



TRANSFORMING LIVES
Through Skilling

Supporting Partners



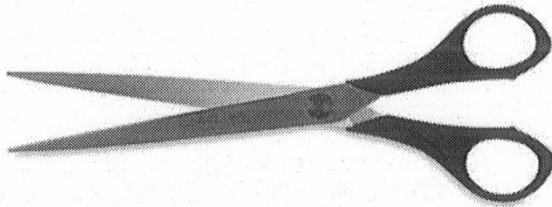
CHAPTER - 4
IMPORTANT TOOLS AND MATERIALS

- The Trainer will show a PPT on the different types of tools and materials for making garments. The Trainees will see the entire PPT and can ask questions if any.

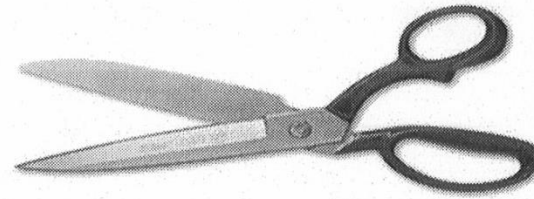
4.1 Tools

To construct a garment, a tailor needs some tools or equipment. The skillful use of different equipment will help to take body measurement and drafting pattern with accuracy and speed. Below are some of the various tools and materials required in the garment making process. We will study about them in detail, in the next section.

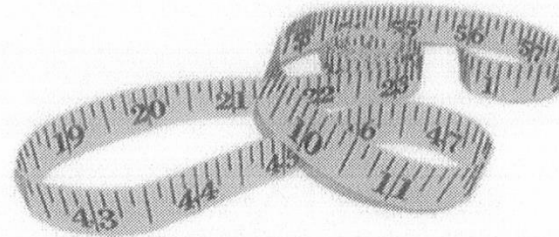
Tools



Fabric Scissors



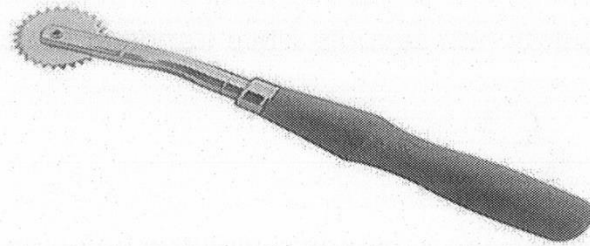
Seam Ripper



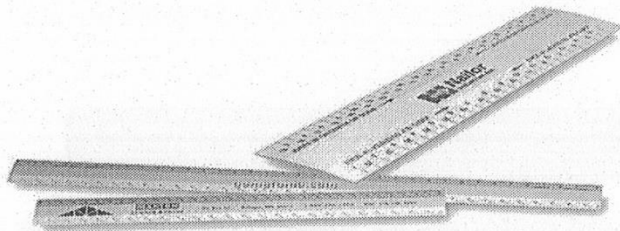
Measuring Tape



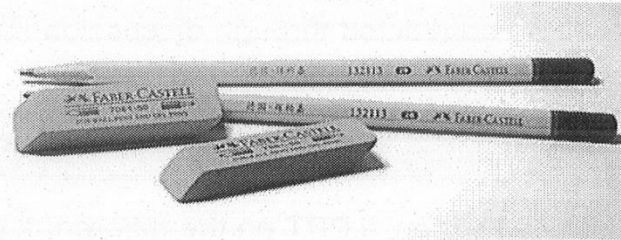
Thread Snips



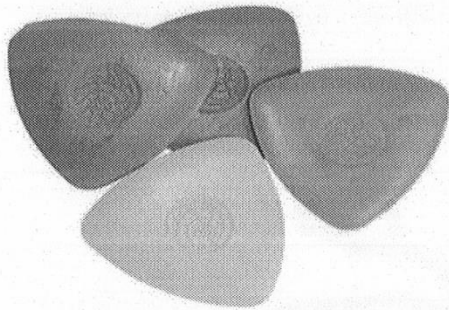
Tracing Wheel



Measuring Scales



Pencil & Eraser



Notcher

4.1.1 Marking Equipment: For tracing lines on the fabrics

A. Carbon tracing paper



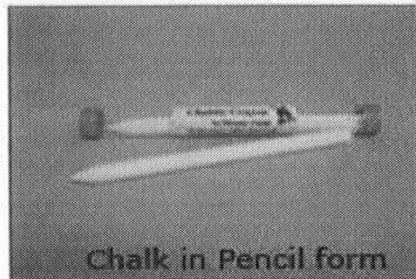
Carbon paper is very useful for marking the fabrics from pattern. Although it is available in many colours, only white carbon paper is preferred as otherwise, the coloured carbon paper-markings will be visible on the right side of the fabric.

B. Tracing wheel

Construction lines such as, darts and seams are easily transferred from the pattern to the fabric by a tracing wheel. The disc is situated on the lower end, and has saw-toothed edges or fine pointed ends. It moves freely on the fabric and is manipulated with the help of wooden or plastic handle on the top.

Tracing wheels are used with tracing paper to transfer pattern markings to fabric.

C. Chalk



Chalk in pencil form is used just like any pencil to make a thin, accurate line, fine for marking pleats, buttonholes and similar details. Chalk colours include white and pastel shades. Tailor's chalk pencil (top) comes with chalk refills while dressmaker's pencil (bottom) has a handy brush eraser.

- **For drawing lines on the wrong side of the fabrics:**

- **Non-wax Chalk** - It is sharpened to a fine point and used for heavy fabrics. It is of two types.
- **Clay chalk** - It is a flat 2" square of white, black, red, blue colour. White and blue are commonly used as they do not stain the fabric.
- **Powdered chalk** - It is used to mark the fabrics through a perforated pattern.
- **Wax chalk** - It is used for marking wool fabrics. It is also a flat 2" square. Wax chalk should only be used on wool as on other fabrics it leaves grease spots after marking.

D. Pencils

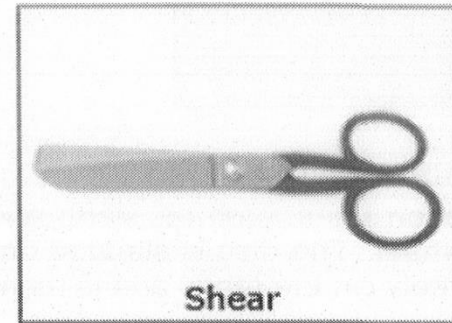
These are used for marking lines on the draft paper. The pencils have red lead on one end and blue on the other end.

4.1.2 Cutting Equipment

Several types of shears and scissors are used for cutting the fabrics and for other dressmaking purposes.

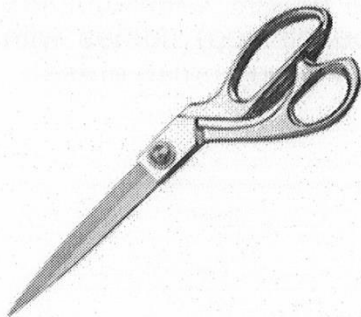
A. Shears

- These are designed for heavy work, not tackled by scissors.
- The shears of the size from 7"-8" are useful for cutting fabrics.
- The shears with bent handles are more useful.



B. Scissors

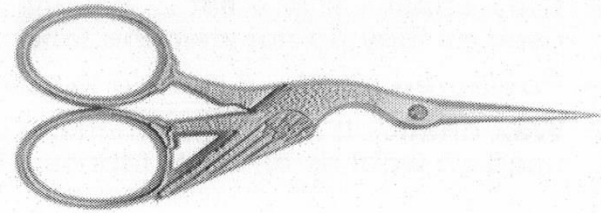
• Dressmaking scissors



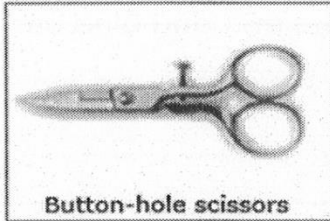
- They have sharp pointed and slender blades.
- It is used for cutting jobs in fine dressmaking.
- It should never be used for cutting heavy materials, which will tend to spring their blades.
- Most of the scissors are 4"-6" long.

- **Embroidery scissors**

- These are short and delicately constructed (3"-4"), used for needlework.



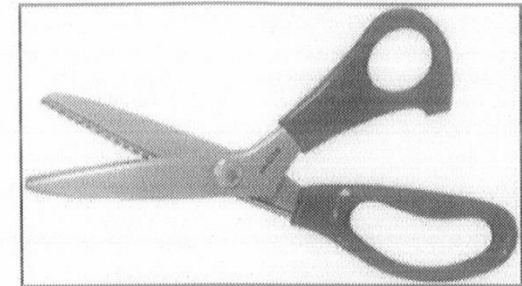
- **Buttonhole scissors**



- They have notched blades.
- They can be adjusted to cut various lengths of buttonholes.
- These have a screw for controlling the length of the cut.

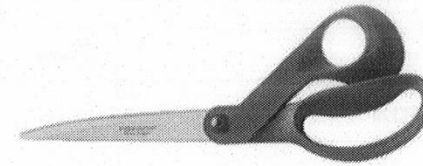
- **Pinking shears**

- Pinking shear is used to cut zigzag with notched edges of the blades.
- It is excellent for finishing seams and raw edges on many types of fabric.
- It is also for decorative use.
- It should not be used to cut out the pattern.
- It comes in 5 and half inch to 10 and a half inch lengths.



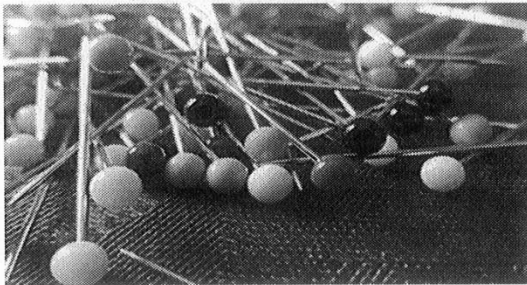
- **Bent-handle dressmaker's shears**

- It is used for pattern cutting.
- It is made in 6" to 12" lengths; but 7" and 8" are used most often.
- Moreover, special chas for synthetics and knits are also available.



4.1.3 Sewing Equipment

A. Pins



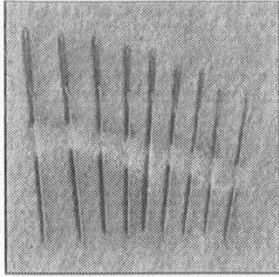
- Select only the sharpest and the finest rust proof dressmaker's pins.
- For heavy fabrics, there are coarser pins and number goes on decreasing for upholstery work.

B. Thimble



- These are chrome plated brass, nickel or silver.
- Very fine thimbles are of 10-14 carat gold and are expensive.
- These are used for directing the needle through the fabric and to protect the finger from needle pricks.
- It should fit properly and comfortably on the finger.

C. Needles



- These should be of fine quality steel.
- These should be polished well so that the pointed end can easily go through the fabric.
- Choosing correct needle for each activity depends upon the fabric, thread size and type of stitch.
- For heavy fabrics, sturdy needles and fine needles are required for fine materials.

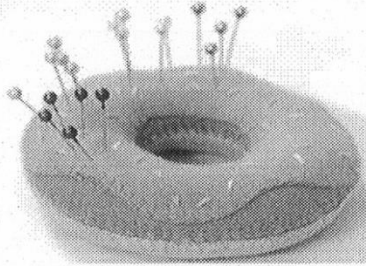
Needle Sizes and Types

Name	Size	Description	Uses
Sharps	1-12	They are the hand sewing needles in most common use. They are of medium length and have a round eye	Suitable for almost all fabric weights
Crewels	1-10	They are sharp, medium-length needles used primarily for embroidery work	Long eye allows several strands of embroidery floss to be threaded.
Machine Needle	9-18	They are made in different sizes and types to suit the varying needs of sewing. The higher the number, the coarser or thicker the needle.	Used to sew light to heavy fabrics in machine

A second consideration is the type of point.

- Regular sharp pointed needle for most of the sewing.
- A ball point needle is meant for knits because rounded point does not pierce the yarns but slides between them.

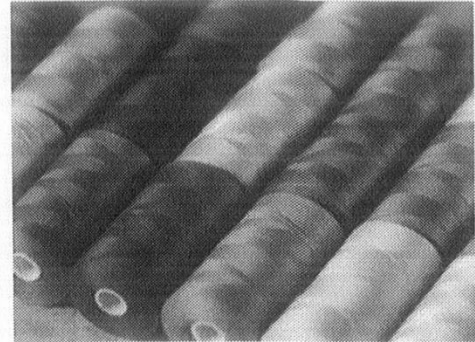
D. Pin Cushion



- A pin cushion can be made as a band around the arm of the sewing machine.
- Velvet and felt are suitable materials for covering it.
- The ground cork protects the pins and needles from rust.
- It allows the pins to step in and out easily.

E. Thread

- Thread, like fabric, is made of various fibres and various weights suitable for certain types of sewing.
- The preferred method is to select a colour shade darker than the fabric.
- Use contrast colour for basting so that it is easily seen while removing stitches.
- Select good brands of thread as durability and colour fastness is an important factor that matters in the end.



F. Thread clipper

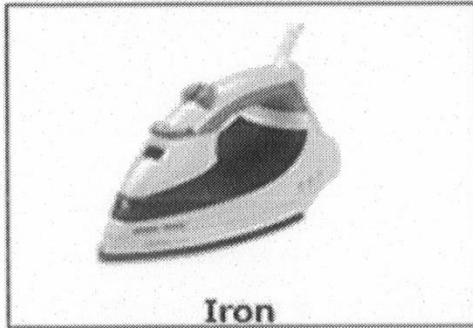


- A time saving clipper can be used effectively for snipping threads and small clips needed for marking or for curved seams.

4.1.4 Finishing Equipment

Expert finishing is required for the garment to look good. Keep the ironing equipment handy.

A. Iron



- Iron is essential while cutting, sewing and after it is ready.
- It helps to get rid of wrinkles as with wrinkles, cloth cutting cannot be done properly.
- Ironing is required while stitching to set the hems, darts and other parts in proper position.
- A combination steam-dry iron is the best one with temperature control.

A. Ironing board

- Obtain an adjustable one, height can be increased and decreased accordingly.
- Heavy cotton padding is very essential for proper finishing of the garment.
- The legs should be sturdy; otherwise, it would be difficult to iron with force.
- The cloth for cotton padding should be colour-fast.



B. A sleeve board

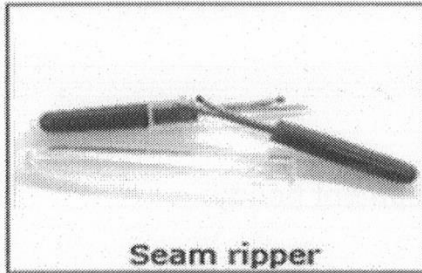


- Provides two small, flat ironing surfaces on which seams and details of narrow garment sections (e.g., sleeves, pant legs) can be easily pressed.
- It is also helpful while pressing hard-to-reach areas, such as necklines and sleeve caps.
- Here the sleeve is slipped overboard, making its long seam easily accessible to the iron.

C. Sponge

- It is used to dampen the fabric while ironing.
- It gives an even amount of moisture to the fabric while ironing.

D. Seam ripper



- This inexpensive item is used for ripping seams and can sometimes be used as button hole cutters too.

E. Sewing machine

- This is the most important instrument for a sampling tailor.
- This could be ordinary or electrically operated.
- It is a lifelong asset, so the quality of the equipment is very important.

4.2 Safety and security while handling the tools

While manufacturing, like the other sectors or industries, Garment sector can also be a risky process. It's a suggestion for the employers and workers to be conscious about the menaces related to the garment manufacturing and take protections to guard against work-related diseases and injuries.

The possible hazards can be:

1. The cutting process.
2. Chemicals used in the different fabrics.
3. Less space in the workstation.
4. Loud manufacturing equipment.
5. Improperly trained tailors.

There are many different types of machinery used in the garment industry. Some are used to knit and weave; sew or cut patterns and cloth; some press or steam and others transport garment pieces on the factory floor. But before any work begins on a piece of machinery, the operator should be trained in its proper operation and all safety precautions he/she should follow. Workers should be trained to know that any machinery with exposed moving parts should be properly guarded.

As cutting tools and knitting or sewing needles can cause cut and puncture hazards, workers should be instructed to follow basic safety precautions while working with sharp and cutting instruments.

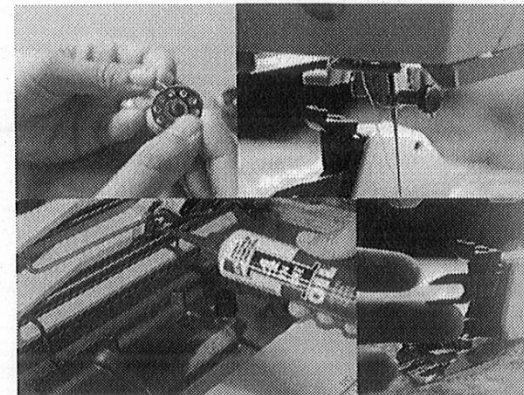
Precautions include:

- Using sharp tools that are in good repair.
- Carrying and storing sharp tools properly.
- Always cutting away from the eyes and body.

Workers need to stay alert when working with sharp objects and make sure that the needles are properly guarded.

Chemicals also play a part in garment manufacturing. Dyes, enzymes, solvents and other chemicals are used to create different fabric finishes and durability. So, proper ventilation, respiratory protection and other personal protective equipment are important to protect workers during chemical processing. Workers should know where and how to access Safety Data Sheets (SDS) on the chemicals used in their workplace.

Some garment manufacturing equipment can be very loud. So proper hearing protection may be necessary. Because a garment factory uses many heated processes, it is important for workers to avoid heat stress by labeling and guarding hot surfaces and drinking plenty of water during their shift. Proper ventilation can help to reduce high temperature and ensure worker comfort.



Many tasks in garment manufacturing require repetitive motions. To prevent ergonomic injuries, workers should be encouraged to rotate tasks or take frequent, short breaks to stretch and relax muscles. Workstations should allow enough space for the task, have appropriate working height and provide proper seating. Manufacturing tools and machinery should incorporate ergonomic design principles. It should not require an excessive amount of force to operate.

With proper training and instruction, machine guarding, personal protective equipment and ergonomically designed work systems, garment workers can manufacture products in safe and healthy workplaces.