

# JOB ROLE – SEWING MACHINE OPERATOR

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



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# **UNIT 1: INTRODUCTION TO SEWING MACHINE**

## **Session 3: Various Parts of A Sewing Machine and Its Attachments**

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# Session Objectives

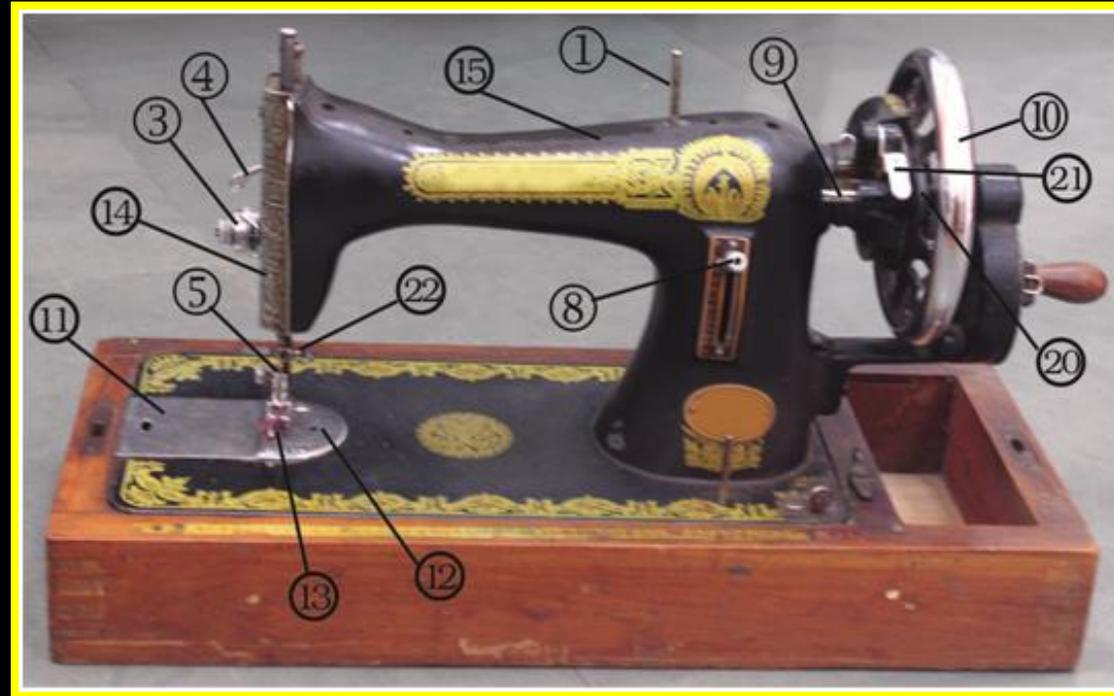
The students will be able to:

- Explain the different parts of sewing machine with their functions
- Describe the various attachments of sewing machine and their functions
- Demonstrate the attaching method of different parts and attachments of sewing machine

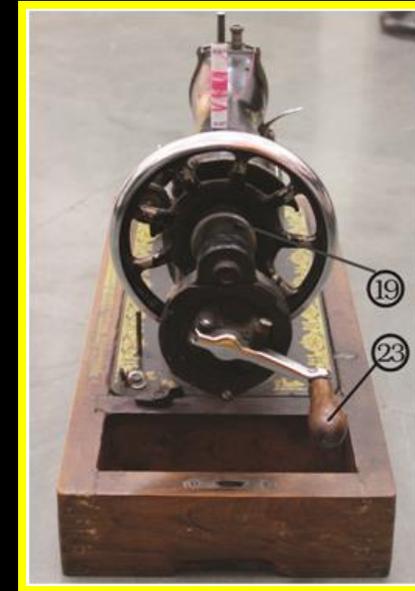
# Introduction

The basic structure of the mechanical sewing machines is the same- whether it is a hand-operated sewing machine, treadle sewing machine or motorised sewing machine.

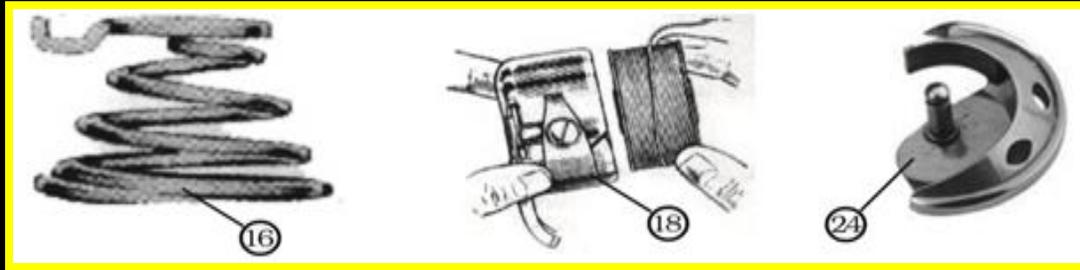
# Sewing Machine: Parts and their functions



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# Sewing Machine: Parts and their functions

The basic parts of a sewing machine are:

## 1. Spool pin:

- It is a metal rod placed on the top of the machine for correct positioning of the reel of thread.

## 2. Thread guide:

- It takes the thread from the spool pin to the needle through a small hole.
- It holds the thread in position from the spool to the needle.

## 3. Tension disc:

- It is a combination of two concave discs placed together with the convex sides facing.

## Sewing Machine: Parts and their functions

- Tension discs control the delivery of the upper thread from the spool to the needle.

### 4. Thread take-up lever:

- Fitted to the body of the arm located above the tension disc.
- It receives the thread up and down motion from the front axle.
- The take-up lever first loosens the top thread during the stitch formation, and then removes any slack to set or lock the stitch.

# Sewing Machine: Parts and their functions

## 5. Needle bar:

- A metal rod to hold the needle at one end with the help of a clamp.
- Its main function is to give the motion to the needle.

## 6. Presser foot:

- It is a detachable device for holding the material in place on the feed dog while stitching.

## 7. Presser foot lifter:

- It is attached to the presser bar (located inside the face plate) to use control the up and down movement of the presser foot.

# Sewing Machine: Parts and their functions

## 8. Stitch regulator:

- It controls the length of the stitch.

## 9. Bobbin winder:

- It is a device which helps in winding the bobbin (located inside the slide plate) properly.

## 10. Fly wheel (or balance wheel):

- It is a round wheel located at the upper right of the sewing machine.
- It controls the motion of the machine manually or electrically.

# Sewing Machine: Parts and their functions

## 11. Slide plate:

- It is a rectangular plate, which facilitates the removal of the bobbin case without lifting the machine top.

## 12. Needle plate or throat plate:

- It is a semi-circular disc with a hole to allow the needle to pass through it.
- Its provide a leveled surface for the material and to prevent the dust from entering the inner parts of the sewing machine.

## 13. Feed dog:

- It consists a set of teeth fitted below the needle plate.
- It helps to move the material forward while sewing.

# Sewing Machine: Parts and their functions

## 14. Face plate:

- It is a cover, which when removed, gives access to the oiling points on the needle bar, presser bar and take-up lever .

## 15. Arm:

- It is a horizontal part of the head that houses the drive shafts.

## 16. Check spring:

- It is a small wire spring behind or at the top of the tension discs.
- It provides a little amount of tension on the thread of the needle and acts a shock absorber.

## **Sewing Machine: Parts and their functions**

### **17. Slack thread regulator:**

- It is a metal hook near the tension discs.

### **18. Bobbin case:**

- It is fixed in the shuttle case of the sewing machine.
- It moves into position to catch the top thread and form the stitch.

### **19. Clutch or thumb screw:**

- It is in the centre of the fly wheel and it engages and disengages the stitching mechanism.

# Sewing Machine: Parts and their functions

## 20. Rubber ring:

- It is a ring on the bobbin winder which comes in contact with the nut of the balance wheel.

## 21. Bobbin winder tension angle:

- It is a device situated near the bobbin winder which helps to wind the bobbin evenly.

## 22. Needle clamp:

- It is a screw that is tightened to hold the needle.

## 23. Handle driver:

- It is attached to the handle attachment of the machine and helps to drive it with hand.

# Sewing Machine: Parts and their functions

## 24. Shuttle:

- It holds the bobbin case and moves to form the loop as the machine is operated.

## 25. Treadle drive:

- It is a large wheel located under the board in the treadle machine.
- It is connected to the balance wheel with a leather belt.
- As it rotates, the power is transmitted to the balance wheel by the leather belt.

# Sewing Machine: Parts and their functions

## 26. Treadle:

- A foot rest at the base of the treadle machine which is pressed with the feet to operate the treadle machine.

## 27. Pressure regulating screw:

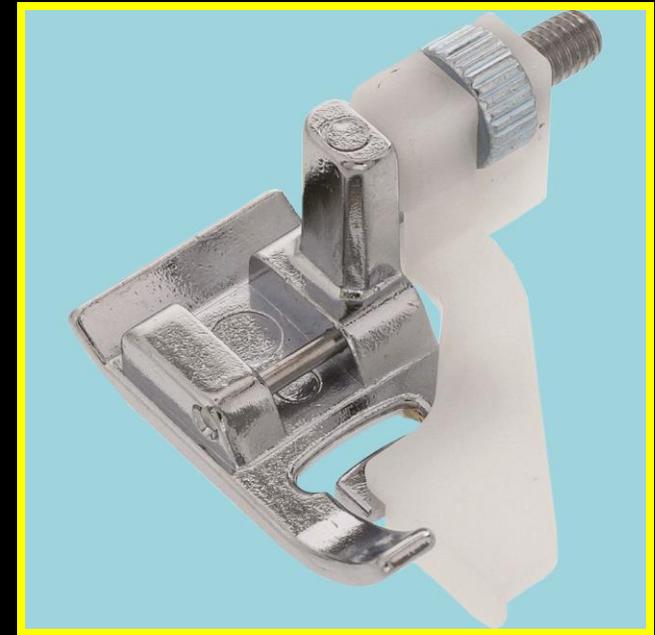
- It is the screw above the presser bar, which can be tightened to increase the pressure on the fabric when stitching with fine/lightweight fabric and loosened to accommodate thick fabric.

# Sewing Machine: Attachments and their functions

Different machines have separate attachments for different sewing processes such as hemming, gathering, etc., but they operate differently on various makes of machines. Some common sewing attachments are given below:

## 1. Blind hem foot:

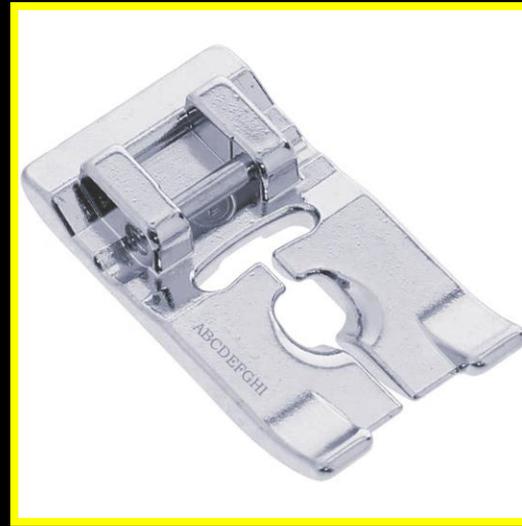
- Basically used for hem finishing of various apparels like trousers and skirts, and home furnishing items like curtains, etc.



# Sewing Machine: Attachments and their functions

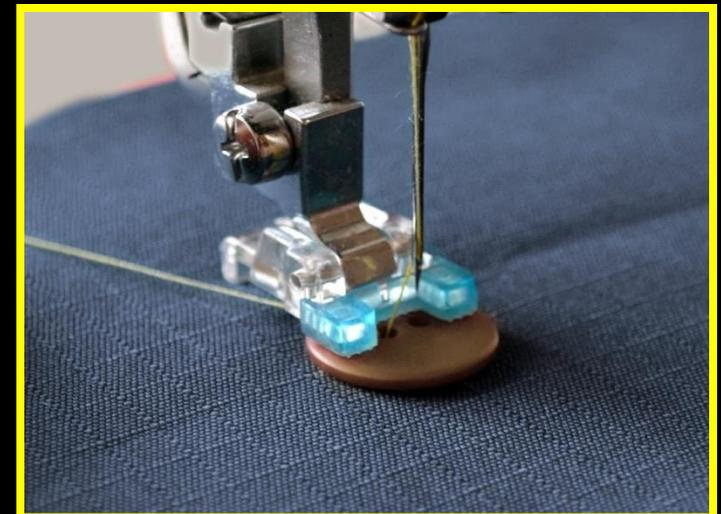
## 2. Braiding foot:

- It allows lot of flexibility while attaching elastic cord, braid or cord.



## 3. Button fixing foot:

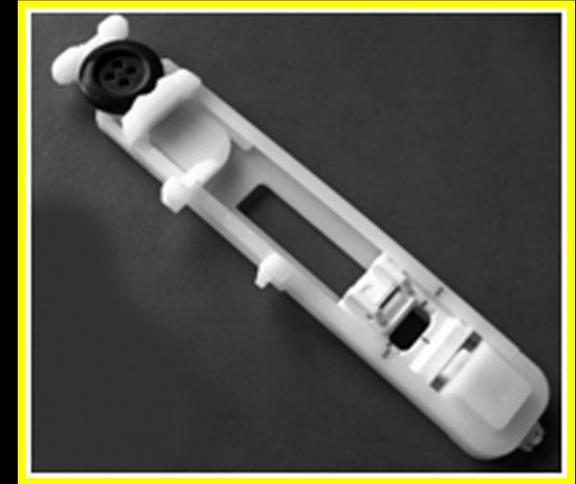
- It can attach two & four holed buttons to the material or garment.
- The foot holds the button in place and then attaches the button to the fabric using zigzag stitch.



# Sewing Machine: Attachments and their functions

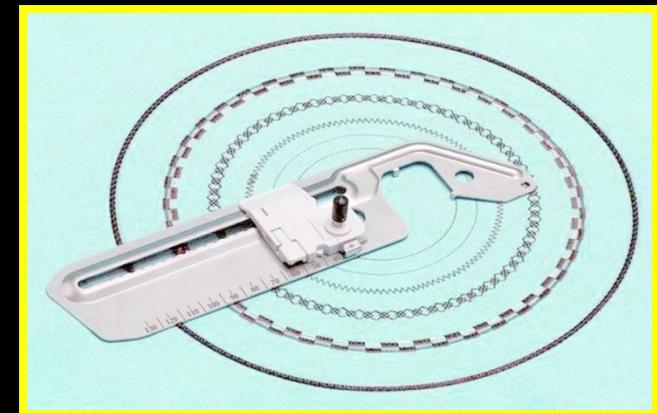
## 4. Buttonhole foot:

- It is used for preparing precise buttonholes or binding the raw edges.
- On a sewing machine, the buttonhole attachment produces a simple buttonhole stitch by swinging the needle from side to side.



## 5. Circular sewing attachment:

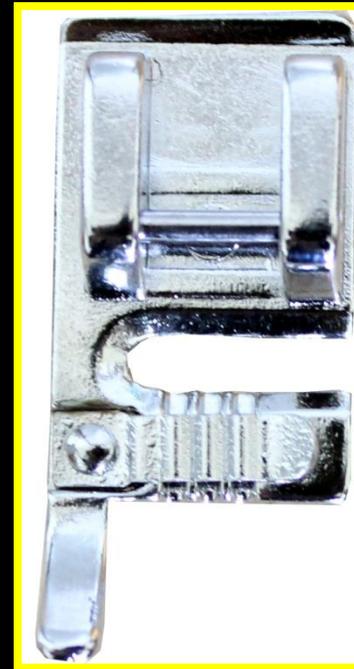
- It allows the operator to stitch in a circular pattern using straight stitch, zigzag stitch and any decorative stitches.



# Sewing Machine: Attachments and their functions

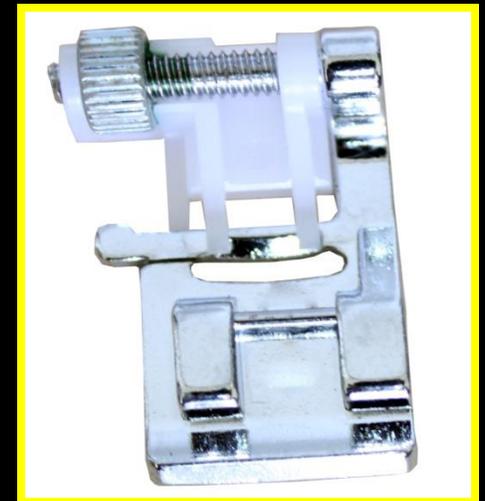
## 6. Cording foot:

- To attach decorative cords and threads, a cording foot is attached to the machine.
- This foot is designed for stitching closed to a raised edge.



## 7. Decorative tape foot:

- This attachment is used to fix trimmings and ribbons on the fabric.



# Sewing Machine: Attachments and their functions

## 8. Gathering foot:

- This attachment gathers the fabric as it is stitched with fullness locked in every stitch.



## 9. Zigzag foot:

- It is attached to create designs in fabric using zigzag stitches of different widths.



# Sewing Machine: Attachments and their functions

## 10. Hemmer foot:

- It works on the sleek and small edges of fabrics as it automatically curls using either a straight stitch or decorative stitch at the hemlines.
- It is best suitable for light weight fabrics.



## 11. Over-casting foot:

- The thread is locked around the edge of the fabric and aligned with it to prevent the fabric from raveling.



# Sewing Machine: Attachments and their functions

## 12. Ruffling foot:

- This attachment is capable of taking gathered or pleated frills, and will take and apply frills to another section at the same time.
- It is useful in making children's clothes and curtains.



## 13. Zipper foot:

- It is the footer used for attaching mainly zips and snap tape also used for attaching decorative cords and piping.
- The foot needs to be adjusted to right or left to stitch both sides of the zip.



# Sewing Machine: Attachments and their functions

## 14. Elastic foot:

- It helps in attaching elastic to the fabric and provides even tension every time to avoid pulling and tugging on the needle.



## 15. Embroidery foot:

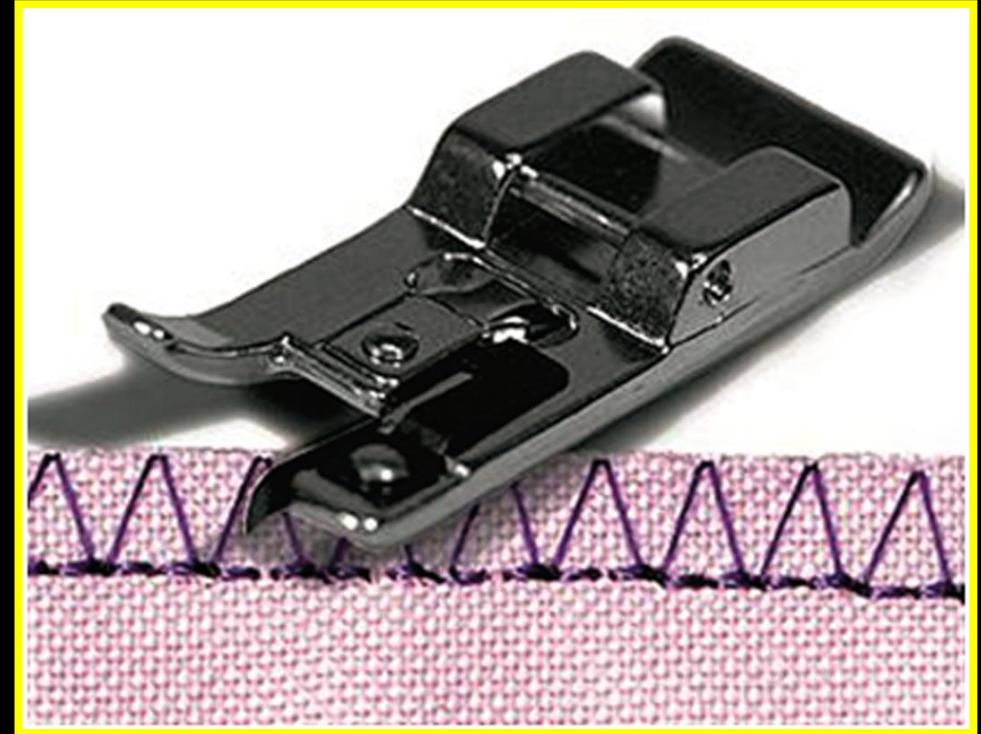
- This foot is known as darning or free motion foot also.
- This foot is used for embroidery work.



# Sewing Machine: Attachments and their functions

## 16. Overlook foot:

- It is useful for producing a durable finish on seams which fray easily or are bulky.
- A metal bar holds the edge in place to make sure that the stitches are set correctly.



# Summary

In this session, you have learnt about the different parts of sewing machines and their functions, and various attachments of sewing machine with their functions.

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