

SEWING MACHINE

Savvy

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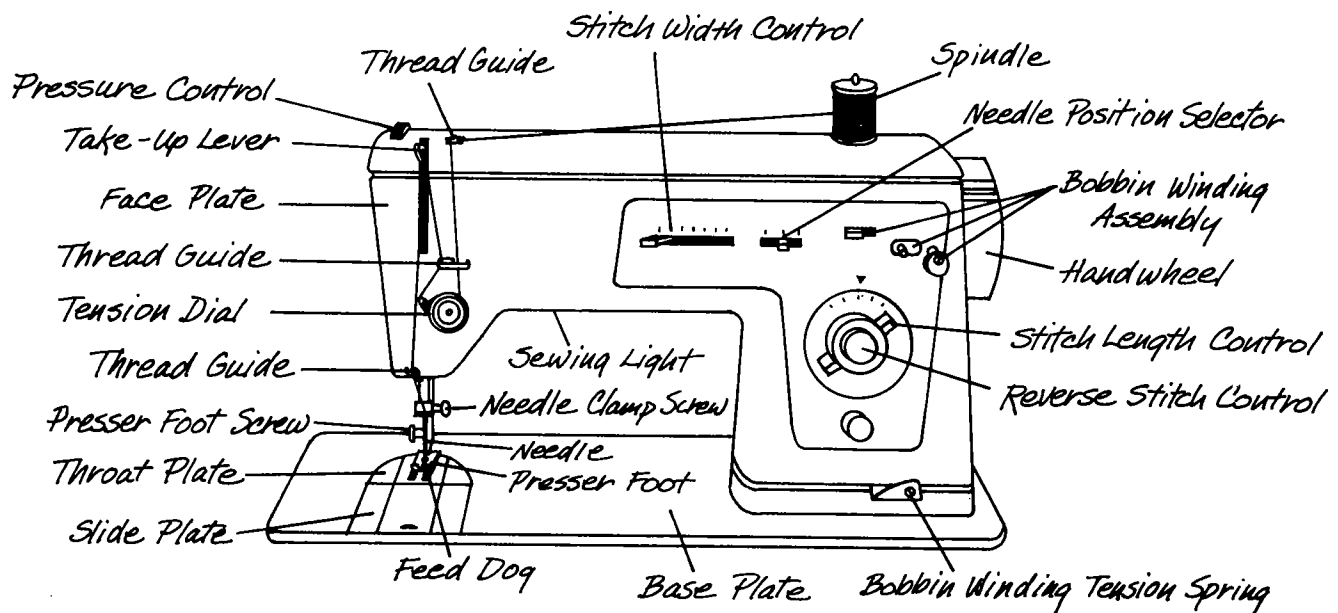
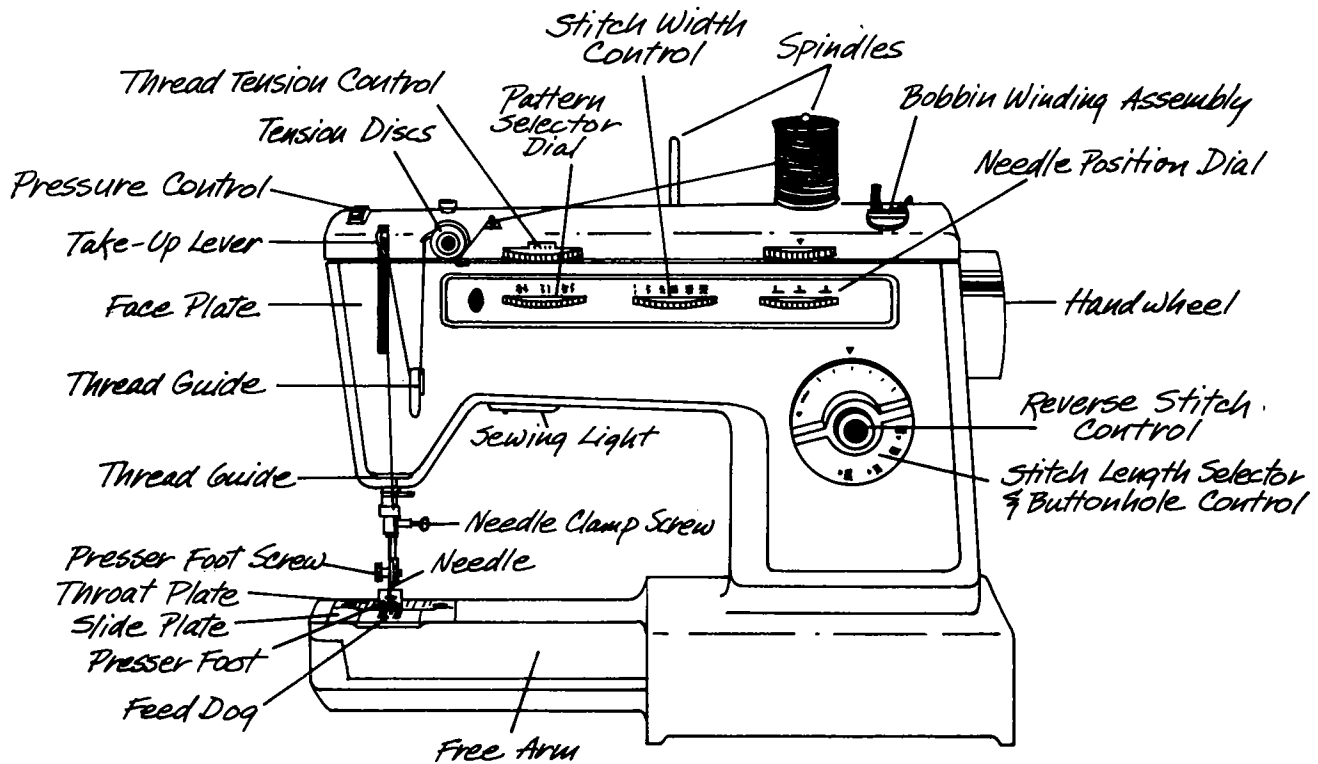
Threading and Manipulation

Learning to use a sewing machine can be exciting. There are some general guidelines that will help you have an enjoyable, rather than a frustrating, experience.

First, you need to learn the parts of a sewing machine and the purpose of each before attempting

to use them. The parts can be grouped as follows:

- tension parts.
- bobbin.
- upper threading system.
- pressure foot.
- fabric feeders.
- stitching regulators.
- others.



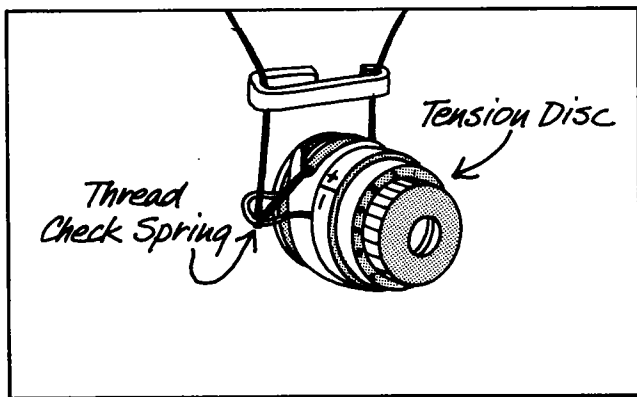
A closer look at each of the previously listed parts is helpful in understanding the mechanics of the sewing machine.

Tension Parts

Tension Control — is used to select the correct amount of tension for the stitch, thread and fabric you are using. When tightened, the pressure on the thread is increased. When loosened, the pressure is decreased.

Tension Disc — is used to regulate the amount of tension (drag) on the thread as it comes through the needle.

Check Spring — is used to soften the sharp tugs of the take-up lever on the thread.



Bobbin

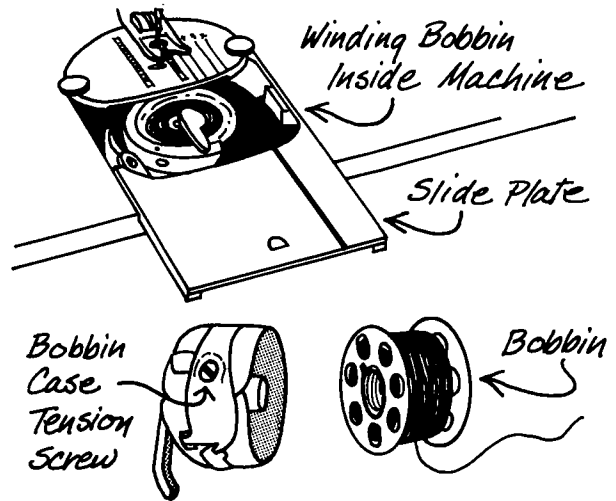
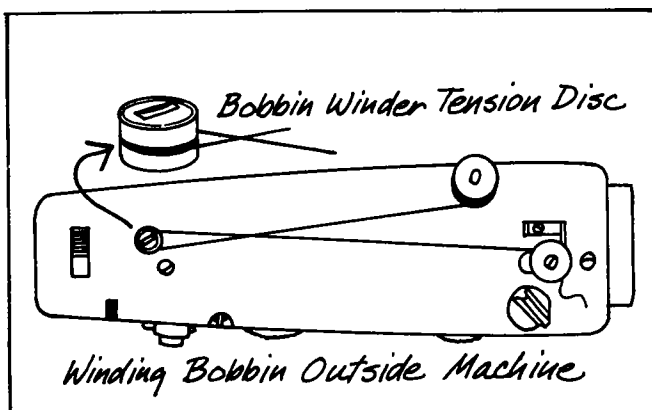
Bobbin Winder Tension Disc (could also be listed above) — is used to regulate thread tension when winding the bobbin.

Bobbin Case Tension Screw — is used to adjust bobbin tension (on rare occasions).

Bobbin — holds the lower thread.

Bobbin Winder — holds the bobbin in place for filling.

Slide Plate — slides or tilts to expose the bobbin area.



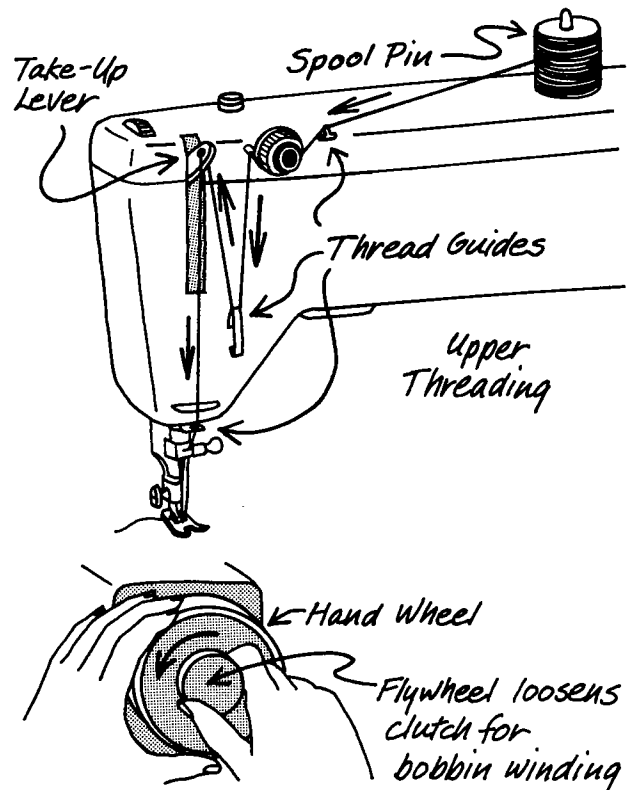
Upper Threading System

Spool Pin — holds upper thread spool(s), may be vertical or horizontal.

Thread Guides — are used to guide the upper thread from the spool, to the tension discs, to the check spring, to the take-up lever, and to the needle. All sewing machines are threaded in this order. The number and placement of thread guides may vary.

Take-up Lever — is used to control the flow of the upper thread through the needle.

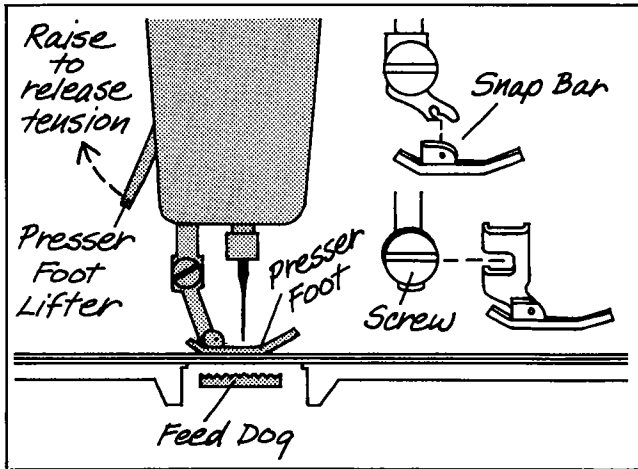
Hand-Wheel — controls the operation of the take-up lever and needle and is used on some sewing machines to start the sewing operation. The fly wheel loosens the clutch for bobbin winding.



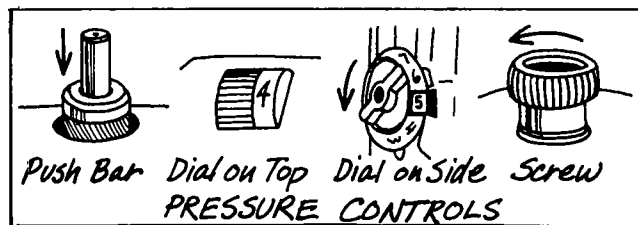
Pressure Foot

Pressure Foot — serves the purpose of firmly holding the fabric in place against the feed dog. There are several styles used for specific purposes. They may fasten with a screw or snap bar. If pressure on the presser foot is correct, you will be able to sew fabric without stopping the sewing machine.

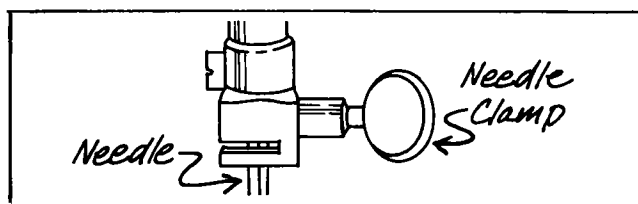
Presser Foot Lifter — is used to raise and lower the presser foot. When raised, this releases the tension, drag or pull on the thread.



Pressure Control — regulates the presser foot pressure on the fabric. Some newer sewing machines may have universal pressure. Some have a spring or screw at the top or back or inside the face plate.



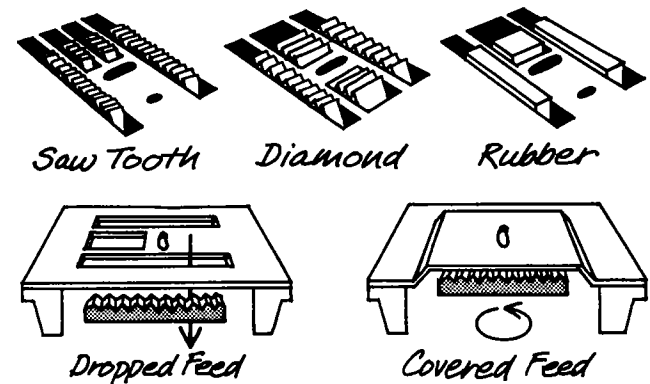
Needle Clamp — is used to hold the needle in place.



Fabric Feeders

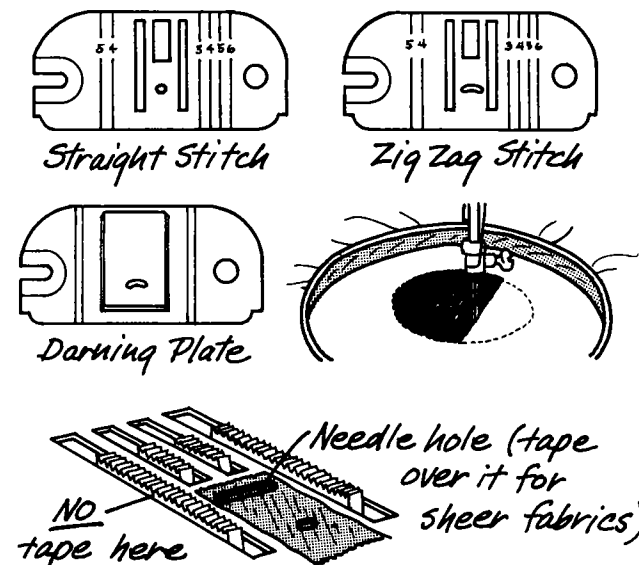
Feed Dog — moves the fabric at an even speed under the pressure foot. This is the fabric handling

mechanism. Feed dogs may be teeth-like metal grooves or flat grippers of rubber, Teflon®, or plastic. For some sewing operations, the feed dog will need to be lowered or covered. The type of sewing machine will determine whether the feed dog is lowered or covered.



Throat Plate — encloses the feed dog and provides an opening for the needle to go through to the bobbin area. It is important to use the correct throat plate. Use a:

- straight stitch throat plate for straight stitching (single hole).
- zigzag stitch throat plate for zigzag stitching (wide hole). If you only have the zigzag throat plate, you may need to place tape over the needle hole when sewing straight stitches, especially on sheer or lightweight fabrics OR place needle in left needle position. **Do not** put tape on the feed dog.
- darning plate cover for darning or embroidering.



Stitching Regulators

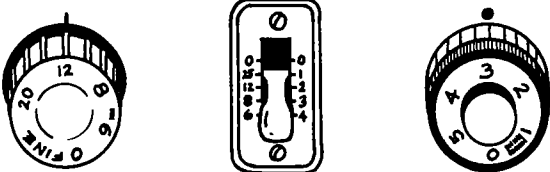
Stitch Length Control — is used to determine the desired stitch length. The stitch length may be measured in stitches per inch (7-20) or per millimeter (0-5).

Stitch Width Regulator — enables you to have a variety of stitch widths (from wide to narrow) on zigzag sewing machines.

Reverse Stitch — is a lever or button which allows you to instantly reverse the direction of stitching.

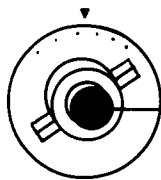
Stitching Speed — allows you to adjust the speed at which the sewing machine operates from slow to fast. This regulator may be a dial, a slide, or a button on machine or on foot control.

STITCH LENGTH REGULATORS

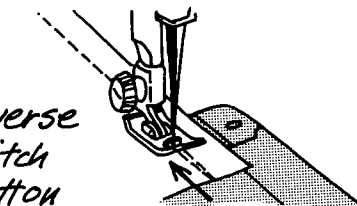


Inch System Inch/Metric Metric System

Stitch Width Regulator

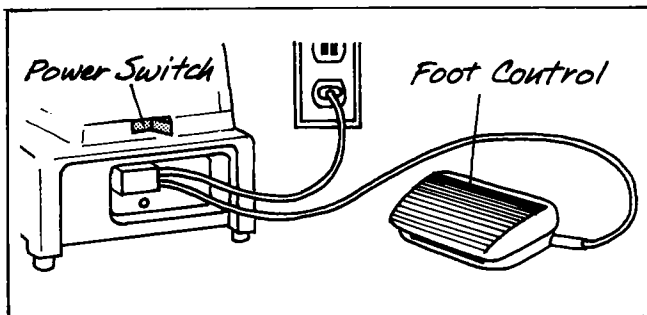


Reverse
Stitch
Button



Other Functions

Power Switch — turns the sewing machine on and off.

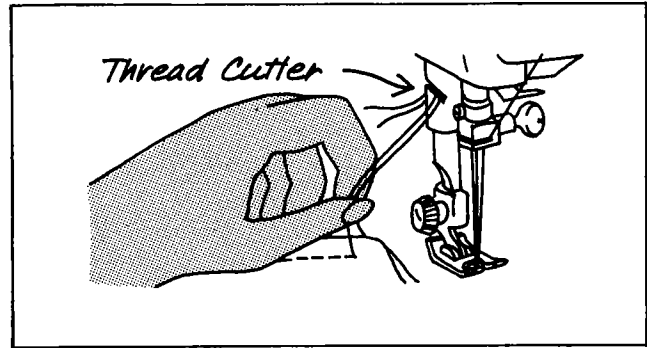


Built-In Light — illuminates the needle area.

Light Switch — turns the light on and off. On some models it is combined with the power switch.

Foot Control — controls the speed of the machine.

Thread Cutter — is a sharp area conveniently located for cutting sewing thread.

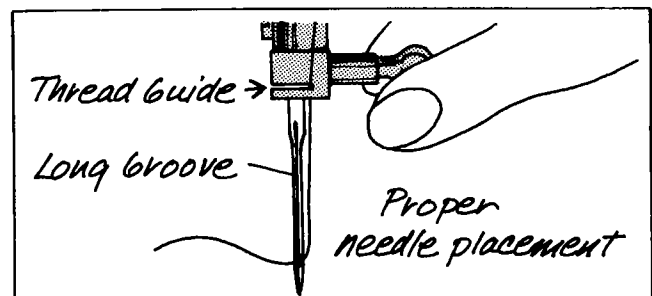


How to Thread the Machine

When you learn how to thread a sewing machine, you should be able to thread all sewing machines. Remember to follow the thread guides.

1. Be sure presser foot is up.
2. Place the thread spool on the spool pin.
3. Draw the thread through the thread guide(s) (or there may not be a thread guide).
4. Lead the thread through the tension discs, making sure the check spring is in action.
5. Next there will be one or more thread guides.
6. The thread guides lead to the take-up lever where the thread slips or is threaded through the hole.
7. There will usually be one or more thread guides between the take-up lever and the needle.
8. The last thread guide is the key to threading the needle. It indicates the side of the needle through which you will draw the thread through the eye — front to back, right to left, or left to right.

Proper placement of the needle is very important. The needle is placed so the long groove is on the same side as the thread guide.



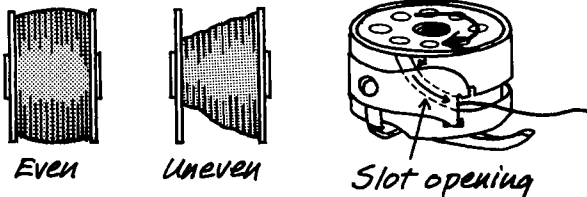
Remember upper threading always follows:

- tension.
- take-up lever.
- needle.

The Bobbin

Refer to the instruction booklet on how to thread the bobbin. Then consider these general suggestions:

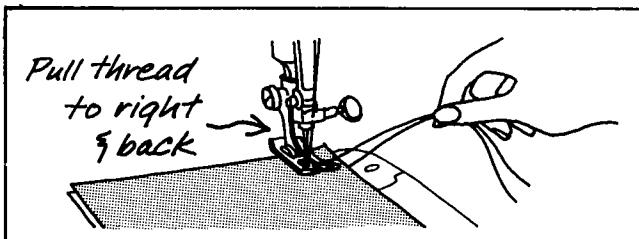
- Put the presser foot up.
- Do not wind thread on top of another thread.
- Always check the bobbin for rough spots. These will cause stitching problems.
- When winding thread on the bobbin, place thread in the threading hole from inside to outside.
- As you begin winding, grasp thread end until it breaks.
- Be sure the bobbin winds evenly. If it does not, adjust (check instruction book) until it does.



- If the sewing machine does not stop automatically when filling the bobbin, stop before it overfills. It will not slip into the bobbin case or area if it is overfilled.
- Use same type of thread — top and bottom.
- Do not wind polyester thread too quickly, as it will stretch. When you sew, it relaxes and may cause puckered seams.

Sewing machines have either a removable bobbin case or one built into the sewing machine. Follow these general suggestions:

- On most machines, place bobbins so the thread comes around and turns back into the slot (winding clockwise around the bobbin). Check instruction booklet for correct method.
- Thread must be in the slot as this is where the tension is placed on the thread.



Getting Ready to Sew

Now that the sewing machine is threaded, you need to bring the bobbin thread to the top of the throat plate. Grasp the upper thread loosely and turn the handwheel one complete turn. **Remember** that the take-up lever should be in the higher position, so the machine will not be unthreaded when beginning to stitch.

Pull the thread to the right and back of the presser foot when you begin to stitch. Hold the thread ends until three or four stitches are formed. This will eliminate bunching of thread and unevenness in stitching at the beginning of a seam.

Summary

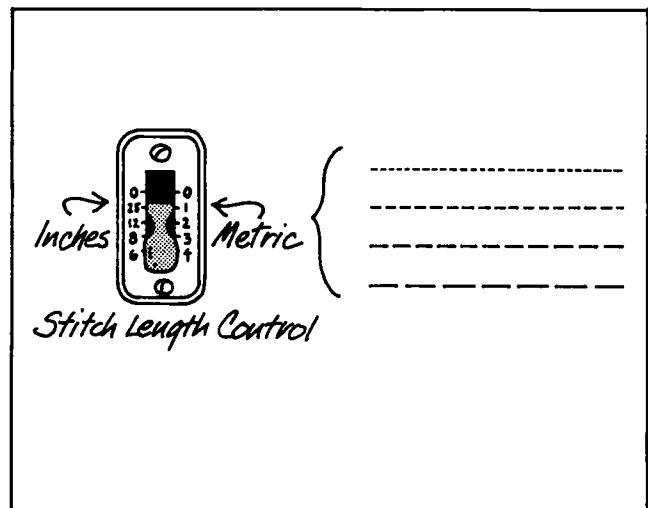
Learning the parts of the sewing machine and the purposes of each is important when you are learning how to use a sewing machine. Correct threading of both the upper thread and lower thread (the bobbin) is essential for proper stitch formation. The exciting and rewarding experience of sewing lies ahead.

Stitch Width and Length

Stitch Length

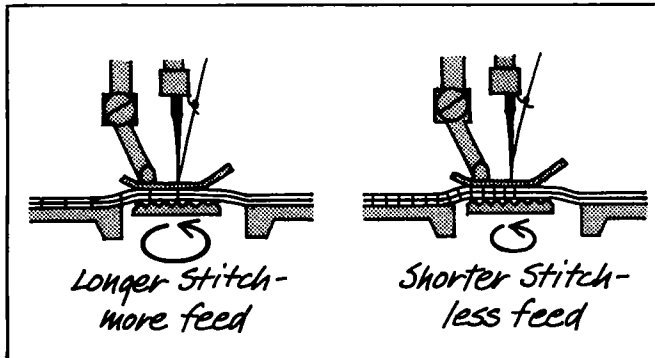
Stitch length refers to the number of stitches (forward and reverse) per inch or per millimeter. All sewing machines have a dial or sliding bar for selecting the desired stitch length.

If a sewing machine has numbers similar to 7-20, the machine's stitches are measured in inches. Numbers 0-5 mean that the stitches are measured in millimeters.



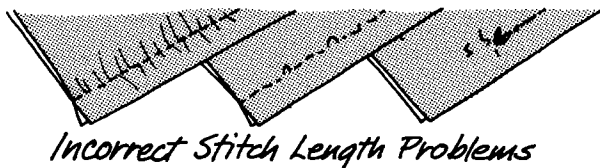
How Stitch Length Works

As the sewing machine makes a stitch, the feed dog moves the fabric forward or backward. The length of this motion is determined by where you have set the dial or sliding bar for the desired stitch length.



Why Is Stitch Length Important?

Some fabrics and sewing operations require different stitch lengths in order to achieve the desired stitching. If an incorrect stitch length is selected, seams may pucker, stitches may not be correctly formed, or the fabric may not feed through the machine.



Short Stitch — 15-20 stitches per inch (2.5 cm).

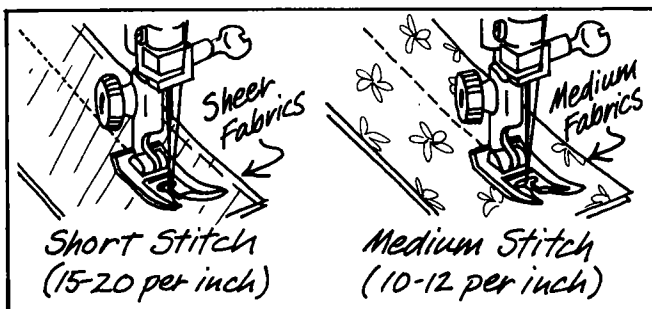
Use for:

- thin, sheer fabrics.
- lightweight fabrics.
- curves or sharp corners in medium weight fabrics.
- reinforcement.

Medium Stitch — 10-12 stitches per inch (2.5 cm).

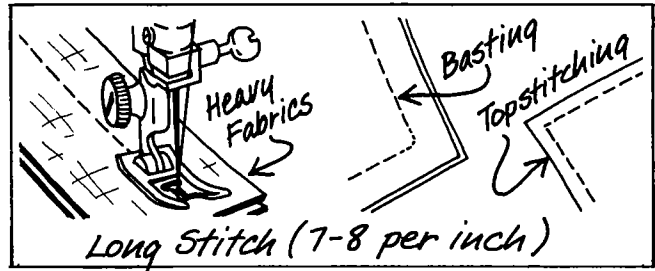
Use for:

- medium weight fabrics.
- curves or sharp corners in heavy fabrics.



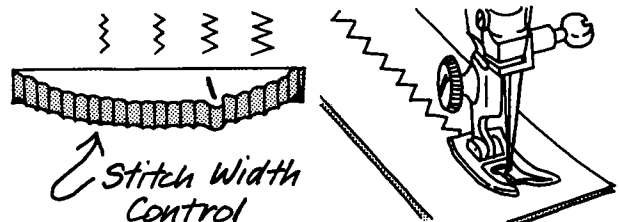
Long Stitch — 7-8 stitches per inch (2.5 cm). Use for:

- heavy fabrics.
- dense fabrics.
- plastic-coated fabrics.
- controlling thread for gathering.
- machine basting.
- top stitching.



Stitch Width

Stitch width refers to the width of the stitch, which is a side-to-side motion of the sewing machine. Zigzag sewing machines will have a control to select the desired stitch width. Some machines may have pre-set built-in width for special stitches.



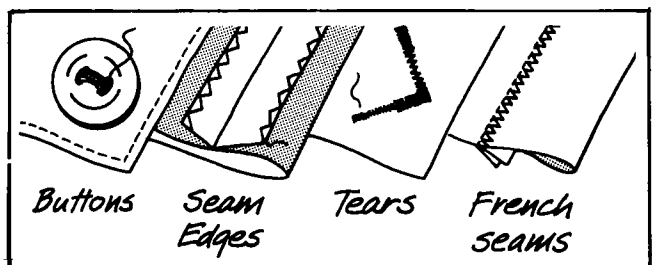
The sewing machine will straight stitch when stitch width control is set on zero. The larger the number the wider the stitch.

How Stitch Width Works

As the sewing machine makes a stitch the needle swings from side to side. The width of this sideways motion is determined by where one has set the control.

Zigzag stitches are both functional and decorative. Primary functional uses are for:

- sewing knits.
- reinforcing stress areas.
- mending rips and tears.
- finishing edges.



Summary

Important features of sewing machines are stitch length and width. It is important that you understand these concepts as a foundation for sewing.

Most Common Built-in Stitches

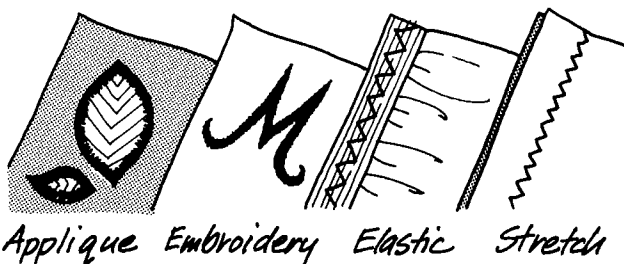
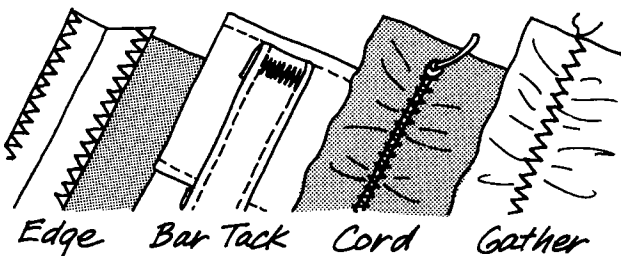
Many sewing machines have some basic built-in stitches, which have been developed for specific uses and fabrics. Let's look at their purpose and suggested uses.

Zigzag — is a side-to-side stitch, which may be narrow or wide (width), close together or far apart (length). This stitch is used to:

- finish raveled edges
- make bar tacks.
- stitch over cord.
- gather.
- decorate with appliqué.
- do machine embroidery.
- apply elastic.
- add stretch to seams.



Zigzag



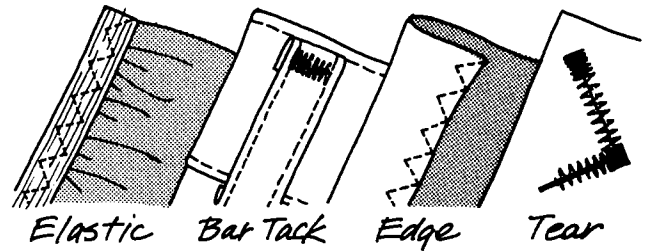
TIPS: Pivot on outside for appliqué; reduce upper tension for embroidery or appliqué.

Multiple or Stitched Zigzag — is three stitches that make a stronger zigzag. Multiple or stitched zigzag is used to:

- mend tears.
- finish edges.
- make bar tacks.
- apply elastic.

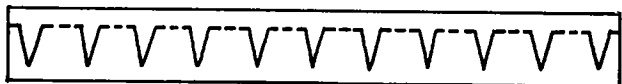


Multiple Zigzag

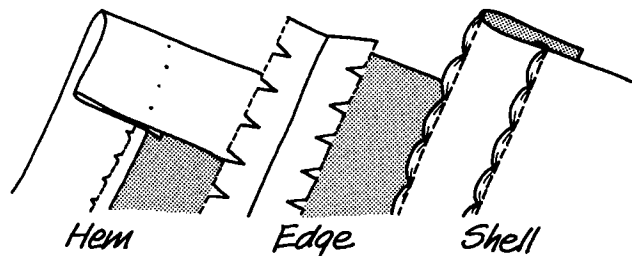


Blind Hem — is three to four straight stitches and one zigzag stitch to left. This stitch is used to:

- hem.
- finish edges.
- make a shell hem on soft fabrics.



Blind Hem

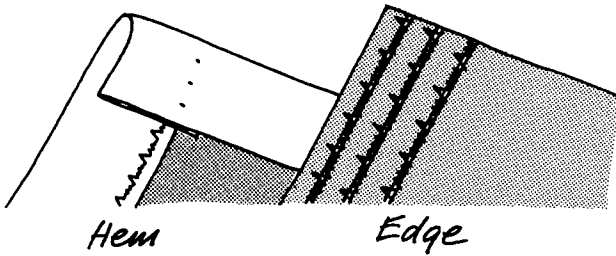


Stretch Blind Hem — is three to four narrow zigzag stitches and a zigzag stitch to left. The stretch blind hem stitch is used to:

- hem stretch fabrics.
- make decorative edge (especially when stitched over crochet thread or pearl cotton).



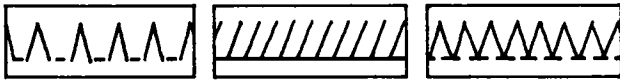
Stretch Blind Hem



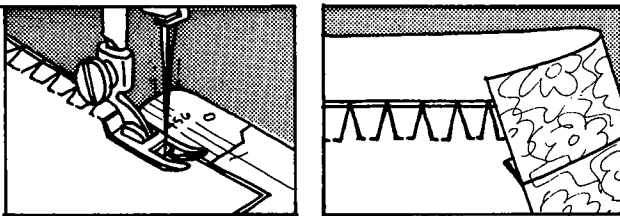
Hem

Edge

Overlock — represents different stitches on the sewing machine that use reverse motion. The overlock usually includes a straight stitch and some type of side-to-side stitch. The zigzag stitch is usually to the right. This stitch is used to stitch seams at the same time you finish the edge. It is appropriate for heavy and stretch fabrics.



Various Overlock Stitches



Stitch seam & finish edge at same time

Summary

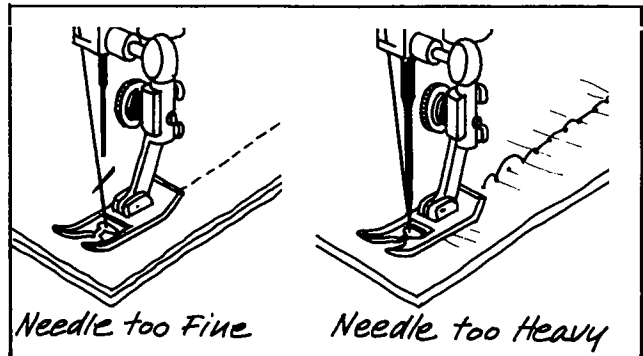
Many built-in stitches have been developed to meet the needs of the home sewer. You will want to become familiar with these basic stitches so that you can select the stitch that will best meet your sewing needs.



Know Your Needles

At one time there was only one type of sewing machine needle. Today that is not the case. Because of the many different fabrics, finishes and weights of fabric, there are several different types of needles. Selecting the correct needle is closely related to stitch quality and appearance.

If a needle is too fine for the fabric it can be easily bent or broken. If it is too heavy it may leave holes, cause damage to the fabric, or make uneven stitches or even skipped stitches.

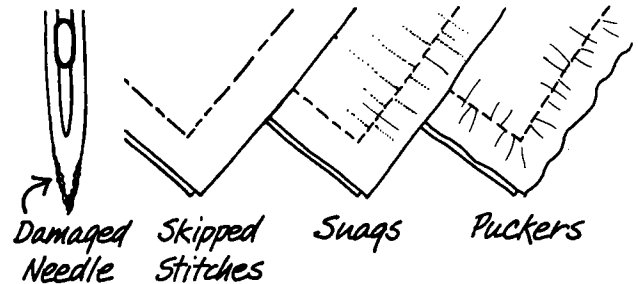


Needle too Fine

Needle too Heavy

Needles may be of nickel or chrome. Chrome needles are considered to have better quality.

Many of today's fabrics (man-made) and finishes are tough and cause needles to become dull. Therefore, it is important to use a new needle for each project. Dull needles can cause skipped stitches, snagging, puckering, and damage to the sewing machine hook or needle plate.



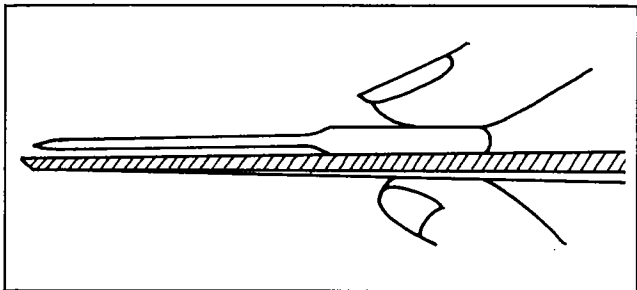
Damaged Needle

Skipped Stitches

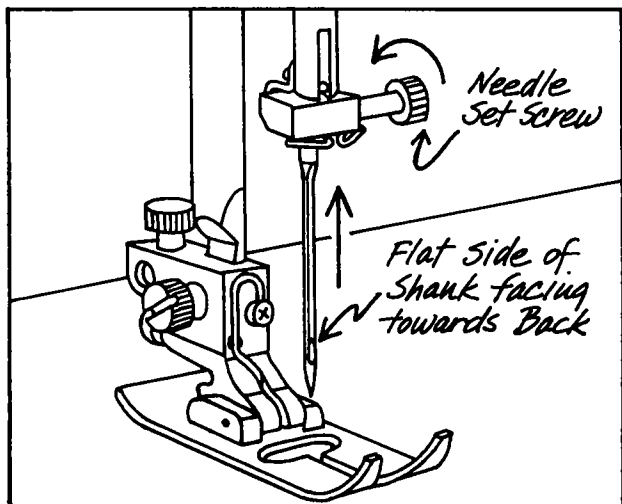
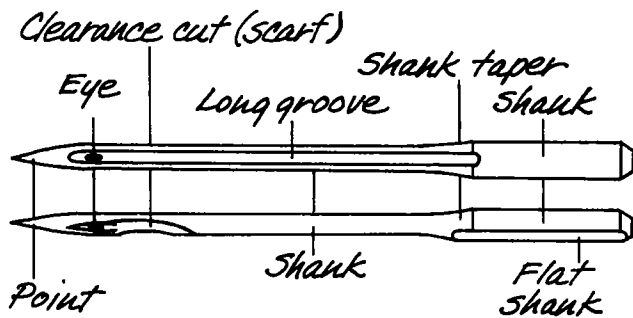
Snags

Puckers

To assure the smooth operation of your sewing machine, always be sure your needle is straight. Place needle on a flat surface to check for straightness.

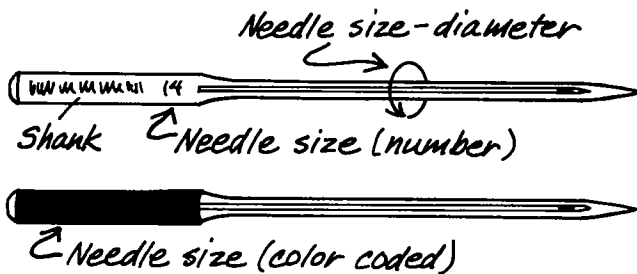


In order to know how to properly insert the needle in the machine, you need to understand the parts of a needle. All sewing machine needles have an eye, shank, long groove, scarf and flat side. The needle is inserted in the machine so you can thread through the long groove side (refer to your instruction booklet).



Sizes of Needles

Needle size refers to the diameter of the needle. The needle size is printed on the shank or some have color coded shanks. Needle size is selected based on the weight and type of fabric. The size of the eye is directly related to the needle size (except for topstitch needle).



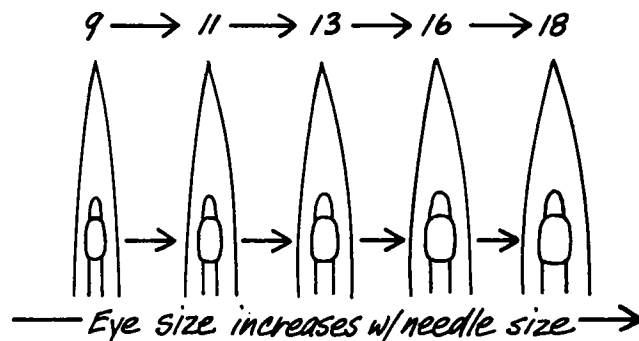
Here is a simple chart showing metric (European size) and non-metric (American equivalent) measurements of needles:

European size/American equivalents

60/8
65/9
70/10
75/11
80/12
90/14
100/16
110/18
120/19

Remember:

- The higher the number, the thicker the needle.
- The eye size of the needle increases as the needle size increases.

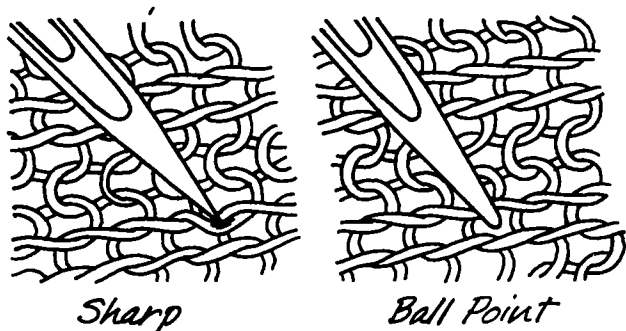


- There is no such thing as a regular needle.
- There are a variety of needle sizes, point styles, and eye sizes.
- Type refers to the shape of the point of the needle.

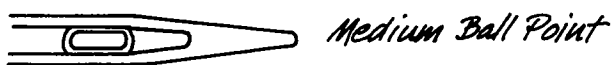
Types of Needles

There are several different types of sewing machine needles. Some are designed for specific fabrics or purposes. In order to eliminate stitching problems, let's learn to select the one most suited for the task.

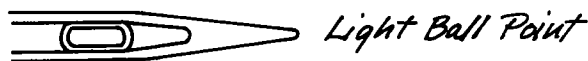
Ball Point — has a rounded point that goes between the fibers to prevent piercing or snagging thread that could cause a run. Ball point needles are used on knit and stretch fabrics. They will make a wavy stitch line on woven fabrics. Size range is 9-16 or 70-90.



Modified Ball Point — has a slightly tapered scarf on the needle to make a larger loop of thread in the hook area. This tapered scarf is to prevent skipped stitches. Can be used on most knits and wovens.



Medium Ball Point



Light Ball Point

Stretch — has a light ball point for use with very stretchy fabrics. Depth of shank is smaller and scarf is deeper.



Stretch Needle

All Purpose or Universal — is used on most types and weights of fabrics. Sizes range from 8-19 or 60-120.



All Purpose / Universal

Wedge — has a knife-like point (three-sided point) that makes a slit. A wedge needle is used only on leather, leather-like materials and vinyls. Size range is 14-18 or 90-100.



Wedge Point

Double-eyed — has two eyes for two threads. This needle is used for topstitching, decorative stitching and basting. When basting, thread top eye only and use zigzag stitch. This makes a long stitch.



Double Eyed

Heavy Duty Point — has a very sharp (denim) point. This needle is used on denim and other tightly woven fabrics.



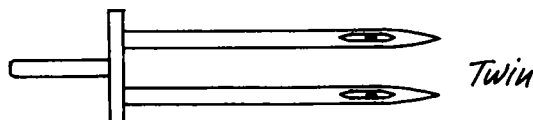
Heavy Duty

Slotted — has a slot on the side of the needle to slip thread into. Slotted needles are designed for those with impaired vision or other handicaps.



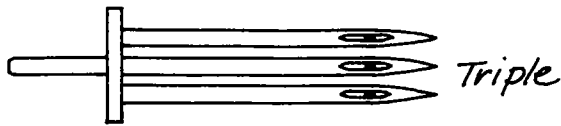
Slotted

Twin — has one body and two (shafts) needles. A twin needle is used for making two rows of straight or decorative stitching.

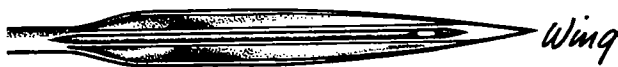


Twin

Triple — has one body and three needles. This needle is used for making three rows of straight stitching.



Wing — has flat extensions on the sides of the shaft which make large holes. This needle is used for decorative stitching and hem-stitching.



Top-Stitching — has a longer eye and deeper groove that makes it easier to thread with two threads or a heavier thread.



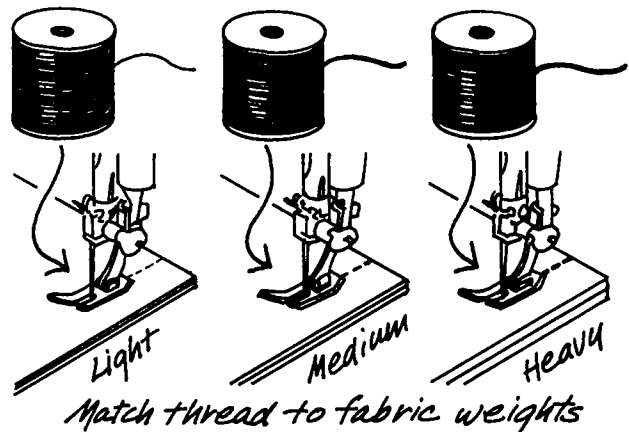
Summary

Many needles have been developed to meet the needs of the home sewer. You will want to become familiar with these needles so that you can select the one that will best meet the needs of each of your sewing projects.

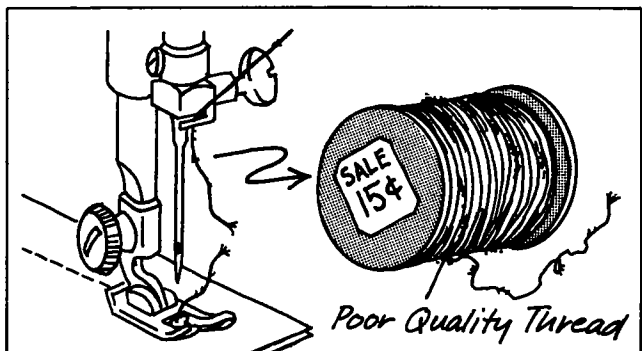
Know Your Thread

The correct thread selection for use on your sewing machine is important. Select a thread that is appropriate for the fiber content of your fabric, the sewing job and the sewing machine needle. Generally speaking:

- use man-made thread with man-made fibers.
- use natural thread with natural fibers.
- use fine thread with lightweight fabrics.
- use heavy thread with heavy-weight fabrics.



All thread is not of the same quality. Poor quality thread may break easily, lint freely, fray or bleed color. Cotton threads on today's market are preshrunk and colorfast, making them highly suitable for sewing. Old cotton thread may need to be placed in the refrigerator to rehumidify to prevent breakage.



Types of Thread

Select the thread that is best suited for your sewing project. Learn the types of thread and their basic purposes.

Mercerized — is 100% cotton with a finish to increase strength, luster and improve colorfastness.

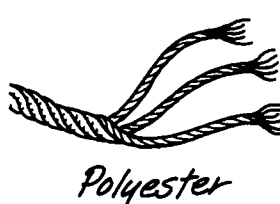
Spun — is 100% cotton that will shed easily.

Staplespun — is short fibers that are spun together.

Tow Spun — is 100% polyester of longer fibers twisted together and then twisted again.

Continuous Filament — is 100% nylon or silk made of long fibers.

Core — is polyester core wrapped with cotton.



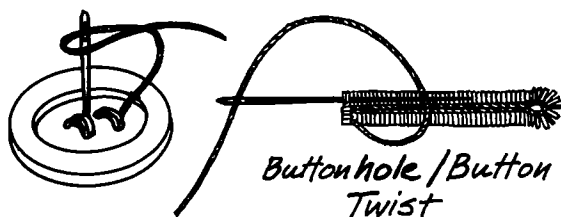
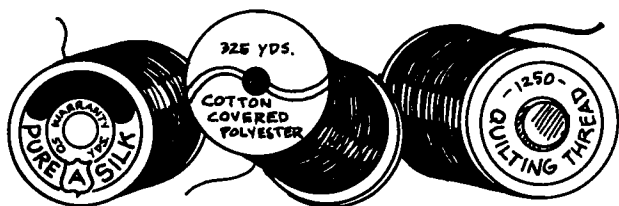
Special Purpose Threads

There are several threads designed for specific uses. Here are some of the more popular ones:

Heavy Duty — is used on fabrics/garments that will need strong seams. Heavy duty thread may be cotton, polyester, or a cotton/polyester.

Buttonhole/Button Twist — is used for hand worked buttonholes, topstitching, sewing on buttons or other fasteners. This thread may be silk or polyester. It is a strong thread.

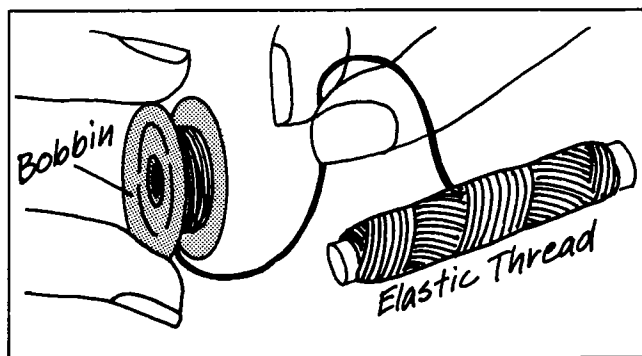
Quilting — is used for hand quilting.



Basting — is used for hand basting. Basting thread is extra-fine cotton. It does not leave press marks. Sometimes basting thread is used on the bobbin for machine embroidery, monogramming and appliquéing.

Extra-fine — is used for lingerie, lightweight and sheer fabrics. This thread may be cotton, polyester or cotton/polyester.

Elastic — is used for shirring. Elastic thread is nylon/cotton-wrapped rubber. It is used only on the bobbin and is hand wound on the bobbin without stretching.



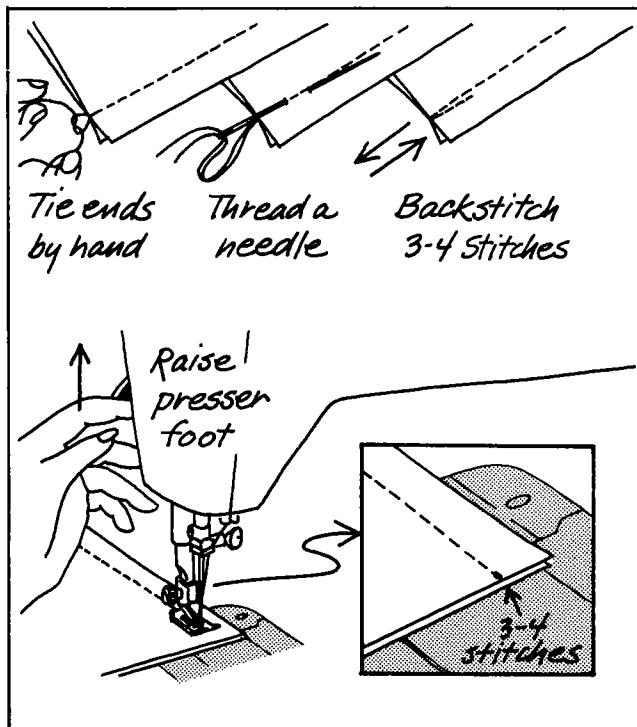
Machine Embroidery — is a fine, smooth thread used when doing machine embroidery. This thread is 100% cotton or 100% rayon. Machine embroidery thread is lightweight and has a luster. It comes in solid or variegated colors.

Metallic — is used for decorative stitching. Some metallic threads may be used on both the top and on the bobbin. It can be flat or core wrapped.

Fastening Ends

There are several ways to fasten thread ends. Which method you select is dependent upon the fabric of your sewing project. A build-up of stitches is not good on lightweight or sheer fabrics. You may:

- tie thread ends by hand.
- thread a needle and pull back into stitching.
- backstitch three to four stitches.
- raise presser foot and take three to four stitches.
- set stitch length at 0 and take three to four stitches.



Some Thread Hints

Select the thread most suited for the fabric and the job. This will prevent puckers, skipped stitches and poor tension.

