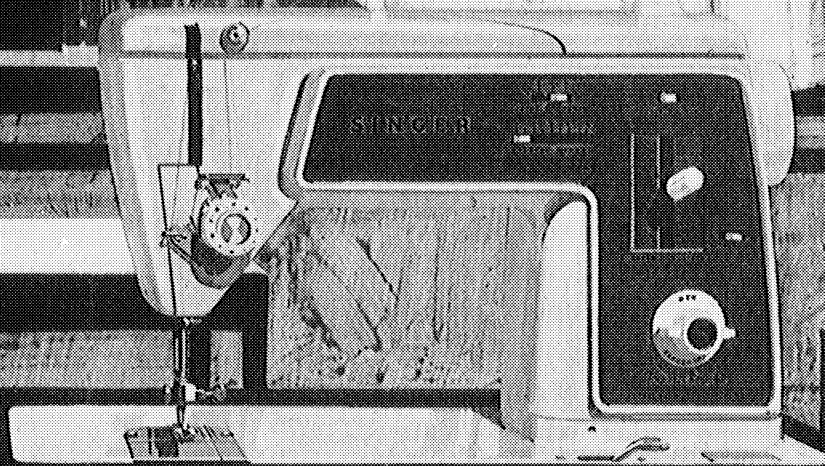


Instructions

Touch & Sew ©

Special Zig-Zag Sewing Machine/Model 648

SINGER



*What's new for tomorrow is at **SINGER** today!**

performance check list

REMEMBER TO

- Turn on power and light switch.
- Place buttonhole controls in OFF position before setting the needle position selector, and stitch width selector for any purpose.
- Set buttonhole lever in OFF position before setting the stitch length selector for any purpose *except* buttonholing.
- Remove all thread from bobbin before rewinding
- Fill empty bobbin
 - ... in center needle position with stitch width selector on 1
 - ... before fitting accessories to machine
 - ... before inserting twin needle
- Close slide plate after winding bobbin
- Make sure the needle is out of the fabric and above the throat plate before adjusting the selectors
- Clear your machine of lint and fluff periodically and apply oil
- Use your instruction book. It was written to explain the most efficient way to operate and use this remarkable new machine

IF THREAD BREAKS

- Is the machine properly threaded?
- Is the thread spool secured by the spool holder?
- Is the spool holder positioned correctly?
- Is a catalog 2020 (15X1) needle securely tightened in the needle clamp?
- Is the needle straight and sharp?
- Is the thread suitable for the size of the needle?
- Is the thread free of slubs and knots?
- Is the thread unwinding freely from the spool?
- Is the needle-thread tension too tight?
- Is the presser foot raised for bobbin winding?
- Is a moderate speed used for bobbin winding?
- Are the bobbin halves evenly and securely screwed together?
- Is the bobbin properly seated and secured by the latch in the bobbin case?
- Is the bobbin-case area free of lint and loose thread ends?
- Are the thread guides and tension discs also lint-free?

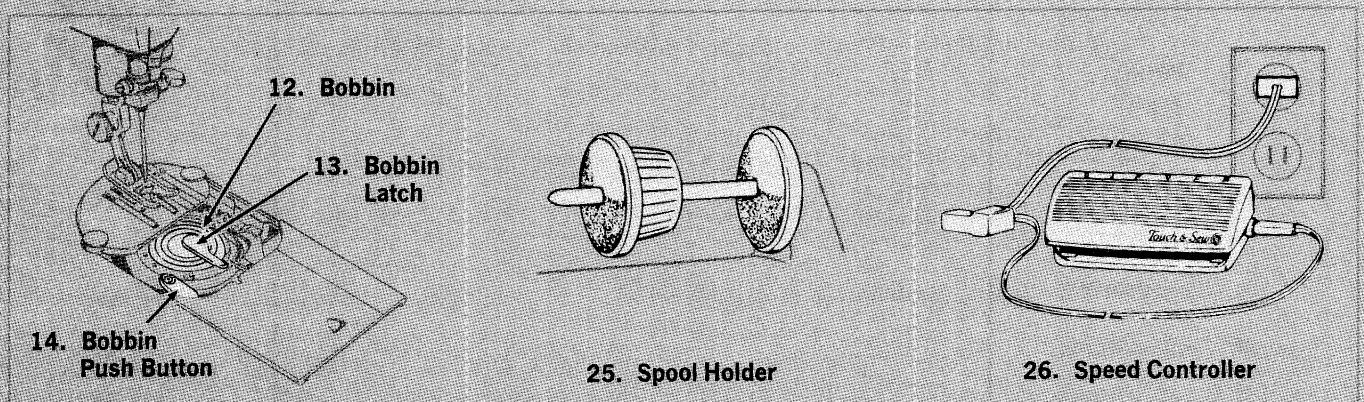
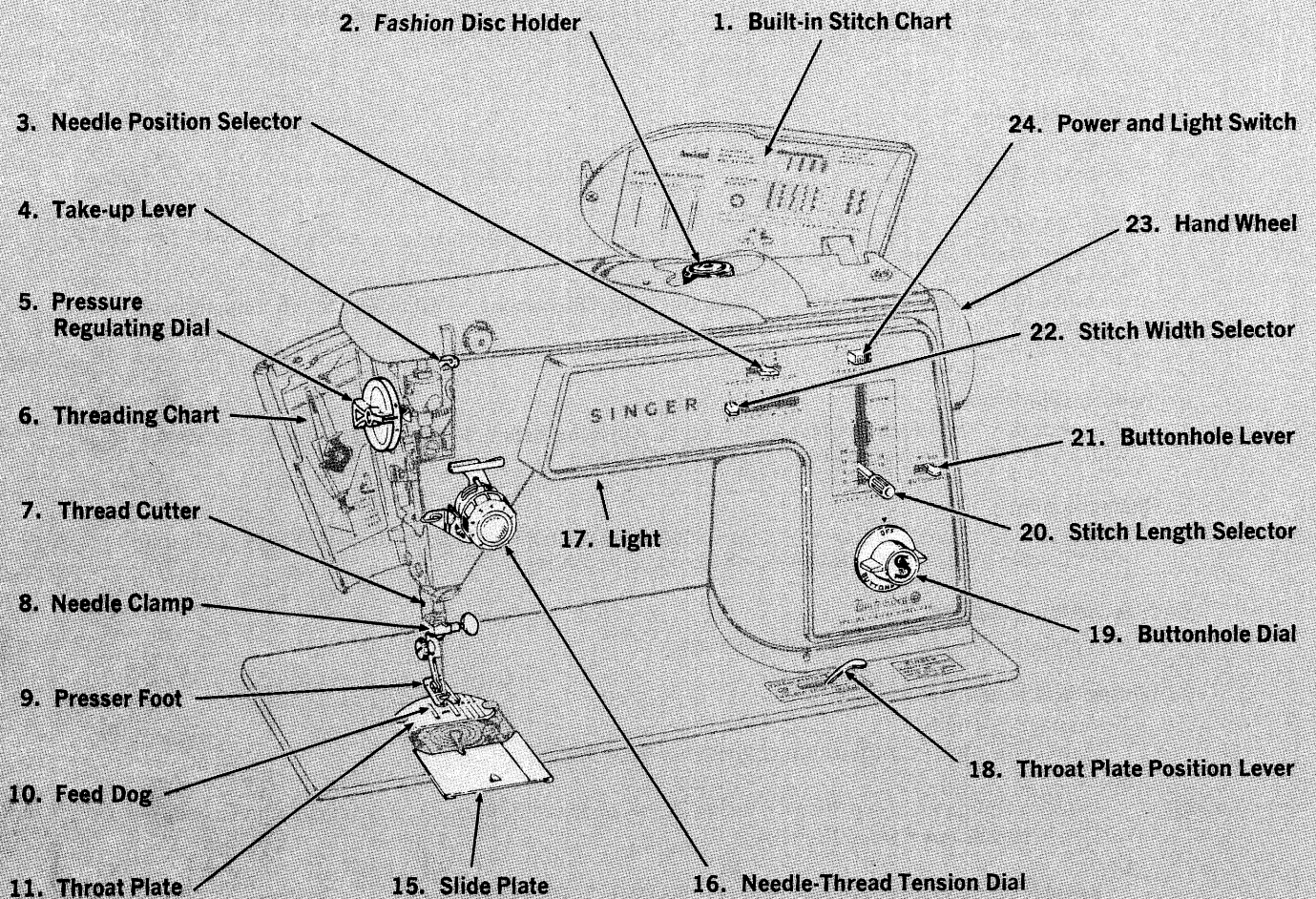
If you have any questions, please write to:

Department of Sewing Education
The Singer Company
321 First Street, Elizabeth, N.J. 07207

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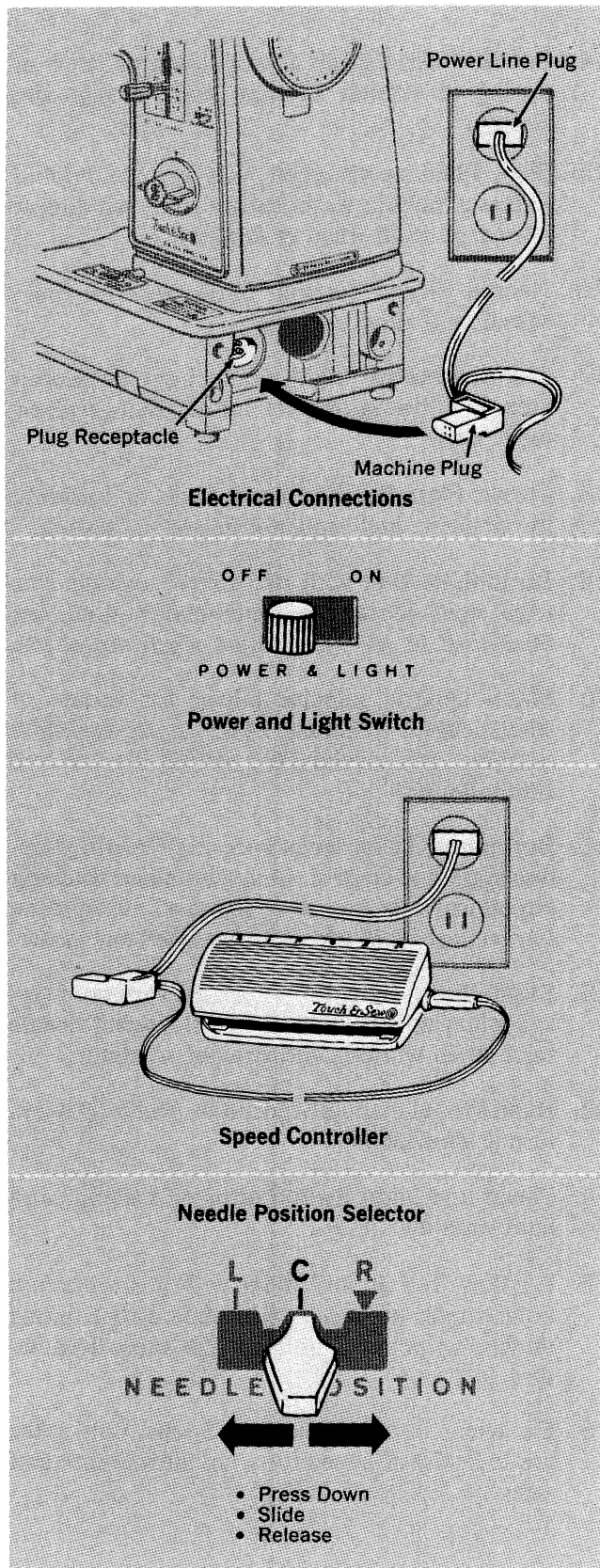
1. GETTING TO KNOW YOUR MACHINE



principal parts—what they are called

1. **Built-in Stitch Chart** is easy to read, allows for quick selection of a variety of stitches. It can be left open while you sew.
2. **Fashion* Disc Holder** holds any one of the 15 pattern discs that come with your machine.
3. **Needle Position Selector** allows for placement of the needle in either left, center, or right stitching position. Has a special (▼) setting for two-step buttonholing.
4. **Take-up Lever** controls needle thread. Self-threading eyelet simplifies and speeds machine threading.
5. **Pressure Regulating Dial** has three settings: an all-purpose sewing setting plus settings for extra-heavy pressure and darning.
6. **Threading Chart** on swing-open face plate is convenient, easy to read. Shows you how to thread machine and insert needle.
7. **Thread Cutter** built into presser bar is designed for safety and convenience.
8. **Needle Clamp** holds single and twin needles. It is designed to make needles self-setting and eliminate the possibility of incorrect insertion.
9. **Presser Foot** holds fabric against feed dog. Snaps off for quick removal. Presser Foot Lifter at back of machine (not shown) allows you to raise and lower presser foot. Extra-high lift position permits easy placement of bulky fabrics.
10. **Feed Dog** moves fabric under presser foot. Smooth surface does not injure fabric, even the most delicate.
11. **Throat Plate** is easily placed in any of three sewing positions: REGULAR, FINE, DARN; and UNLOCK position for easy lift-out removal.
12. **Transparent Bobbin** shows thread supply. Two halves can be unscrewed to remove unwanted thread.
13. **Bobbin Latch** flips up at a touch of your finger.
14. **Bobbin Push Button** allows you to switch from sewing to bobbin winding without removing bobbin.
15. **Slide Plate** opens easily, lets you see bobbin. Releases bobbin push button from winding to sewing position when closed.
16. **Needle-Thread Tension Dial** allows for quick selection of exact settings.
17. **Built-in Sewing Light** pours light on sewing area. Pull-down bracket makes bulb replacement easy.
18. **Throat Plate Position Lever** locks and unlocks throat plate, and regulates height for sewing.
19. **Buttonhole Dial** with two simple settings controls steps in sewing round-end buttonholes. *Dial must be in OFF position when not in use.*
20. **Stitch Length Selector** allows for variety of stitch lengths including FINE for zig-zag satin stitching; has special (►) setting for two-step buttonholing.
21. **Buttonhole Lever** locks into stitch length selection system to control stitch length and stitching direction when you sew two-step buttonholes. *Lever must be in OFF position when not in use.*
22. **Stitch Width Selector** allows for variety of zig-zag stitch widths, as well as positioning needle for bobbin winding and straight stitching.
23. **Hand Wheel** manually positions needle. Always turn it *toward you*.
24. **Power and Light Switch** turns on machine and light simultaneously.
25. **Friction-Free Spool Holder** with horizontal pin holds spools of various sizes; holders let thread unwind without tug or drag. The spool does *not* turn.
26. **Electrical Connections and Speed Controller** are specially designed for your convenience and safety.

principal parts—how they are used



1. CONNECTING MACHINE

Before plugging in your machine, be sure that the voltage and number of cycles stamped on the plug receptacle at the right-end of the machine are within the range marked on the electric meter installed by your power company.

Push the machine plug into the receptacle. Then connect the power line plug to your electrical outlet.

2. TURNING MACHINE AND LIGHT ON OR OFF

Both machine and sewing light are turned ON or OFF simultaneously by means of the power & light switch.

3. RUNNING MACHINE; CONTROLLING SPEED

To run the machine and control speed, press the speed controller (or knee lever). The harder you press, the faster the machine will sew.

This unique electrical system offers several advantages: you see at a glance when the machine is ON or OFF by means of the light; you can turn off the power with the convenient switch instead of having to unplug the machine; and since the power and light switch must be moved to the ON position before the machine will start, there is less chance of accidentally starting the machine by pressing on the controller.

4. SETTING NEEDLE POSITION

The needle position selector places the needle in left (L), center (C), or right (R) stitching position. You will need to set it before you start the machine for any purpose.

Before moving the selector, make sure buttonhole controls are in OFF position, then turn hand wheel toward you until needle is above throat plate. Press selector lever down, slide lever to desired position, then release.

Bobbin Winding and Straight Stitching: Always set selector at C.

Zig-Zag Stitching: You will use C position most often; L and R settings are for special stitch placement. For example: An L setting is required for button sewing and twin-needle work. An L or R setting is used to place narrow zig-zag stitching to the left or right of center in decorative work.

Two-Step Buttonholing: Set selector under (▼).

5. SETTING STITCH WIDTH

The stitch width selector does two jobs: it sets the machine for bobbin winding and straight stitching, and it controls stitch width in zig-zag stitching and two-step buttonholing.

Make sure buttonhole controls are in OFF position before moving selector.

To set stitch width, press down on the selector lever, slide to desired position, and release.

Bobbin Winding and Straight Stitching: Set selector at straight stitch position 1.

Zig-Zag Stitching: First be sure you have a disc on the *Fashion Disc* holder. Then set selector at any position between 2 (narrow) and 5 (wide). You will find special settings on the stitch chart.

Two-Step Buttonholing: First be sure you have the plain zig-zag *Fashion Disc 0* on the disc holder. Then set selector under (▼) symbol.

6. SETTING STITCH LENGTH

The stitch length selector also does two jobs, which are common to both straight and zig-zag stitching: it controls the length of stitches and the direction of stitching (either forward or reverse).

The *numbers* on either side of the lever represent the number of stitches per inch: *the higher the number, the shorter the stitch*. Generally, shorter stitches are best for lightweight fabric; longer ones for heavy fabric. The **FINE** area, which represents over 20 stitches per inch, is used for zig-zag satin stitching. For detailed instructions on adjusting for satin stitching, see page 30. The (►) symbol indicates a special setting for sewing round-end buttonholes.

Setting Selector

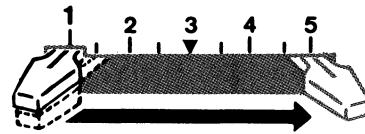
Make sure buttonhole lever is in OFF position before setting stitch length selector for any purpose except two-step buttonholing.

- Loosen thumb nut by turning to left.
- Position lever for desired stitch length.
- Tighten thumb nut by turning to right.

For reverse stitching, simply raise lever as far as it will go. Do not loosen the thumb nut to reverse unless you are using the 6 setting, in bottom position.

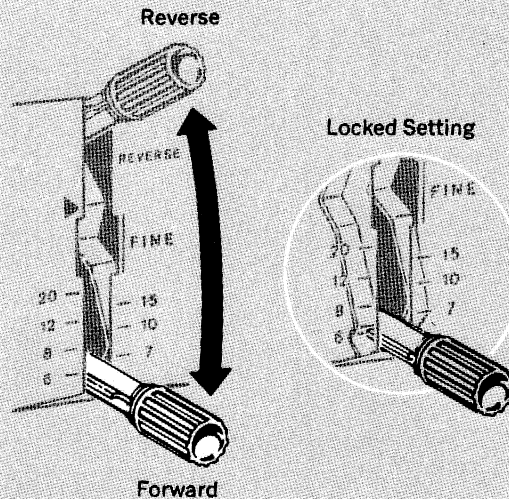
For two-step buttonholing, first move buttonhole lever to proper setting as instructed on page 50 and then set stitch length selector at (►). *Always remember that the buttonhole lever must be set before you adjust the stitch length selector.*

Stitch Width Selector

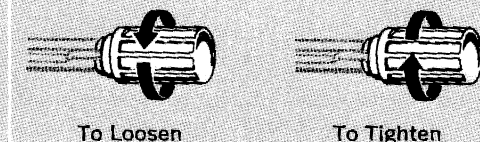


- Press Down
- Slide
- Release

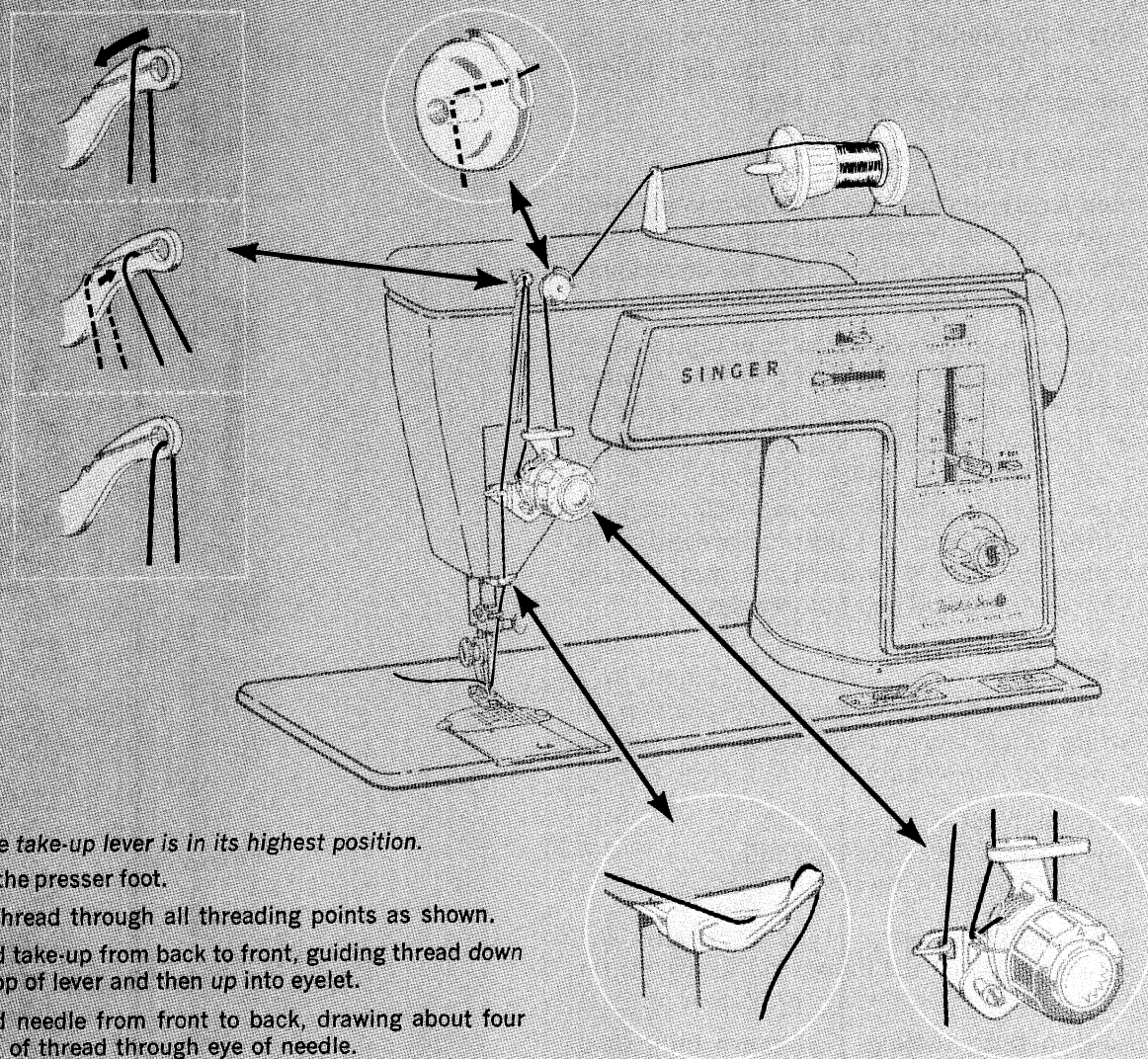
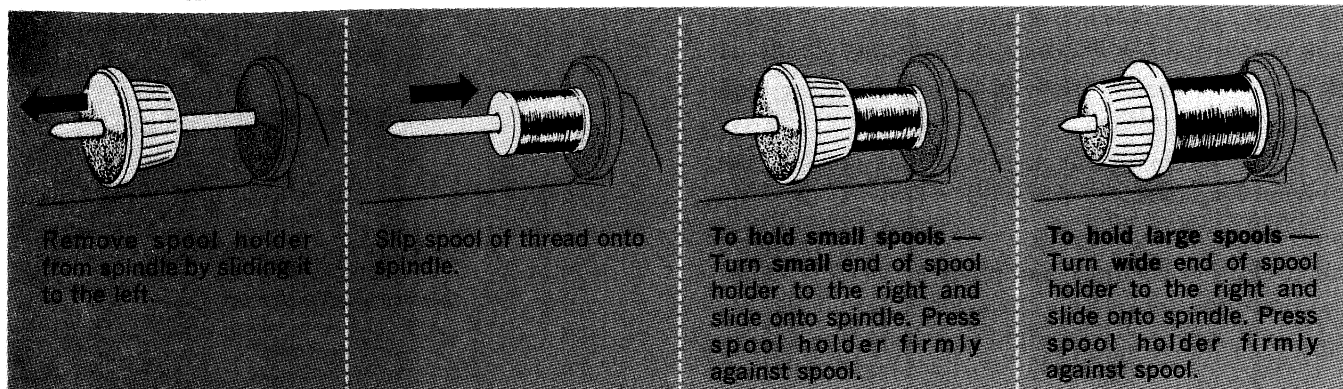
Stitch Length Selector



Thumb Nut



7. THREADING THE NEEDLE



8. WINDING THE BOBBIN

The push-button bobbin will make your sewing go faster than ever before — whether you are using a lot of one kind of thread or small quantities of different threads, as you are likely to do when mending or darning.

You will find a bobbin already in place in your machine, located under the slide plate. (To open slide plate, simply slide it gently toward you.) Notice the white rings on the bobbin. Each ring represents an approximate yardage of No. 50 mercerized cotton thread. The third, or outer ring, marks the full limit of the bobbin and you should *never wind beyond that ring*. If you are using fine thread, yardage on the bobbin will be greater. If you use thread heavier than No. 50, the yardage will, of course, be less.

The bobbin is ready for winding as you find it in the machine. If the bobbin runs out of thread while you are sewing, you can rewind it without removing it from the machine.

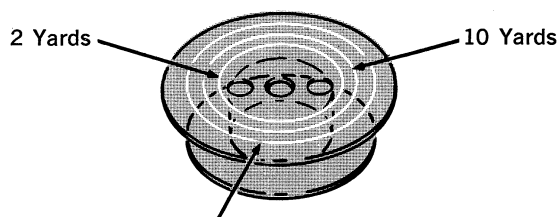
Preparation Steps

Make sure buttonhole controls are in OFF position.

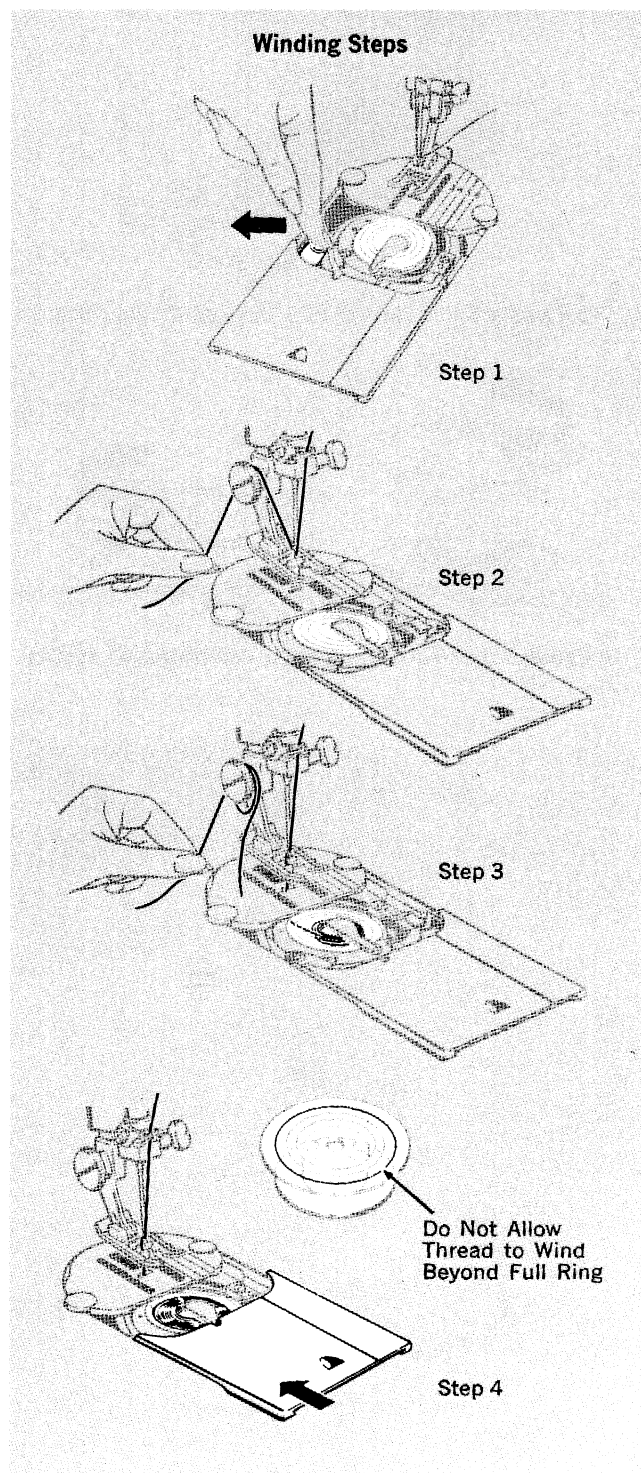
1. Use general purpose, special purpose, or straight stitch foot. The general purpose foot is in place when the machine is delivered to you.
2. Raise presser foot to release tension on thread, and make sure the needle is in its highest position.
3. Open slide plate and make sure bobbin is empty. For removal of bobbin and thread, see next page.
4. Set needle position selector at **C** and stitch width selector at **1**.

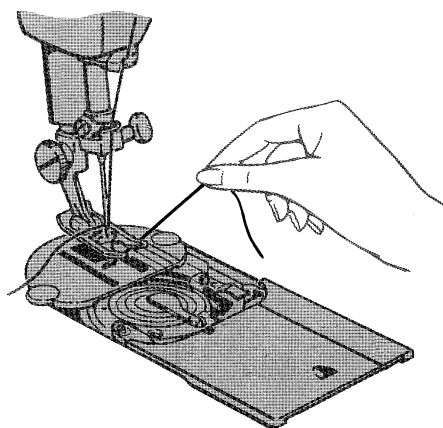
Winding Steps

1. Press bobbin push button to the left.
2. Wrap thread around presser foot screw, and hold end of thread firmly.
3. Start the machine.
 - Run the machine at a moderate speed.
 - Pull thread end away after a few coils have been wound.
 - Keep your eye on the bobbin and fill with desired quantity of thread. *Do not allow thread to wind beyond FULL ring.*
4. Close slide plate to release push button. (For instructions on starting to sew with a newly wound bobbin, see page 22.)

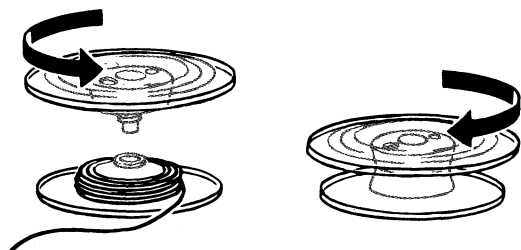


Full Bobbin (approximately 20 yards)





To Remove Short Thread, Pull Through Throat Plate



To Remove Long Thread, Unscrew Two Halves of Bobbin

Removing Thread

Thread can be removed from the bobbin in either of two ways. If there is not much thread left on the bobbin, simply pull the thread end through the throat plate.

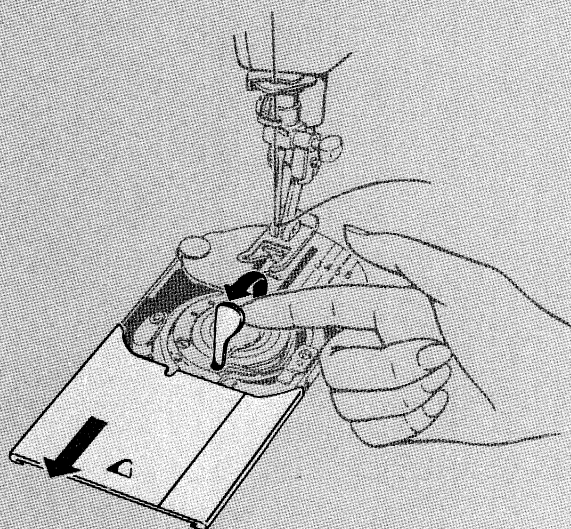
If there is a lot of thread left, remove the bobbin (as described below), unscrew the two halves, and remove all the thread at once.

Removing Bobbin

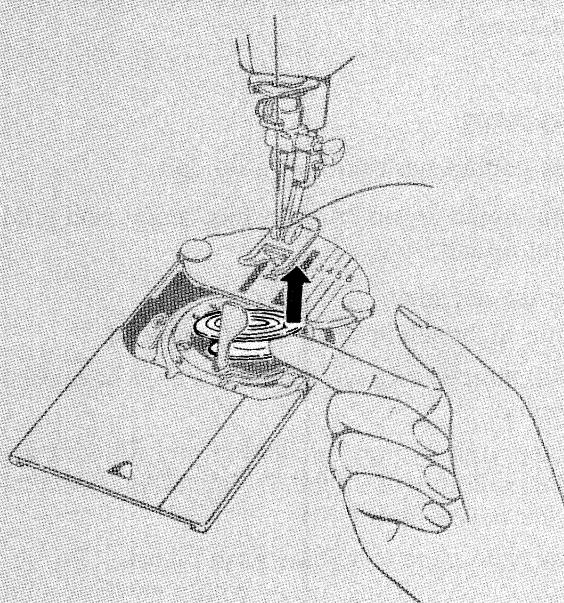
Make sure needle is in its highest position.

1. Open slide plate; leave bobbin push button in sewing position.
2. Raise bobbin latch by inserting fingernail under end of latch at center of bobbin.
3. Insert fingernail under rim of bobbin immediately to right of latch and remove bobbin.

Removing Bobbin



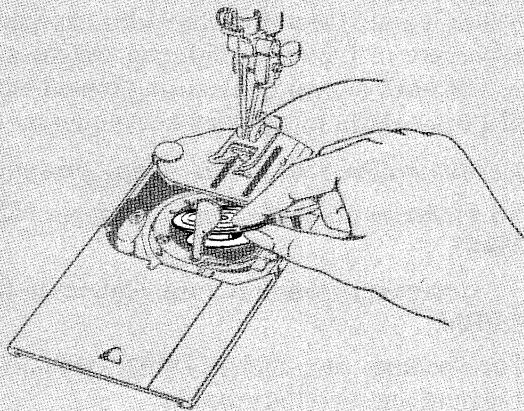
Open Slide Plate and Raise Latch



Lift Out Bobbin

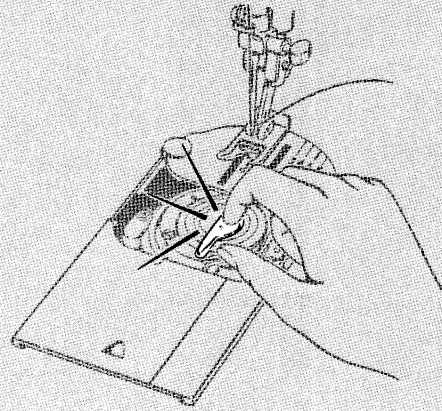
Replacing an Empty Bobbin

1. Tighten bobbin halves securely.
2. With latch raised, slip bobbin (wide side up) into bobbin case.



Slip Bobbin into Case

3. Snap latch down to secure bobbin.
4. Leave the slide plate open until you have finished winding.

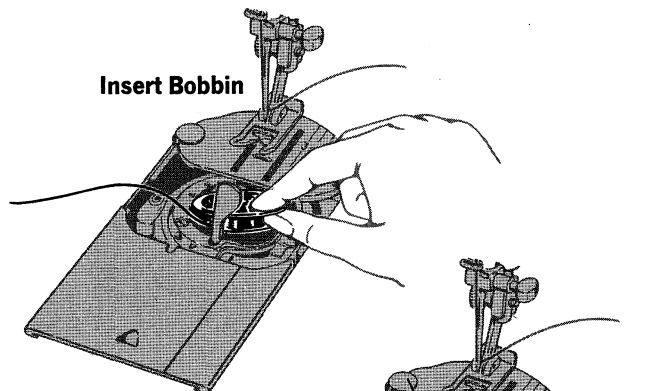


Snap Latch Down

Inserting a Previously Wound Bobbin

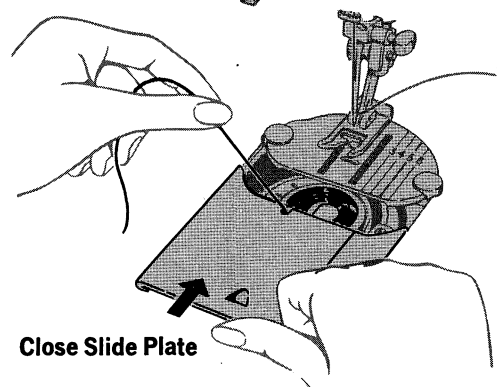
Make sure needle is in its highest position.

1. Open slide plate; leave bobbin push button in sewing position.
2. Draw three or four inches of thread from bobbin and place bobbin in case with thread leading off to left side of latch.
3. Snap latch down to secure bobbin.
4. Close slide plate, allowing the thread to enter the notch in the slide plate. (For instructions on starting to sew with a previously wound bobbin, see page 22.)

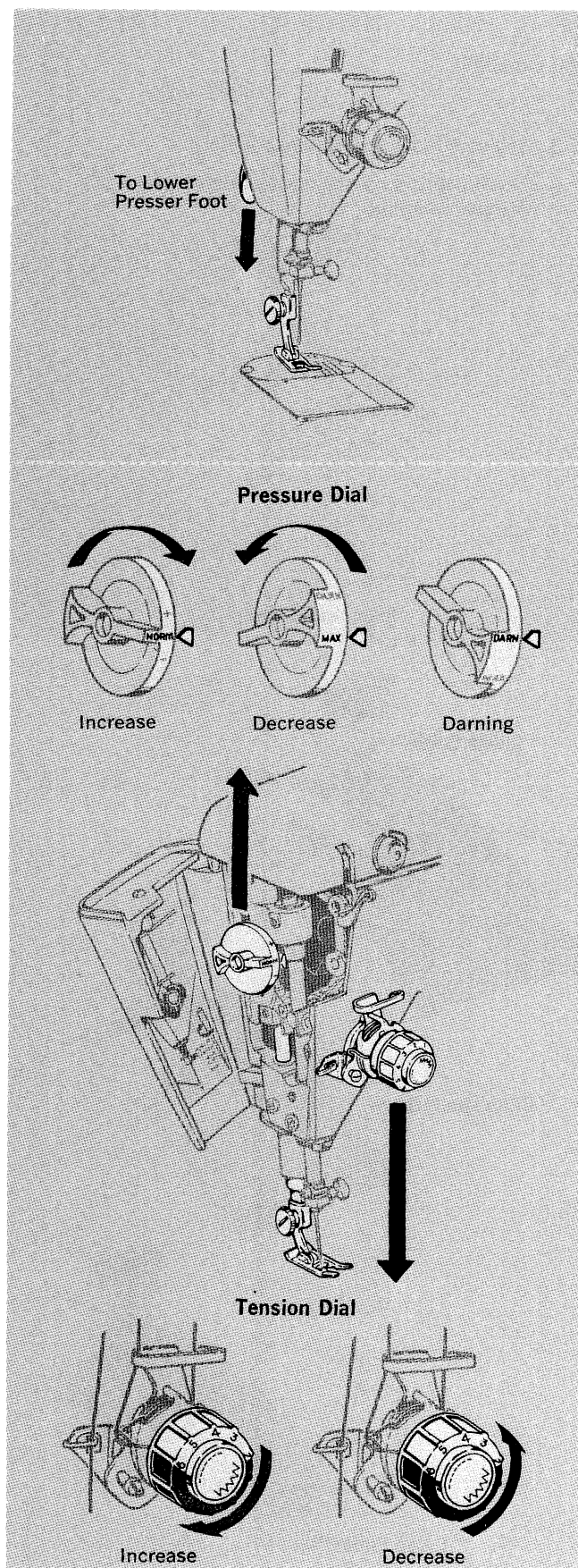


Insert Bobbin

Snap Latch Down



Close Slide Plate



9. REGULATING PRESSURE

The pressure dial regulates the pressure that the presser foot exerts on the fabric. Correct pressure is important because it means fabric feeds smoothly and evenly. The **NORM** (normal) setting is an all-purpose setting, which you will use for most of your sewing. The firm, gentle pressure it provides lets you sew a wide variety of fabrics of different weight and texture. The **MAX** (maximum) setting is used when you need extra control to sew very heavy fabric.

Lower the presser foot before setting pressure

- To increase pressure, turn dial from **NORM** to **MAX**.
- To decrease pressure, turn dial from **MAX** to **NORM**.
- For darning, turn dial to **DARN**, which releases pressure and permits darning.

10. REGULATING NEEDLE-THREAD TENSION

The needle-thread tension dial regulates the degree of tension on your needle thread and lets you select just the right setting for your stitch, thread, and fabric. The $\wedge\wedge\wedge\wedge$ and ----- symbols indicate approximate zig-zag and straight stitch tension ranges. The numbers eliminate guesswork in duplicating exact settings.

Correct tension is important because too much or too little will weaken your seams or mar the appearance of decorative work. To determine correct tension setting, make a test on a sample of your fabric. If the fabric puckers, decrease tension. If the stitches look loose, increase tension. (For detailed instructions on adjusting zig-zag stitch tension, see page 29.)

- To increase tension, turn to higher number.
- To decrease tension, turn to lower number.

NOTE: This dial governs needle-thread tension only. Bobbin-thread tension has been correctly set at the factory, and you do not need to adjust it.

11. SETTING BUTTONHOLE CONTROLS

The buttonhole lever and the buttonhole dial are used to engage the built-in buttonholing mechanism of the machine.

The Buttonhole Lever

The buttonhole lever locks into the stitch length selection system to control stitch length and stitching direction.

- **To set**, press down and slide lever to (▼) symbol.
- **To disengage**, press down and slide lever to **OFF** position.

The lever should always be in OFF position when not in use.

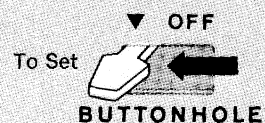
The Buttonhole Dial

The buttonhole dial lets you control the two-step sequence for making the buttonhole.

- **To set**, rotate dial to the right until setting **1** or setting **2** is under the (▼) symbol and is fully engaged. To ensure engagement, turn dial until mechanism clicks.

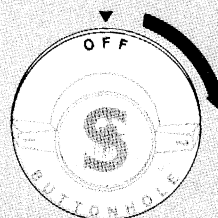
The dial will rotate by itself to the **OFF** position as step **2** of stitching is completed.

The dial should always be in OFF position when not in use.

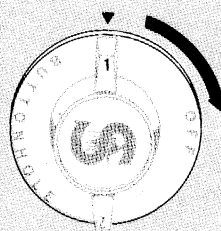


- Press Down
- Slide
- Release

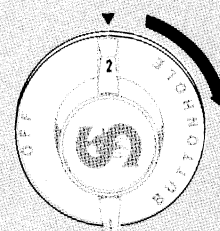
Buttonhole Lever



- Rotate Clockwise
- Set Numbers Under ▼



Setting 1



Setting 2

Buttonhole Dial

12. POSITIONING THROAT PLATE

The throat plate can be placed in any one of its four positions — REGULAR, FINE, DARN, UNLOCK — by gently moving the throat plate position lever into place above the appropriate designation. When each position is reached, you will feel a slight resistance to the movement of the lever.

Throat plate in **REGULAR** position for sewing on most fabrics and for all chainstitching, no matter what kind of fabric is used.

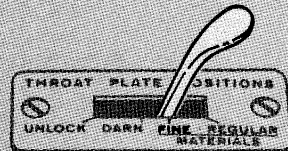
Throat plate in **FINE** position for sewing (other than chainstitching) on delicate or lightweight fabrics such as silk, batiste, crepe, or organdy; and on fabrics that may mark easily.

Throat plate in **DARN** position for free-motion darning and embroidery and for button sewing.

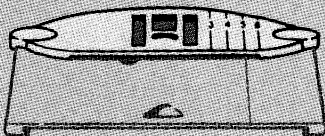
Throat plate in **UNLOCK** position for removal and replacement. (See page 17 for instructions on changing the throat plate.)



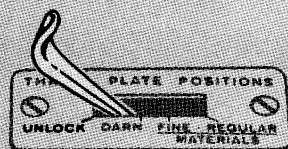
Throat Plate Locked in **REGULAR** Position



Throat Plate in **FINE** Position



Throat Plate in **DARN** Position



Throat Plate in **UNLOCK** Position

accessories

The accessories that come with your *Touch & Sew* sewing machine are designed to help you do many kinds of sewing easily and perfectly. And, they can be attached and removed with no trouble at all.

To increase the versatility of your sewing machine still further, a number of additional accessories, such as the ruffler and the *Professional** buttonholer, are available for purchase at your local SINGER CENTER. (Some of these accessories are described on pages 70 to 72 of this instruction book.)

The following accessories come with your machine. Those that are already in place on your machine are so noted.

1. BOBBINS

- One transparent drop-in bobbin in your machine.
- Three extra transparent drop-in bobbins.

2. NEEDLES

- One needle, Catalog 2020 (15x1) Size 14, in place in your machine.
- Six needles:
 - Three Catalog 2020 (15x1) Size 14
 - Three Catalog 2020 (15x1) Size 16
- One twin needle:
 - Catalog 2028, Size 14

Changing the Needle

The needle clamp has been designed so that the needle can only be inserted one way — the correct way, with the flat side of the shank to the back.

Make sure needle bar is in its highest position.

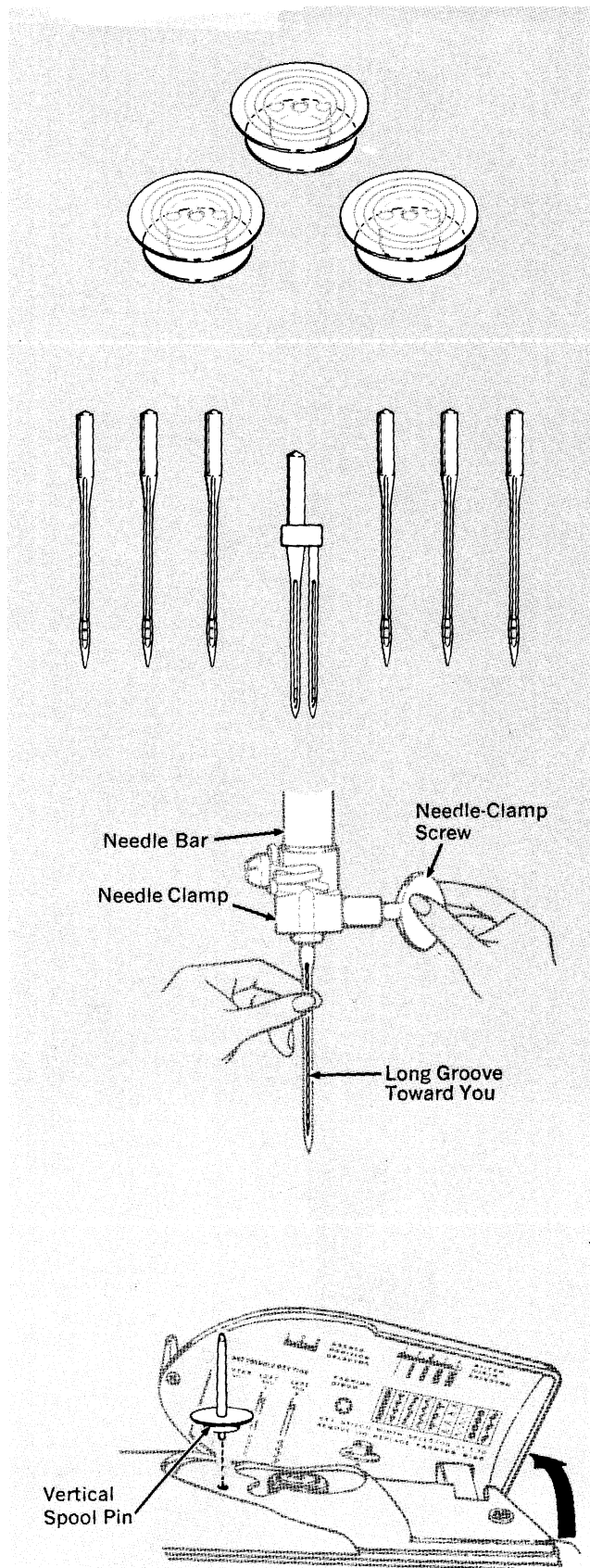
1. Loosen needle-clamp screw and remove needle.
2. Insert new needle in clamp, with the flat side of the needle to the back and the *long groove toward you*; push it up as far as it will go.
3. Tighten needle-clamp screw.

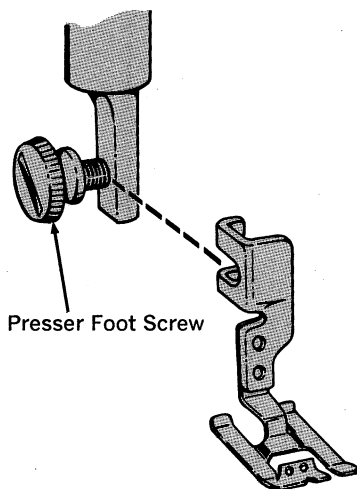
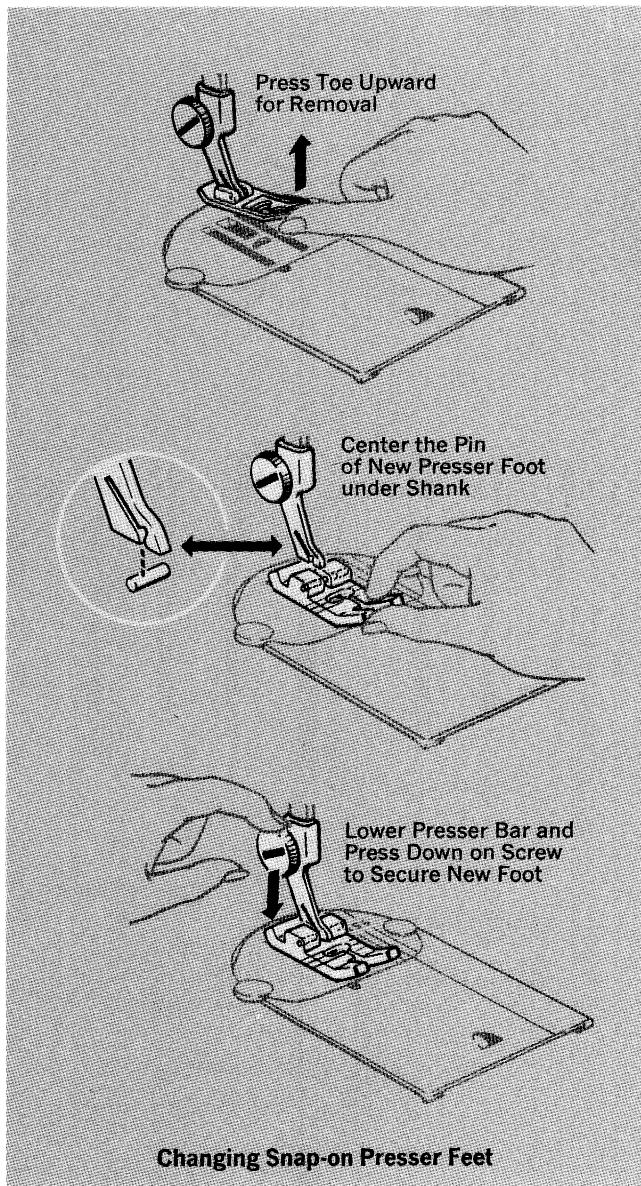
**This machine uses needles
Catalog 2020 (15X1)
Sizes 9, 11, 14, 16 and 18.**

3. VERTICAL SPOOL PIN

- One vertical spool pin.

The vertical spool pin is used for twin-needle stitching (see page 31 for detailed instructions).





4. PRESSER FEET

- The general purpose foot on your machine.
- Five additional presser feet:

Straight stitch foot	Buttonhole foot
Special purpose foot	Button foot
Zipper foot	

Changing Snap-on Presser Feet

- General purpose foot
- Straight stitch foot
- Buttonhole foot

These presser feet quickly and easily snap off and snap on a common shank.

1. Raise presser foot and make sure the needle is in its highest position.
2. Press toe of presser foot upward (as far as it will go) and then snap down to remove.
3. Center the new presser foot under the shank.
4. Lower the presser bar so that the shank opening fits over the presser foot pin.
5. Press down on the presser foot screw until the foot snaps into place.

The snap-on presser foot shank is changed in the same way as one-piece presser feet.

Changing One-Piece Presser Feet

- Special purpose foot
 - Zipper foot
 - Button foot
1. Raise presser foot and make sure the needle is in its highest position.
 2. Loosen presser foot screw. (You do *not* need to remove the screw.)
 3. Remove presser foot
 4. Hook new presser foot around presser bar.
 5. Tighten presser foot screw.

Three Most Used Presser Feet

The three presser feet illustrated on this page will be used most often. The others are for special sewing needs and are described on the next page.

General purpose foot

Use the general purpose foot with the general purpose throat plate for all utility sewing. These general purpose fittings *must* be used together when alternating between straight and zig-zag stitching. (For discussion of throat plates, see page 17.)

Straight stitch foot

Use the straight stitch foot with the straight stitch throat plate, and selectors set for straight stitching, when your fabric or sewing procedure requires close control. This narrow, hinged foot rides over pins and allows you to control the fabric easily when stitching in a curve or close to the fabric edge. The narrow slot prevents fabric from rising with the needle. Use these fittings for:

- Precision stitching of curved and scalloped edges, top stitching, edge stitching, etc.
- Stitching on delicate or spongy fabrics, synthetics, and knits.

Special purpose foot

Use the special purpose foot with the general purpose throat plate for zig-zag satin stitching. This light, flexible foot has a raised center section, which allows closely spaced zig-zag stitches to feed evenly. The small holes in the front hold a filler cord when that is desired. Use these fittings for:

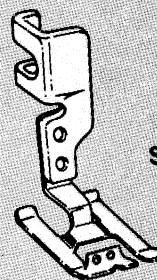
- Ornamental stitching
- Bar-tack buttonholes
- Applique



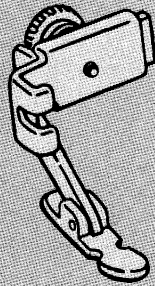
General Purpose Foot



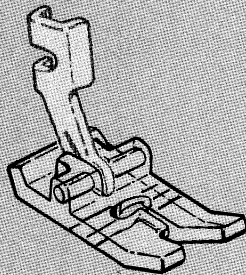
Straight Stitch Foot



Special Purpose Foot



Zipper Foot



Buttonhole Foot



Button Foot

Presser Feet for Special Sewing Needs

You will use the zipper, buttonhole, and button feet for special needs, as described below.

Zipper foot

The zipper foot makes it easy to place stitching close to a raised edge. Thus it is useful for corded seams (page 42) as well as zipper insertion (page 56). It can be adjusted to either the right or the left side of the needle. The foot's hinge allows it to ride over pins, heavy layers of fabric, or seams.

Buttonhole foot

This snap-on transparent presser foot is used to make two-step round-end buttonholes in fabrics of light to medium-heavy weights. The channels on the underside allow closely spaced zig-zag stitches to feed freely and permit buttonholes to be double stitched when extra strength is needed. Horizontal guidelines around the needle hole simplify buttonhole placement and make it easy to gauge buttonhole length. For instructions, see page 50.

Button foot

This short, open foot holds any two-hole or four-hole button securely for stitching. The groove in the foot can be used to hold a needle, over which a thread shank can be formed. For instructions, see page 54.

5. THROAT PLATES

- The general purpose throat plate in place on machine. (For use with general purpose and special purpose feet.)

Two additional throat plates:

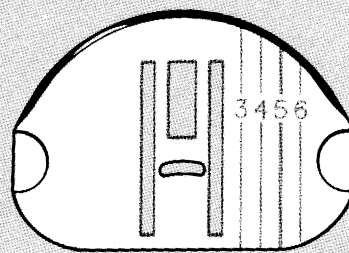
- Straight stitch throat plate. (For use with straight stitch foot.)
- Chainstitch throat plate. (This throat plate is one of three chainstitch fittings that must be used together and is discussed under the heading "Chainstitch Fittings" on page 19.)

Interchanging Straight Stitch and General Purpose Throat Plates

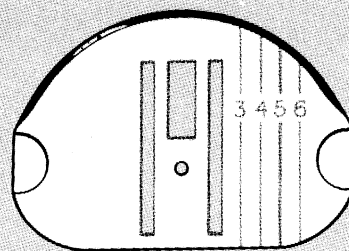
(For instructions on attaching and removing chainstitch throat plate, see "Chainstitching" beginning on page 34.)

NOTE: If bobbin contains thread, remove bobbin to prevent thread from being caught when throat plate is replaced.

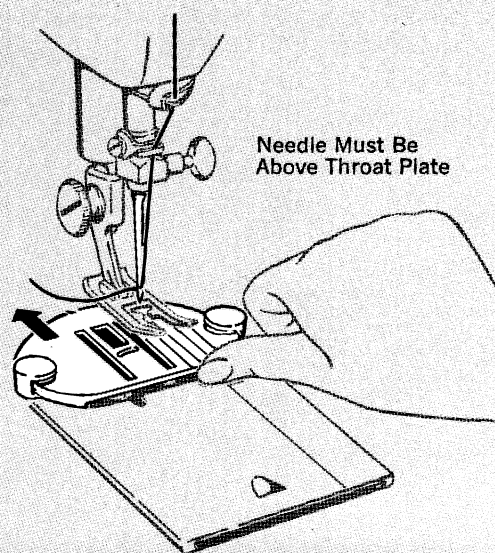
1. Raise presser foot and make sure needle is at its highest point. (You do *not* need to remove the presser foot.)
2. Move throat plate lever to **UNLOCK** position.
3. Remove throat plate by sliding it out.
4. Insert new throat plate by sliding it into place between the slots in the pins.
5. Move throat plate lever toward right to lock throat plate in place.



General Purpose Throat Plate

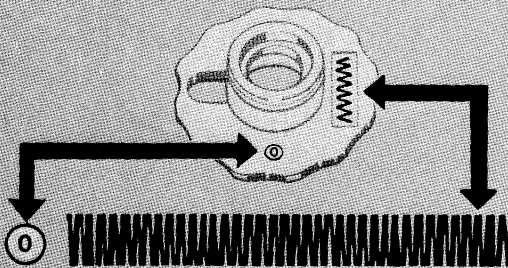


Straight Stitch Throat Plate

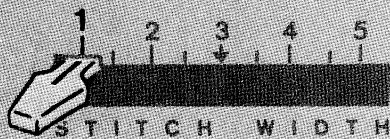


Removing Throat Plate

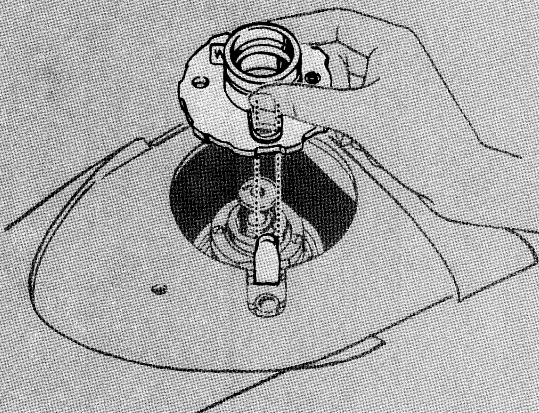
Plain Zig-Zag Fashion Disc



Each Fashion Disc is numbered and its design is reproduced on its surface for quick recognition.



Do not move selector unless disc is on holder.



Changing Fashion Discs

6. FASHION DISCS

- One removable *Fashion Disc* in place on holder in your machine (plain zig-zag pattern).
- Fourteen additional removable *Fashion Discs*.

The fifteen removable *Fashion Discs* that come with your machine give you a wide choice of practical and decorative stitch patterns. Each disc is numbered and its design is reproduced on its surface for quick recognition. Illustrations of all of the fifteen patterns are shown on page 27.

Fashion Disc 0 (plain zig-zag pattern) is in place on the disc holder. It is used in many dressmaking steps and in making bar-tack and round-end buttonholes. Keep it on the holder unless you are using one of the other discs. Then you will always be ready to alternate between straight stitching and plain zig-zag stitching.

Changing Fashion Discs

Make sure the needle is in its highest position.

1. Position stitch width selector at **1**.
2. Raise stitch chart.
3. Remove disc by pulling upward; place another disc on holder and press downward until it snaps into place.
4. Position stitch width selector at desired setting. (For illustrations of various widths, see page 28.)

Always keep a Fashion Disc on the holder even when you are straight stitching.

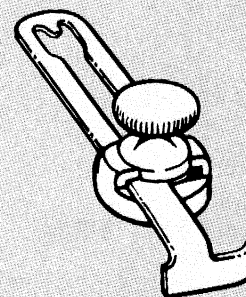
7. SEAM AND BLINDSTITCH HEM GUIDE

- One guide

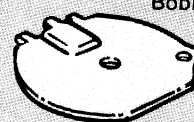
The seam and hem guide will help you to stitch seams and blindstitch hems of perfectly uniform width. It is especially useful for curved seams or top stitching, when absolute accuracy is required. Also, because it allows you to guide stitches at any distance between $\frac{1}{8}$ inch and $1\frac{1}{4}$ inches from fabric edge, it is useful for very narrow or unusually wide seams. (For uses of the guide, see pages 23 and 25.)

Attaching the Guide

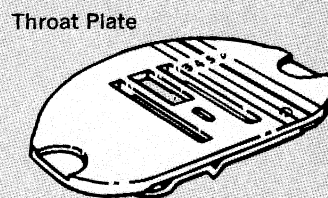
Place screw in hole to the right of the slide plate; line up straight edge of guide with the throat plate guide line for desired seam width; and tighten screw.



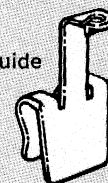
Seam and Blindstitch Hem Guide



Bobbin Case Cover



Throat Plate



Thread Guide

Chainstitch Fittings

8. CHAINSTITCH FITTINGS

One set of three fittings:

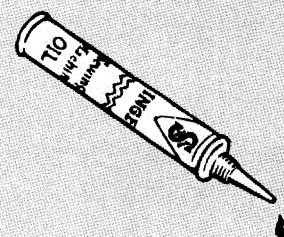
- Bobbin case cover
- Throat plate
- Thread guide

Chainstitching has many decorative as well as practical uses. For detailed instructions, see section called "Chainstitching" beginning on page 34.

9. TUBE OF OIL

- One tube SINGER* sewing machine oil

Your sewing machine is a fine yet sturdy precision instrument, and it will serve you perfectly for many years if you take a few simple steps to keep it in good working condition. Instructions on at-home care of your sewing machine begin on page 63.



2. STRAIGHT STITCHING

preparation

SELECTING NEEDLE AND THREAD

The needle and thread you choose will depend upon the fabric to be stitched. The needle should be fine enough to prevent the fabric from being marred with large punctures, yet heavy enough to pierce the fabric without being bent or deflected.

Remember, too, that the eye of the needle must be

large enough for the thread to pass through it freely: too fine a needle will cause the thread to fray.

The table below is a practical guide to needle and thread selection. Refer to it before starting a sewing project. *Be sure to use the same size and type of thread in both needle and bobbin.*

FABRIC, THREAD, NEEDLE, AND STITCH LENGTH TABLE†

FABRIC	THREAD SIZES	NEEDLE SIZES	STITCH LENGTH SETTING
DELICATE —tulle, chiffon, fine lace, silk, organdy	Fine mercerized cotton Fine synthetic thread	9††	15 to 20
LIGHTWEIGHT —batiste, organdy, jersey, voile, taffeta, silk, crepe, chiffon velvet, plastic film	50 mercerized cotton "A" silk Synthetic thread	11	12 to 15 (8 to 10 for plastic)
MEDIUM WEIGHT —gingham, percale, pique, linen, chintz, faille, satin, fine corduroy, velvet, suitings, stretch fabric, knits	50 mercerized cotton 60 cotton "A" silk Synthetic thread	14	12 to 15
MEDIUM HEAVY —gabardine, tweed, sailcloth, denim, coatings, drapery fabrics	Heavy-duty mercerized cotton 40 to 60 cotton Synthetic thread	16	10 to 12
HEAVY —overcoatings, dungaree, upholstery fabrics, canvas	Heavy-duty mercerized cotton 24 to 40 cotton	18	6 to 10
ALL WEIGHTS —decorative top stitching	"D" silk††† (Buttonhole twist)	18	6 to 12

MACHINE SETTINGS AND ACCESSORIES

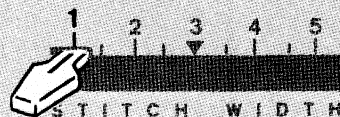
Before making any setting adjustments, make sure buttonhole controls are in OFF position and needle is out of fabric.

Your choice of accessories will depend on the fabric and stitching requirements.

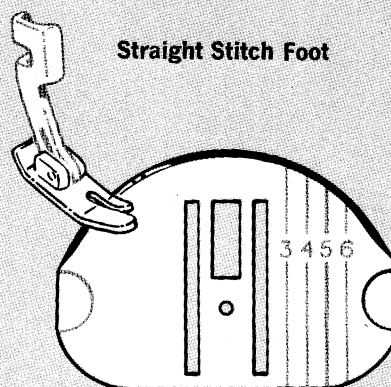
-
- Stitch Width Selector: 1
 - Needle Position: C
 - Stitch Length: To suit fabric
 - Throat Plate: Straight Stitch or General Purpose
 - Presser Foot: Straight Stitch or General Purpose
 - Seam and Hem Guide: (Optional, for extra control)
-

Use the straight stitch foot with the straight stitch throat plate, and selectors set for straight stitching, when your fabric or sewing procedure requires close control. This narrow, hinged foot rides over pins and allows you to control the fabric easily when stitching in a curve or close to the fabric edge. The narrow slot prevents fabric from rising with the needle.

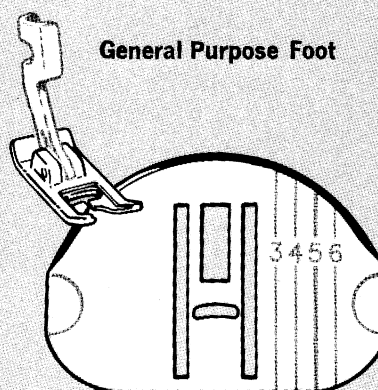
Use the general purpose foot with the general purpose throat plate for all utility sewing. These general purpose fittings *must* be used together when alternating between straight and zig-zag stitching.



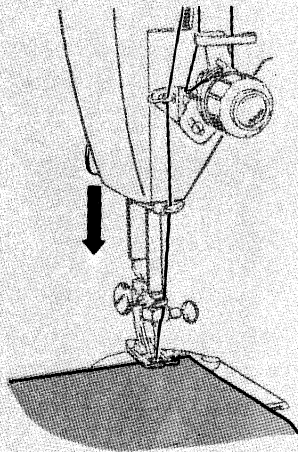
Straight Stitch Selector Settings



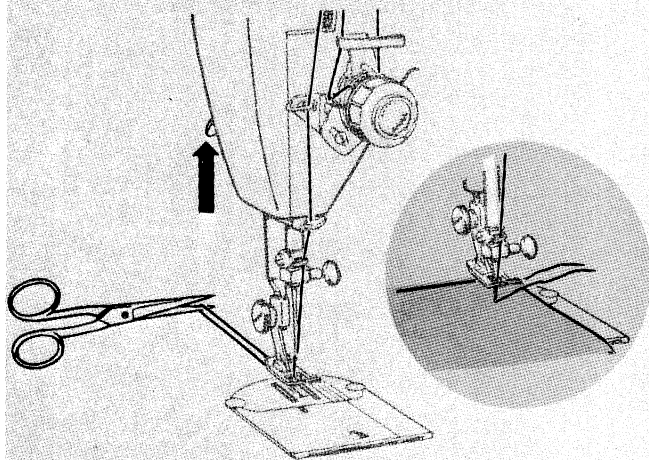
Straight Stitch Throat Plate



General Purpose Throat Plate



Starting at Fabric Edge with a Continuous Thread



Cutting Continuous Thread to Start Away from Fabric Edge

NEEDLE AND BOBBIN THREADS

How you begin stitching depends on whether you are using a newly wound or a previously wound bobbin. With a newly wound bobbin you have *one continuous thread* leading from the needle into the bobbin. With a previously wound bobbin you have *two separate threads*: the upper or needle thread and the lower or bobbin thread. Instructions for both conditions are given below (these instructions also apply to zig-zag stitching).

With a Newly Wound Bobbin

If you are starting to stitch *at* the fabric edge:

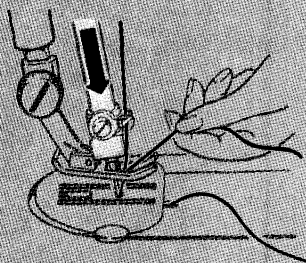
- Close slide plate.
- Turn hand wheel toward you to position needle in very edge of fabric.
- Lower presser foot and stitch. Thread will “lock” over fabric edge.

If you are starting to stitch *away* from fabric edge:

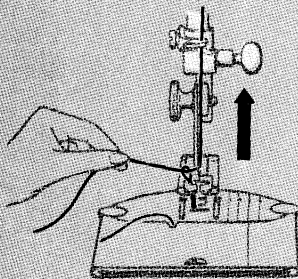
- Close slide plate.
- Pull thread back under presser foot and cut.
- Turn hand wheel toward you to position needle in fabric where desired and stitch.

NOTE: Should the bobbin run out of thread after you have already begun a line of stitching, remove the fabric, rewind the bobbin, and follow the three immediately preceding steps.

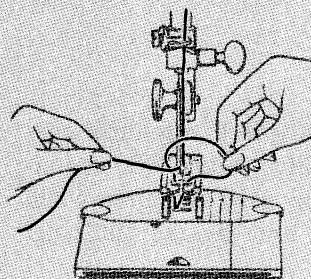
With a Previously Wound Bobbin



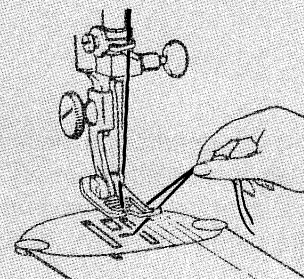
Hold needle thread lightly with left hand and turn hand wheel slowly toward you so that needle enters throat plate.



Continue turning hand wheel until needle rises and brings up bobbin thread in a loop.



Undo the loop with your finger.



Place both needle and bobbin threads under presser foot and lay them diagonally to the right. Position needle in fabric where desired and stitch.

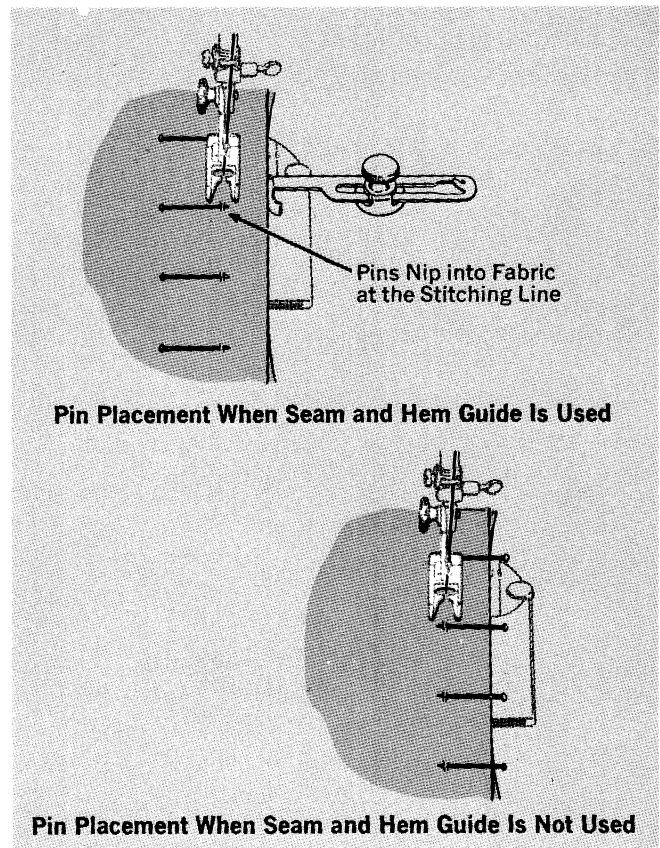
sewing a seam

PIN BASTING

Pin basting is a time saver and can be used in place of hand or machine basting when you are straight stitching seams in easy-to-handle fabrics. The straight stitch foot is recommended, but the general purpose foot may also be used. When sewing over pins with either foot, it is important to use fine pins and to place them correctly in reference to the stitching line.

Place pins so that:

- They are at right angles to the stitching line.
- They just nip into the fabric at the stitching line.
- There is minimum pin extension beyond the stitching line. Pins should not extend under both sides of the presser foot and should never be placed on the underside of the fabric in contact with the feed dog.

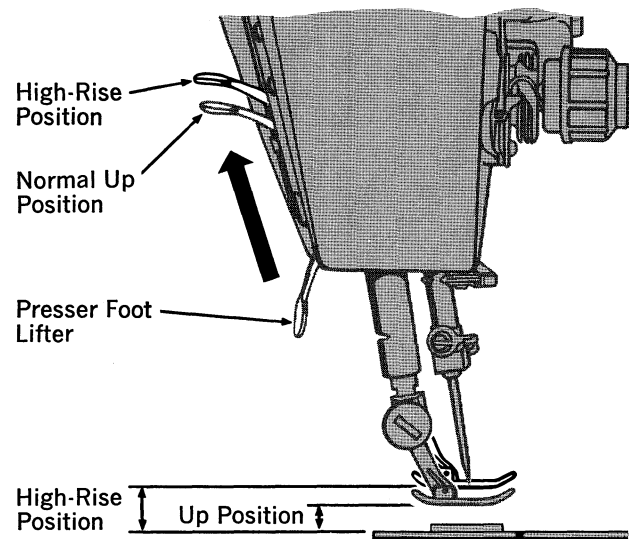


PLACING FABRIC

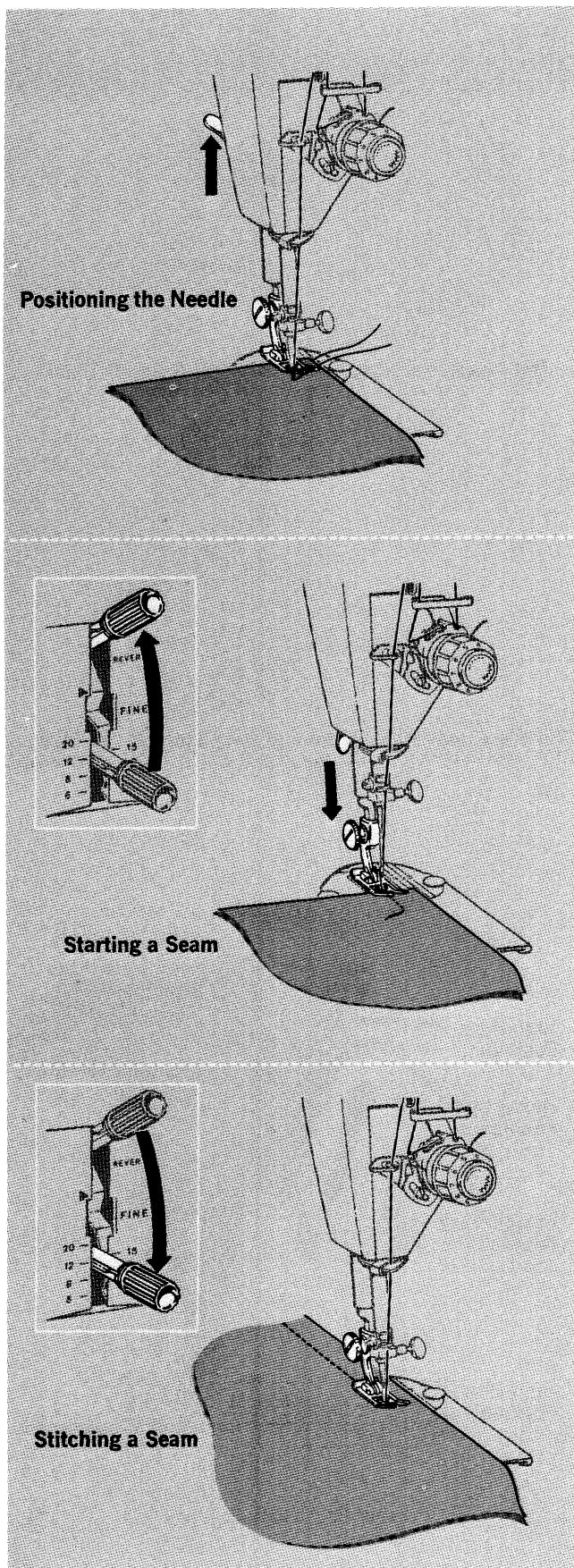
Most fabric can be easily placed under the presser foot by raising the presser foot lifter to its normal up position. When placing bulky fabric or multiple fabric layers, however, you will find it convenient to use the high-rise position of the lifter. In this position the space between the presser foot and the throat plate is increased, permitting fabric to be placed without tug or drag.

Placing Bulky Fabric

- Raise the presser foot lifter beyond the normal up position, to the high-rise position.
- Hold lifter in the high-rise position (since it does not lock) while placing fabric under the presser foot.
- Lower the presser foot lifter to its down position. Make sure the lifter is all the way down before starting to sew.



Presser Foot Lifter Settings



STRAIGHT SEAMS

- Stitch Width Selector: **1**
- Needle Position: **C**
- Stitch Length: To suit fabric
- Throat Plate: Straight Stitch or General Purpose
- Presser Foot: Straight Stitch or General Purpose
- Seam and Hem Guide: (Optional, for extra control)

Starting a Seam

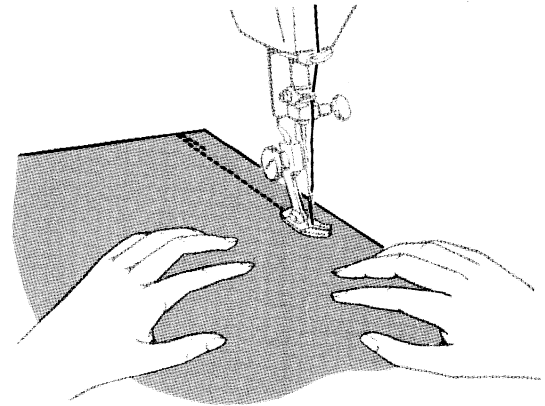
1. With presser foot up, turn hand wheel toward you to position needle in fabric about $\frac{1}{2}$ inch in from the starting edge.
2. Lower the presser foot and raise stitch length selector to **REVERSE**. Backstitch to edge of fabric for reinforcement.
3. Lower stitch length selector for forward stitching, and stitch.

Guiding and Supporting Fabric

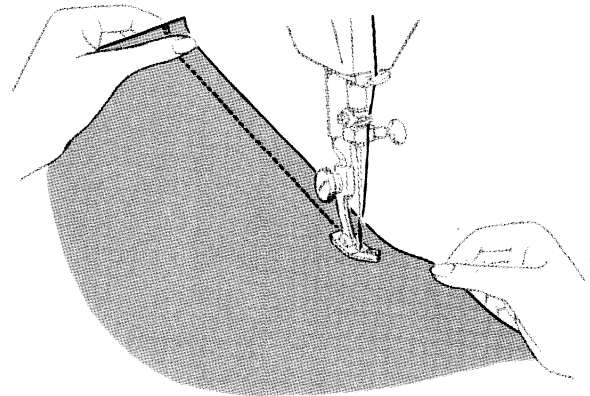
Most fabrics need only to be guided in front of the presser foot, as illustrated.

Some fabrics, however, require support while being stitched. These fabrics require using the straight stitch foot, as shown.

- For filmy sheers, knits, etc., apply *gentle* tension by holding seam in front and back of the presser foot.
- For stretch fabrics, apply *firm* tension front and back when stitching in the same direction as the stretch. For seams not on the stretch direction stitch in conventional manner, guiding fabric in front of presser foot.



Guiding Fabric

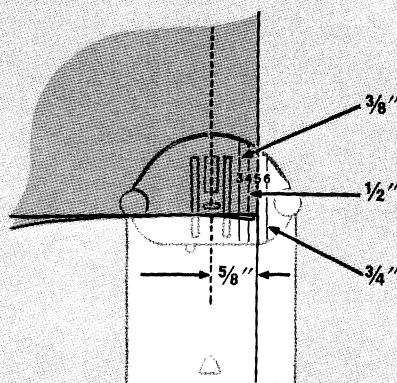


Supporting Fabric

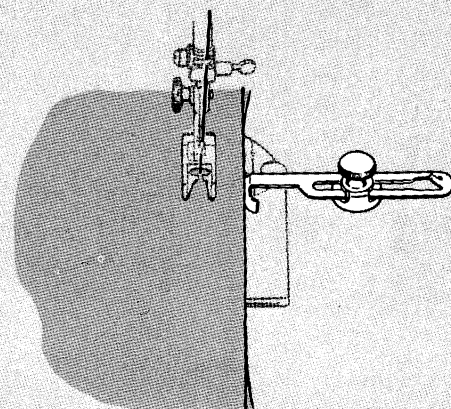
Keeping Seam Straight

To keep the seam straight as you stitch, use one of the numbered guidelines on the throat plate. Numbers indicate distance, in eighths of an inch, from the needle. If you want a $\frac{5}{8}$ -inch seam, for example, line up your fabric with line 5. Note that line 5, the one most commonly used, is extended on the slide plate for your convenience.

For additional guidance, you may wish to use the seam and hem guide.

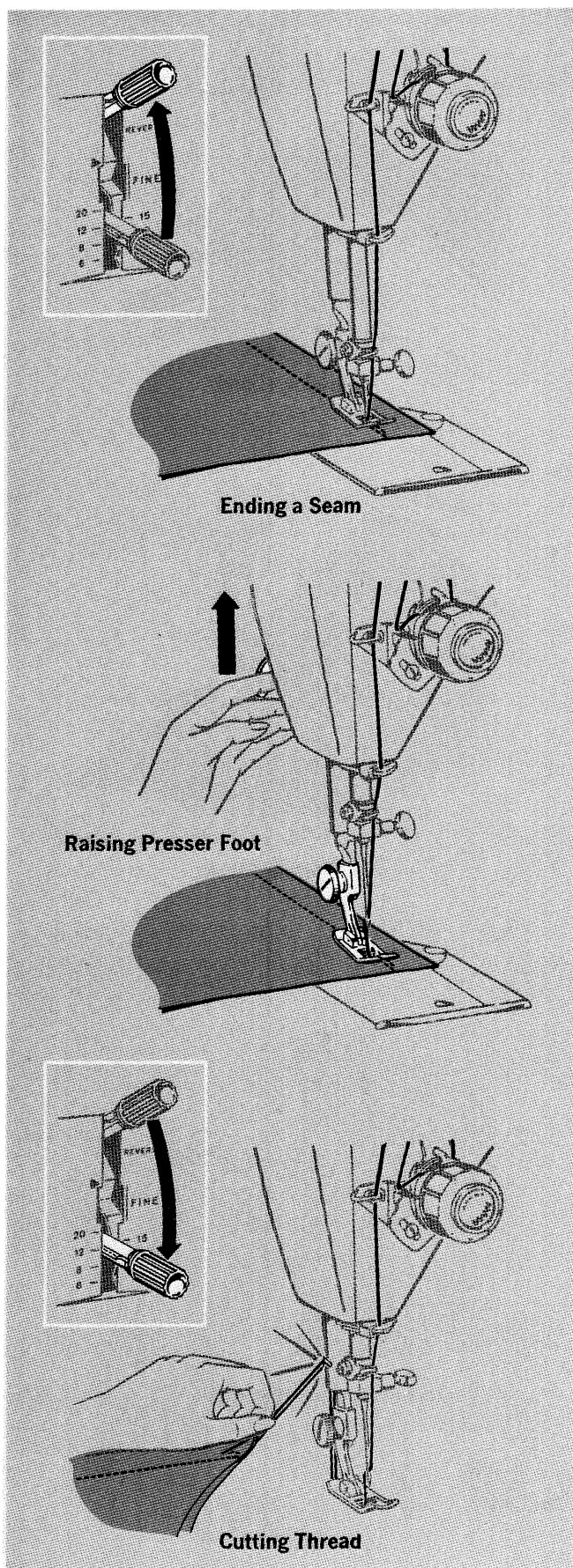


Using Guidelines



Using Seam and Hem Guide

Keeping Seam Straight



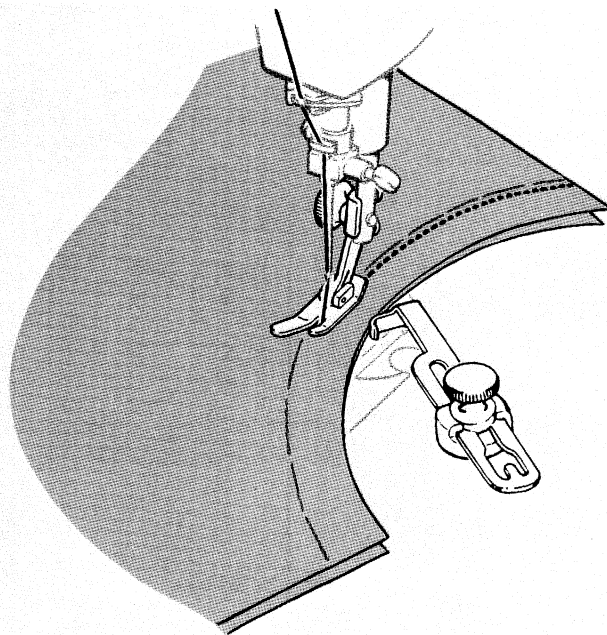
Ending a Seam

1. Stitch to the edge of the fabric.
2. Raise stitch length selector and backstitch to reinforce end of seam.
3. With take-up lever at highest point, raise presser foot and remove fabric by drawing it to the back.
4. Cut threads on thread cutter at rear of presser bar. Reset stitch length selector down for forward stitching.

CURVED SEAMS

Follow the same steps as for straight seams *except*:

1. Use a short stitch length for elasticity and strength. For example, if you use 12 stitches per inch for straight seams, select 15 to 20 per inch to stitch curved seams in the same fabric.
2. Use the straight stitch foot for greatest accuracy.
3. If you use the seam and hem guide, attach it at an angle so that the edge that is closer to the needle acts as a guide.



Stitching a Curved Seam

3. ZIG-ZAG STITCHING

The fifteen removable *Fashion Discs* that come with your machine give you a wide choice of stitch patterns. Some you will use for practical purposes—buttonholes and button sewing; seaming, seam finishing, and blindstitching; and even mending. Others are purely decorative and will give an individual touch to your clothes and home.

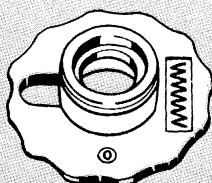
Fashion Disc 0 (plain zig-zag pattern) is supplied on the disc holder in your machine. It is especially useful in many steps in sewing and must be used to

make bar-tack and round-end buttonholes. Keep it on the holder unless you are using one of the other discs. Then you will always be ready to alternate between straight stitching and plain zig-zag stitching.

On the following pages you will learn how to set the selectors of your machine for zig-zag stitching and how to use the stitch patterns in decorative and practical applications. For information on removing and replacing *Fashion Discs*, turn to page 18.

Fashion disc patterns

The following interchangeable *Fashion Discs* are furnished with the machine.



0 †



Plain Zig-Zag

3



Solid Diamond

6



Crescent

8



Blindstitch

1



Arrowhead

9



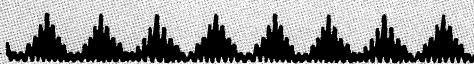
Multi-Stitch Zig-Zag

4



Solid Scallop

18



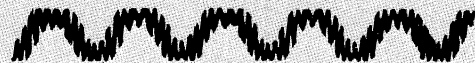
Solid Pyramid

10



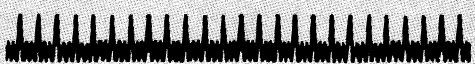
Ball Stitch

21



Chevron

14



Comb

12



Domino

2



Scallop

5



Banner

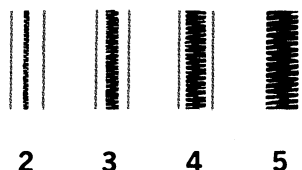
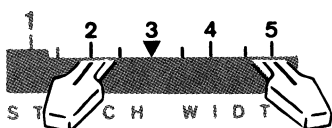
11



Ribbon

† Circled numbers indicate *Fashion Disc* numbers.

machine settings



ADJUSTING THE WIDTH OF THE DESIGN

To produce a zig-zag stitch, the stitch width selector must be moved from straight-stitch position **1** to any setting between **2** and **5**. The higher the number you select, the wider your stitch will be.

Before moving selector, make sure buttonhole controls are in OFF position and needle is above fabric.

ADJUSTING STITCH PLACEMENT

A needle position selector setting of **C** places the needle in center stitching position. Selector settings **L** and **R** place the needle in left and right stitching positions at widths less than **5**.

Selector setting **C** is used most often. Settings **L** and **R** are for special placement of stitching. For example,

an **R** setting is required for two-step buttonholing and an **L** setting for button sewing. An **L** or **R** setting is used to place narrow zig-zag stitching to the left or right of center in decorative work.

Before moving selector, make sure buttonhole controls are in OFF position and needle is above fabric.



Left Needle Position



Center Needle Position



Right Needle Position

ADJUSTING STITCH LENGTH AND NEEDLE-THREAD TENSION

When you are preparing to do zig-zag stitching, make a test sample with the fabric and thread you plan to use so that you can adjust your stitch length and needle-thread tension properly. If you need to adjust presser foot pressure, see page 10.

Stitch Length

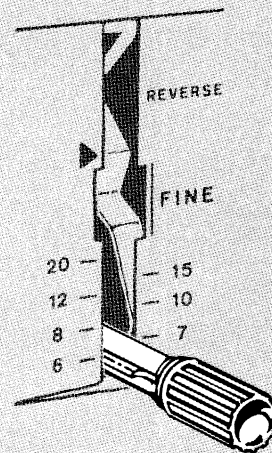
Any stitch length setting from **6** to the bottom of the **FINE** area will give you an open zig-zag stitch of whatever pattern you select. The lower the number, the more open, or farther apart, your stitches will be. The **FINE** area of the stitch length selector is used for the adjustment of zig-zag satin stitching. For specific instructions on satin stitch length adjustment, turn to the next page.

Before moving stitch length selector, make sure buttonhole lever is in OFF position.

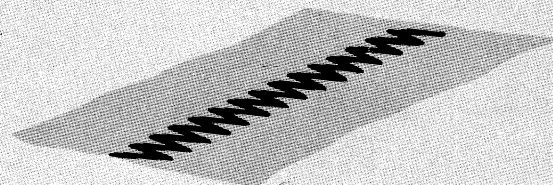
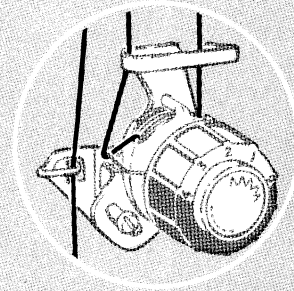
Needle-Thread Tension

Zig-zag stitching requires less tension than straight stitching. Notice the stitching on your test sample. The stitches should be flat against the fabric without being too taut or without causing the fabric to pucker.

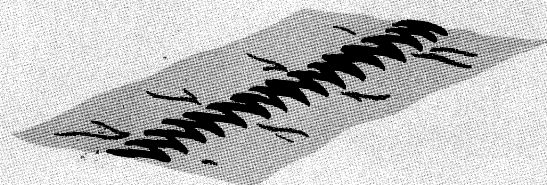
If the stitches are not flat and the fabric is puckering, lower the needle-thread tension by turning the dial to a lower number.



Stitch Length Selector

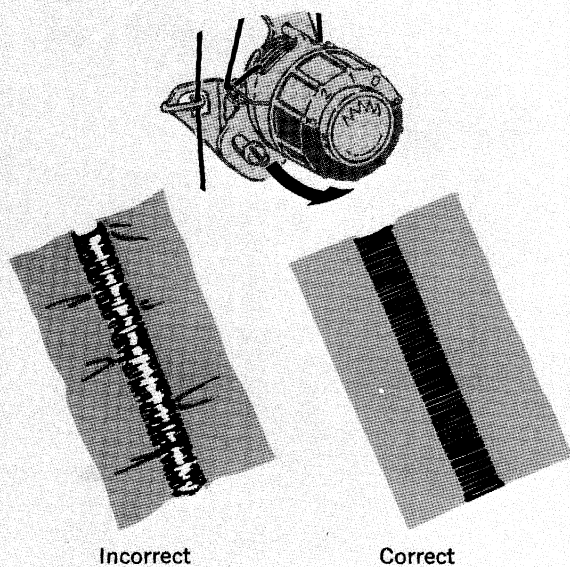
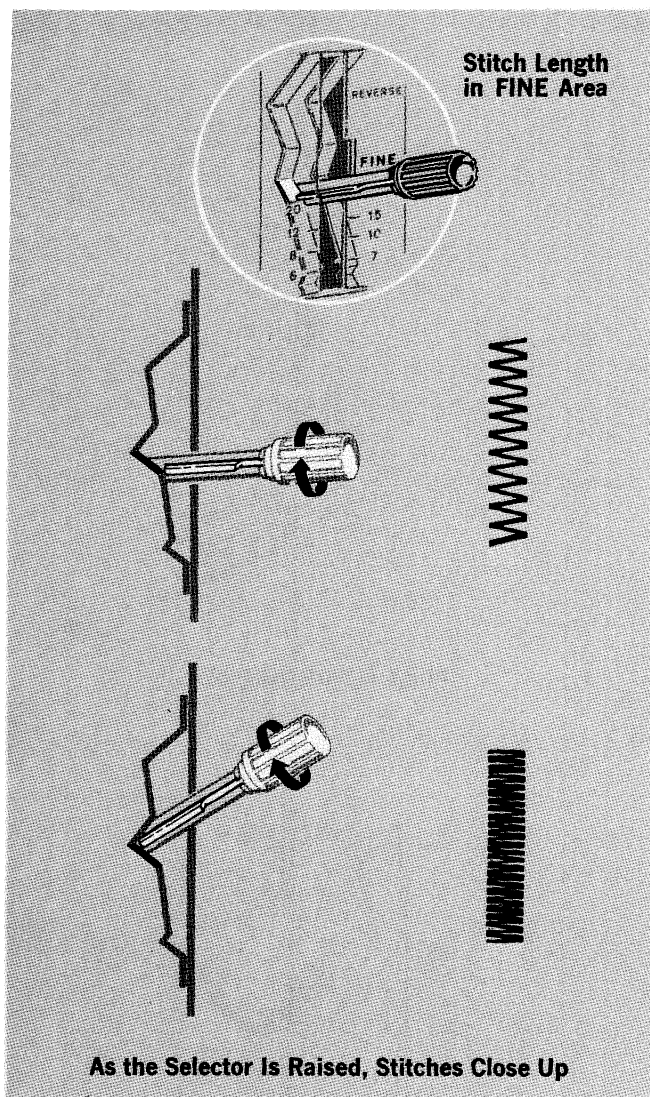


Correct



Too Tight

Needle-Thread Tension



Tension Adjustment for Satin Stitching

satin stitching

Satin stitching, a series of closely spaced zig-zag stitches that form a smooth, satin-like surface, is useful for both utility and decorative work. It is accomplished by sewing a zig-zag stitch with the stitch length selector in the **FINE** area. For best results, the special purpose presser foot must be used.

When you wish to produce a satin stitch, make a test sample first so that you can adjust the stitch length and thread tension properly.

Soft fabric may require a backing to ensure firm satin stitching. Crisp organdy or lawn is suitable for this purpose.

MACHINE SETTINGS

- **Fashion Disc:** Any pattern
- **Stitch Width Selector:** 2 through 5
- **Needle Position:** C
- **Stitch Length:** **FINE**
- **Throat Plate:** General Purpose
- **Presser Foot:** Special Purpose

ADJUSTING STITCH LENGTH

Before moving stitch length selector, make sure buttonhole lever is in OFF position.

1. Move stitch length selector to bottom of **FINE** area.
2. Run the machine at a slow speed.
3. Gradually tighten thumb nut by turning it to the right, until stitches are closely spaced and form a smooth surface. As thumb nut is tightened, the stitch length selector is raised.

ADJUSTING THREAD TENSION

Satin stitching requires less tension than straight stitching or open zig-zag designs. Furthermore, the wider the satin stitch, the lighter the tension on the thread must be. Thus, stitch width 5 requires the least tension; narrow satin stitching requires somewhat more.

Notice the stitching on your sample. If the stitching looks too taut, or the fabric is puckering, lower the thread tension by turning the dial to a lower number.

4. TWIN-NEEDLE STITCHING

By using a twin needle, you can produce two parallel, closely spaced, decorative lines of stitching simultaneously. You can use either one or two colors of thread; and you can choose either a straight-stitch setting, or a *Fashion Disc* pattern.

Some of the attractive designs you can create are shown on page 33.

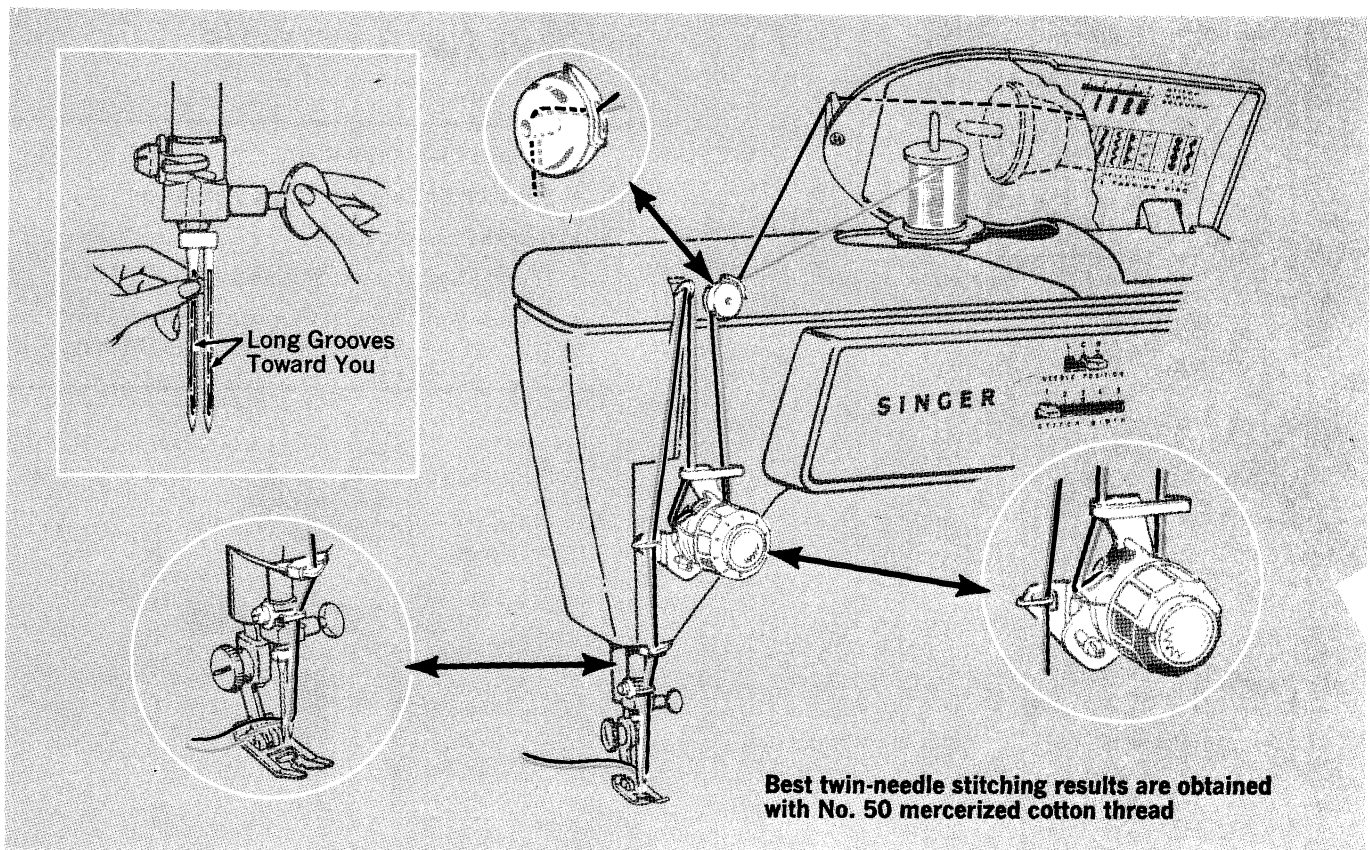
preparation

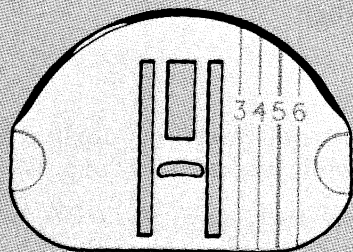
1. Fill bobbin with enough thread to complete stitching. (Since the bobbin cannot be filled after a twin needle is inserted, it is often wise to keep an extra wound bobbin at hand for replacement.)
 2. Close slide plate.
 3. Pull out a loop of thread between the needle and the throat plate.
 4. Cut thread four inches from needle hole, and unthread the machine.
5. Loosen thumb screw on needle clamp, remove single needle, and insert twin needle, as illustrated.

NOTE: When inserting a previously wound bobbin, follow the instructions on page 22.

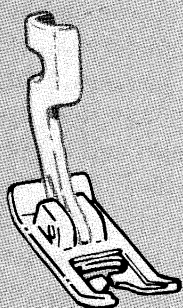
threading the needle

1. Place spool of thread on horizontal spool spindle. Thread as for one-needle stitching *except*:
 - Pass thread between **center** and **back** tension discs and through *right* eye of needle.
2. Raise stitch chart and insert detachable spool pin into hole provided for it, as shown on page 13.
3. Place spool of thread on vertical spool pin, as shown. Thread as for one-needle stitching *except*:
 - Do not attempt to pass thread through guide on top of stitch chart cover.
 - Pass thread between **center** and **front** tension discs and through *left* eye of needle.

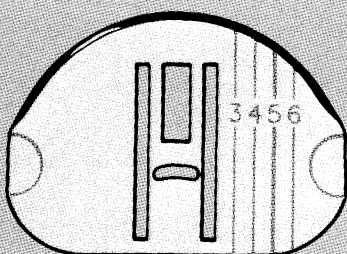




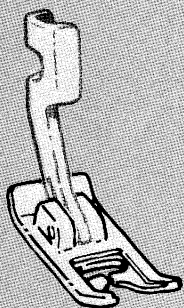
General Purpose Throat Plate



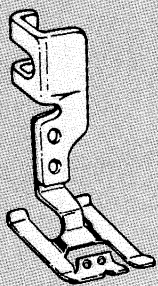
General Purpose Foot



General Purpose Throat Plate



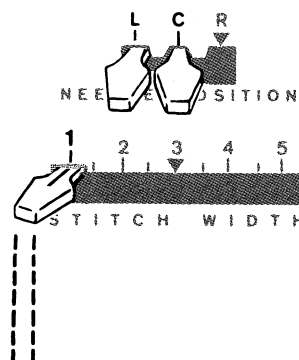
General Purpose Foot



Special Purpose Foot

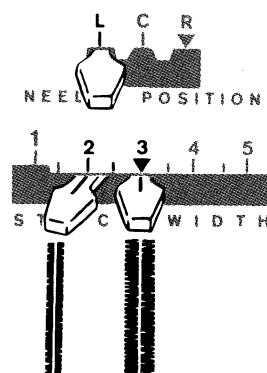
straight stitching with a twin needle

- Stitch Width Selector: 1 only
- Needle Position: C or L only
- Throat Plate: General Purpose
- Presser Foot: General Purpose



zig-zag stitching with a twin needle

- Fashion Disc: Any pattern
- Stitch Width Selector: 2 or 3 maximum
- Needle Position: L only
- Throat Plate: General Purpose
- Presser Foot: General Purpose (open patterns)
Special Purpose (satin stitching)



decorative twin-needle stitching

Banner	⑤ [†]	
Multi-Stitch Zig-Zag	⑨	
Pyramid	⑱	
Blindstitch	⑧	
Solid Scallop	④	
Scallop	②	
Chevron	⑳	
Crescent	⑥	
Comb	⑭	
Ribbon	⑪	

[†]Circled numbers indicate Fashion Disc numbers.

5. CHAINSTITCHING

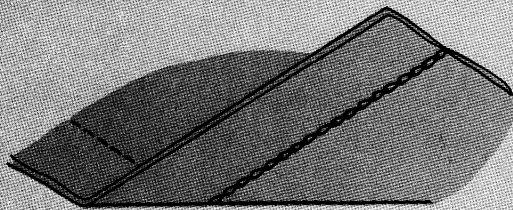
a word about single-thread chainstitching

Single-thread chainstitching looks like regular straight stitching on top, but is a series of interlocking loops on the underside of the fabric. The stitches are produced by the needle thread alone — so you do not need a bobbin thread or a bobbin. Because the stitches are formed by a single thread, the interlocked loops unravel easily. The entire line of stitching can be removed with just a pull on the thread end. Also, the loop formation of the stitches makes them less taut than regular straight stitches. That's what makes chainstitching flexible.

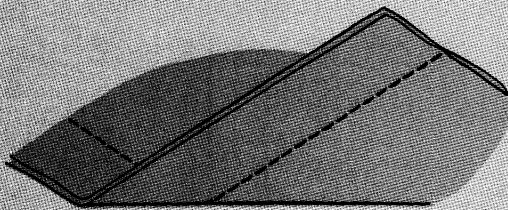
where to use chainstitching

Here are a few of the many sewing jobs for which you will find chainstitching useful. Pages 41 and 60 show you how chainstitching can save you time and work.

- Basting —
 - Trial seams for fitting
 - Construction guidelines
 - Zipper openings, linings, and interfacings
- Stay-stitching to preserve garment shape during assembly
- Fastening removable trimming —
 - Fur collars
 - White collars and cuffs
- Hemming curtains and draperies that may need to be altered
- Sewing temporary tucks to extend the life of —
 - Children's clothes
 - Curtains and linings that might shrink
- Making welting for corded seams, tubular cording for trimming and button loops
- Attaching hem tape
- Making stay chains to anchor linings or to hold belts or shoulder pads in place



Chainstitch

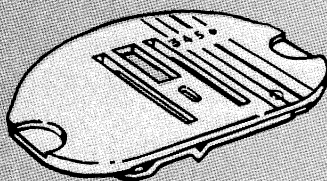


Regular Straight Stitch



Thread Guide

Bobbin Case Cover



Chainstitch Throat Plate

Chainstitch Fittings

preparation

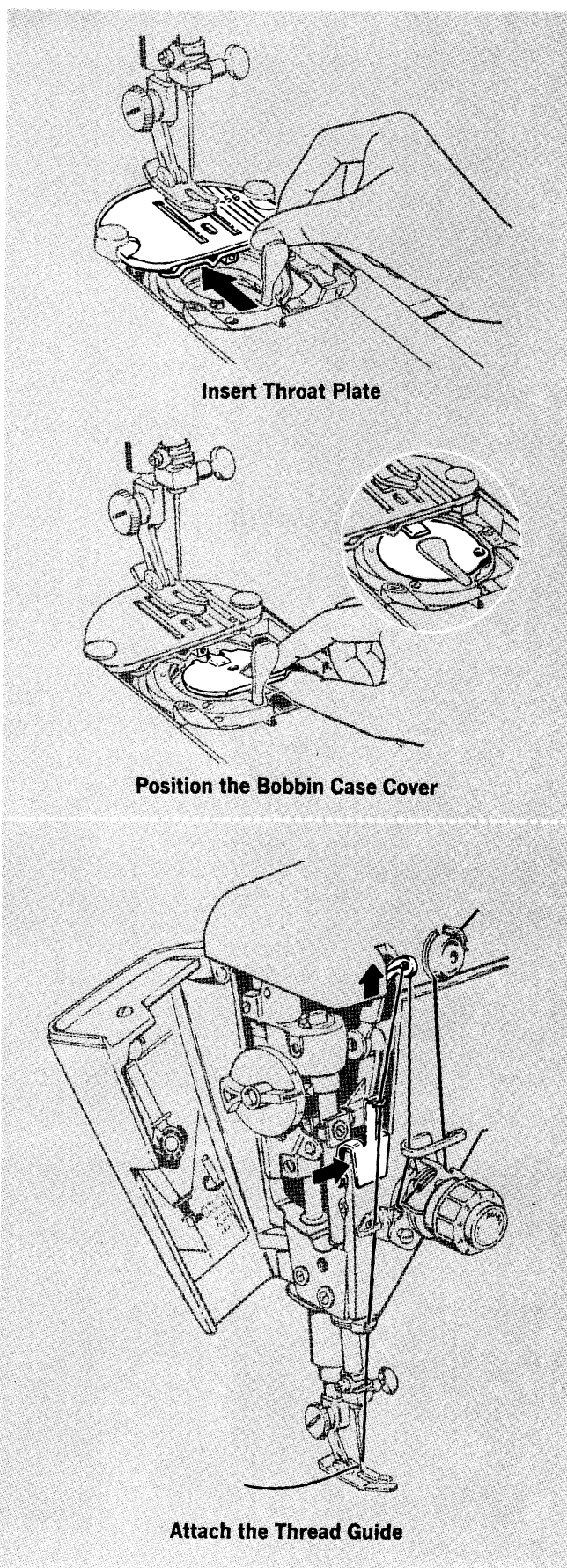
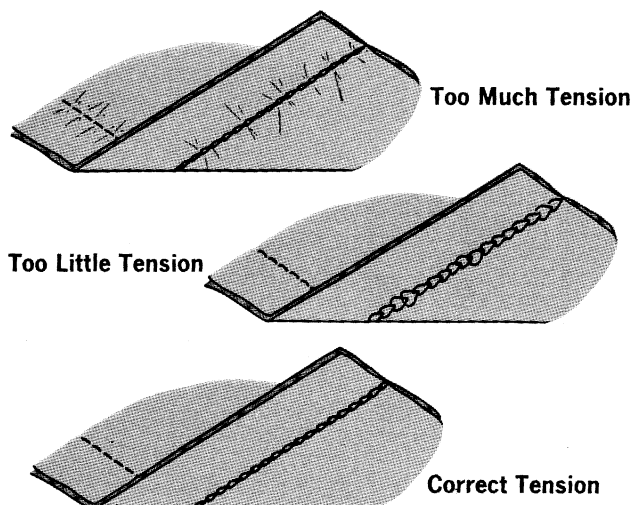
1. Attach chainstitch fittings.

- Turn hand wheel toward you to raise take-up lever to its highest point.
- Raise presser foot, open slide plate, and remove bobbin.
- Unlock throat plate and remove.
- Slide chainstitch throat plate into place from *front*. Lock it in **REGULAR** position.
- Insert bobbin case cover in bobbin case. The finger-lift tab goes to the right. Close slide plate.
- Open face plate and slip chainstitch thread guide into place. Close face plate.

2. Thread your machine in the usual way *except* pass thread from take-up lever through self-threading eyelet in the chainstitch thread guide.

Soft, pliable threads of light and medium weight are most suitable for chainstitching. No. 50 mercerized cotton and "A" silk are recommended. Use these threads in a size 14 needle.

3. Adjust thread tension. Chainstitching requires approximately the same needle-thread tension as regular straight stitching, provided the same kind of thread is used. When the tension is correctly adjusted, the chain will be flat and smooth. Puckers in the fabric and pinched loops indicate too much tension; turn dial to a lower number. Large, irregular loops indicate too little tension; turn dial to a higher number.



sewing a chainstitch seam

- Stitch Width Selector: 1
- Needle Position: C
- Stitch Length: 10 or 12 only
- Presser Foot: Straight Stitch, General Purpose, or Zipper Foot

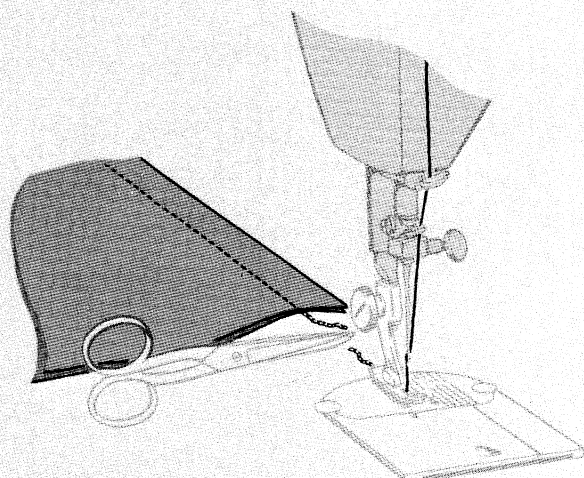
STARTING AND CHAINING OFF

1. Be sure that throat plate is in **REGULAR** position, then turn hand wheel toward you to position needle in very edge of fabric. Lower presser foot.
2. Start the machine, and stitch to end of seam. Continue stitching beyond edge of fabric, making a chain from one to two inches long.
3. Cut chain between fabric and presser foot.
4. After chaining off, start a new line of stitching by raising the presser foot slightly and positioning the fabric in front of needle. Lower presser foot and stitch to end of seam.

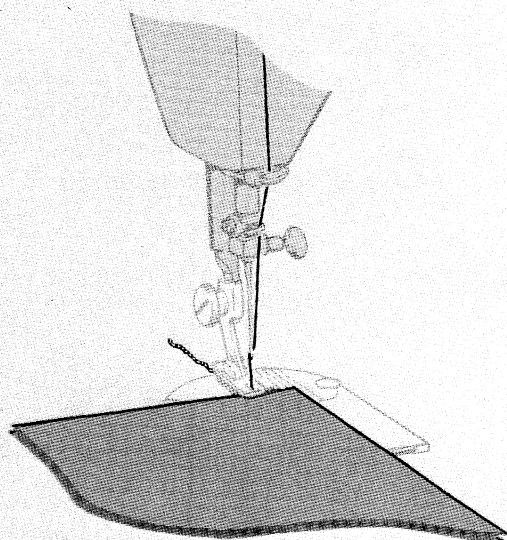
RELEASING THE CHAIN FROM THE MACHINE

When you finish chainstitching, the chain can easily be removed from the machine.

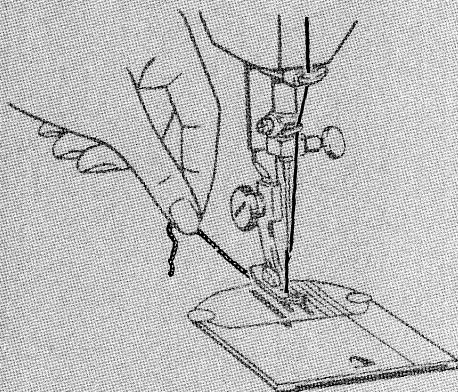
1. Raise presser foot.
2. Hold end of chain with your left hand.
3. Turn hand wheel slowly *toward* you with your right hand until needle is all the way down in the needle hole.
4. Then turn hand wheel slowly *away* from you, pulling gently on chain, which will unravel as needle rises.



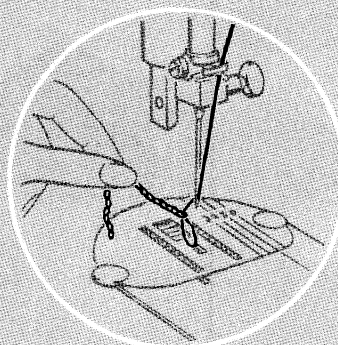
Chaining Off



Stitch Starting Point after Chaining Off



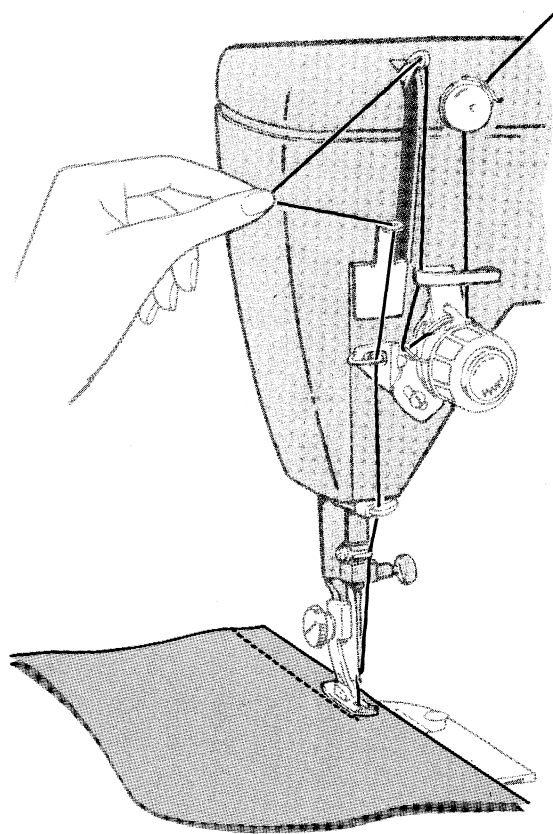
Releasing Chain



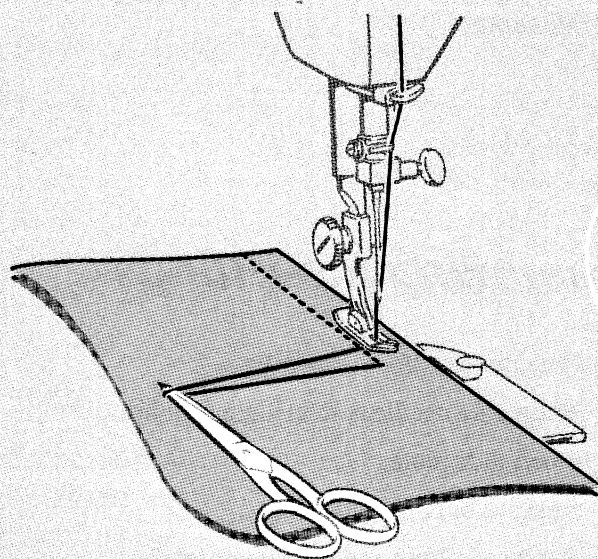
ENDING THE STITCHING IN THE FABRIC

Occasionally you may need to end your stitching in the fabric. Basted hems and temporary tucks, for example, as well as partially stitched-down pleats can be completed in this way:

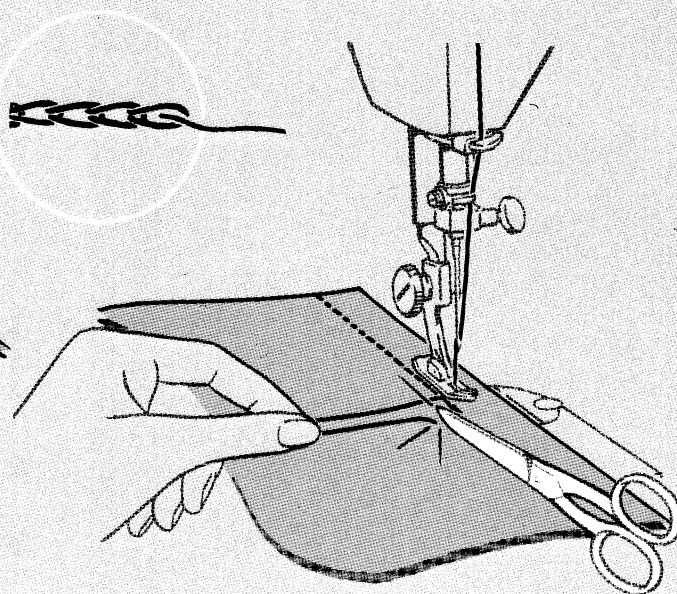
1. Stop stitching at desired point, with take-up lever in its highest position.
2. Raise presser foot.
3. With your finger, pull the thread through the take-up lever, forming a loop between the take-up lever and chainstitch thread guide.
4. Pass scissors under presser foot so as to draw the loop down to the left of the foot.
5. Hold the loop and cut the thread close to the end of the stitching.
6. Remove fabric from machine by pulling it straight back, away from you. This will cause the thread end to pull through the fabric to the underside and form a temporary lock.
7. If you wish to secure this temporary lock, fold the thread end back over the chain and fasten with hand basting.



Form a Loop between Take-up Lever and Chainstitch Thread Guide



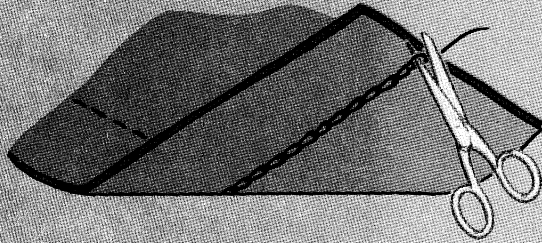
Draw the Loop Down to Left of Foot



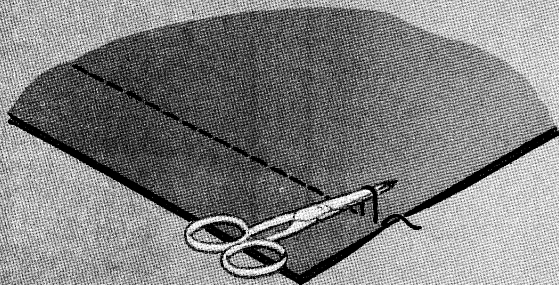
Cut Close to End of Stitching

removing the stitching

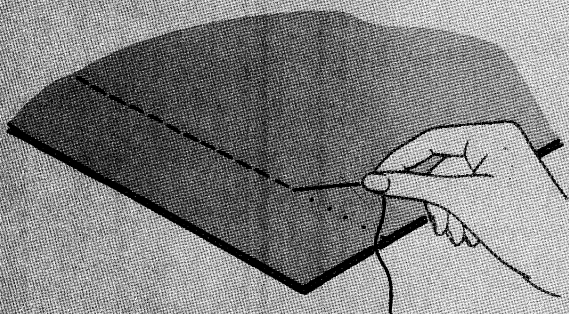
Chainstitching can be removed smoothly and cleanly in seconds by freeing the last stitch formed in the fabric.



Cutting Last Loop



Picking Up Free Thread End



Removing Line of Stitching

1. Simply cut the last loop formed on the underside of the fabric.
2. Then pick up the free thread end from the top surface of the fabric.
3. Pull the free thread end, removing entire line of stitching.

removing the fittings

1. Release chain from machine.
2. Make sure needle is at its highest point.
3. Open slide plate.
4. Remove bobbin case cover.
5. Replace bobbin and snap down latch.
6. Unlock the throat plate and remove by sliding it toward you.
7. Remove chainstitch thread guide.

6. FREE-MOTION STITCHING

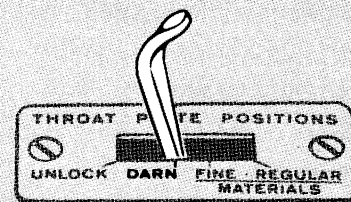
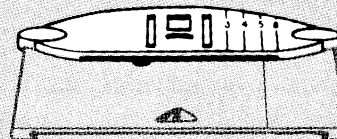
In free-motion stitching, you sew without a presser foot and instead control fabric movement (and hence stitch length) yourself, by means of an embroidery hoop. Either a straight or a zig-zag stitch setting can be used. Because you can move the hoop in any direction — forward or backward, from side to side, or even diagonally — free-motion stitching is extremely useful for intricate embroidery designs. On the other hand, it is equally useful for that most humdrum but necessary task, darning.

If you are **embroidering**, you can vary the length of stitches simply by moving the hoop faster or slower. The faster you move it, the more open the stitches will be. A slow hoop movement will produce closely packed stitches. You can also vary the width of the stitches, from a hairline to the full width of whatever stitch width setting you have chosen, simply by moving the hoop. If you move it sideways and stitch in a horizontal line, you will get a hairline; if you move it forward and backward and stitch in a vertical line, you will get full stitch width. Thus, you can produce a ribbon-like effect in script lettering or create delicate flower designs. This takes practice, but you can achieve some lovely effects that look much like hand embroidery. See the next page for specific directions.

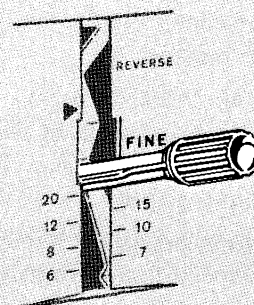
For **darning**, the embroidery hoop used in free-motion stitching enables you to hold the fabric taut — a real advantage when your fabric is lightweight or soft and thus is likely to pucker. See page 62 for directions.

preparation

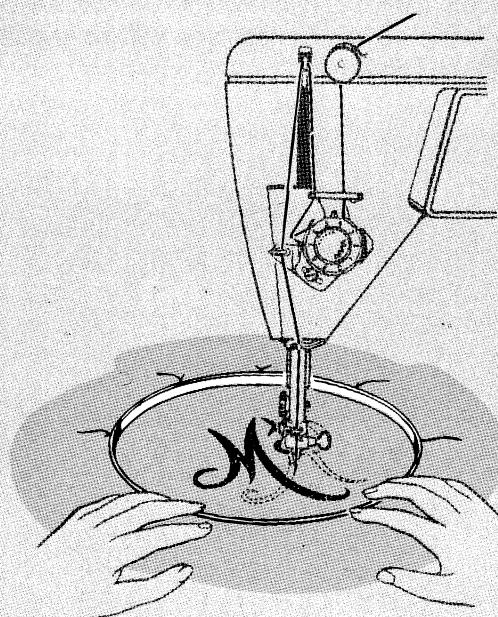
1. Get an embroidery hoop large enough to encompass the entire design or area to be darned.
2. Remove presser foot.
3. Raise throat plate to **DARN** position.
4. Raise stitch length selector to **FINE** area.



Throat Plate in DARN Position



Stitch Length Selector in FINE Area



Free-Motion Monogram

script lettering

- **Fashion Disc:** 0 (plain Zig-Zag)
- **Stitch Width Selector:** 2 through 5
- **Needle Position:** C
- **Stitch Length:** FINE (above 20)
- **Throat Plate:** General Purpose (**DARN** position)
- **Presser Foot:** None

If you wish to embroider a whole name, you can do so by free-motion stitching.

1. Always make a sample first to find the right stitch settings and spacing.
2. Trace or mark lettering on right side of fabric.
3. If the fabric is soft or loosely woven, add an underlay of crisp lawn or organdy.
4. Place work in embroidery hoop large enough to encompass the entire work design. Be sure fabric is held taut.
5. Position work under needle and lower the presser bar to engage tension.
6. Hold needle thread loosely and turn hand wheel toward you to bring bobbin thread up through fabric at start of design. Hold both threads and lower needle into fabric.
7. Stitch, following outline of lettering. Maintain an even rate of speed for uniformly spaced stitches.

To produce a close satin stitch, move hoop slowly; to produce an open stitch, move hoop more rapidly.

To shade the lettering, from wide to narrow stitching, turn the work slightly so that you will be moving it at an angle as you stitch.

floral designs

Whether you have artistic ability or not, with your *Touch & Sew* sewing machine and a little practice you will be able to embroider flowers to decorate table linens, pillow cases, etc., as well as dresses and blouses. If you have designing skill, you will enjoy creating your own patterns. Otherwise, you can buy attractive transfer patterns.

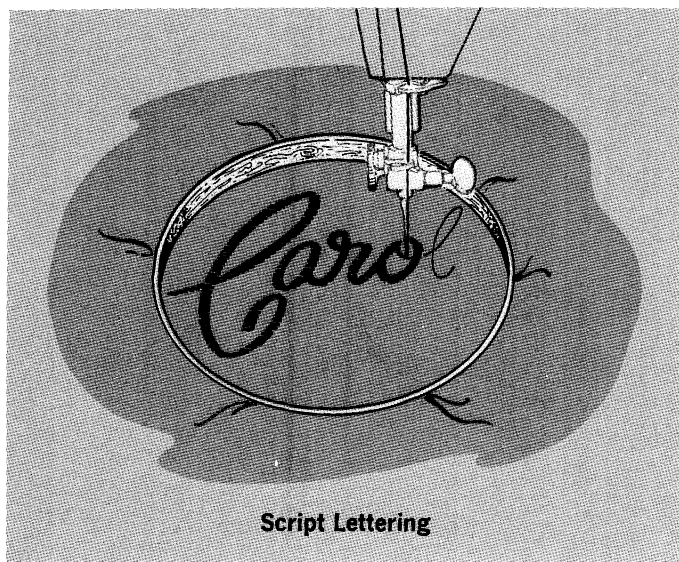
FREE-MOTION FLOWERS

- **Fashion Disc** 0 (plain Zig-Zag)
- **Stitch Width Selector:** 2 through 5
- **Needle Position:** C
- **Stitch Length:** FINE (above 20)
- **Throat Plate:** General Purpose (**DARN** position)
- **Presser Foot:** None

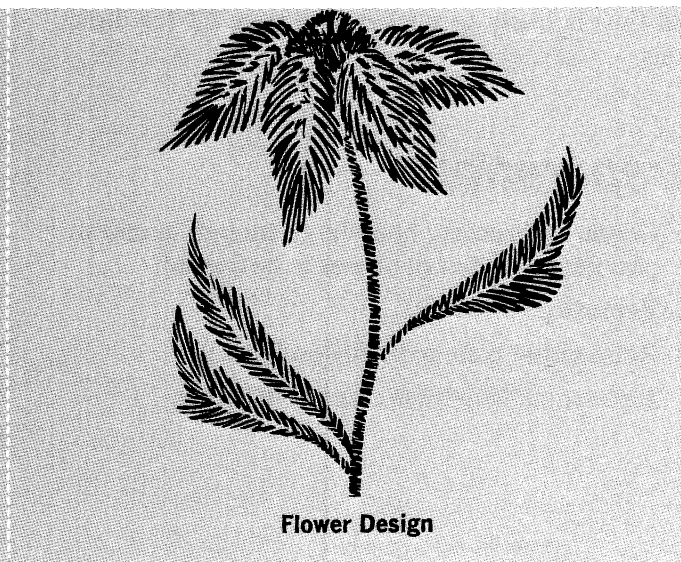
To embroider floral designs, prepare the machine and your fabric by following the same steps as for free-motion script lettering. On your test sample, try out different stitch width settings to determine the one or more best suited to your design.

When filling in outlines, place stitches in parallel lines, shifting the direction of the hoop movement as appropriate to the design.

- For a smooth satin stitch that will catch the light, place the parallel stitches close together, moving the hoop slowly and steadily.
- For an irregular texture, move the hoop more rapidly, allowing some stitches to overlap.



Script Lettering



Flower Design

7. CLOTHES AND HOME DECORATIONS

temporary stitching

Here are several ways in which you will find chainstitching preferable to either regular straight stitching or hand basting.

GARMENT FITTING

Time and energy can be saved when chainstitching is used to baste garment sections or muslin shells for trial fittings. The firmness of the stitch ensures accuracy in fitting, yet the stitching can be ripped out in seconds if adjustments are necessary.

CONSTRUCTION GUIDELINES

In many instances, construction guidelines for pockets, buttonholes, and other details can be advantageously marked with chainstitch basting. The stitching will give a clearly defined line marking. Yet, unlike chalk or pins, it will not rub off or become lost as the fabric is handled. This method lends itself particularly to use on wools and other fabrics that do not retain needle penetrations.

STAY STITCHING

Chainstitching can be used to stay-stitch necklines, shoulderlines, and waistlines before garment assembly. Flexible, yet firm, this stitching will hold the original shape of these areas and prevent stretching.

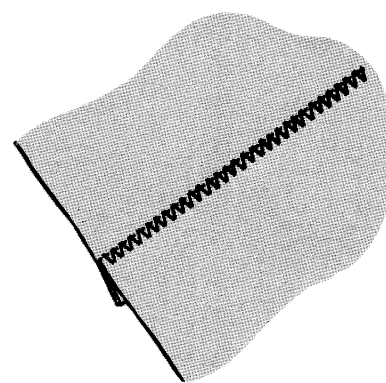
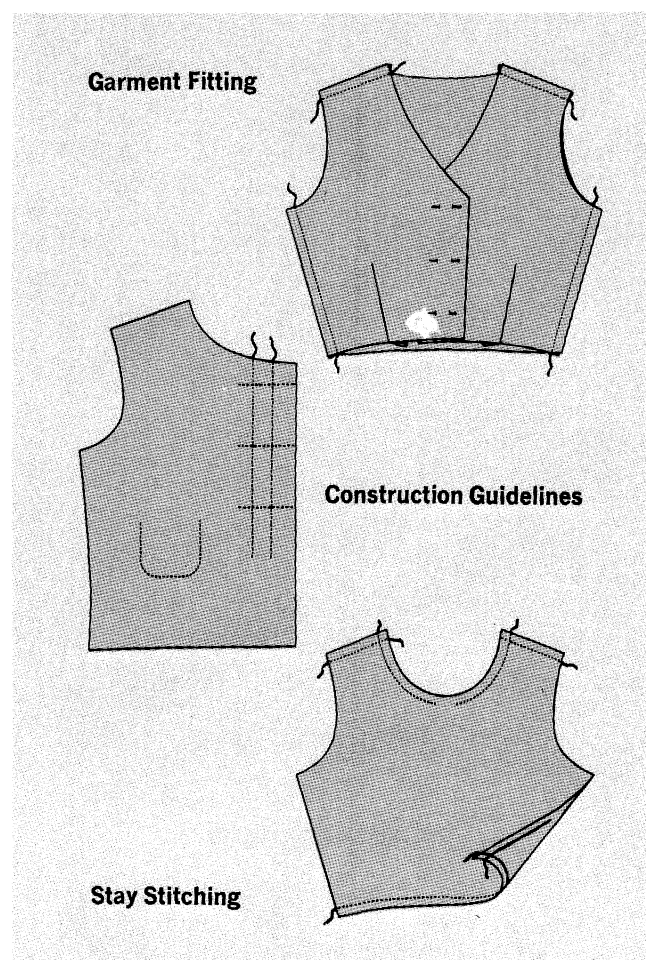
seams

LINGERIE SEAMS

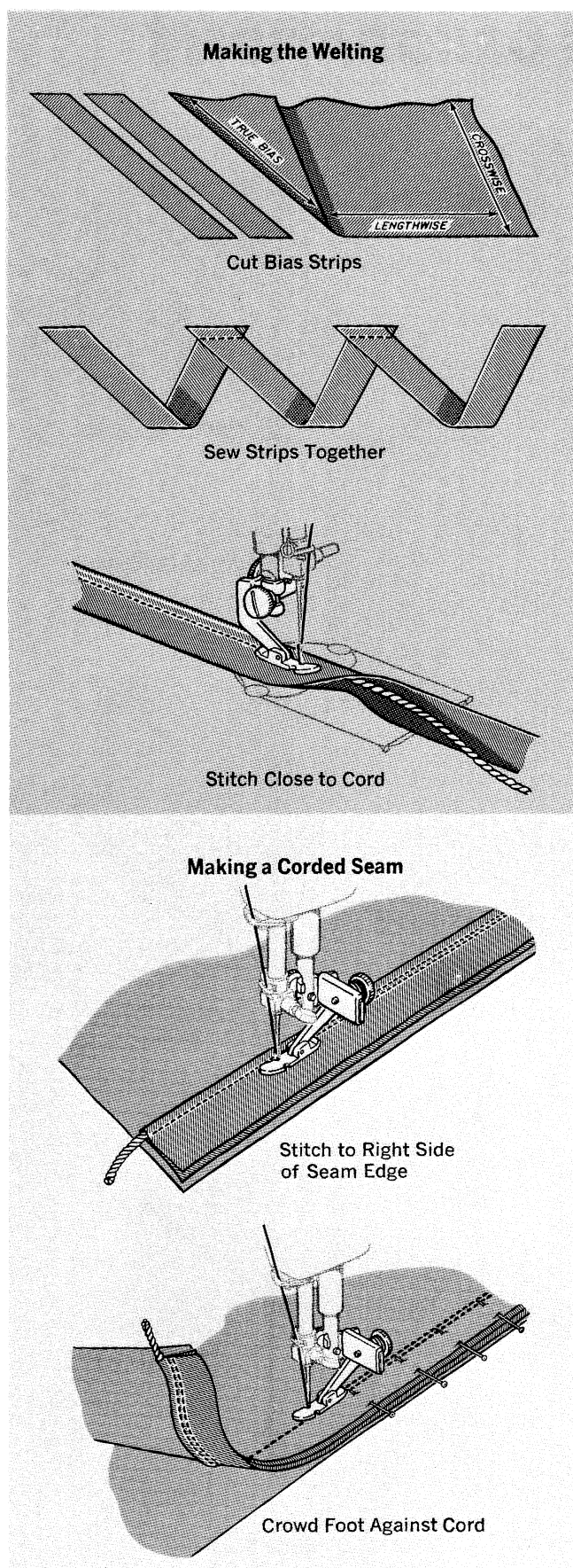
- **Fashion Disc: 0** (plain Zig-Zag)
- **Stitch Width Selector: 2½**
- **Needle Position: C**
- **Stitch Length: 15 to 20**, depending on fabric
- **Throat Plate: General Purpose**
- **Presser Foot: General Purpose**

To make a lingerie seam both durable and flexible, use a zig-zag stitch. This seam treatment is particularly suitable for bias seams.

1. Straight-stitch the seam (with stitch width selector at **1**) on wrong side.
2. Press both seam allowances in the same direction.
3. From the right side, top-stitch with zig-zag pattern (with stitch width selector at **2½**), letting the needle alternately enter the seam line and seam thickness.



Lingerie Seam



CORDED SEAMS

The corded seam is a professional treatment for slip-covers, children's clothes, blouses, and lingerie. To make a corded seam, make the welting first (or buy it ready-made at a notions counter), then stitch it into the seam. For both construction steps, use the following settings and accessories:

-
- Stitch Width Selector: **1**
 - Needle Position: **C**
 - Stitch Length: Slightly longer than for regular seaming
 - Throat Plate: General Purpose or Straight Stitch
 - Presser Foot: Zipper Foot
-

Making the Welting

1. Buy cable cord (at notions counter) of desired size.
2. Cut bias strips of fabric (width: three times the diameter of the cord plus 1¼ inches).
3. Sew strips together on the lengthwise grain to obtain desired length.
4. Fold resulting strip over cord, raw edges even.
5. Adjust zipper foot to the left side of the needle. (For instructions on adjusting zipper foot, see page 56.)
6. Lower the presser foot.
7. Stitch close to the cord (but do not crowd stitching against cord), pulling gently on the strip, both in front and in back of the zipper foot.

Stitching Welting into Seam

1. Adjust zipper foot to the right of the needle so that the bulk of the fabric will fall to the left.
2. Stitch welting to the right side of a single seam edge; guide the edge of the foot next to the cord but do not crowd.
3. Place the attached welting over the second seam edge, and pin or baste together.
4. Place the work under the needle, with the first stitching on top so that you can use it as a guide.
5. Stitch, this time crowding the foot against cord.

INSIDE SEAMS OF SHEER COLLARS, FACINGS, AND CUFFS

- **Fashion Disc:** 0 (plain Zig-Zag)
- **Stitch Width Selector:** 2
- **Needle Position:** C
- **Stitch Length:** FINE (above 20)
- **Throat Plate:** General Purpose
- **Presser Foot:** Special Purpose

With a delicate hairline finish, seam allowances that ordinarily show through can be eliminated. You may wish to use a filler cord to give body to the seam. For easy handling of the cord, place spool on the table, floor, or in your lap. Unwind a sufficient amount to avoid tension or strain on the cord. Lead the end of the cord through the right eyelet in the toe of the presser foot. Draw cord under cross bar to the back of the foot. Stitch along seam line covering the cord. Cut seam allowance away close to line of stitching, turn to the right side, and gently roll out curved edges. Press flat.

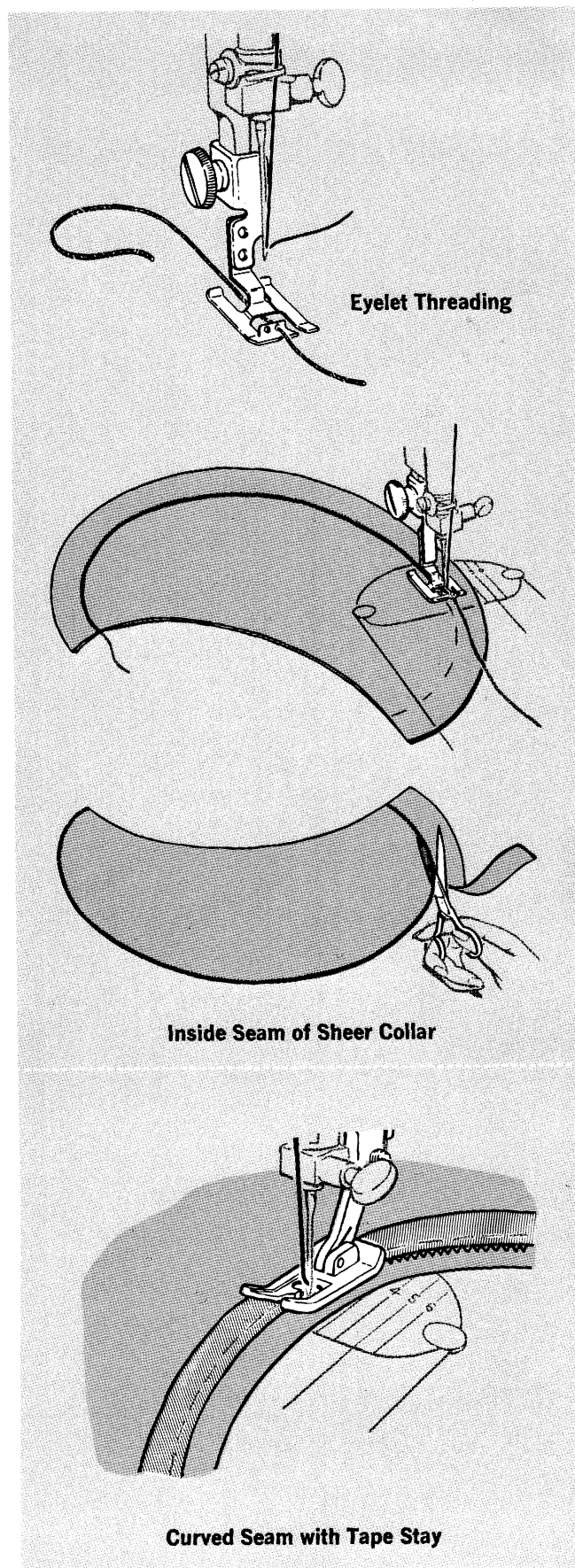
SEAMS IN KNIT FABRICS

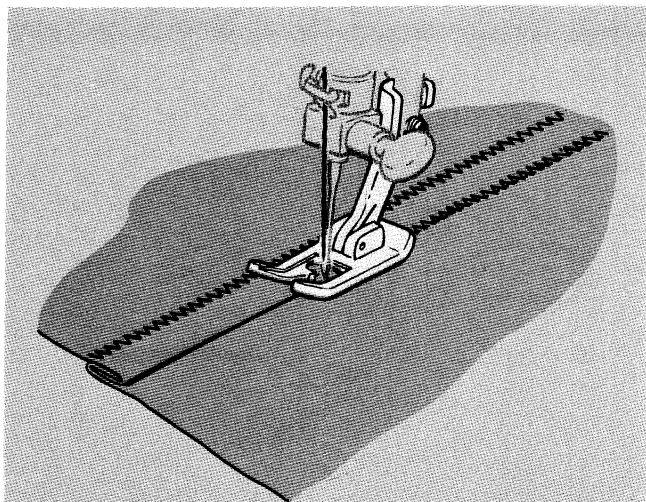
- **Fashion Disc:** 0 (plain Zig-Zag)
- **Stitch Width Selector:** 2
- **Needle Position:** C
- **Stitch Length:** About 20
- **Throat Plate:** General Purpose
- **Presser Foot:** General Purpose

A narrow, closely spaced, zig-zag stitch is ideal for seaming knit fabrics. It is particularly appropriate for underarm seams where elasticity and give are needed. Stitch, and press seams as when using a straight stitch.

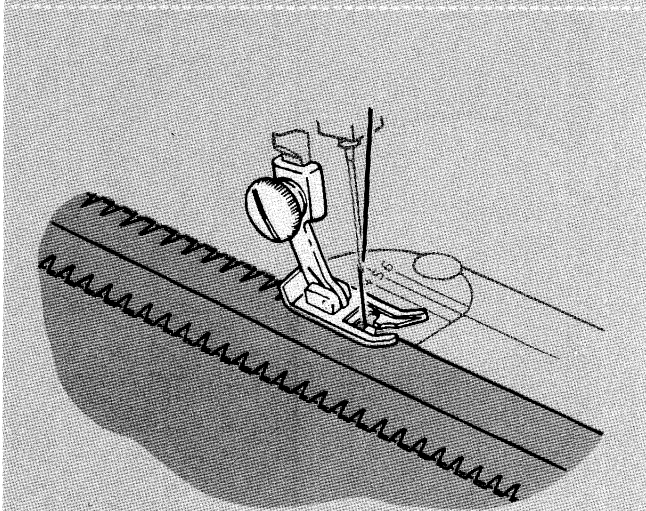
Where a stay is needed to prevent stretching, at neckline and shoulder seams for example, this same fine zig-zag stitch can be used to apply seam tape. For a flat, smooth stayed finish:

1. If seam is curved, pre-shape tape to fit by steam pressing.
2. Baste tape in place.
3. Stitch, allowing needle to enter seam tape and seam allowance alternately.

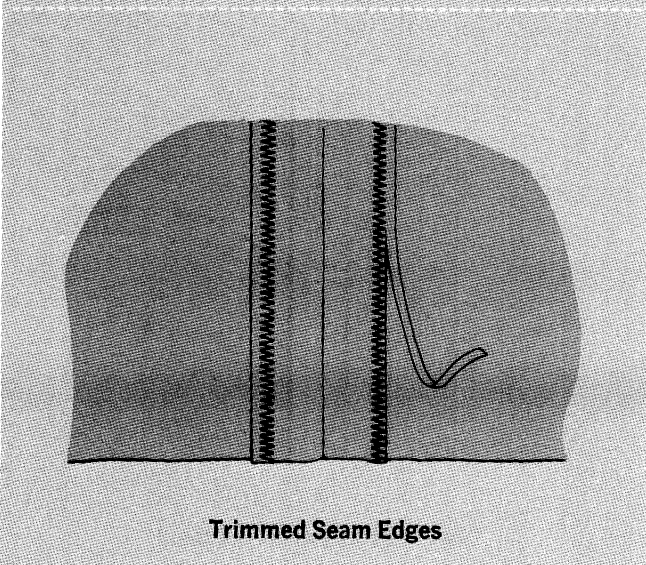




Flat-Felled Seam



Overedged Seam Finish



Trimmed Seam Edges

FLAT-FELLED SEAMS

- **Fashion Disc: 0** (plain Zig-Zag)
- **Stitch Width Selector: 3**
- **Needle Position: C**
- **Stitch Length: 15 to 20**, depending on fabric
- **Throat Plate: General Purpose**
- **Presser Foot: General Purpose**

Zig-zag stitching gives strength and durability to flat-felled seams.

1. Stitch the seam on the right side of the fabric, taking full seam allowance.
2. Press the seam allowance to one side, keep the right side of the stitch on top.
3. Trim the under seam allowance to one-half its width.
4. Turn the upper seam allowance edge evenly over the trimmed edge, and top-stitch.

SEAM FINISHES

Seam edges support the garment and should be given a durable finish if the fabric is likely to ravel. There are two ways of finishing seams in such fabrics: trimming seam edge or overedging. Make a test sample first to determine which stitch best suits your fabric.

- **Fashion Disc: 0** (plain Zig-Zag), **8** (Blindstitch), or **9** (Multi-Stitch Zig-Zag)
- **Stitch Width Selector: 4 or 5**
- **Needle Position: C**
- **Stitch Length: 8 to 20**, depending on choice of stitch and fabric
- **Throat Plate: General Purpose**
- **Presser Foot: General Purpose**

1. Select plain zig-zag (disc **0**), blindstitch (disc **8**), or multi-stitch zig-zag (disc **9**), whichever best suits your fabric.
2. Adjust stitch length selector and stitch width selector settings to give you the most "open" stitch that will secure the fabric edge; avoid harsh over-stitching.
3. Place stitching *near* the edge of the seam allowance or *over* the raw fabric edge as illustrated.
4. If stitching is placed *near* the edge of the seam allowance, trim edges evenly after stitching is completed. If seam allowance is to be overedged, trim edges evenly *before* stitching is started.

darts

Darts can, of course, be made in the usual way on your sewing machine. That is, you can begin stitching at the wide end of the dart, stitch to the point, and then fasten the two thread ends. However, thanks to the push-button bobbin, you can avoid the problem of fastening the thread ends by making a "continuous-thread" dart and stitching in the opposite direction. This method is particularly useful for darts in sheer fabrics, where transparency requires a neat, clean finish. It is also useful for darts made on the right side of a garment as a style detail.

REGULAR DARTS

- Stitch Width Selector: 1
- Needle Position: C
- Stitch Length: About 12 or to suit fabric
- Throat Plate: General Purpose
- Presser Foot: General Purpose

1. Stitch from seam edge, tapering gradually to point.
2. Stitch beyond the fabric to form a thread chain $\frac{1}{2}$ to $\frac{3}{4}$ inch long.
3. Tie thread ends into a single knot close to stitching.

CONTINUOUS-THREAD DARTS

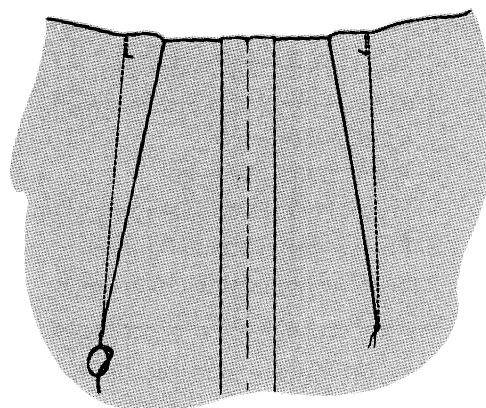
1. Set machine selectors as for regular darts.
2. Wind an empty bobbin with enough thread to make a single dart (usually less than one yard).
3. Close slide plate.
4. Position the needle in the very edge of the fold, at the point of the basted or pinned dart, and lower the presser foot.
5. Stitch carefully toward the wide end of the dart.

DARTS IN INTERFACING

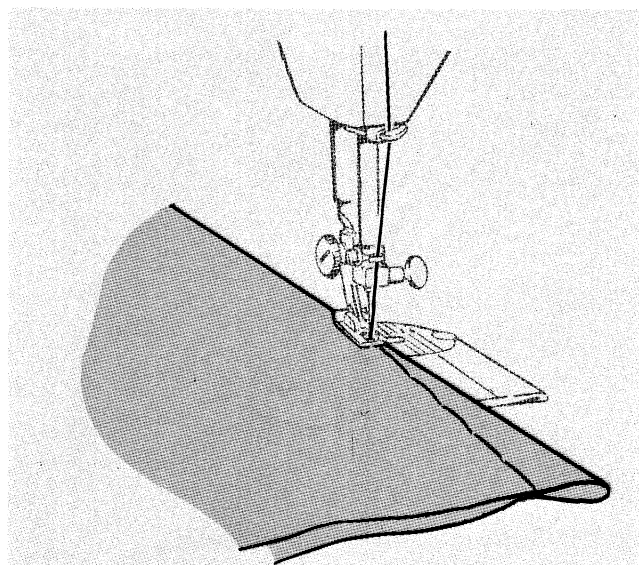
- **Fashion Disc:** 0 (plain Zig-Zag) or 9 (Multi-Stitch Zig-Zag)
- Stitch Width Selector: 5
- Needle Position: C
- Stitch Length: About 20 or to suit fabric
- Throat Plate: General Purpose
- Presser Foot: General Purpose

With zig-zag stitching, interfacings can be shaped without bulk.

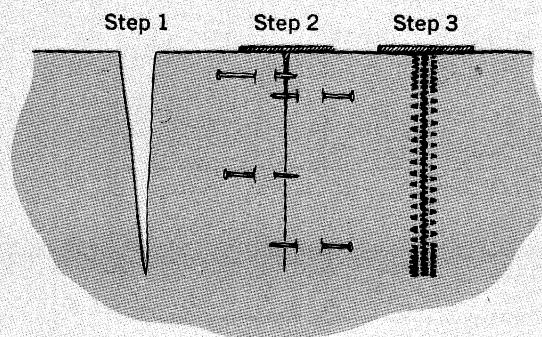
1. Cut out the dart allowance on the stitching line.
2. Bring raw edges together and pin over muslin stay.
3. Stitch, backstitching at both ends.



Regular Dart



Starting to Stitch Continuous-Thread Dart



Steps in Making a Dart in Interfacing

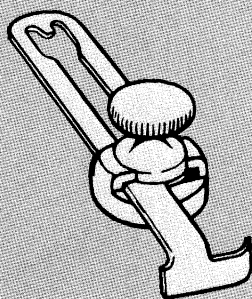
hems

BLINDSTITCH HEMS

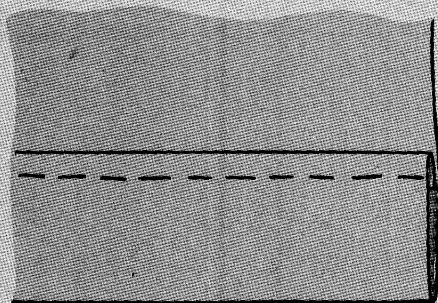
- **Fashion Disc: 8** (Blindstitch)
- **Stitch Width Selector: 2** through 5
- **Needle Position: C**
- **Stitch Length: 10** to **20**
- **Throat Plate: General Purpose**
- **Presser Foot: General Purpose**
- **Seam and Blindstitch Hem Guide**

Blindstitching provides a durable hem finish that is almost invisible. It is best suited to straight and slightly curved hems. Taped, bound, turned, or unfinished hem edges can be blindstitched with equal ease. Blindstitching takes a little practice, however, so make a test sample first.

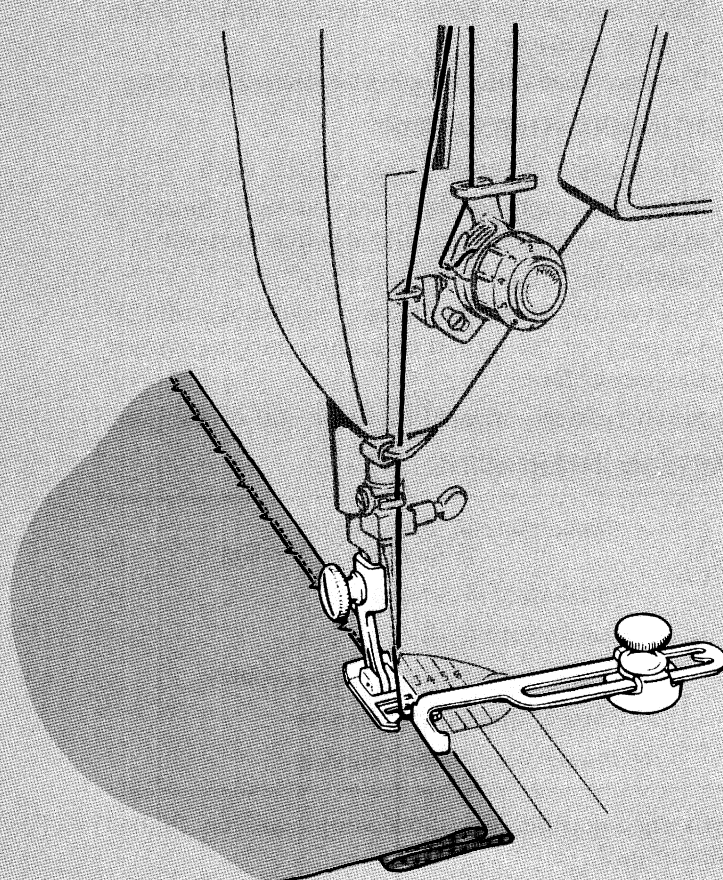
1. Mark, turn, and press hem in the usual way.
2. Baste a guideline $\frac{1}{4}$ inch from the top of the hem edge.
3. Place hem edge over the feed of the machine, turning bulk of fabric to the left and thus creating a soft fold.
4. Screw seam and hem guide into hole at right of slide plate and adjust it over the right toe of the presser foot so that it rests next to the soft fold.
5. Stitch so that straight stitches fall on hem edge and sideward stitches pierce the soft fold. While stitching, feed the fold against the edge of the guide.
6. When stitching is completed, swing the guide out of position before raising presser foot.



Seam and Blindstitch Hem Guide



Basted Guideline



Blindstitch Hem

buttonholes

TWO BUTTONHOLE STYLES

You have a choice between round-end buttonholes and bar-tack buttonholes.

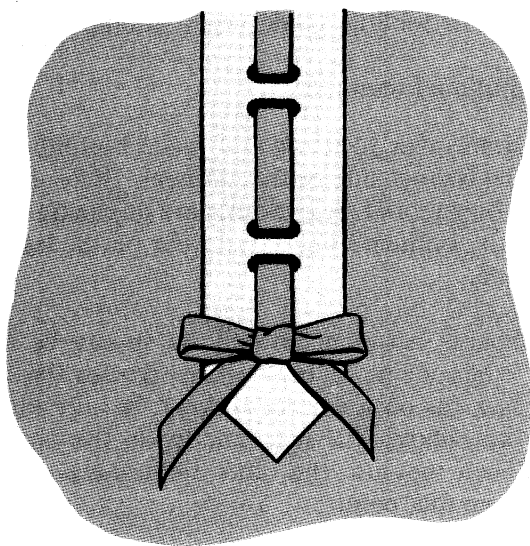
Round-End Buttonholes

The built-in buttonhole system of your machine lets you make round-end worked buttonholes in any length, with two simple buttonhole dial settings. Use these easy-to-make buttonholes in light, medium and medium-heavy fabric for suits, dresses, blouses . . . just about everything including decorative beading as illustrated below.

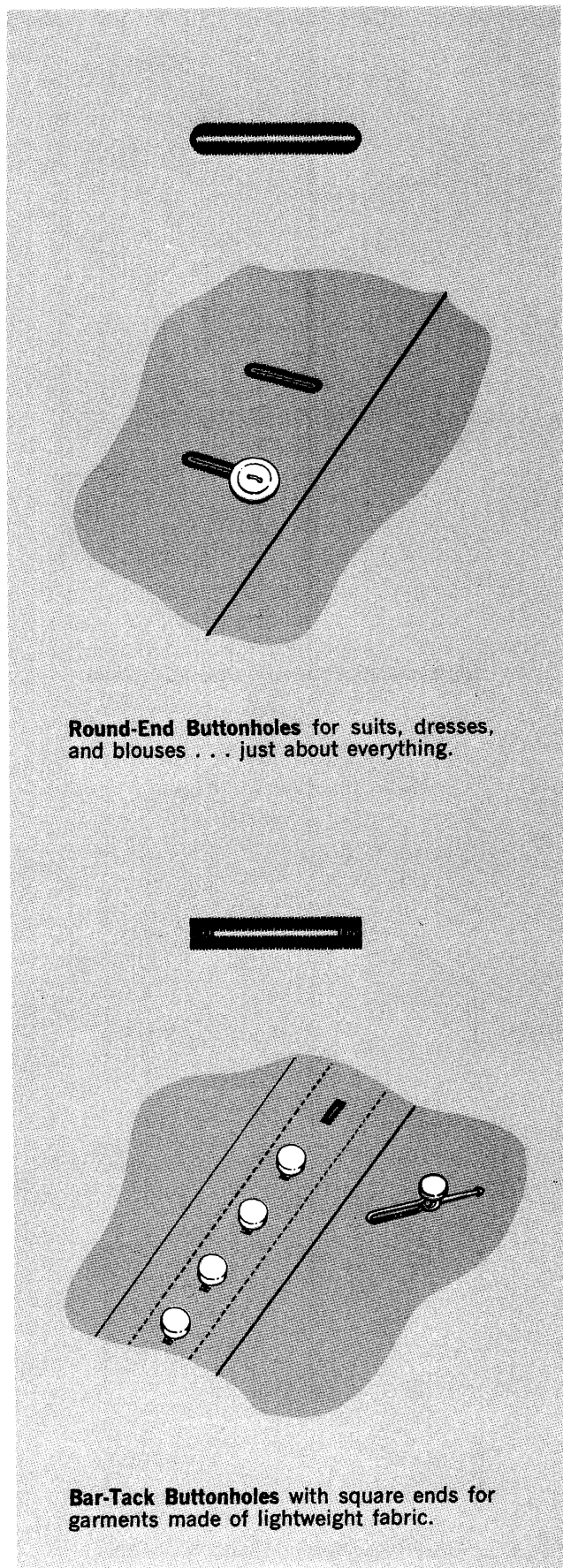
Bar-Tack Buttonholes

Bar-tack buttonholes with square ends are made manually in four steps. Use them in lightweight fabrics. They are ideal for shirt studs and for infants' and children's wear because they can be made in very small sizes.

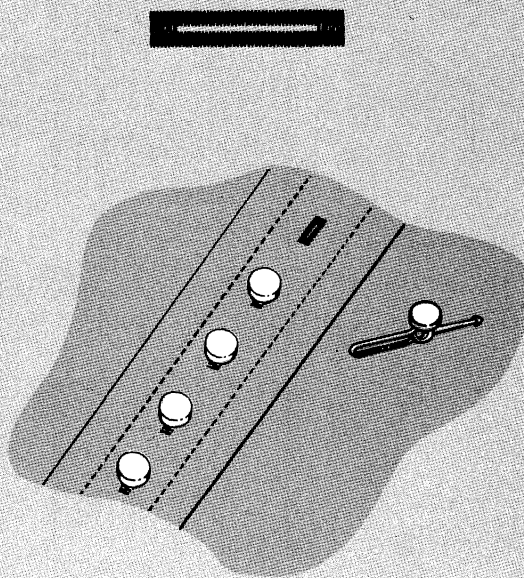
Turn to page 50 to learn how to make round-end buttonholes and page 52 for bar-tack buttonholes. On those pages, detailed instructions are given for making each buttonhole; but you will find the following information basic to both.



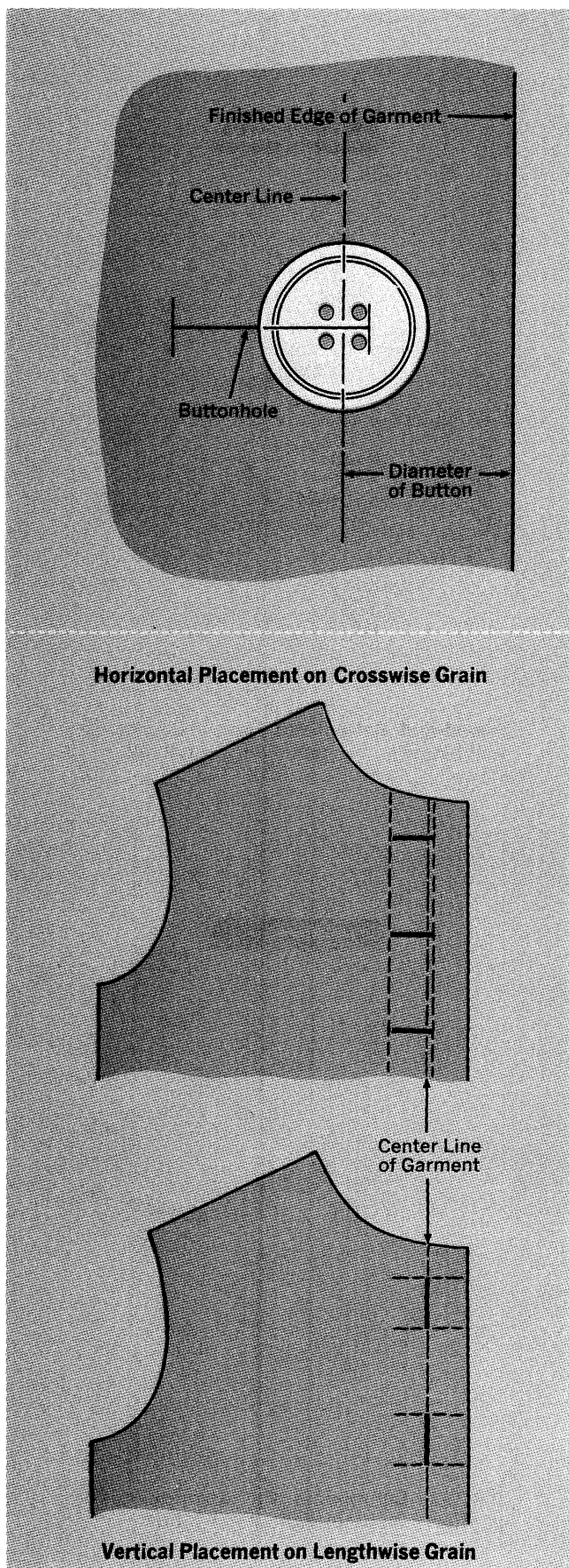
Buttonhole Beading in a Decorative Band



Round-End Buttonholes for suits, dresses, and blouses . . . just about everything.



Bar-Tack Buttonholes with square ends for garments made of lightweight fabric.



BUTTONHOLE POSITION

Accurate guidelines are essential to keep buttonholes at a uniform distance from the edge of the garment, evenly spaced, and on the grain of the material.

1. Mark the center line of the garment. This guideline can be made by hand basting. The space from the center line to the finished edge of the garment must be from three-quarters to once the diameter of the button. With this spacing, the button will not extend beyond the edge when the garment is buttoned. Make sure that the center line marking follows a lengthwise fabric thread.
2. Mark a position guideline for each buttonhole with hand basting.

- **Horizontal** buttonholes are placed to extend $\frac{1}{8}$ inch beyond the center line of the garment, as illustrated, so that the buttons will be in the center of the figure when the garment is fastened. Horizontal buttonhole guidelines should follow a crosswise fabric thread and be longer than the finished length of the buttonhole. Mark ends of each buttonhole vertically. See page 50 for specific markings for round-end buttonholes and page 52 for bar-tack buttonholes.

- **Vertical** buttonholes are placed so that the center line of the garment is in the center of the buttonhole, as illustrated. Mark the ends of each buttonhole horizontally across the center line basting and use the center line marking as the buttonhole guide when stitching.

3. Additional reminders:

- Remember to mark and make buttonholes on the correct side of the garment. Buttonholes in women's and girls' clothes are on the right hand side; on men's and boys' wear on the left hand side.
- Spaces between buttonholes should be equal. When a line of buttonholes crosses the waistline (as on a coat or jacket), be sure that one buttonhole will fall exactly on the waistline. Then measure the other buttonhole markings from that point.

BUTTONHOLE LENGTH

A buttonhole should be just long enough to allow the button to slip through the opening without stretching it. You can estimate the proper buttonhole length by measuring the width plus the thickness of the button. To make sure the measurement is correct, cut a slit in a scrap of fabric the diameter of the button you intend to use. Increase length of opening until button slips through easily. This test is particularly advisable for buttons of unusual shape or thickness.

BUTTONHOLE INTERFACING

It is almost always wise to use an interfacing in the buttonhole area. An interfacing holds the fabric firmly so that a neat buttonhole may be stitched and keeps the finished buttonhole in shape. Interfacing is essential when the fabric is loosely woven or is a crepe or knit that stretches easily.

When planning your garment remember that both round-end and bar-tack buttonholes are stitched through three thicknesses of fabric (garment, inter-

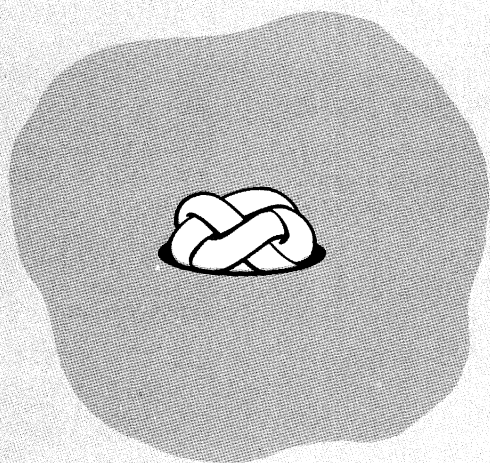
facing, and facing) after the facing has been attached.

TEST SAMPLE

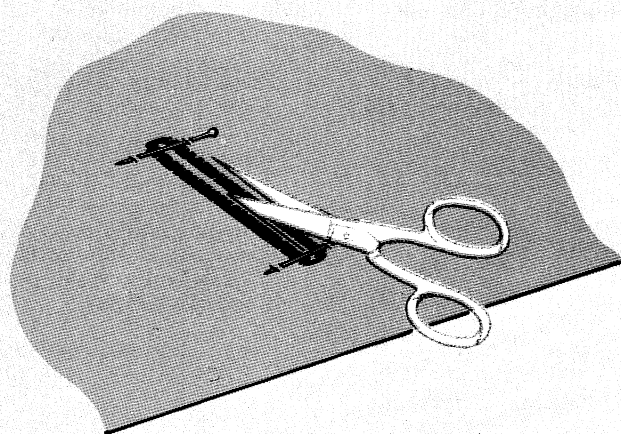
Always make a test buttonhole in a sample of your fabric to determine suitability of buttonhole style, buttonholing method, and machine settings. Be sure to duplicate the number of fabric layers in the garment and include interfacing if appropriate. Remember, too, that loosely woven and medium weight fabrics require buttonholes with wider side stitching than firmly woven or lightweight fabrics. Finally, check to see that the opening for the button can be cut without damaging buttonhole stitching.

CUTTING BUTTON OPENING

Use a pair of small sharp scissors to cut the button opening. Insert blade in center of buttonhole cutting space and cut from this point in either direction. Place a pin across the cutting space at each end of buttonhole to protect end stitching.



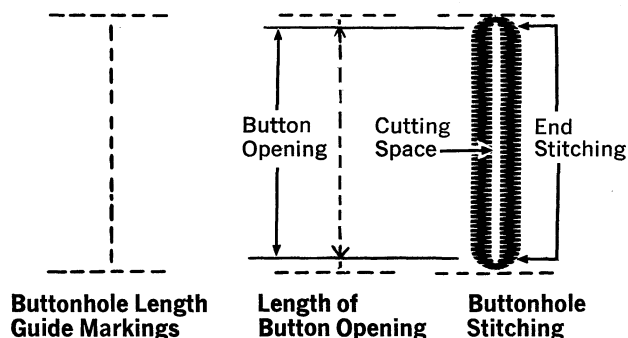
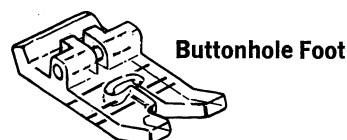
Testing Buttonhole Length



Cutting Button Opening

ROUND-END BUTTONHOLES

- **Fashion Disc: 0** (plain Zig-Zag)
- **Stitch Width Selector: (▼)3**
- **Needle Position: (▼)R**
- **Stitch Length: ►** (see instructions)
- **Buttonhole Lever: (▼)**
- **Buttonhole Dial: (see instructions)**
- **Pressure Dial: NORM**
- **Throat Plate: General Purpose**
- **Presser Foot: Buttonhole Foot**



Buttonhole Length

First decide how long the button opening must be. This will depend on the diameter and thickness of the button as explained on page 49. Then add $\frac{1}{8}$ inch for end stitching ($\frac{1}{16}$ inch for each end of buttonhole). The end-stitching allowance is approximate and should be increased slightly if the buttonhole is to be stitched twice. Fabric thickness and thread diameter will also vary end-stitching depths, so be sure to check measurements by making a test buttonhole. Mark the fabric as illustrated. See page 48 for additional buttonhole placement information.

Buttonhole Stitch Width

The stitch width setting **3**, designated by (▼) symbol, is an approximate setting; use it to make your test buttonhole. You may need to increase or decrease stitch width slightly to suit fabric, to arrive at more pleasing buttonhole proportions, or to change the width of the buttonhole cutting space. When making stitch width setting adjustment, remember that as stitch width is increased, the cutting space in the center of the buttonhole is decreased.

Attach transparent buttonhole foot, and engage the built-in buttonhole mechanism of the machine by setting the selectors in the order shown below.

Selector Settings ▼

Place **Fashion Disc 0** (plain zig-zag) on holder.



Set stitch width selector under (▼) symbol.

This stitch width setting is approximate. It may be increased or decreased slightly to suit the needs of the fabric or change the width of the cutting space.



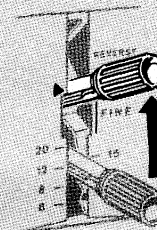
Move buttonhole lever from **OFF** to (▼) setting.

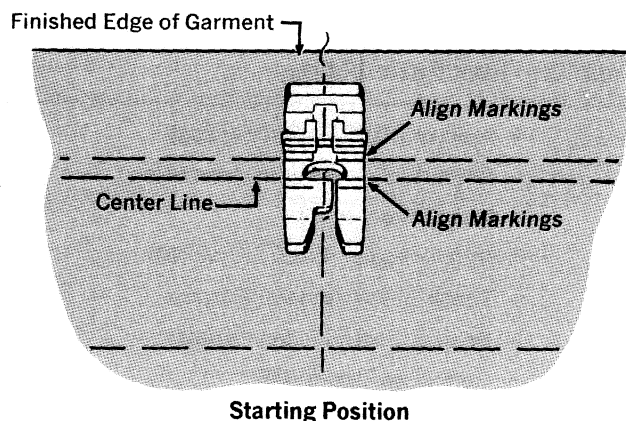
Always set this lever before positioning the stitch length selector.



Loosen thumb nut completely and move stitch length selector up (or down) toward (►) symbol until it locks into place.

Selector must be positioned after buttonhole lever is set in order to achieve a lock.



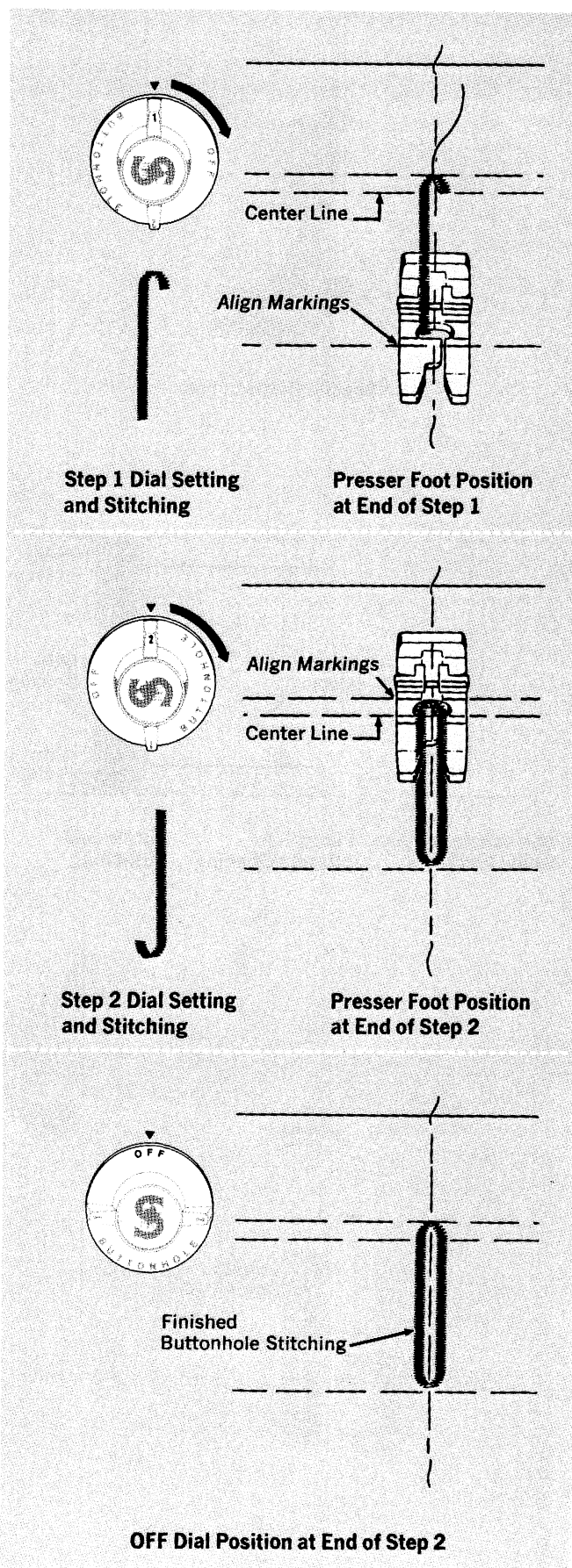


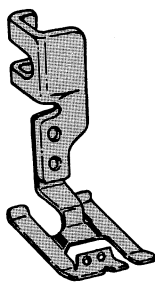
Procedure

1. Place garment under presser foot so that buttonhole position marking is centered.
2. Align *center* gauge line of buttonhole foot with center line of garment. The *back* gauge line of foot and end-of-buttonhole length marking will coincide, positioning your buttonhole correctly $\frac{1}{8}$ inch beyond center line of the garment.
3. Lower the presser foot, and turn buttonhole dial to the right until setting **1** is engaged (audible click indicates engagement).
4. Start machine and let it complete **step 1** of the buttonholing cycle, that is, stitching across the end and down left side of buttonhole. Stop machine when *front* gauge line on buttonhole foot reaches end-of-buttonhole guideline on garment.
5. Turn buttonhole dial to the right until setting **2** is engaged (starts to click).
6. Start machine and let it complete **step 2** of the buttonholing cycle, that is, stitching across the end and up the right side of buttonhole. Stop machine when *back* gauge line on buttonhole foot is in line with the end-of-buttonhole guideline on garment. Take one or two stitches if necessary to overlap stitching at starting point. For a smooth, satiny appearance and greater durability, stitch around the buttonhole a second time by repeating the two-step dial sequence.
7. Remove work from machine, clip thread ends and cut button opening with shap scissors.

When buttonholes are completed, move buttonhole lever to OFF before resetting the stitch length selector for regular sewing. *Remember that the stitch length selector will remain locked as long as the buttonhole lever is engaged.*

You do not have to move the buttonhole dial to the OFF position. It will rotate by itself to OFF during second-step stitching.





Special Purpose Foot

BAR-TACK BUTTONHOLES

Plain Bar-Tack Buttonholes

- **Fashion Disc: 0** (plain Zig-Zag)
- **Stitch Width Selector:** (see below)
- **Needle Position: L**
- **Stitch Length: FINE** (above 20)
- **Throat Plate: General Purpose**
- **Presser Foot: Special Purpose**
- **Buttonhole Lever: OFF**
- **Buttonhole Dial: OFF**

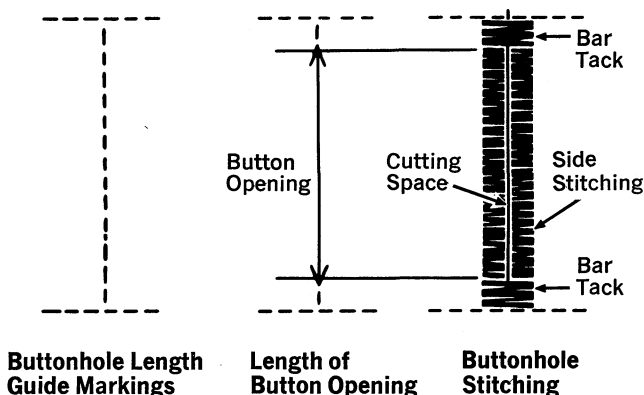
Buttonhole length:

First determine the length of the button opening. This will depend on the diameter and thickness of the button as explained on page 49. Then add at least $\frac{1}{8}$ inch ($\frac{1}{16}$ inch for each bar tack), and mark the fabric as illustrated. This bar-tack measurement is approximate; on some buttonholes, you may need to increase it to arrive at pleasing proportions.

Buttonhole stitch width:

Next, select the stitch width settings that you will need: one for side stitching and one for bar tacks. The three possible combinations are shown below.

Bar-tack buttonholes are not made with the built-in buttonhole facility of your machine, so be sure the buttonhole lever and buttonhole dial are turned *off* before you start to sew.



Selector at 3
for Side Stitching

Selector at 5
for Bar Tacks



Selector at 2 1/2
for Side Stitching

Selector at 4
for Bar Tacks



Selector at 2
for Side Stitching

Selector at 3
for Bar Tacks

Procedure

With *Fashion Disc 0* inserted, set needle position selector at **L** and stitch width selector on setting desired for side stitching of buttonhole. Place work under needle, aligning center marking of buttonhole with center score line of the special purpose presser foot.

Side stitching: Position needle in fabric at point **A**. Lower foot and stitch to end of marking. Leave needle in fabric at point **B**. Raise foot and pivot work on needle. Lower foot. Take one stitch without changing width setting, bringing work to point **C**.

Bar tack: Adjust stitch width selector for bar tacks and take at least six stitches. Stop at point **D**.

Side stitching: Readjust stitch width selector for side stitching. Complete work to point **E**. Leave needle in fabric.

Final bar tack: Adjust stitch width selector for bar tacks, and take at least six stitches *in reverse*, ending at point **F**.

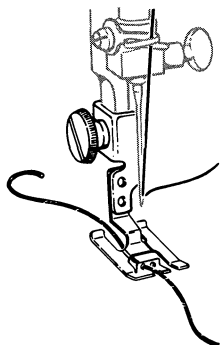
Fastening stitch: To secure stitching, move stitch width selector to **1** and take three stitches. Remove work, draw threads to underside, fasten, and trim. Cut opening for button with sharp scissors.

Corded Bar-Tack Buttonholes

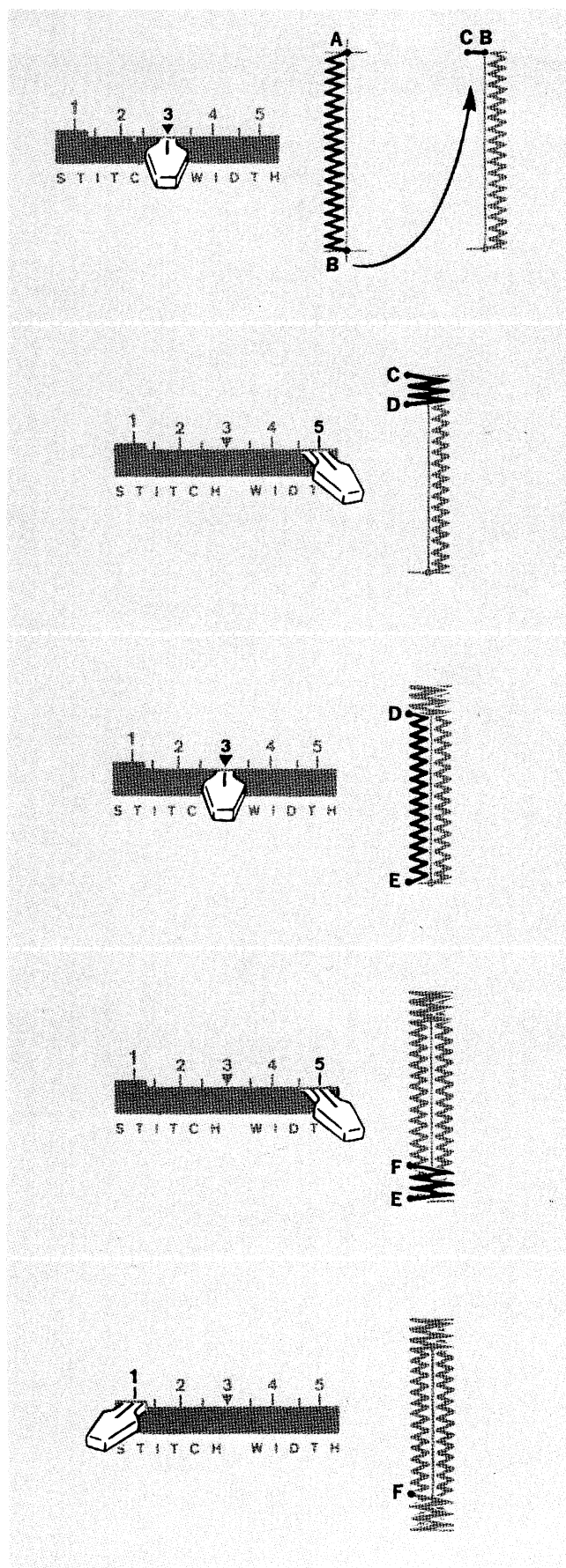
Soft threads used for embroidery and crocheting make suitable filler cords for raised buttonholes. A fine pearl cotton (size No. 8) or silk buttonhole twist is generally used.

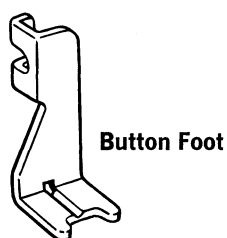
To thread the special purpose foot, lead the end of the cord through the left eyelet guide. Draw the cord under the cross bar to the back of the foot.

Proceed with stitching as for plain bar-tack buttonholes, but just before making the final bar tack, cut the filler cord close to the eyelet guide. Complete the bar tack and fasten buttonhole stitching as usual. Carefully trim cord ends.



Eyelet Threaded for Corded Buttonholes





buttons

- **Fashion Disc: 0** (plain Zig-Zag)
- **Stitch Width Selector: 1 and 4**
- **Needle Position: L**
- **Throat Plate: General Purpose (DARN position)**
- **Presser Foot: Button Foot**

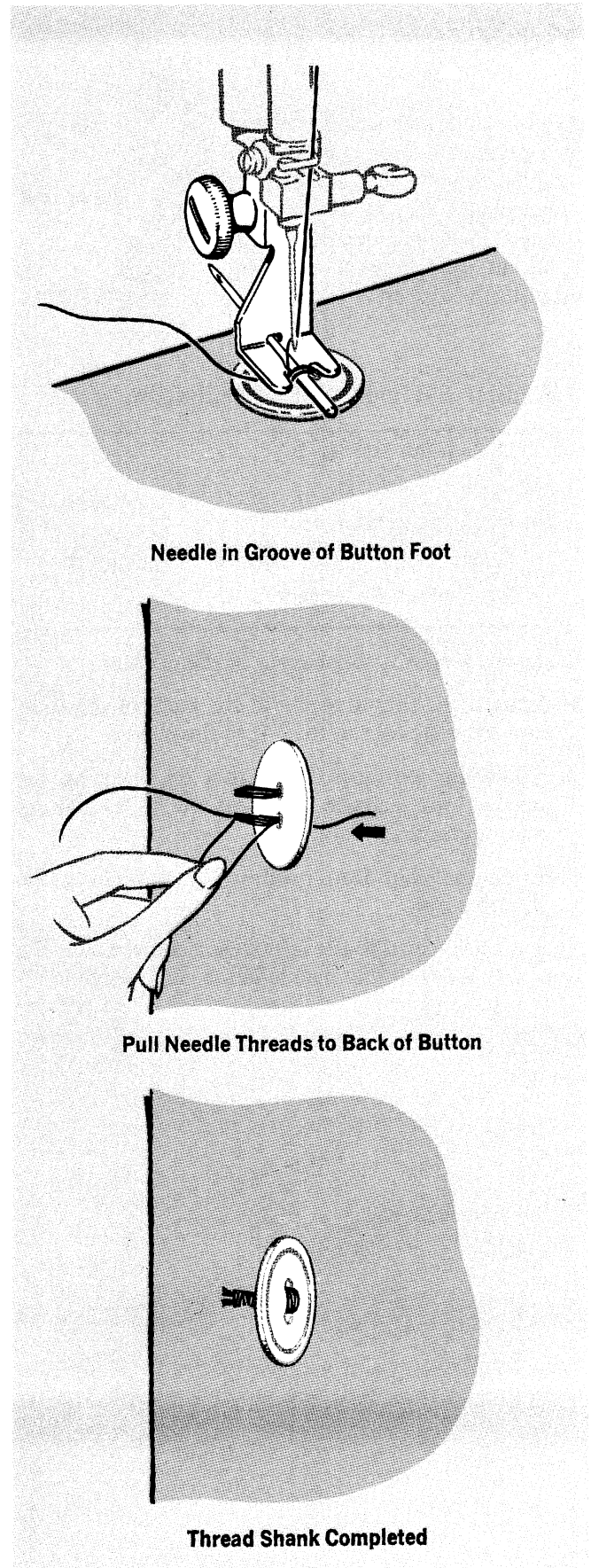
The space between the holes in the button determines the stitch width settings. The number **1** setting must always be used to position the button and fasten stitching at the end. For buttons with standard hole spacing, use settings **1** and **4**. For buttons with unusual hole spacing, use setting **1** and increase or decrease the width (**4**) as necessary.

1. With **Fashion Disc 0** inserted, set needle position selector at **L** and stitch width selector at **1**. Raise throat plate to **DARN** position. Position button under foot and lower the needle into center of left hole by turning hand wheel toward you. Lower the presser foot. Turn hand wheel toward you until needle rises out of button and is just above the foot.
2. Set stitch width selector at **4**. Then, when you begin to stitch, the needle should enter the right hole of the button. Take six or more zig-zag stitches at this setting, ending on the left side.
3. To fasten stitching, return to stitch width setting **1** and take approximately three stitches.

THREAD SHANK

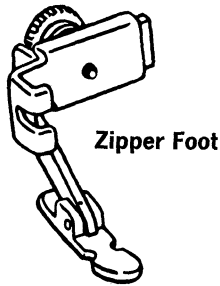
In order to form a thread shank, you stitch over the blade of a regular machine needle. Buttons sewn on heavy fabrics or on coats and jackets should have thread shanks to make them stand away from the fabric.

1. Position button by following step 1 of button sewing.
2. Slide needle through the groove of the button foot until the point emerges through the hole in the back of the foot. To form a longer shank, push the needle in further so you will stitch over the heavy end of the needle.
3. Set stitch width selector at **4**. Then, when you begin to stitch, the needle should enter the right hole of the button. Take six or more zig-zag stitches at this setting, ending on the left side.
4. To fasten stitching, return to stitch width **1** and take approximately three stitches.
5. After removing fabric from under presser foot, pull needle thread ends to the back of the button. Form a firm shank or stem between the button and the fabric by winding thread ends tightly around the attaching stitches. Fasten the thread ends securely



zippers

At your notions counter you will find many kinds of zippers with detailed sewing instructions in the package. If you use the zipper foot, you will find it easy to form an even line of stitching close to the zipper.



STRAIGHT STITCH ZIPPER INSERTION

- Stitch Width Selector: 1
- Needle Position: C
- Stitch Length: 10 to 15
- Throat Plate: General Purpose or Straight Stitch
- Presser Foot: Zipper Foot

When the zipper is to the *right* of the needle:

1. Loosen the thumb screw at the back of the foot, and slide the foot to the *left* of the needle.
2. Check the position of the foot by lowering the needle into the side notch of the foot, making sure it clears the foot.
3. Lock the foot into position by tightening the thumb screw.

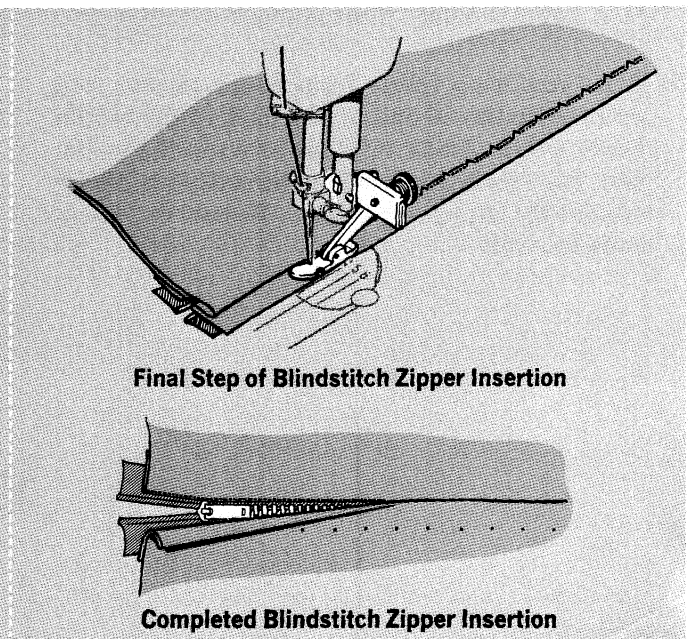
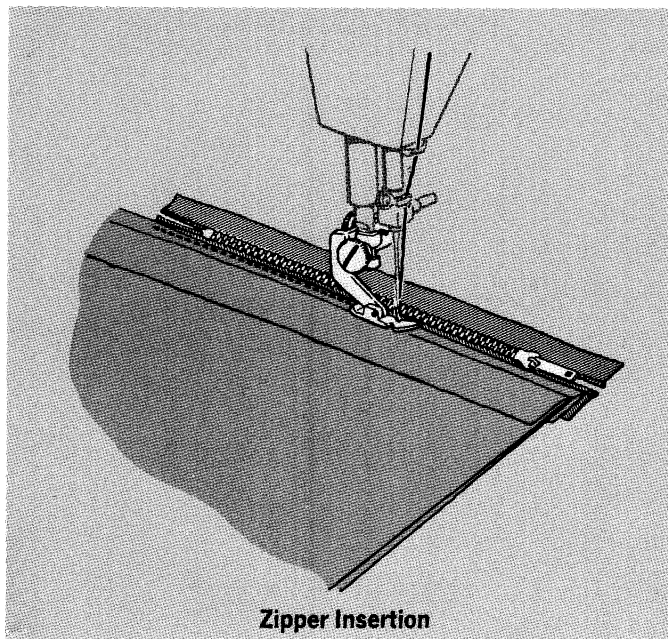
When the zipper is to the *left* of the needle, adjust the foot to the *right* of the needle in the same way.

BLINDSTITCH ZIPPER INSERTION

- Fashion Disc: 8 (Blindstitch)
- Stitch Width Selector: 2½ or 3
- Needle Position: C
- Stitch Length: 12
- Throat Plate: General Purpose
- Presser Foot: Zipper Foot

On chiffons, velvets, and sheer fabrics, you can blindstitch the final step of a zipper insertion to give a fine finish that is almost invisible.

1. Allow a ⅞-inch seam allowance.
2. Start the insertion in the regular way, but omit the final step.
3. Work from the right side of the garment and pin the zipper tape into position. Pin through all layers, smoothing the fabric as you pin.
4. Baste a line about ⅜ inch from the seam line to provide a guide for blindstitching. Remove pins.
5. Adjust zipper foot to proper side as described in "Straight Stitch Zipper Insertion."
6. Turn garment inside out.
7. Place zipper tape over feed and turn back the front section of the garment to the line of basting, creating a soft fold.
8. Adjust stitch width selector and position work so that the straight stitches go through the seam allowance and zipper tape, and the sideward stitches pierce a few threads of the fold.
9. Lower zipper foot and stitch slowly.
10. Remove basting and press.



decorative touches

TOP STITCHING

A practical, simple way to accent the lines of a dress or coat is to place one or more rows of stitching along collars, lapels, facing edges, pockets, sleeves, etc. For a tailored look, use lines of straight stitching. For decorative interest, use decorative stitching. The seam and hem guide will help you place the rows of stitching accurately.

SHELL EDGING

On soft, fine fabrics, shell edging makes an attractive finish for narrow hems or bias folds.

- **Fashion Disc: 8 (Blindstitch)**
- **Stitch Width Selector: 3 through 5**
- **Needle Position: C**
- **Throat Plate: General Purpose**
- **Presser Foot: General Purpose**

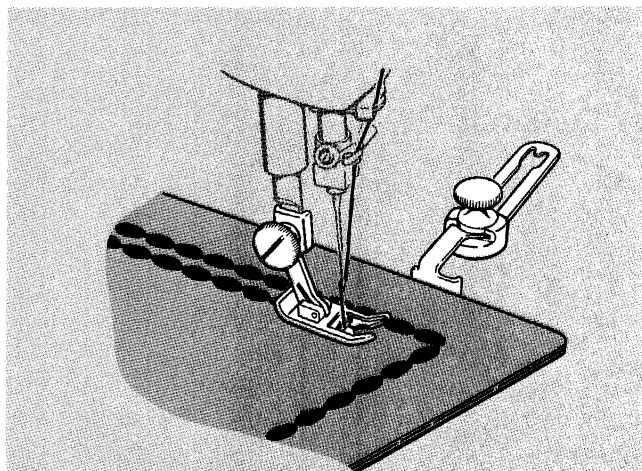
1. Make a test on a sample of your fabric to find the right thread tension, stitch length, and stitch width.
2. Place folded hem (basted, if necessary) or bias fold under presser foot, with hem or fold toward the left.
3. Stitch slowly, guiding fabric by hand so that the sideward stitches do not pierce the folded edge.

SCALLOPING

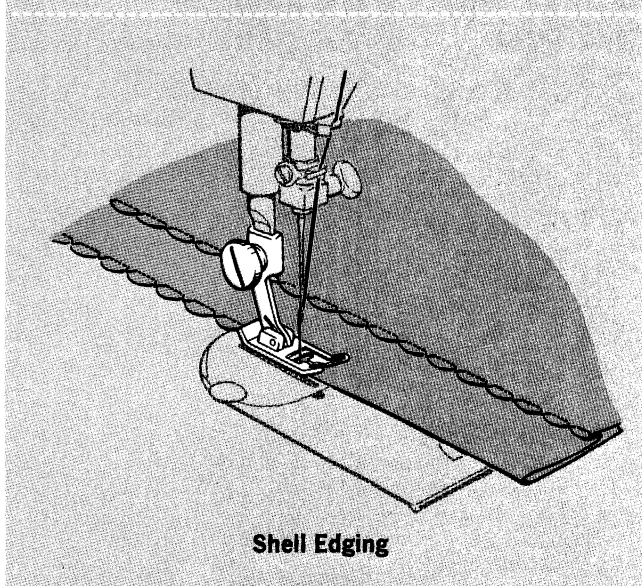
Scalloping adds interest to blouses, dresses, lingerie, and children's clothes. Scallops will be perfect in form and evenly spaced when you use the scallop stitch (*Fashion Disc 2*).

- **Fashion Disc: 2 (Scallop)**
- **Stitch Width Selector: 3 through 5**
- **Needle Position: C**
- **Stitch Length: 10 to 15**
- **Throat Plate: General Purpose**
- **Presser Foot: General Purpose**

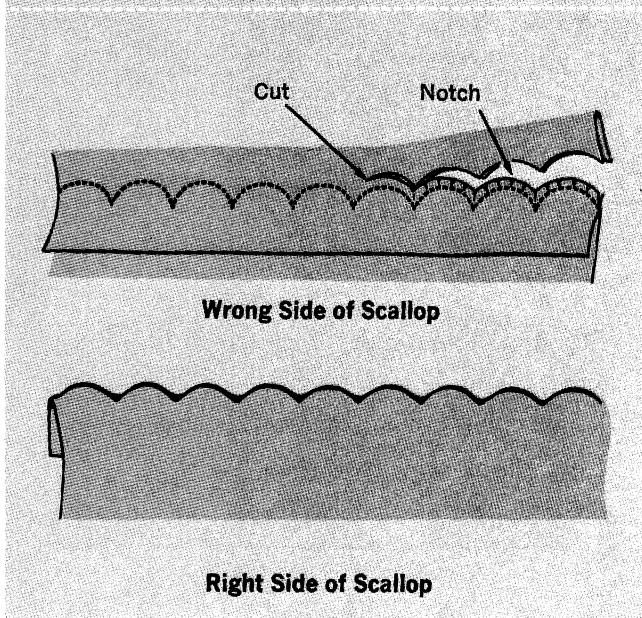
1. Place right sides of fabric together. (Shaped or bias edges should be interfaced.) Stitch scallops.
2. After stitching, trim seam allowance to $\frac{1}{8}$ inch or less.
3. Clip points of scallops with scissors and, if necessary to make scallops lie flat, clip along curves.
4. Turn to the right side and gently push scallops out. Press flat.



Top Stitching

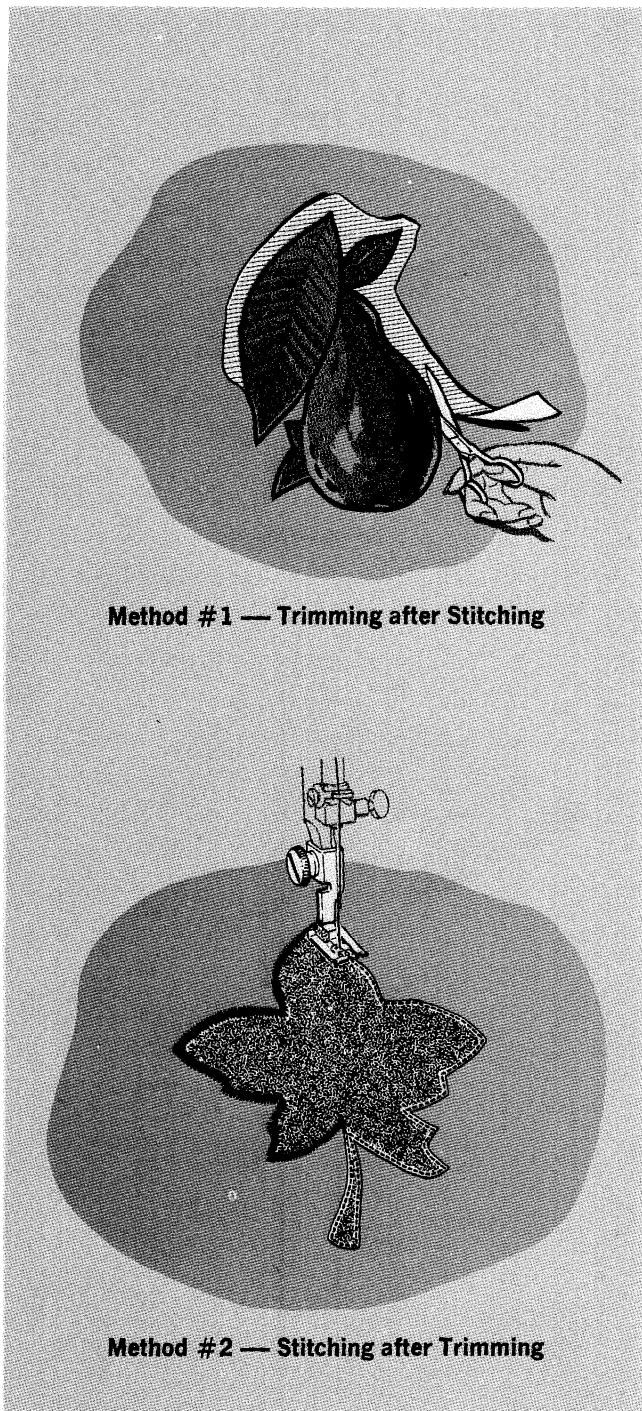


Shell Edging

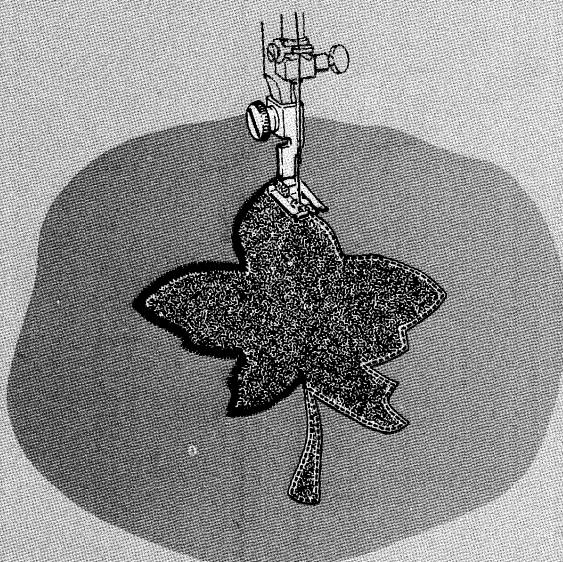


Wrong Side of Scallop

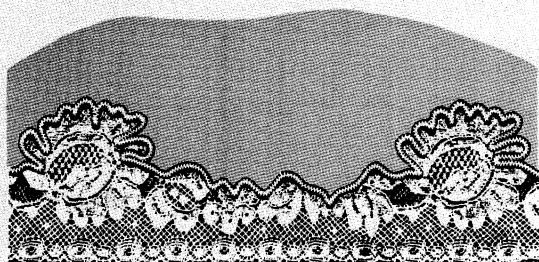
Right Side of Scallop



Method #1 — Trimming after Stitching



Method #2 — Stitching after Trimming



Corded Lace Applique

APPLIQUE

Applique adds beauty and interest to clothes and household linens. Either contrasting or self fabric can be used effectively.

The stitch most commonly used in appliqueing is a plain zig-zag stitch (*Fashion Disc 0*), closely spaced to form a satin stitch. The width of this stitch can be varied to accommodate fabrics of different weaves and textures. Many of the other *Fashion Disc* patterns can also be used to applique with decorative stitching.

To prepare for appliqueing, make a sample to help you decide which of the following two methods is more appropriate for your fabric and design.

- Position the design and baste it to the fabric.
- Attach special purpose foot (and general purpose throat plate)

Method #1

1. Insert *Fashion Disc* for the desired applique stitch. Set stitch width selector for the desired stitch width, and set stitch length selector on **FINE** (above **20**).
2. Outline the entire design with applique stitching.
3. Trim any excess fabric on the outer edges of the stitching. Remove basting.

Method #2

1. Insert *Fashion Disc* for the desired applique stitch pattern.
2. Adjust selectors for straight stitching and outline the entire design with a short stitch.
3. Trim raw edges to the stitching.
4. Adjust stitch width selector to desired width setting for applique pattern, and set stitch length selector on **FINE**.
5. Stitch, following and covering the straight-stitch outline. This step will produce a smooth over-edged finish, with no raw edges to be trimmed. Remove basting.

Corded Applique

Corded applique, which gives a raised, three-dimensional effect, is a particularly attractive finish for lace applique.

Follow either method #1 or #2, described above, but first insert a cord of gimp, crochet thread, or buttonhole twist into eyelet on special purpose foot, as instructed under "Inside Seams," page 43.

MONOGRAMS AND MOTIFS

Many of the decorative stitch patterns can be used for monograms or motifs — for adding a personal touch to a blouse collar, for example, or for initialing household linens. You can buy designs — or create them yourself.

Stitching a Monogram or Motif

- **Fashion Disc: 0** for zig-zag satin stitching
See page 27 for decorative stitches
- **Stitch Width Selector: 2** through 5
- **Needle Position: C**
- **Stitch Length: FINE** (above 20)
- **Throat Plate: General Purpose**
- **Presser Foot: Special Purpose**

1. Make a sample first to determine suitability of stitch pattern and to find the right stitch length, width, and thread tension.
2. Transfer the design (by tracing, usually) to the right side of the fabric.
3. If the fabric is soft or loosely woven, baste a backing of lawn or organdy onto the wrong side.
4. After stitching, trim the backing close to the stitching.

Finding the beginning of the pattern unit

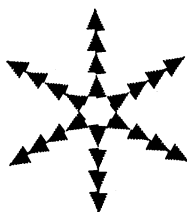
When you use decorative stitch patterns in a motif, always start stitching at the beginning of a pattern unit — that is, at the beginning of the diamond, arrowhead, or whatever pattern you are using. To find the beginning:

1. On a scrap of material, stitch until you come to the end of a complete pattern unit. Now you are ready to start stitching at the beginning of the next unit.
2. Raise presser foot and remove scrap.
3. Position motif under needle; lower presser foot; and stitch.

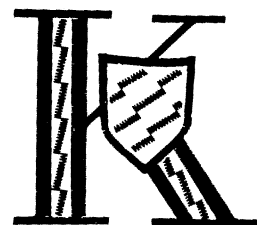
Beginning of
Pattern Unit



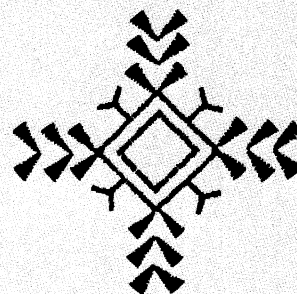
Arrowhead



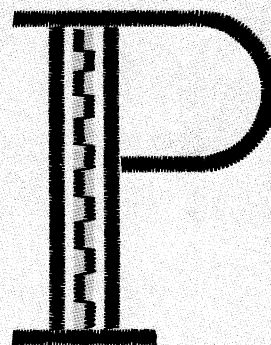
Arrowheads in Star Motif



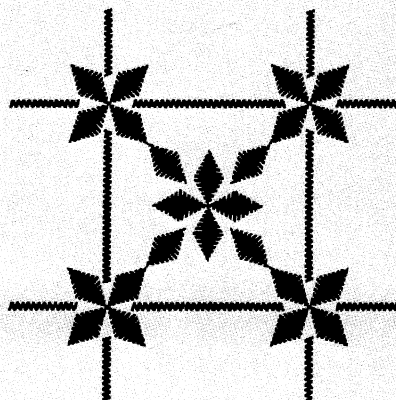
Monogram in Zig-Zag and Banner Stitch



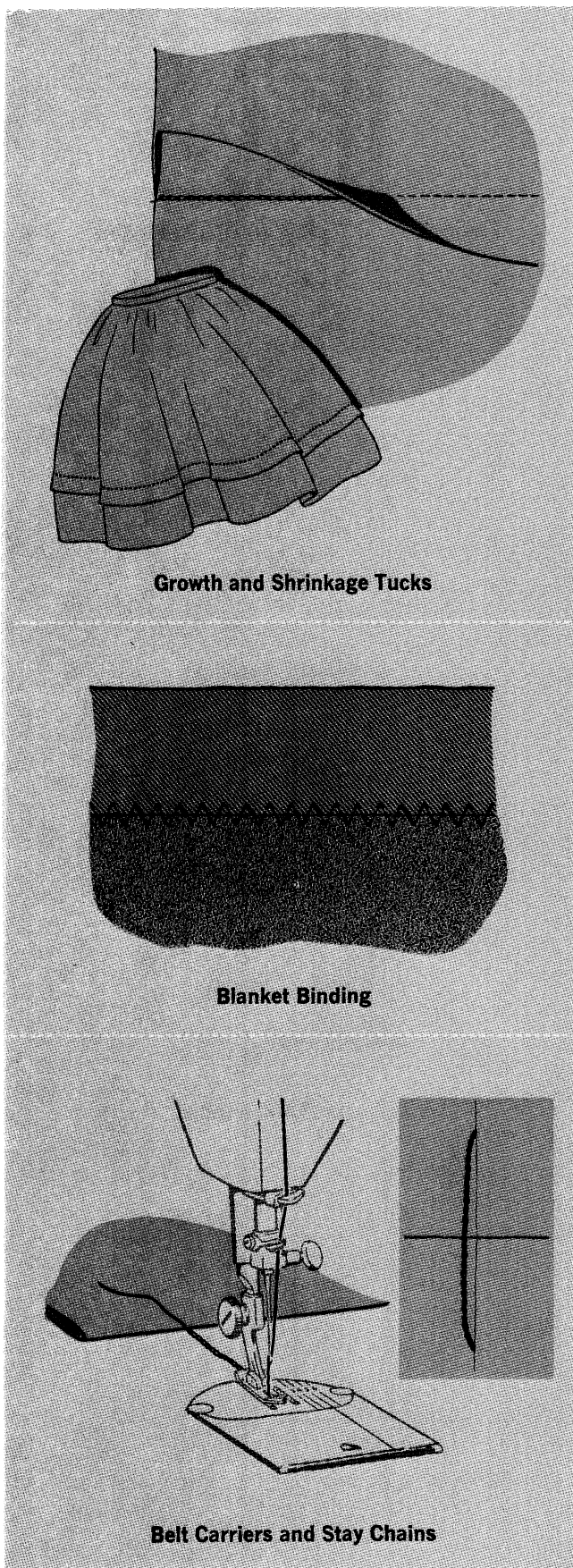
Arrowhead Medallion



Stitch-Over-Stitch Initial



Diamonds in Square Motif



Growth and Shrinkage Tucks

Blanket Binding

Belt Carriers and Stay Chains

keeping up appearances

GROWTH AND SHRINKAGE TUCKS

Tucks are frequently put into curtains, linings, and children's clothes to allow for the child's growth or fabric shrinkage. "Letting down" is no longer a chore when tucks are chainstitched. Simply unlock the last loop of the chain formed on the underside of the tuck and pull out the stitching. Turn to page 34 for more information on chainstitching.

BLANKET BINDING

Often you can make an old blanket look almost new by replacing the binding.

-
- **Fashion Disc: 9 (Multi-Stitch Zig-Zag)**
 - **Stitch Width Selector: 5**
 - **Needle Position: C**
 - **Stitch Length Selector: 15 to 20**
 - **Throat Plate: General Purpose**
 - **Presser Foot: General Purpose**
-

1. Remove worn binding.
2. Baste new binding securely.
3. Increase stitch length if necessary so that blanket feeds freely.
4. Stitch, and remove basting.

BELT CARRIERS AND STAY CHAINS

Stay chains (sometimes called French tacks) and belt loops, normally time-consuming hand-worked detail finishes, can now be quickly chainstitched. To produce a chain, place the first stitch in the fabric. Stitch off fabric and continue stitching until a sufficient length of chain is produced. Thread chain through an embroidery or darning needle and tack to garment or lining. A stitch length setting of 12 is recommended. Turn to page 34 for more information on chainstitching.

MENDING

Many of the zig-zag stitch patterns are just as useful for mending as they are for creative sewing. *Fashion* Disc **9**, which is the multi-stitch zig-zag, forms a firm, flexible bond for repairing tears, for reinforcing, or for replacing elastic. *Fashion* Disc **0**, which is plain zig-zag, is useful for making bar tacks to repair lingerie.

Tears

- **Fashion** Disc: **9** (Multi-Stitch Zig-Zag)
- Stitch Width Selector: **2** through **5**
- Needle Position: **C**
- Stitch Length: About **20** or to suit fabric
- Throat Plate: General Purpose
- Presser Foot: General Purpose

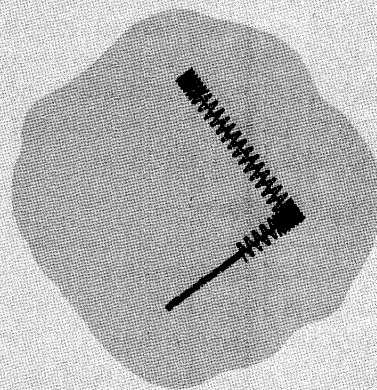
1. Trim ragged edges.
2. Place underlay on the wrong side of tear for reinforcement. (It is best not to baste or pin the underlay since you will be bringing the edges of the tear together in the next step.)
3. Stitch on the right side, bringing the edges of the tear together.
4. Shorten stitch length at ends and corners to give extra strength.
5. Trim underlay.

Elastic

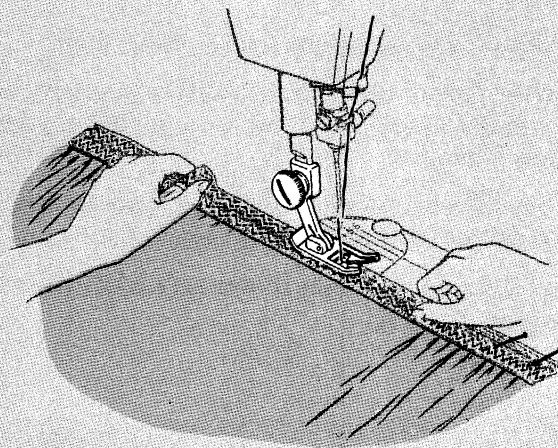
1. When replacing waistline elastic use the same settings and accessories as for "Tears" above.
2. Fit elastic for desired snugness at waistline, allowing one inch for joining. Lap the ends and join with multi-stitch zig-zag.
3. Divide the elastic band and garment waistline into quarters. Lap the elastic over the fabric and pin the two together at these intervals. Place pins at right angles to the stitching line.
4. Take a few stitches to anchor elastic to fabric, then hold the elastic taut as you stitch so that it will remain stretchable after stitching is completed.

Bar Tacks

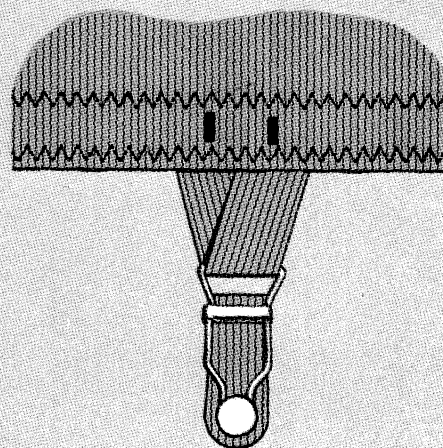
Use *Fashion* Disc **0** (plain zig-zag) at satin-stitch length to bar-tack garters, pockets, zippers, shoulder straps, etc.



A Tear Mended with Multi-Stitch Zig-Zag



Replacing Elastic with Multi-Stitch Zig-Zag



Bar Tacks

DARNING

Worn or torn spots on children's clothes, knits, and household linens can be darned effortlessly and quickly with little practice. You may choose to darn either with or without an embroidery hoop. When greater control is needed, free-motion stitching with an embroidery hoop is usually best.

Without Embroidery Hoop

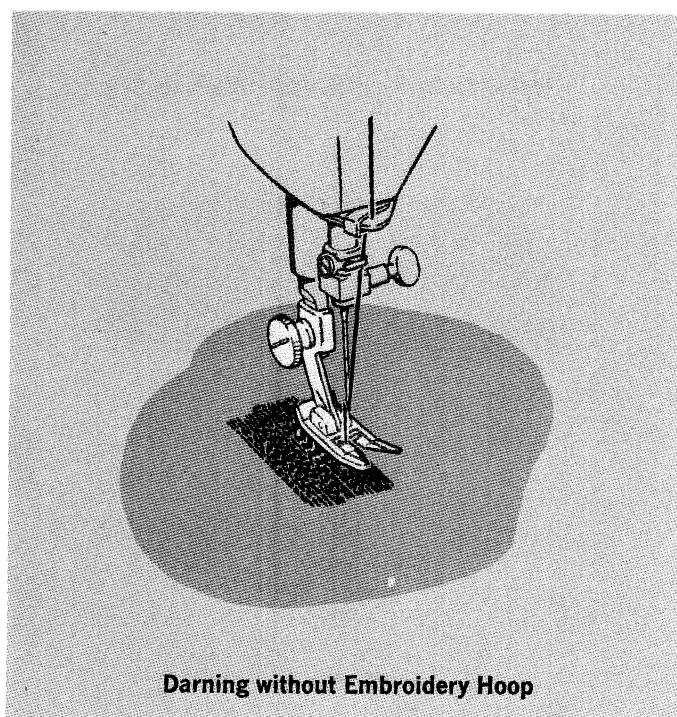
- Stitch Width Selector: **1**
- Needle Position: **C**
- Stitch Length: **10 to 15**
- Throat Plate: General Purpose
- Presser Foot: General Purpose
- Pressure Dial: **DARN**

1. If area to be darned is open, baste an underlay in place.
2. Place area to be darned under presser foot.
3. Lower presser foot and start stitching, alternately drawing fabric toward you and pulling it *gently* away from you.
4. Continue this forward and backward motion as you fill the area with parallel lines of stitching.
5. For additional strength, cover area with crosswise lines of stitching.

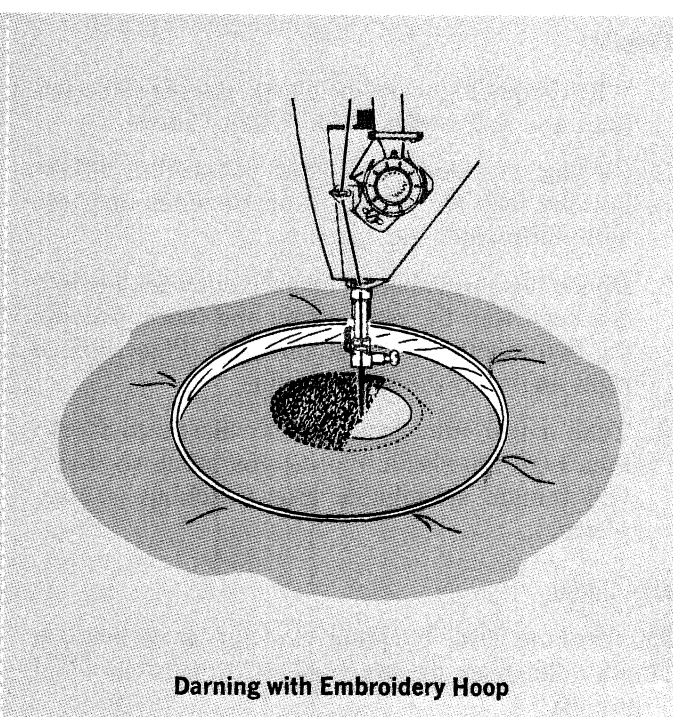
With Embroidery Hoop

- Stitch Width Selector: **1**
- Needle Position: **C**
- Stitch Length: **FINE** (above **20**)
- Throat Plate: Straight Stitch (**DARN** position)
- Presser Foot: None

1. Trim ragged edges from area to be darned.
2. Center worn section in embroidery hoop.
3. Position work under needle and lower presser bar to engage tension.
4. Hold needle thread loosely with left hand, turn hand wheel over and draw bobbin thread up through fabric. Hold both thread ends and lower needle into fabric.
5. Outline area to be darned with running stitches for reinforcement.
6. Stitch across opening, moving hoop under needle at a slight angle from lower left to upper right. Keep lines of stitching closely spaced and even in length.
7. When opening is filled, cover area with crosswise lines of stitching.



Darning without Embroidery Hoop



Darning with Embroidery Hoop

8. CARING FOR YOUR SEWING MACHINE

cleaning and lubricating the machine

How often you will need to clean and lubricate your machine will depend on how often you use it. The following general guidelines assume that you will be sewing several times a week. But if you use the machine more frequently, lubricate it more often than the guidelines suggest.

EVERY FEW WEEKS

Remove lint or fluff from exposed parts.

With a soft cloth, clean:

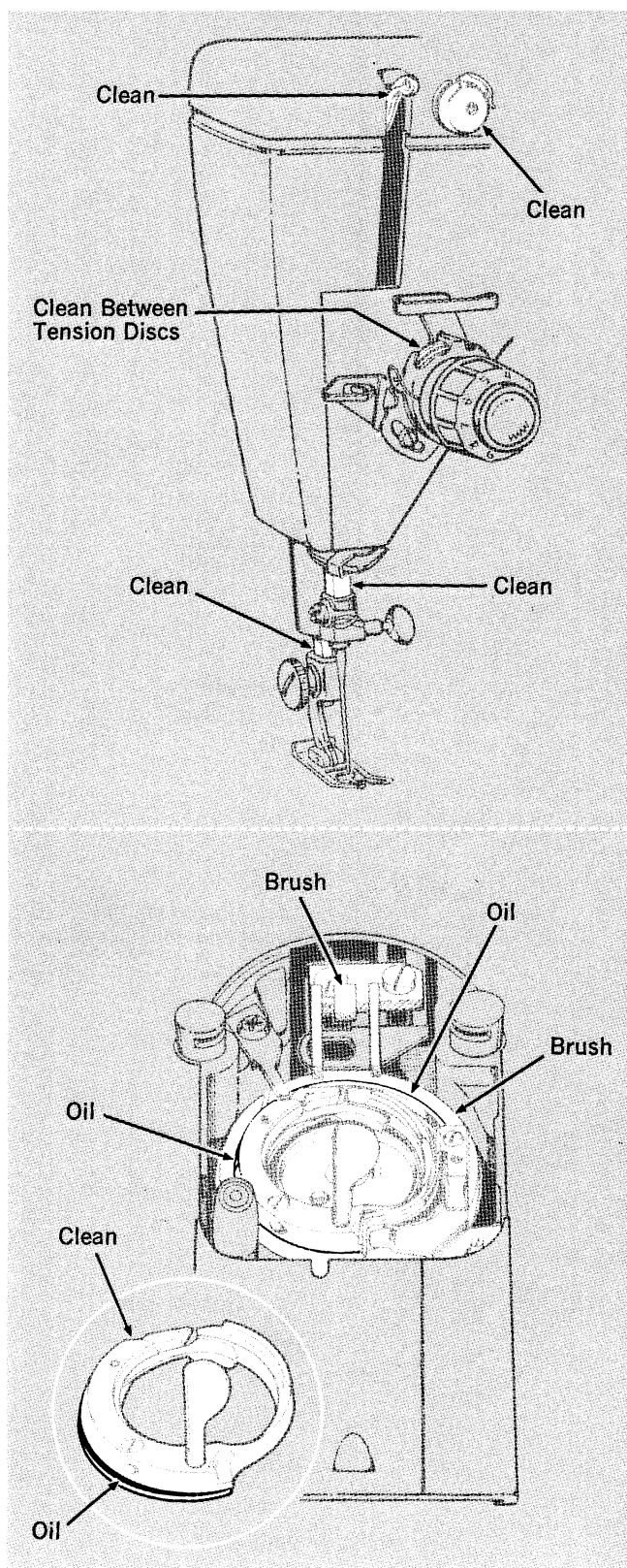
- Tension discs
- Take-up lever and thread guides
- Presser bar and needle bar
- Bobbin case (if there is an excessive amount of lint in the area, remove the bobbin case for cleaning and oiling. See next page for instructions.)
- Machine arm and bed

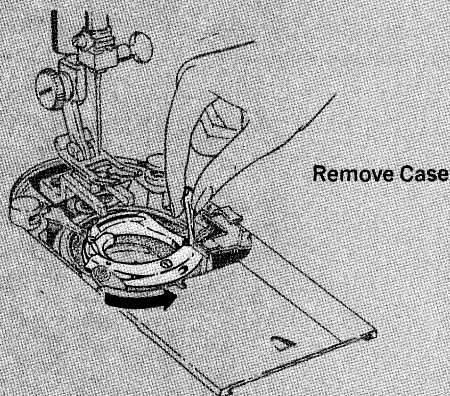
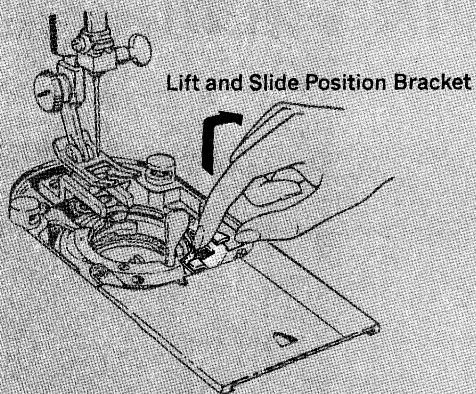
If necessary, dampen the cloth and use a mild soap to clean the machine surface.

Remove throat plate, as instructed on page 17, and clean:

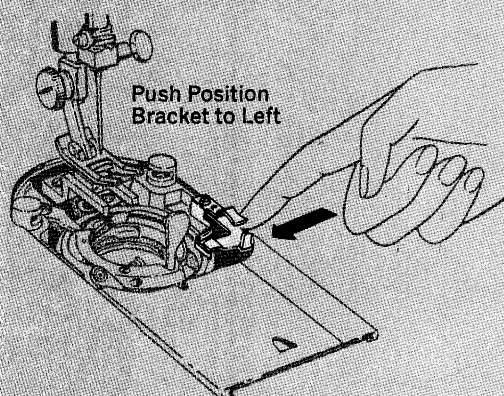
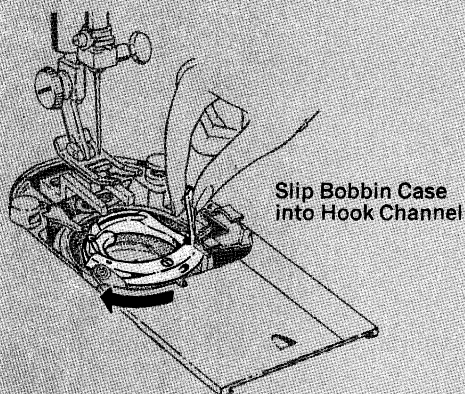
- Feed dog
- Rotating hook (area under throat plate and slide plate)

After each cleaning, apply a drop (*but no more than a drop*) of SINGER oil to the areas indicated. Then sew a line of stitching on a scrap of material to remove excess oil.





Removing Bobbin Case



Replacing Bobbin Case

Removing the Bobbin Case

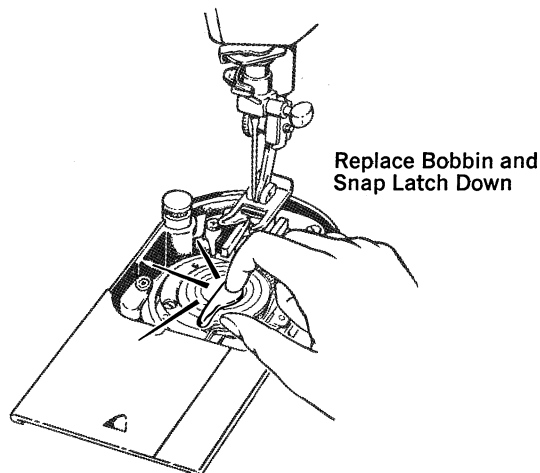
Make sure needle is above the throat plate

1. Open slide plate and remove throat plate (see page 17 for instructions).
2. Remove bobbin. Keep bobbin push button in sewing position.
3. To unlock bobbin case, lift position bracket (at right of case) and slide to right.
4. To remove bobbin case, hold latch, twist case to right, and lift out.

Replacing the Bobbin Case

Make sure needle is above the throat plate

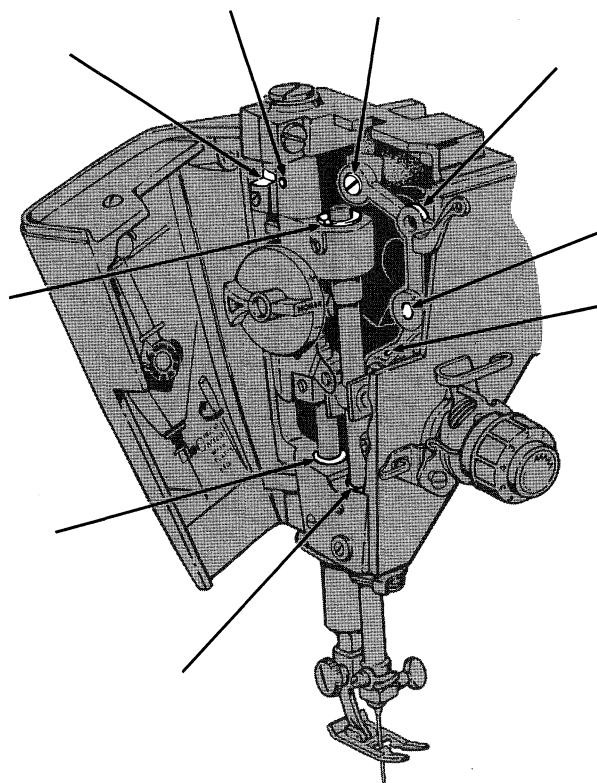
1. Keep bobbin push button in sewing position. Hold bobbin case by latch and, with latch to right of needle, slip case in position so that the groove engages hook channel.
2. Twist bobbin case to left until latch is in center.
3. Push position bracket to left until it snaps down, locking bobbin case in place.
4. Replace bobbin and snap latch down.
5. Replace throat plate and close slide plate.



EVERY FEW MONTHS

Clean and oil area behind face plate.

- It is not essential, but you will find this easier to do if you remove the top cover first, as described below.
- After oiling this area of the machine, sew a few lines of stitching on a scrap of material to remove excess oil.

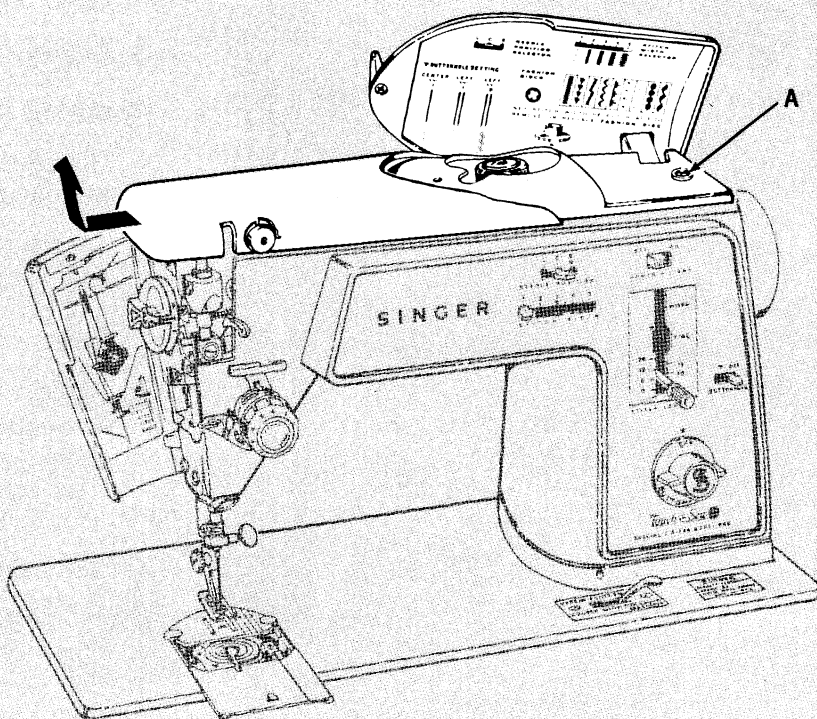


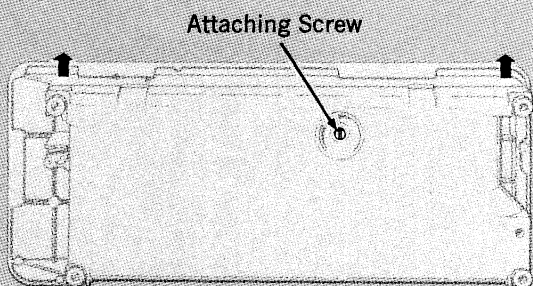
Apply a Drop of Oil to Each Spot Shown

Removing and Replacing Top Cover

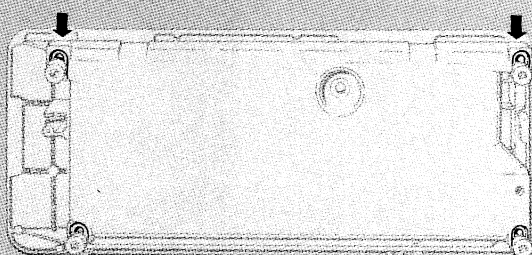
Move take-up lever to a low point

1. Open stitch chart and remove screw A; slide the top cover toward left and off machine.
2. Replace cover by positioning it on top of arm with a *slight overhang on left side*; slide cover to the right until it locks in place.
3. Replace and tighten screw A.

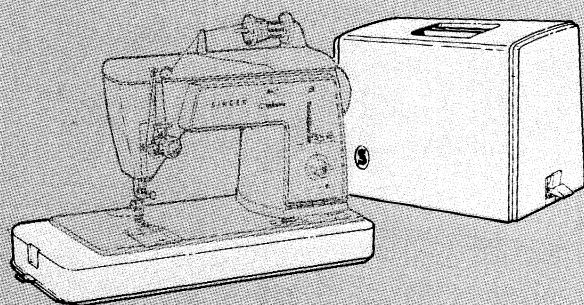




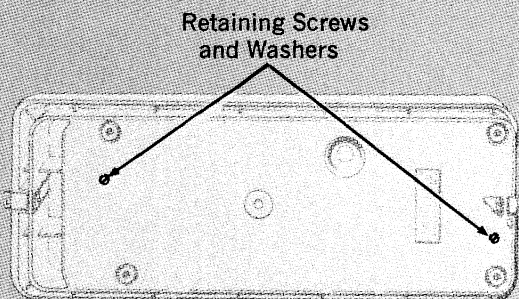
Removing Bottom Cover



Replacing Bottom Cover



Machine with Carrying Case



Carrying Case Base

EVERY YEAR

Clean and oil the driving mechanism at the top and bottom of the machine.

Lubricating Top of Machine

1. Rotate hand wheel to bring take-up lever to a low point and remove top cover of machine. See previous page for instructions.
2. Apply a drop of oil to each place shown.
3. Replace top cover.

Lubricating Bottom of Machine

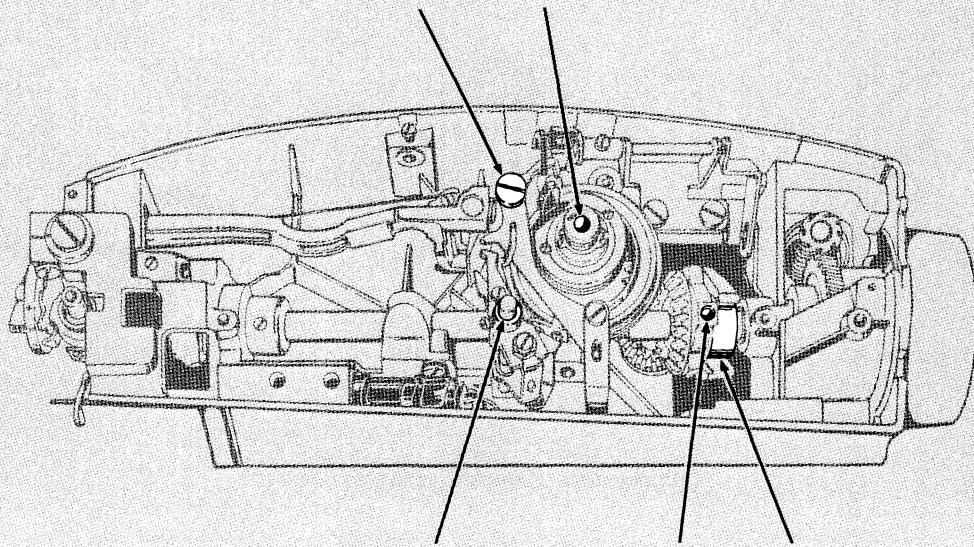
1. Disconnect machine plug from electrical receptacle at right end of machine. If your machine is a portable, remove the carrying case base (as instructed below).
2. Tilt machine back and remove screw in center of bottom cover. Pull cover straight up (parallel to machine bed) to remove.
3. Clean out lint and dust and apply SINGER oil.
4. Replace bottom cover by positioning slots in cover over the bed cushion pins at four corners of machine. Push down on cover to snap it into place.
5. Replace and tighten retaining screw.

Removing and Replacing Carrying Case Base

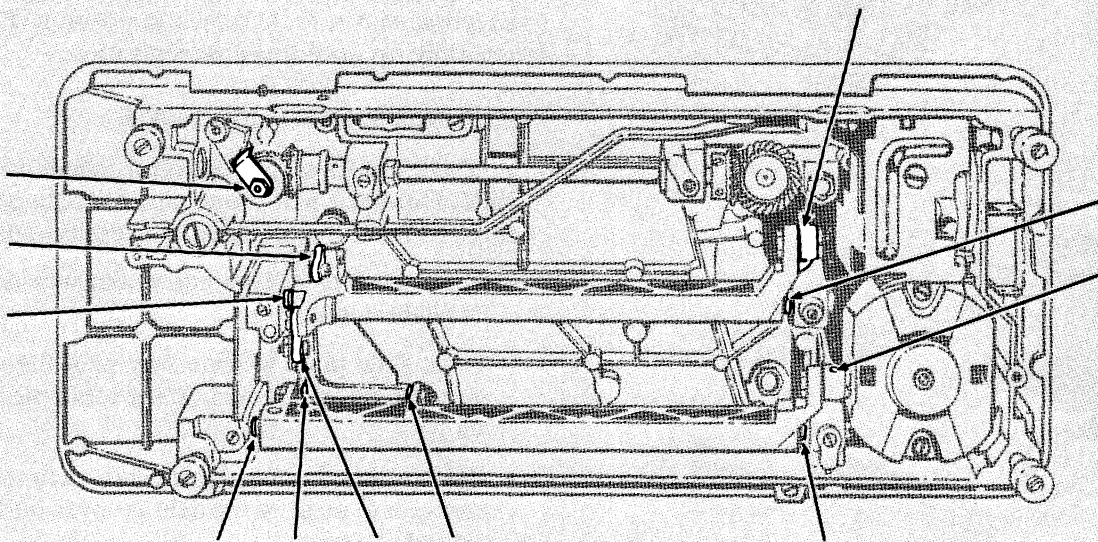
1. Disconnect machine plug from electrical receptacle at right end of machine.
2. Turn machine over on its back and remove screws and washers from each end of base. Set machine and base upright and lift machine up and out of base.
3. Replace machine in base after bottom cover has been attached. Turn machine and base over together to replace washers and screws on underside. Tighten screws.

SPECIAL CARE

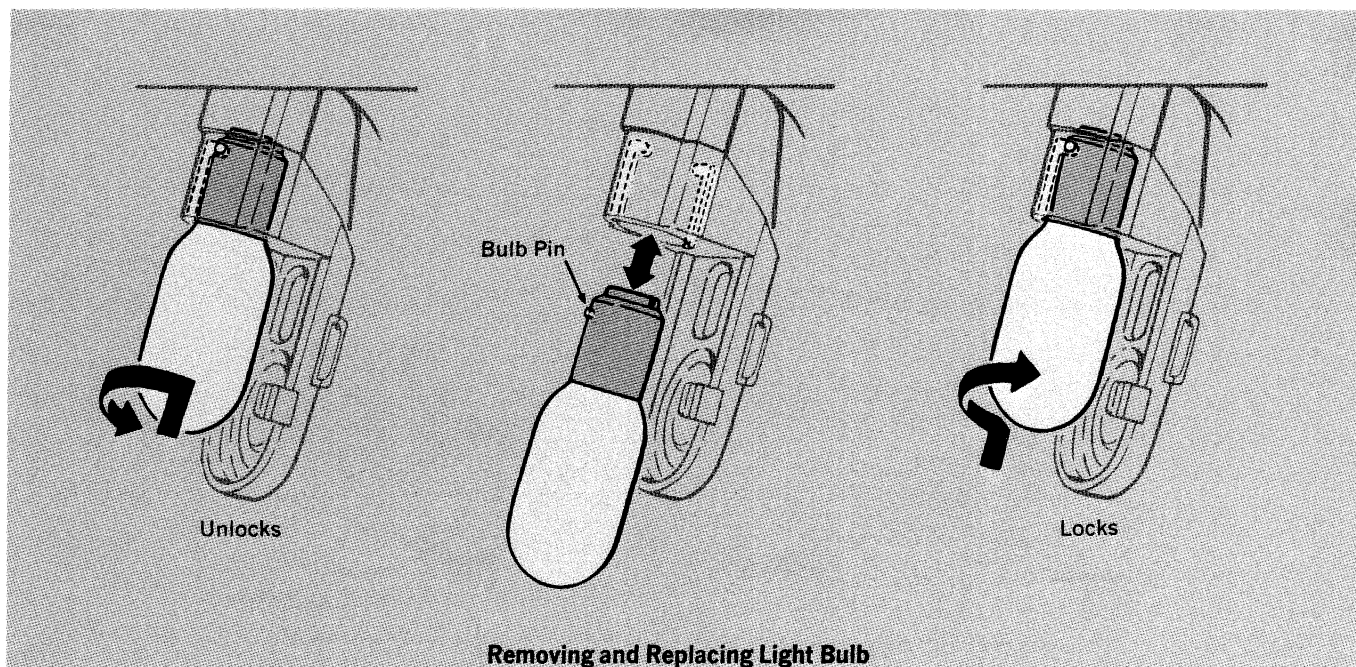
Every few years and before or after extended periods of either use or inactivity, clean and lubricate *all* moving or rotating machine connections to ensure freedom of movement and to protect metal parts.



Lubricate Top of Machine



Lubricate Bottom of Machine

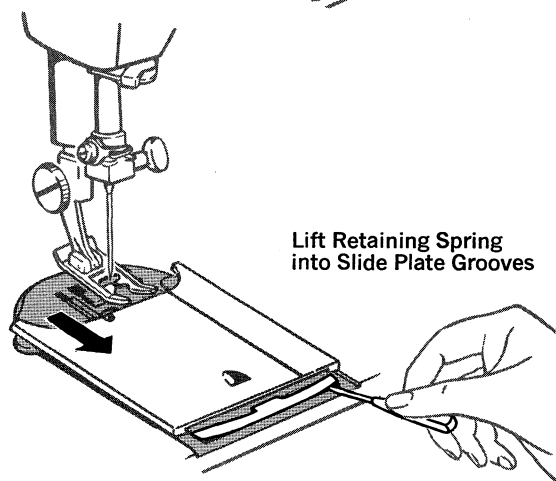
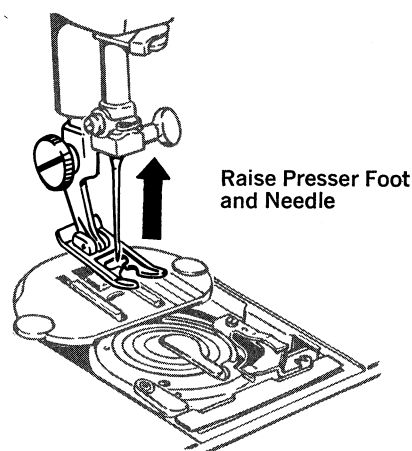


CHANGING THE LIGHT BULB

Be sure that power and light switch is in OFF position.

Removing Bulb. With thumb of right hand, push in and down on tab of light lens and lower the light bracket. *Do not attempt to unscrew the bulb.* Press it up into the socket and at the same time turn bulb over in direction shown to unlock bulb pin.

Replacing Bulb. Press new bulb into socket, with bulb pin entering slot of socket, and turn it over in direction shown to lock bulb in position. Push entire assembly up until it snaps in position.



Replacing the Slide Plate

REPLACING THE SLIDE PLATE

You will not have any occasion to remove the slide plate. However, if it should accidentally become disengaged from the machine, it is easily replaced.

- Raise the presser foot and make sure needle is in its highest position.
- Place slide plate in slide way with the front edge close to, but not covering, the retaining spring (as shown).
- With a small screwdriver, lift each end of the spring into each of the side grooves on the underside of the plate.
- Draw the plate gently toward you and fully engage the spring.
- Close slide plate.

performance check list

REMEMBER TO

- Turn on power and light switch.
- Place buttonhole controls in OFF position before setting the needle position selector, and stitch width selector for any purpose.
- Set buttonhole lever in OFF position before setting the stitch length selector for any purpose *except* buttonholing.
- Remove all thread from bobbin before rewinding
- Fill empty bobbin
 - ... in center needle position with stitch width selector on 1
 - ... before fitting accessories to machine
 - ... before inserting twin needle
- Close slide plate after winding bobbin
- Make sure the needle is out of the fabric and above the throat plate before adjusting the selectors
- Clear your machine of lint and fluff periodically and apply oil
- Use your instruction book. It was written to explain the most efficient way to operate and use this remarkable new machine

IF THREAD BREAKS

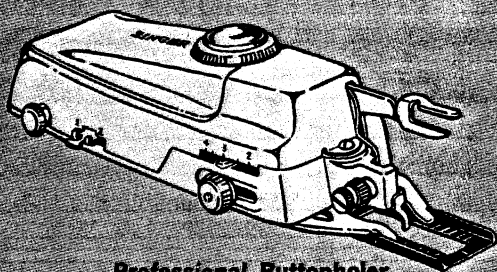
- Is the machine properly threaded?
- Is the thread spool secured by the spool holder?
- Is the spool holder positioned correctly?
- Is a catalog 2020 (15X1) needle securely tightened in the needle clamp?
- Is the needle straight and sharp?
- Is the thread suitable for the size of the needle?
- Is the thread free of slubs and knots?
- Is the thread unwinding freely from the spool?
- Is the needle-thread tension too tight?
- Is the presser foot raised for bobbin winding?
- Is a moderate speed used for bobbin winding?
- Are the bobbin halves evenly and securely screwed together?
- Is the bobbin properly seated and secured by the latch in the bobbin case?
- Is the bobbin-case area free of lint and loose thread ends?
- Are the thread guides and tension discs also lint-free?

If you have any questions, please write to:

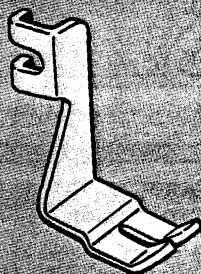
Department of Sewing Education
The Singer Company
30 Rockefeller Plaza, New York, N. Y. 10020

9. FASHION AIDS

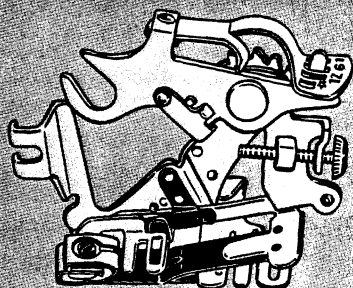
special accessories for special jobs



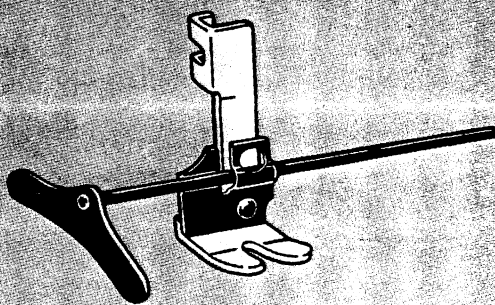
Professional Buttonholer



Gathering Foot



Ruffler



Quilting Foot

These *Fashion Aids* have been especially designed to increase the versatility of your *Touch & Sew* sewing machine and enable you to give your sewing that extra professional touch. The ones described below and on the following pages are just a few of the complete selection available at your local SINGER CENTER.

PROFESSIONAL BUTTONHOLER No. 102577

The *Professional* buttonholer works with your machine to sew six kinds of buttonholes plus eyelets in a wide variety of fabrics. You choose the style and the length. You can even adjust the width and cutting space, and make perfect buttonholes every time.

GATHERING FOOT No. 161169

Designed to lock fullness into each stitch, the gathering foot can be used for shirring as well as for a single line of gathering. For evenly spaced shirring, simply keep the same stitch length and tension setting for all lines of stitching. This foot is used for straight stitching only.

RUFFLER No. 161561

This accessory offers a simple, effective way to make gathered and pleated ruffles. Ruffles can be made separately or made and applied at the same time. The ruffler is used for straight stitching only.

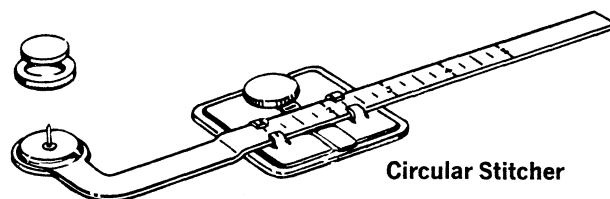
QUILTING FOOT No. 160691

The quilting foot is excellent for the placement of straight stitching in block, floral, or scroll designs and is especially well adapted to stitching lightly padded fabrics. This short, open foot permits following curved lines with ease and accuracy; the adjustable space guide, placed to the right or left of the needle, keeps rows of stitching parallel.

CIRCULAR STITCHER

No. 161847

The circular stitcher lets you make circular designs with straight stitching or with any zig-zag pattern. With the aid of the gauge, you can make perfect full or half circles, two inches to ten inches across, as well as geometric motifs and scallops. All of these may be done without having to follow a pattern. You can even use a twin needle and decorate, in the round, with two colors at once.

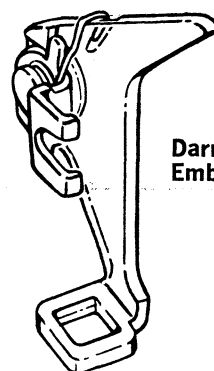


Circular Stitcher

DARNING AND EMBROIDERY FOOT

No. 161875

This accessory is recommended for all types of free-motion work. It is ideal for embroidery, monogramming, and decorative designs because the transparent toe holds fabric firmly as the needle enters and leaves the work while fully revealing the line of the design to be followed.



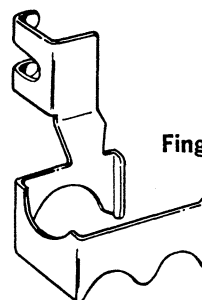
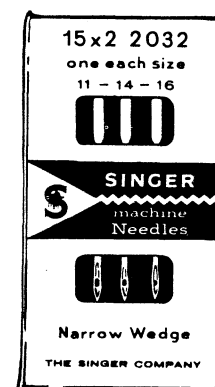
Darning and
Embroidery Foot

LEATHER AND SUEDE NEEDLE

Catalog 2032 (15x2)

This needle is recommended whenever you stitch leather or suede. Its slim wedge point pierces skins cleanly to ensure a neat, uniform stitch. Use it in place of the 2020 (15x1) needle. Available in sizes 11, 14, and 16.

Leather and
Suede Needles

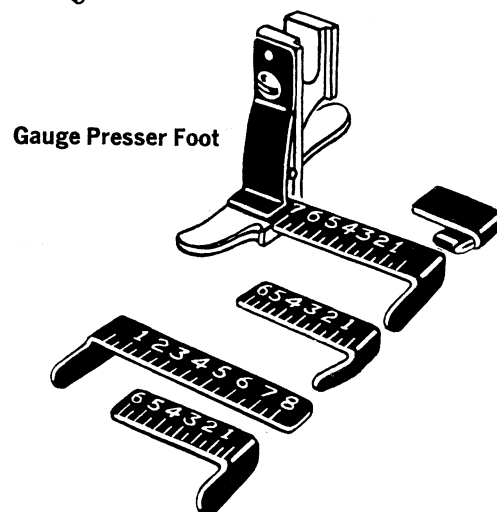


Finger Guard

FINGER GUARD

No. 161681

By protecting fingers from the needle, the finger guard provides extra safety for the new sewer, the student, or the blind person. A permanently mounted, swing-away type, No. 22563, is available on special order.



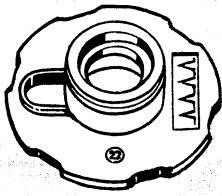
Gauge Presser Foot

GAUGE PRESSER FOOT

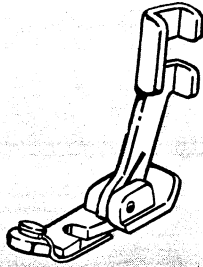
No. 160755

Single or multiple rows of stitching can be gauged evenly along lapel and facing edges, welt seams, or hems. An accurate set of gauges lined at $\frac{1}{16}$ -inch and numbered at $\frac{1}{8}$ -inch intervals accompanies the gauge presser foot, in addition to a small removable toe.

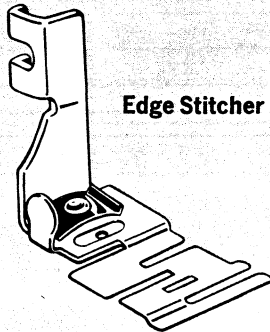
Fashion Disc 22



Overedge Foot

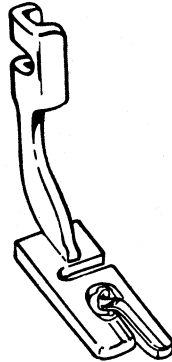


Stretch Stitch Accessories

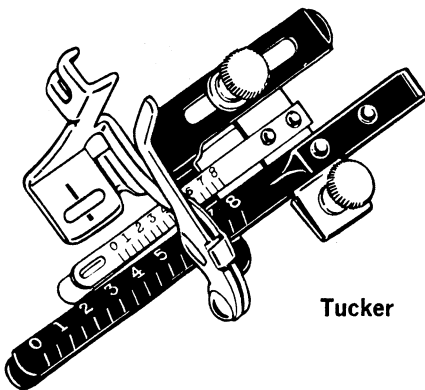
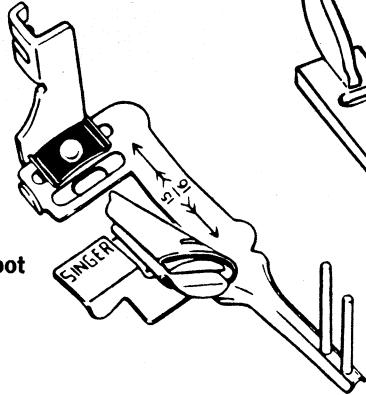


Edge Stitcher

Hemmer Foot



Binder Foot



Tucker

OVEREDGE FOOT FASHION DISC 22

No. 161921

No. 163369

The overedge foot, used with *Fashion Disc 22*, enables you to produce flexible overedged seams and edge finishes. This facility is particularly useful in the construction of garments made of knit, stretch, and "elastic" fabrics.

EDGE STITCHER

No. 160625

This accessory, used with the straight stitch setting, has slotted guides that regulate placement of stitching at edge of fabric. Among its many applications are the joining and insertion of lace, tucking from pin width to $\frac{1}{4}$ inch, French seaming and seam piping, facing, and seam finishing.

HEMMER FOOT

No. 161195

You can turn and stitch a narrow hem in a single operation if you use the hemmer foot. Thus, you can eliminate basting or pinning whenever you are making ruffle edges, lingerie finishes, and the like.

BINDER FOOT

No. 81200

The binder foot is used to apply ready-made bias tape or unfolded bias binding to an unfinished edge. Such a trim can form a colorful finish to children's clothes, aprons, and household linens. It can also be useful for binding seam edges that might ravel.

TUCKER

No. 161226

Since the beauty of tucking lies in perfect accuracy, the tucker will contribute greatly to the attractiveness of this work. Tucks up to one inch can be stitched and marked in one operation. Two adjustable scales are provided to gauge tuck width and spacing. Either a straight or decorative stitch setting may be used.

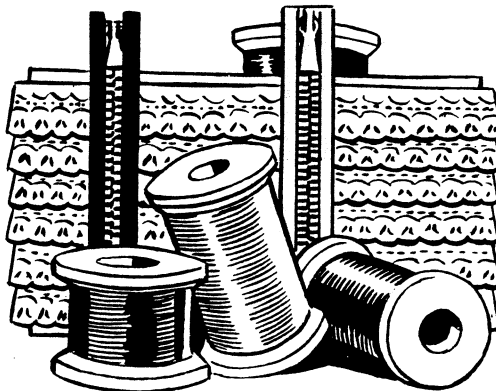
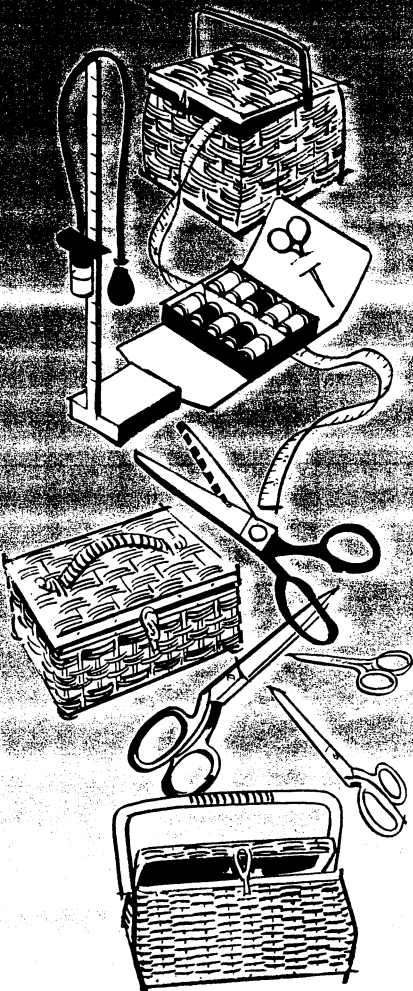
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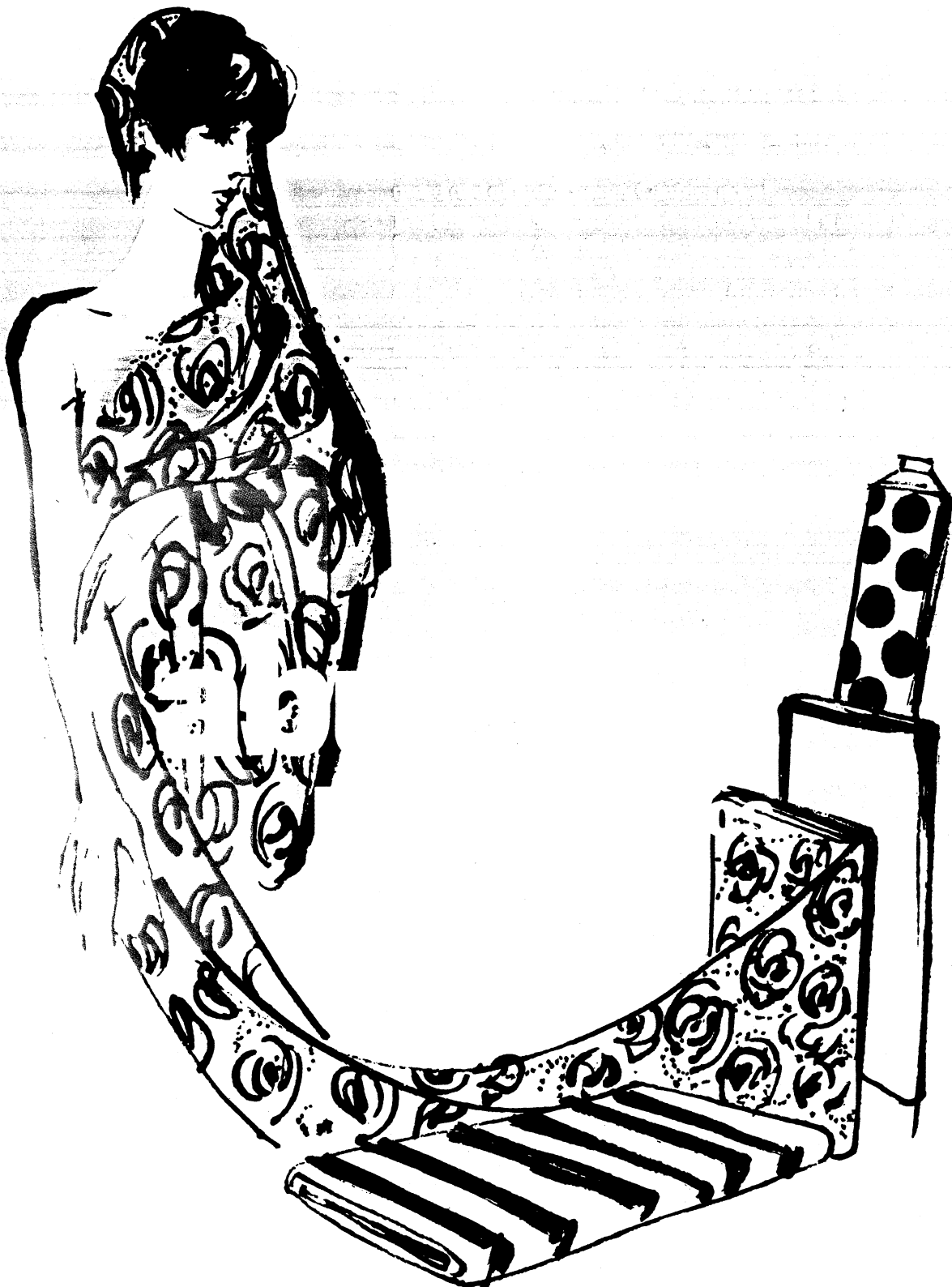
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- 109 – How to Make Buttonholes and Pockets
- 110 – How to Make Collars, Finish Necklines
- 111 – How to Make Zipper Closures
- 112 – How to Make Belts and Hems
- 113 – How to Make Slip Covers
- 114 – How to Make Cafe Curtains
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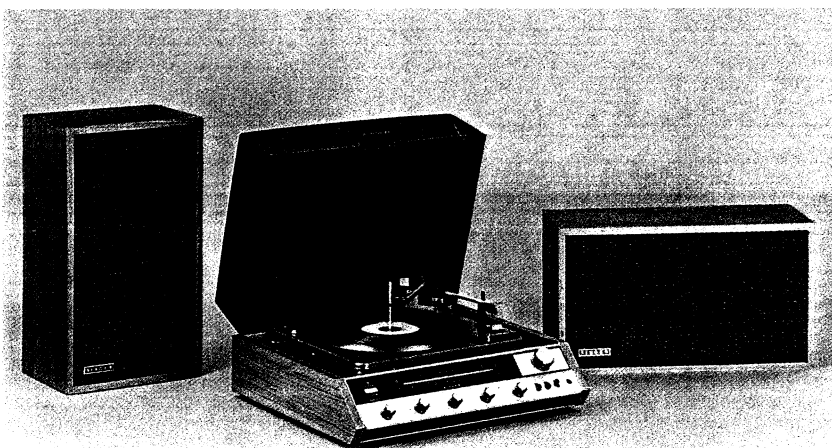
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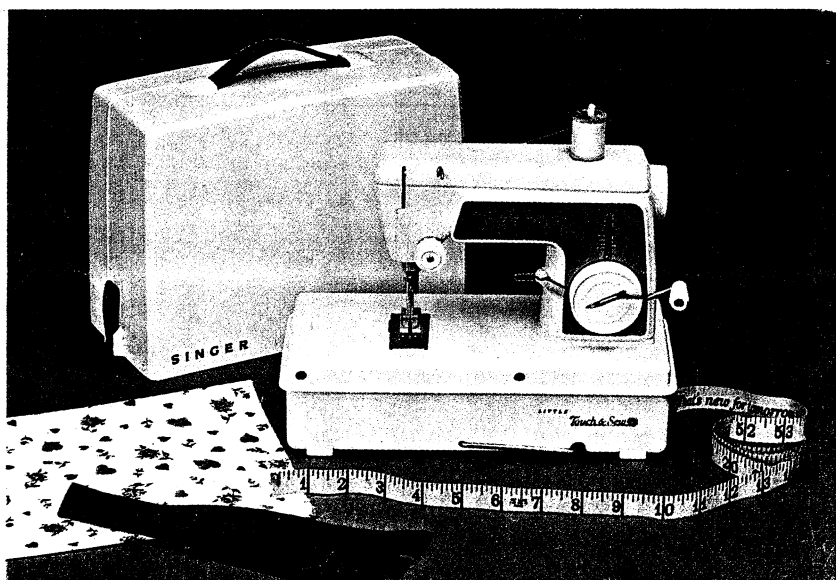
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