread consumption in overlock machines is higher than single needle lock stitch machines.
- **Machine bed** - Normally machines come with a raised bed – machine bed is raised than the tabletop. But in need, you can use sunken bed where the tabletop is kept in the same height of the overlock machine bed.
- Over lock machine makes an edge finish as well as to sew seams.
- In one operation; cuts off the fabric to smooth edge and wraps thread around the edge.

- A simple over lock machine has 1 thread and 2 loopers and works with 3 spools or cones of thread.
- Speed of over lock sewing machine is up to 8500 rpm.

4.2.3 Usage of overlock machines:

- Maximum use of overlock machines are available in 3 threads, 4 threads and 5 threads in Bangladesh for overedge sewing.
- This machine is used for serging garment panels (e.g. trouser panels) and for overedge stitches (e.g. side seam of T-shirts). Overlock machines give a clean finish to seam edges.

For example, in a T-shirt making overlock machine is used for operations like

- Attaching sleeve,
- Joining side seam and underarm, and
- Attaching neck rib to the neck.
- This machine is used to create ruffles, decorative edges and gathers; join laces; serge narrow sleeves, spaghetti straps, and more.

4.2.4 The Relationship between Overlock Machine and Number of Thread Used

Sl No.	Machine Name	No. Of Threads use		Total threads use
		Needle	Looper	
1	2 Thread Overlock Machine	1	1	2
2	3 Thread Overlock Machine	1	2	3
3	4 Thread Overlock Machine	2	2	4
4	5 Thread Overlock Machine	2	3	5
5	6 Thread Overlock Machine	3	3	6

Sl No.	Machine Name	Photo	Description
1	2 Thread Overlock Machine		The 2 Thread Overlock Machine is a versatile and essential tool in the realm of garment and fabric finishing. This specialized sewing machine is designed to create neat and professional edges on fabric, preventing fraying and ensuring a clean, polished appearance.
2	3 Thread Overlock Machine		The 3 Thread Overlock Machine stands as a cornerstone in the world of sewing, offering a refined and efficient solution for finishing fabric edges with finesse. This specialized sewing apparatus boasts a unique design that utilizes three threads to craft a secure and professionally polished edge finish.
3	4 Thread Overlock Machine		The 4 Thread Overlock Machine stands as a pinnacle of precision and efficiency within the realm of sewing technology, offering a comprehensive solution for achieving impeccable fabric finishes.

4	5 Thread Overlock Machine		The 5 Thread Overlock Machine stands as the zenith of sewing sophistication, embodying precision, versatility, and excellence in fabric finishing. This specialized sewing instrument represents the pinnacle of modern sewing technology, catering to the demands of professional garment construction, intricate detailing, and flawless edge treatments.
5	6 Thread Overlock Machine		A 6-thread overlock machine is a versatile and advanced sewing apparatus designed to enhance the finishing touches of your fabric projects. This machine goes beyond the capabilities of traditional sewing machines, as it features the ability to simultaneously stitch, trim, and overcast raw edges, resulting in a professional-grade, neat, and durable seam.

Self-Check Sheet 4: Operate Sewing Machines

Questionnaire:

1. What are the features of single needle lock stitch machine?
   Answer:

2. Write down the operation sequence of Single Needle Lock Stitch Machine.
   Answer:

3. Write the types of Overlock Sewing Machine.
   Answer:

4. What are the main parts of overlock machine?
   Answer:

5. Write the adjustments Points of Overlock Machine.
   Answer:

Answer Key - 4: Operate Sewing Machines

1. What are the features of single needle lock stitch machine?

   Answer: Features of Single Needle Lock Stitch Machine

   - Two threads need for a machine, one for needle and another one for bobbin
   - Needle thread set in the upper side of fabric and bobbin thread set in the lower side of the fabric in stitch
   - Stitching type only lock stitch
   - 1 needle in every machine
   - Edge cutting, automatic bobbin winding
   - Less noise, low vibration, no radiation, and environment-friendly
   - SPI generally 7-9
   - Sewing Shirts, Jackets, Suits, Over-coats, Bed covers, Curtains, Children's Clothes, Bags, Leather, Wool, Chemical fiber, and Canvas.

2. Write down the operation sequence of Single Needle Lock Stitch Machine.

   Answer: Operation sequence of Single Needle Lock Stitch Machine:

   Plug in the socket
   Press the power on switch
   Check the needle
   Wind the bobbin thread
   Put the bobbin in the bobbin case properly
   Insert the bobbin case at the designated place of a sewing machine
   Threading needle thread
   Perform stitch on a waste fabric
   If any faults found then
   Check the needle thread threading
   Check the needle thread tension
   Check the bobbin thread tension
   Check the Presser foot adjustment
   Then again Perform stitch on a waste fabric
   If okay, then perform sewing on final fabric
   After completing the sewing, turn off the switch of sewing machine
   Plug out the socket
   Maintain the house keeping

3. Write the types of Overlock Sewing Machine.

   Answer: Types of Over lock machine

   - 2 Thread Overlock machine
   - Thread Overlock Machine
   - Thread Overlock Machine
   - Thread Overlock Machine
   - Thread Overlock Machine

4. What are the main parts of overlock machine?
   Answer: Main parts of overlock machine:
   - Thread stands
   - Thread package
   - Thread guide
   - Disc type tensioner
   - Thread guides
   - Needles
   - Loopers
   - Thread cutter

5. Write the adjustments Points of Overlock Machine.
   Answer: Adjustments Points of Overlock Machine
   - Basic Machine Practice
   - Technical Specification
   - Installation of needle
   - Needle bar height adjustment
   - Needle to lower looper timing
   - Upper Looper Timing
   - Chain looper timing (Safety Stitch)
   - Upper Knife Adjustment
   - Lower Knife adjustment
   - Feed Dog height adjustment
   - Cam Timing
   - Thread Adjustment

Job Sheet-4: Operate the single needle lock stitch machine

Job Purpose:

1. Understand the operation procedure of single needle lock stitch machine
2. Perform the operation of a single needle lock stitch machine

Precautions:

1. Run the sewing machine carefully.

Steps:

1. Collect the job sheet and specification sheet for reference.
2. Read and thoroughly understand the job sheet and specification sheet to gain insights into the project requirements.
3. Gather relevant documentation, such as required stich per inch, order sheet, sample.
4. Take a waste fabric.
5. Plug in the socket
6. Press the power on switch
7. Check the needle
8. Wind the bobbin thread
9. Put the bobbin in the bobbin case properly
10. Insert the bobbin case at the designated place of a sewing machine
11. Threading needle thread
12. Perform stitch on a waste fabric
13. If any faults found then
14. Check the needle thread threading
15. Check the needle thread tension
16. Check the bobbin thread tension
17. Check the Presser foot adjustment
18. Then again Perform stitch on a waste fabric
19. If okay, then perform sewing on final fabric
20. After completing the sewing, turn off the switch of sewing machine
21. Plug out the socket
22. Identify any bottlenecks, delays, or areas of inefficiency in the sewing of any items.
23. Maintain health and safety standards throughout the process, ensuring the proper handling of materials and adherence to safety protocols.
24. Restore the workplace to its original condition, ensuring cleanliness and organization.

Specification Sheet- 4: Operate the single needle lock stitch machine

Necessary Personal Protective Equipment (PPE)

Sl. No	Name of PPE	Unit	Quantity
1	Apron	No.	01
2	Mask	No.	01
3	Fingure guard	Pair	01

Necessary tools and equipment

Sl. No	Name of Tools & Equipment	Specification	Unit	Quantity
1	Single needle lock stitch Sewing Machine	Standard	No.	01
2	Pen	Standard	No.	01
3	Pencil	Standard	No.	01
4	Recorder	Standard	No.	01

Review of Competency

Below is yourself assessment rating for module **Perform Sewing Machine Operations**

Assessment of performance Criteria	Yes	No
Operation flow chart of garment manufacturing process is identified and described		
Steps within the operation flow chart are interpreted		
Types of garments are identified for construction		
Garment parts and points of garment are identified as per sample		
Methods of measuring garments are outlined		
Types of sewing machine are identified		
Functions of different types of sewing machines are explained		
Parts of sewing machines are identified		
Basic setting and adjustments of sewing machines are performed		
Single needle machine is operated as per job requirement		
Overlock machine is operated as per job requirement		

I now feel ready to undertake my formal competency assessment.

Signed:

Date:

Development of CBLM:

The Competency Based Learning Material (CBLM) of '**Perform Sewing Machine Operations' (**Occupation: Mid-Level Management, Level-4**)** for National Skills Certificate is developed by NSDA with the assistance of SIMEC System, ECF consultancy & SIMEC Institute JV (Joint Venture Firm) in the month of June 2023 under the contract number of package SD-9A dated 07th May 2023.

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