

JOB ROLE – SEWING MACHINE OPERATOR

Sector – Apparel, Made-Ups and Home Furnishing
(Qualification Pack Code: AMH/Q 0301)



PSS Central Institute of Vocational Education
Shyamla Hills, Bhopal – 462 013 , Madhya Pradesh, India

www.psscive.ac.in

UNIT 2: SEWING TOOLS AND SEWING MACHINE OPERATIONS

Session 3: Needles and Threads

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Session Objectives

The students will be able to:

- Describe the types and various parts of hand sewing needle and machine sewing needle
- Explain selection of needle, thread and stitch for various fabrics
- Describe sewing thread
- Demonstrate the other tools used in sewing or garment construction

Introduction

There are various type of needles and threads available in the market. It is important to select a suitable needle, thread and miscellaneous tools for sewing.

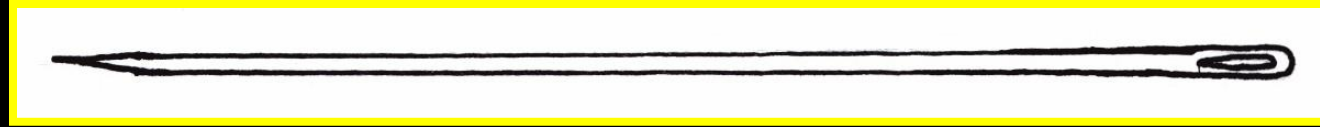
Needles

It is a main tool in sewing or garment construction. Mainly types of needles are hand sewing needles and sewing machine needles.

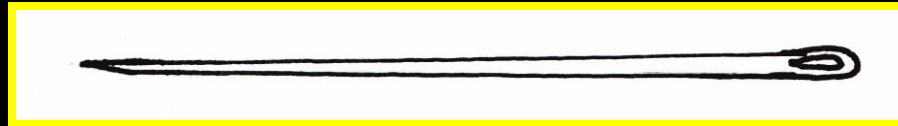
Hand sewing needles:

- These needles are used for hand sewing work or embroidery. The needle design varies according to the purpose.
- The selection of hand sewing needle depends on the work to be done and the type of fabric.

Needles



Milliner Needle



Sharp Needle

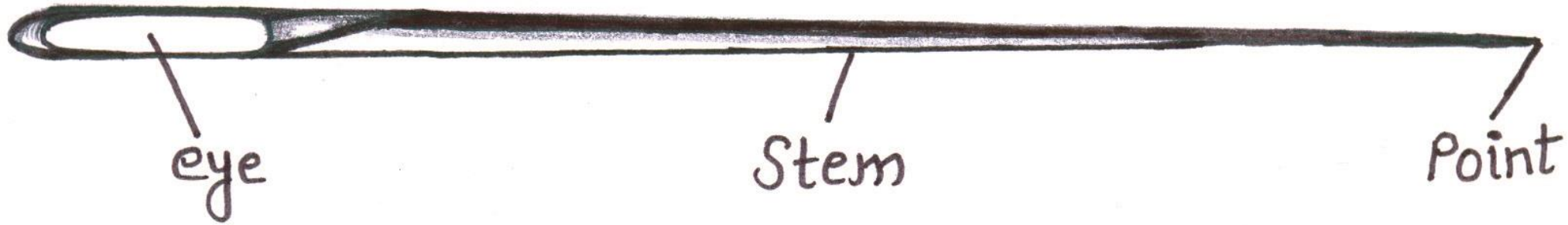


Between Needle

Needles

Parts of hand sewing needle:

The hand sewing needle has three parts-the eye, stem and point.



Needles

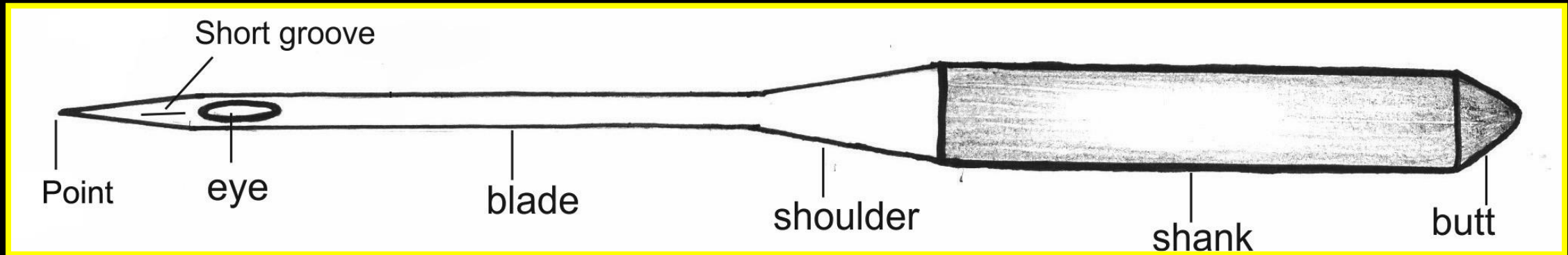
Sewing machine needles:

In the garment industry, there are several types of sewing machine, each requiring different types of needles. Though the sewing machine needles are of various types, they may be selected according to its application. The needle sizes should match with the weight, thickness, and kind of the fabric. The different parts of a sewing machine needle are as follows.

Needles

Butt:

➤ It is a small pyramid at the upper end of the shank. It is designed to make a single point contact with the hole in the needle bar.



Needles

Shank:

- The upper end of the needle that is held in the needle bar by the needle screw is the shank.
- The shank is usually round, but it can have one or two flat sides.

Shoulder:

- It is the beginning of the shank just above the needle blade.

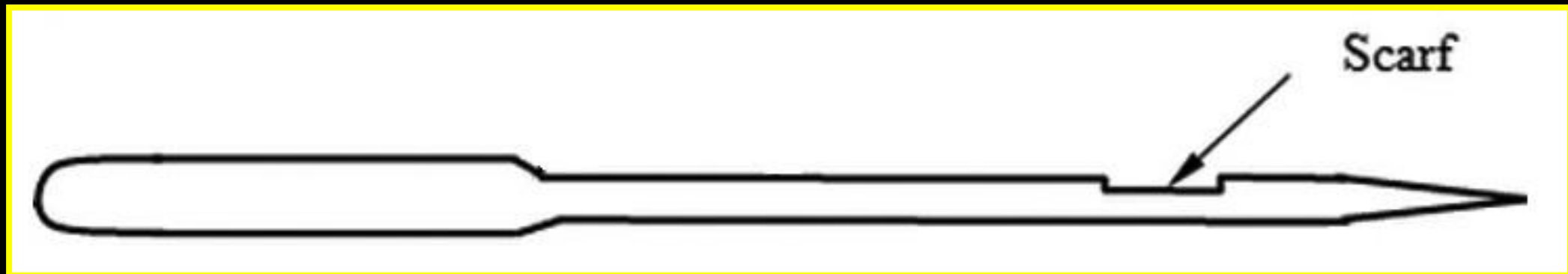
Needles

Blade:

- It is the thin section of the sewing needle that extends from the shank to the eye.

Scarf:

- It is a small indentation above the eye that permits the hook to pick-up the thread loop.



Needles

Eye:

- It is an opening in the needle blade at the lower end of the long groove.
- It carries the thread into the fabric to the hook or looper to make a stitch.
- The size of an eye is proportional to the diameter of the blade.

Point:

- It is the tapered end of the needle and is often considered the most critical part of the needle.
- Mostly, the needles have a round point, ball point, or a cutting point.

Needles

Various points of sewing machine needle:

The different points of a sewing machine needle are as follows:

Sharp needle:

- It is pointed and ideal for almost all woven fabrics.

Ball point needle:

- It has a slightly rounded tip, which is recommended for all knit and elastic fabrics.

Needles

Wedge point needle:

- A specifically designed needle with a wedge like, triangular point, which enables it to make large, clean holes through thick material like leather, vinyl or suede (or swayed).
- These needles are ideal for shoe repair, belts and other leather garments and accessories.

Precautions:

- When an inappropriate needle or bent needle is used, it can cause skipped stitches, poor stitch formation, and even damage to the machine.

Selection of needle, thread and stitch for various fabrics

There is no rigid rule for the selection of needle and thread but it should be chosen mainly as per the type of fabric.

| S. No. | Type of Fabric | Type of Thread | Needle Number | Number of Stitches per inch |
|--------|--|--|---------------|-----------------------------|
| 1. | Lightweight: lawn, voile, chiffon, organza, fine lace | Mercerised cotton, silk, nylon, extra fine (any fibre), size: 60-100 | 9 or 11 | 10-15 |

Selection of needle, thread and stitch for various fabrics

| S. No. | Type of Fabric | Type of Thread | Needle Number | Number of Stitches per inch |
|--------|---|---|---------------|-----------------------------|
| 2. | Medium weight: crepe, velvet, gingham, stretch fabric, terry, brocade, linen, corduroy, some types of denim | Polyester, cotton-wrapped polyester, mercerised cotton, size: 50-60 | 11 or 14 | 10-12 |

Selection of needle, thread and stitch for various fabrics

| S. No. | Type of Fabric | Type of Thread | Needle Number | Number of Stitches per inch |
|--------|---------------------------------------|---|---------------|-----------------------------|
| 3. | Heavy: wide rib corduroy, terry cloth | Polyester, cotton-wrapped polyester, heavy duty (any fibre) size: 30-40 | 16 or 18 | 8-12 |

Selection of needle, thread and stitch for various fabrics

| S. No. | Type of Fabric | Type of Thread | Needle Number | Number of Stitches per inch |
|--------|--|--|---------------|-----------------------------|
| 4. | Very heavy: canvas, upholstery fabric cloth | Polyester, cotton-wrapped polyester, heavy duty (any fibre) size: 20 | 16 or 18 | 8-12 |

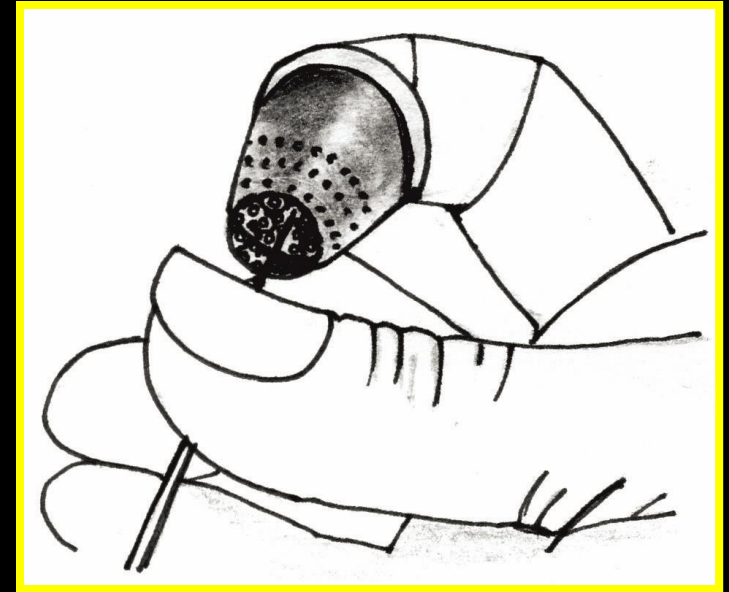
Sewing Thread

Always select a thread according to the type of fabric being used. It is very important to select the correct sewing thread for the fabric. A long staple thread is smoother and creates less lint in the sewing machine. Made of short staples, the thread is uneven in texture and the result is less than perfect stitching. The higher the number on the label of a thread, the finer it is.

Miscellaneous Tools

Thimble:

- It is used to protect the fingers or thumb in the process of hand sewing.
- It can be worn in any of the fingers or the thumb, but mostly it is worn in the index or middle finger.
- Metal, rubber and plastic thimbles are available in the market.
- Thimble must be comfortable and should be light in weight.



Miscellaneous Tools

Stiletto:

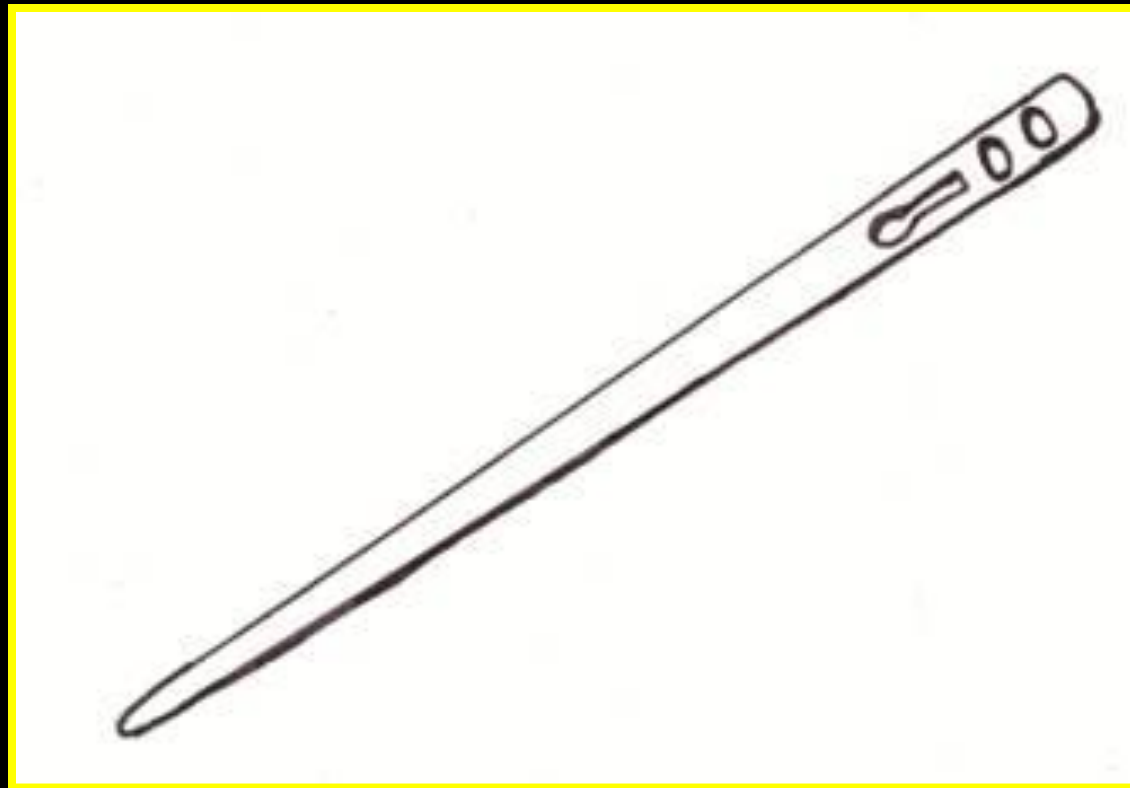
- It is a sharp pointed tool used for punching holes in a fabric/material.
- It is used for forming eyelets in belts, and for making intricate holes in garments.



Miscellaneous Tools

Bodkin:

➤ It is a flat needle with a blunt end and a large eye for threading elastic and tape through a loop or hem.



Miscellaneous Tools

Iron:

- It is an essential part of sewing.
- Every seam should be pressed as soon as it has been made or sewn, to give a clear, crisp line to the seam.
- Always use cheesecloth for lightweight fabrics and cotton or linen for heavier fabrics.



Summary

In this session, you have learnt about the needles, threads and some miscellaneous tools used in sewing or garment construction.

Project Coordinator : Dr. Pinki Khanna

Assistance

Dr. Nishi Sharma,
Assistant Professor



Joint Director

PSS Central Institute of Vocational Education
Shyamla Hills, Bhopal – 462013 , Madhya Pradesh, India

E-mail: jdpscive@gmail.com

Tel. +91 755 2660691, 2704100, 2660391, 2660564

Fax +91 755 2660481

Website: www.psscive.ac.in