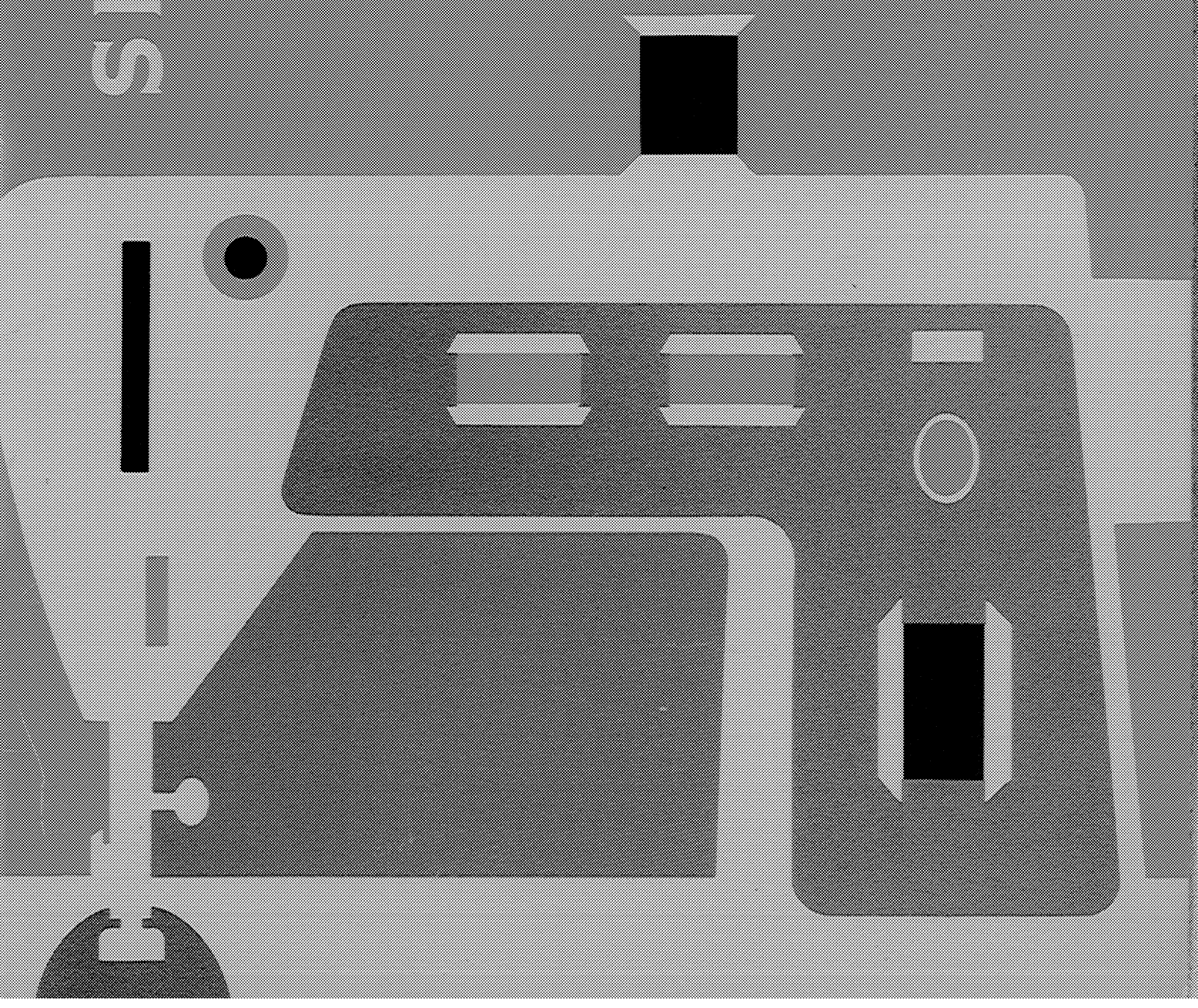


# instructions

SINGER

GRADUATE\*  
ZIG-ZAG & STRETCH  
Sewing Machine/Model 714



## Zig-Zag & STRETCH Sewing Machine by SINGER

Congratulations . . .

The new Zig-Zag & STRETCH model 714 sewing machine you are about to use will take you into a wonderful new world of sewing. In addition to the familiar Singer exclusives — Slant Needle and Front Drop-in Bobbin — this sewing machine offers you:

- *the simplicity* of dial controls. Now you can simply dial a stitch length, a stitch width, pressure and tension settings
- *built-in stitch patterns*, which let you produce a straight stitch and a variety of zig-zag patterns by simply turning a dial, plus *Flexi-Stitch\** patterns for stitching knit and stretch fabrics and producing intricate stitch designs
- *exclusive built-in threading chart* that flips open to keep an easy-to-follow diagram at your fingertips
- *one-way needle clamp* that makes it impossible to insert the needle backwards
- *stitch control dial* that lets you switch from regular to s-t-r-e-t-c-h stitching
- *guidelines* on both sides of the throat plate, which help you keep seams straight
- *convenient power and light switch* that gives you a choice of two speeds
- *easy throat plate changing* — throat plate secured by magnets is easy to lift out for cleaning.
- *three-position presser foot lifter* that lets you place bulky fabric or many fabric layers under the presser foot
- *built-in sewing light* that illuminates the sewing area

Your SINGER sewing machine is the key to your sewing success when used properly. To achieve professional results, SINGER suggests you sit down at your machine and go through this book step by step before you begin to sew. You'll discover all the many advantages of sewing with your Zig-Zag & STRETCH sewing machine.

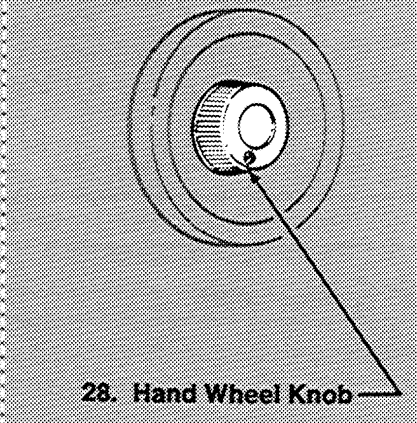
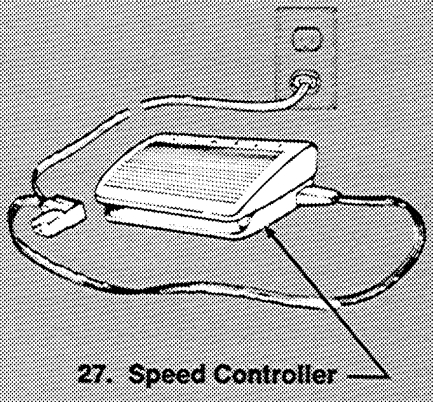
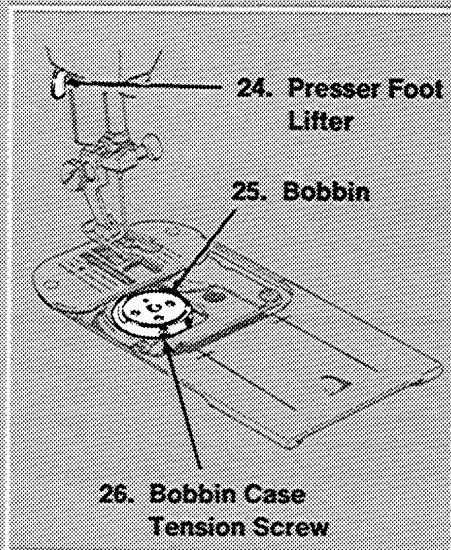
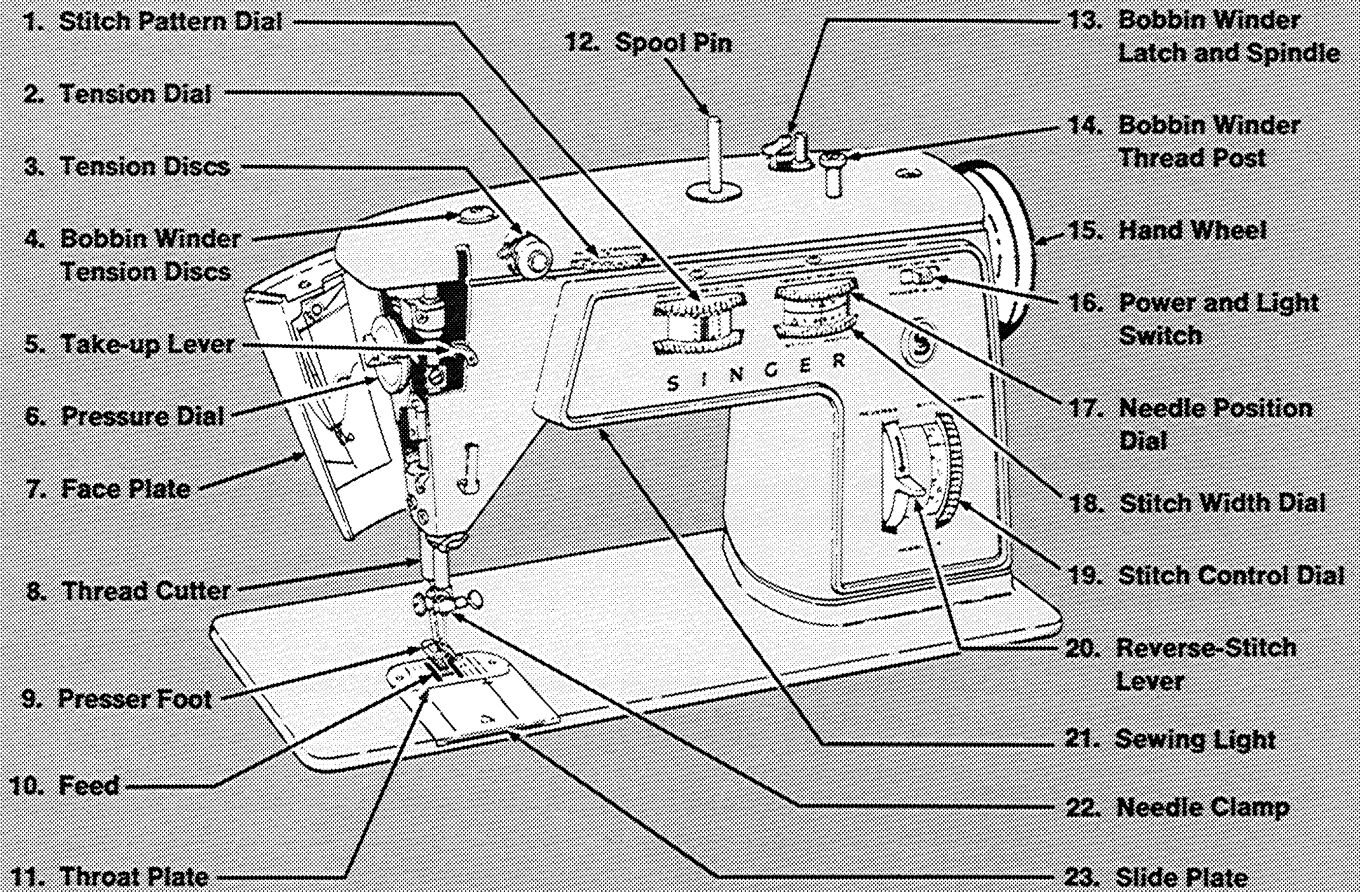
Enjoy sewing!

SINGER\* Service is always close at hand. If your machine should need servicing, call your local SINGER Sewing Center to be sure of warranted SINGER Parts and Service. You will find the address in the telephone directory under SINGER COMPANY.

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# 1. GETTING TO KNOW YOUR MACHINE



## *principal parts and what they do*

1. **Stitch Pattern Dial** can be set to produce a smooth straight stitch or a practical (and decorative) zig-zag stitch.
2. **Tension Dial** lets you select just the right tension for your stitch, thread, and fabric. The numbers eliminate guesswork in duplicating settings.
3. **Tension Discs**, controlled by the tension dial, regulate the amount of tension on your needle thread.
4. **Bobbin Winder Tension Discs** regulate thread tension for bobbin winding.
5. **Take-up Lever** controls flow of needle thread.
6. **Pressure Dial** regulates presser-foot pressure on fabric. It has an all-purpose sewing setting plus settings for extra-light and extra-heavy pressure and for darning.
7. **Face Plate** swings open for access to threading chart and pressure dial.
8. **Thread Cutter** is built into presser bar for safety and convenience.
9. **Presser Foot** holds fabric against feed.
10. **Feed** moves fabric under the presser foot.
11. **Throat Plate**, secured by magnets, lifts out for removal. Guidelines on right and left sides of plate help you keep seams straight.
12. **Spool Pin** holds spools of various sizes.
13. **Bobbin Winder Latch and Spindle** let you fill bobbin quickly and easily. Latch disengages when bobbin is full.
14. **Bobbin Winder Thread Post** guides the thread when winding the bobbin.
15. **Hand Wheel** controls movement of take-up lever and needle. *Always turn it toward you.*
16. **Power and Light Switch** turns on machine and sewing light simultaneously. **FAST** and **SLOW** speed range settings let you choose the best sewing speed for your work.
17. **Needle Position Dial** places needle in either **L** (left), **▲** (center) or **R** (right) stitching position.
18. **Stitch Width Dial** controls the width of zig-zag stitching and positions the needle for straight stitching.
19. **Stitch Control Dial** allows for a variety of stitch lengths; also has a special **STRETCH** setting for straight or zig-zag stretch stitching.
20. **Reverse-Stitch Lever** instantly reverses stitching direction at the touch of your finger.
21. **Built-in Sewing Light** illuminates sewing area. Pull-down bracket makes it easy to replace bulb.
22. **Needle Clamp** is designed to make needles self-setting and eliminate the possibility of inserting needle backwards.
23. **Slide Plate**, opens easily, lets you see bobbin. Seam guidelines (extended from throat plate) have cross lines to help you turn square corners.
24. **Presser-Foot Lifter**, at back of machine, allows you to raise and lower presser foot. Extra-high lift position permits easy placement of bulky fabrics.
25. **Bobbin** shows thread supply, is easily removed for winding.
26. **Bobbin Case Tension Screw** regulates bobbin-thread tension. Seldom needs adjustment.
27. **Electrical Connections and Speed Controller** are designed for your convenience and safety.
28. **Hand Wheel Knob** engages hand wheel to sewing mechanism. Loosen knob for bobbin winding.

## accessories

The accessories that come with your sewing machine are designed to help you do many kinds of sewing easily and perfectly.

To increase the versatility of your machine still further, additional accessories can be purchased at your Singer Sewing Center. For descriptions, see page 47.

### 1. BOBBINS

- One drop-in steel bobbin in your machine.
- Extra drop-in steel bobbins with your accessories.

### 2. NEEDLES

In place in your machine —

- Catalog 2020 (15x1)

With your accessories —

- Catalog 2020 (15x1) needles, for all-purpose sewing.
- Catalog 2045 ball-point (yellow band) needles, for sewing synthetic knits and stretch fabrics.

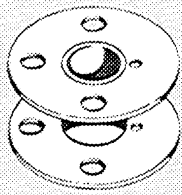
#### Changing the Needle

The needle clamp has been designed so that the needle can only be inserted with the flat side of the shank toward the back.

1. Raise needle bar to its highest position, loosen needle-clamp screw, and remove needle.
2. Insert new needle in clamp, with the flat side of the needle to the back, and push it up as far as it will go.
3. Tighten needle-clamp screw.

### 3. TENSION SCREWDRIVER

Designed to fit the bobbin case tension screw, this screwdriver makes adjustment of bobbin-thread tension quick and easy. (For instructions on bobbin-thread tension adjustment, see page 16.)



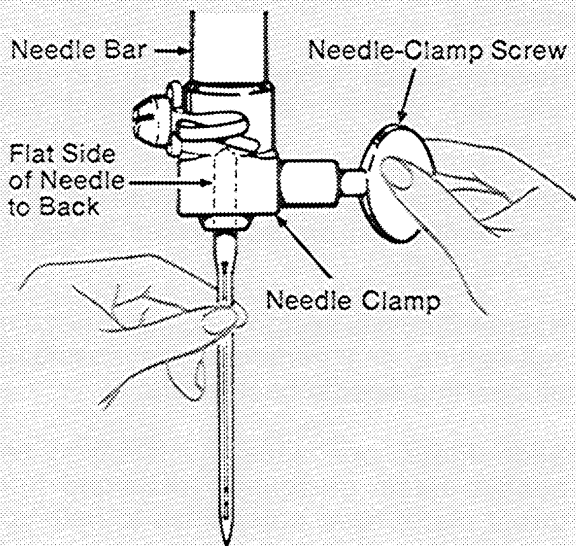
**Bobbin**  
(No. 172222)



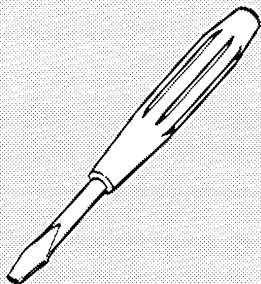
**Regular  
Needle**  
(Cat. 2020)



**Ball-Point  
Needle**  
(Cat. 2045)



**Changing the Needle**



**Tension Screwdriver**

#### 4. ZIG-ZAG FOOT AND THROAT PLATE

The zig-zag foot and the zig-zag throat plate are in place on your machine. Ideal for all utility sewing, these fittings can be used for either straight or zig-zag stitching. *Always use them together* when alternating between straight and zig-zag stitching.

#### 5. STRAIGHT STITCH FOOT AND THROAT PLATE

The straight stitch foot and the straight stitch throat plate are used when your fabric or sewing procedure requires close control. Especially useful for:

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

#### 6. ZIPPER FOOT

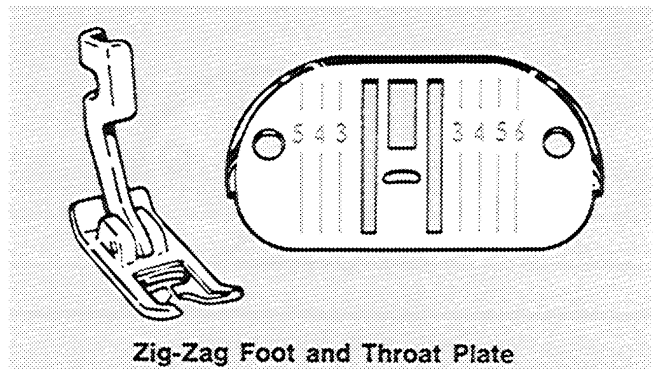
The zipper foot is used to place stitching close to a raised edge. Thus, it is as useful for corded seams and tubular cording as it is for zipper insertion (page 28). It can be adjusted to either the right or left side of the needle and may be used with the straight stitch or zig-zag throat plate.

#### 7. OVEREDGE FOOT

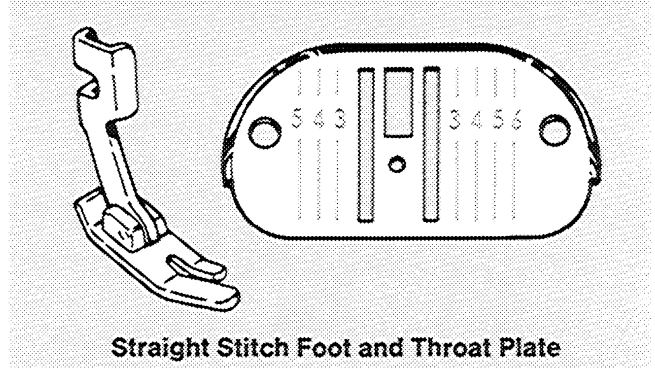
Overedge foot, used with overedge stretch stitch, enables you to produce flexible over-edged seams and edge finishes. It is particularly useful in construction of garments made of knit, stretch, and elastic fabric.

#### Changing Presser Foot

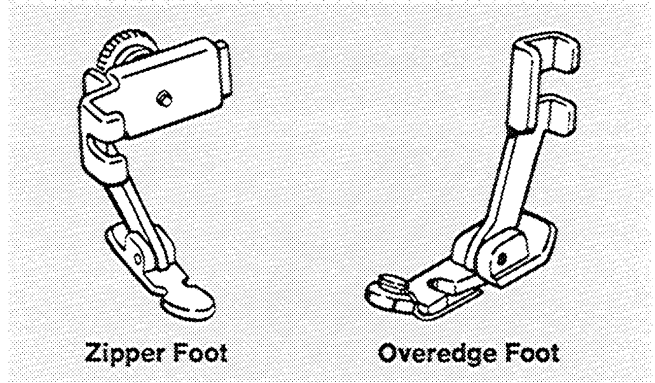
1. Raise needle to its highest position and raise the presser foot.
2. Loosen presser foot screw and remove the foot.
3. Hook new foot around the presser bar and tighten presser foot screw.



Zig-Zag Foot and Throat Plate

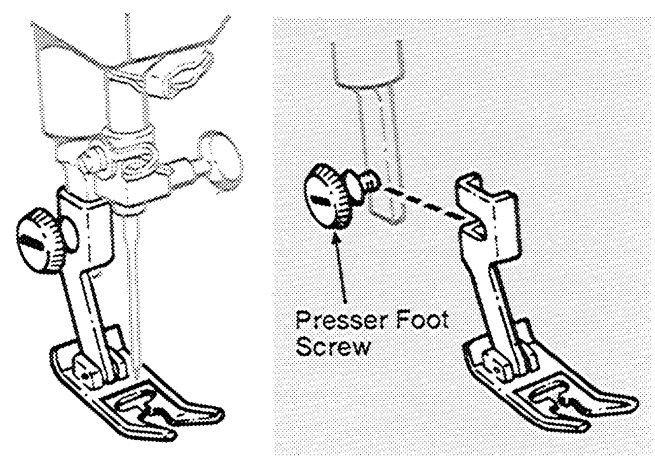


Straight Stitch Foot and Throat Plate

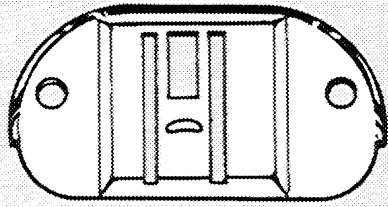


Zipper Foot

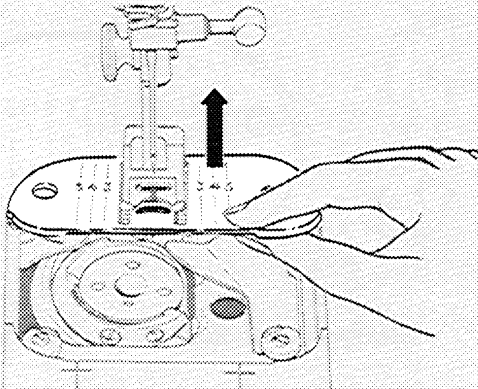
Overedge Foot



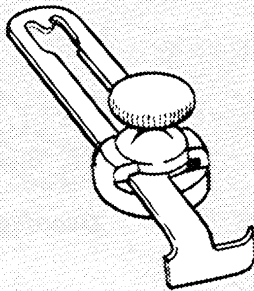
Changing Presser Foot



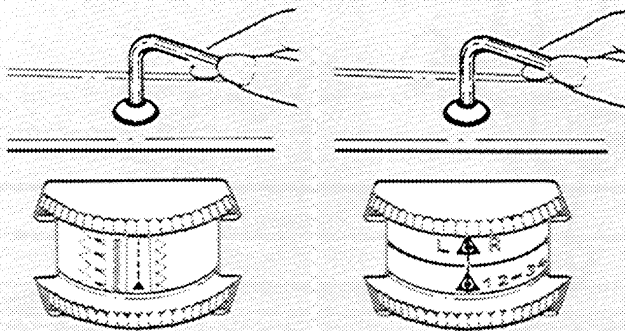
**Feed Cover Throat Plate**



**Changing Throat Plate**



**Seam Guide**



**Straight Stitch Locking Key**

## 8. FEED-COVER THROAT PLATE

The feed cover throat plate replaces the throat plate when fabric feeding is not desired. Use it for button sewing (page 25) and free-motion darning (page 41).

### Changing Throat Plate

(NOTE: Remove bobbin if it contains thread in order to prevent thread being caught when throat plate is replaced.)

1. Raise needle to its highest position and raise presser foot.
2. Open slide plate. Remove throat plate by placing thumb under plate and lifting it up and out.
3. Position new plate over the two pins and release. (Throat plate is drawn into position by magnets.)
4. Close slide plate.

## 9. SEAM GUIDE

The seam guide will help you to stitch seams of perfectly uniform width. It is especially useful for curved seams or topstitching, when absolute accuracy is required. Also, because it allows you to guide stitches at any distance between 1/8 inch (3mm) and 1-1/4 inches (32mm) from fabric edge, it is useful for very narrow or unusually wide seams.

### Attaching the Seam Guide

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

## 10. STRAIGHT STITCH LOCKING KEY

The locking key furnished with your accessories is used to remove the pins that lock the dial controls for straight stitching in center needle position. Insert key into locking pin and turn key counterclockwise to remove pin. To "lock" the machine in straight stitch position, set dials at  $\blacktriangle$ ,  $\blacktriangle$  and  $\blacktriangle$ . Insert pins from top through dials and turn key clockwise.



## 2. GETTING READY TO SEW

### *preliminary steps*

#### 1. CONNECTING MACHINE

Before plugging in your machine, be sure that the voltage and number of cycles indicated at the right end of the machine, or on the inside of the face plate, conform to your electrical power supply.

**To connect machine**, push the machine plug into the plug receptacle. Then insert the power-line plug into your electrical outlet.

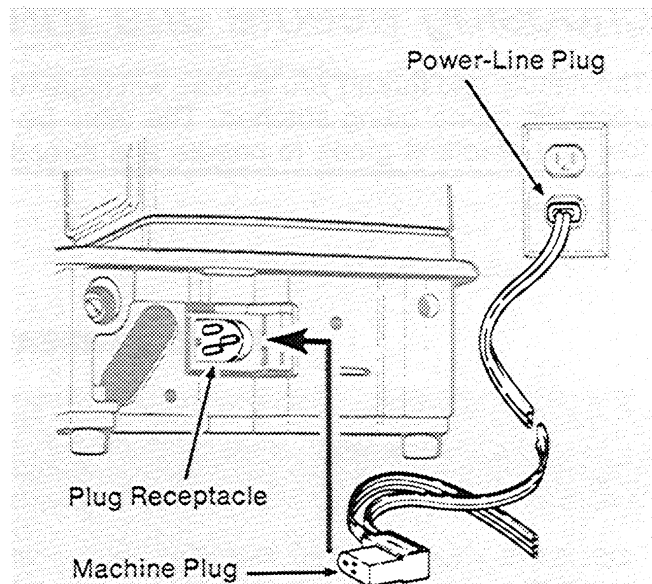
#### 2. OPERATING MACHINE AND CONTROLLER

**To turn on both the machine and sewing light and set speed range**, slide the power and light switch to the selected range.

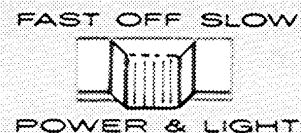
- The **FAST** setting allows for full speed capacity of the machine. It is best for long, straight seams, easy-to-handle fabrics, and general sewing where a variety of speeds is needed.
- The **SLOW** setting allows for maximum control at lower sewing speeds. Use this setting for special jobs such as button sewing, buttonhole making, and where construction details require close control.

**CAUTION:** We recommend that you turn off the power and light switch before changing needles, presser feet or throat plates and when leaving the machine unattended. This eliminates the possibility of starting the machine by accidentally pressing the speed controller.

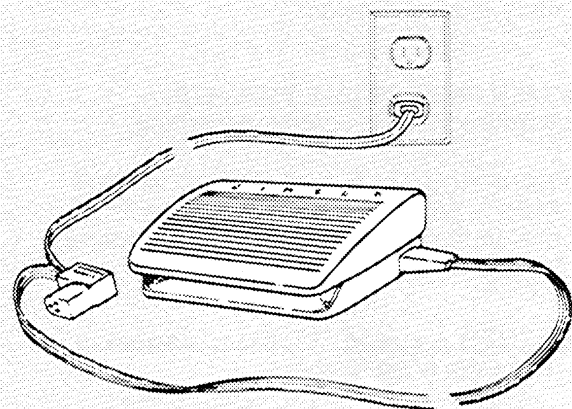
**To run the machine**, press the speed controller (or knee lever). The harder you press, the faster the machine will sew within the selected speed range.



Electrical Connections for Household Machine



Power and Light Switch



Speed Controller

## choosing needle and thread

The needle and thread you choose will depend upon the fabric being stitched. 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 AND NEEDLE TABLE**

FABRIC	THREAD	NEEDLES	
		TYPE	SIZE
DELICATE — tulle, chiffon, fine lace, organza	Fine mercerized cotton Fine synthetic thread	CATALOG 2020 (15x1)	9
LIGHTWEIGHT — batiste, organdy, jersey, voile, taffeta, crepe, chiffon velvet, plastic film	50 mercerized cotton "A" silk Synthetic thread Polyester core/cotton	CATALOG 2020 (15x1)	11
MEDIUM WEIGHT — gingham, percale, pique, linen, chintz, faille, satin, fine corduroy, velvet, suitings, knits, deep pile fabrics, vinyl	50 mercerized cotton 60 cotton "A" silk Synthetic thread Polyester core/cotton	CATALOG 2020 (15x1)	14
MEDIUM HEAVY — gabardine, tweed, sailcloth, denim, coatings, drapery fabrics, vinyl, deep pile fabrics	Heavy-duty mercerized cotton 40 to 60 cotton Synthetic thread	CATALOG 2020 (15x1)	16
HEAVY — overcoatings, dungaree, upholstery fabrics, canvas	Heavy-duty mercerized cotton 24 to 40 cotton Synthetic thread	CATALOG 2020 (15x1)	18
WOVEN FABRICS (ALL WEIGHTS) — decorative straight-stitch topstitching	"D" silk † (Buttonhole twist)	CATALOG 2020 (15x1)	18
SYNTHETIC KNITS AND STRETCH FABRICS — polyester doubleknit, nylon tricot, jersey, spandex, ciré tricot, panne velvet	"A" nylon 50 mercerized cotton "A" silk Polyester core/cotton	CATALOG 2045 Ball Point (Yellow Band)	14
LEATHER — suede, kidskin, capeskin, lambskin, lined leathers	50 mercerized cotton Synthetic thread "A" silk Polyester core/cotton	CATALOG 2032 (15x2)	11 14 16

†Use with 50 mercerized cotton or "A" silk in bobbin

## INSTRUCTIONS FOR USING THE FINGER GUARD

(Furnished with classroom machines.)

### Positioning the Guard

Before raising or lowering the guard, turn off the power and light switch. This will avoid the possibility of accidentally starting the machine while the needle is unguarded.

### Raising the Guard

To thread and replace the needle and change the presser foot:

- Position the needle above the throat plate by turning the hand wheel toward you.
- Swing the guard out to the left and raise it *to the position shown*.

### Lowering the Guard

For sewing and bobbin winding:

- Position the needle above the throat plate by turning the hand wheel toward you.
- Swing the guard down and position it as *far to the right as it will go*.

### Using the Guard

The finger guard can be used with all of the accessories supplied with your machine and many of the Special Accessories available at your local Singer Sewing Center. The standard sewing procedures outlined in this instruction manual should be used, except as noted below.

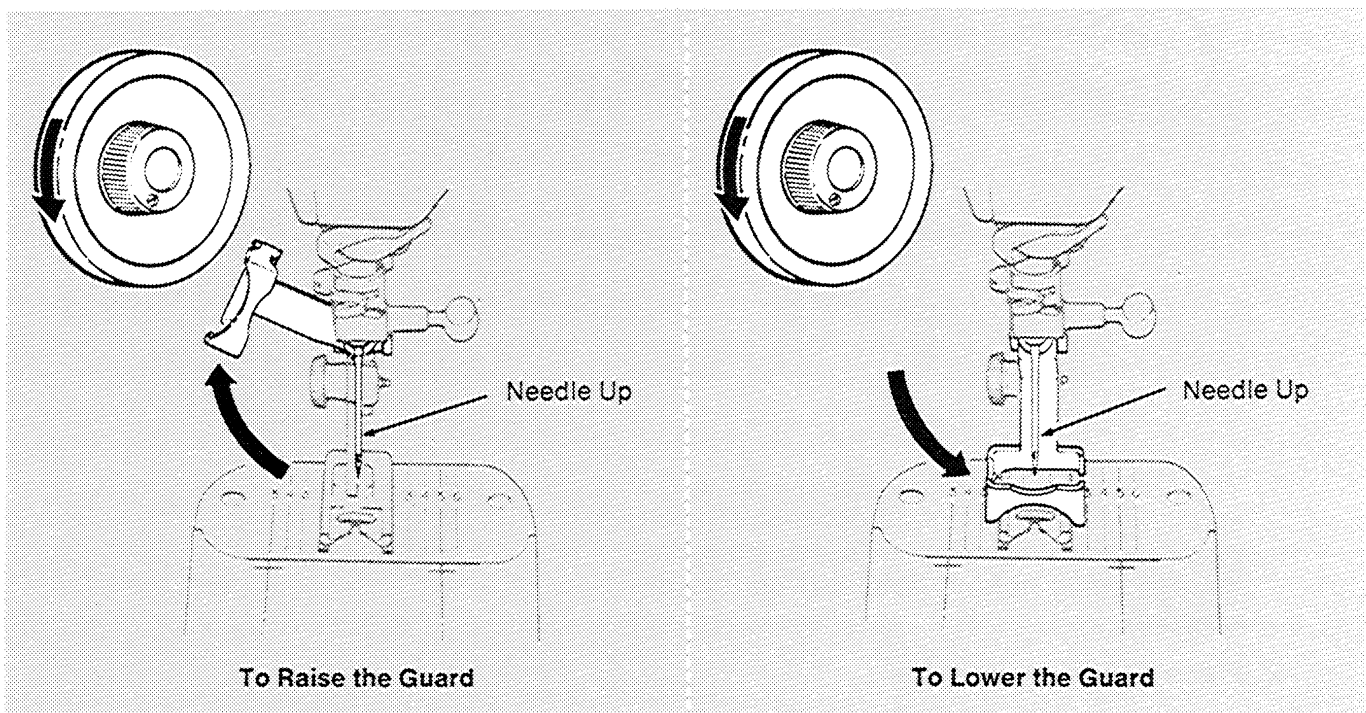
## SPECIAL REQUIREMENTS

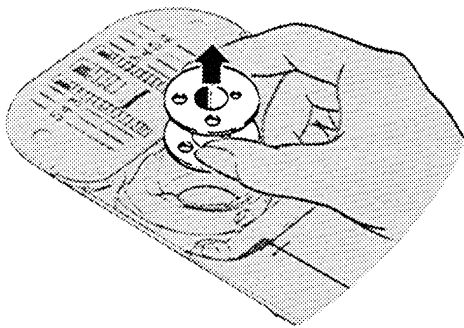
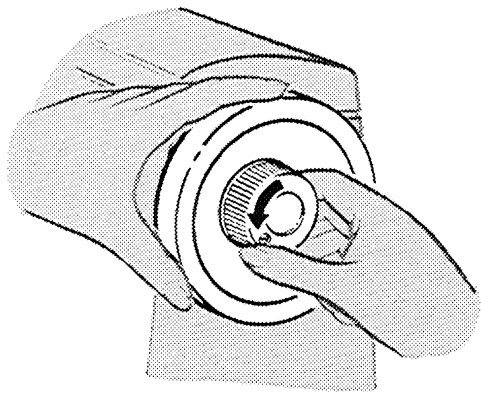
### Darning with an Embroidery Hoop

When using the feed cover throat plate for darning with an embroidery hoop, as explained on page 41, swing the finger guard out of the way. For hoop darning *with* the finger guard, use the general purpose or straight stitch throat plate. Follow the same sewing procedure with all plates.

### Using the Seam Guide

To avoid the possibility of interference between the finger guard and the seam guide, lower the finger guard and the presser foot *before* positioning and securing the seam guide to the machine.





## *threading the machine*

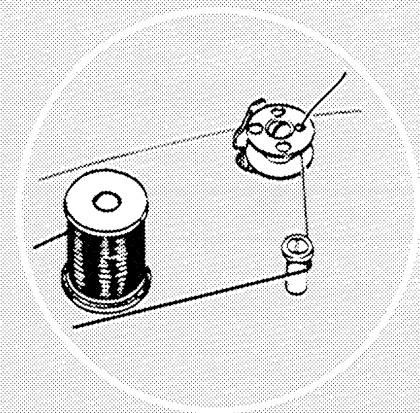
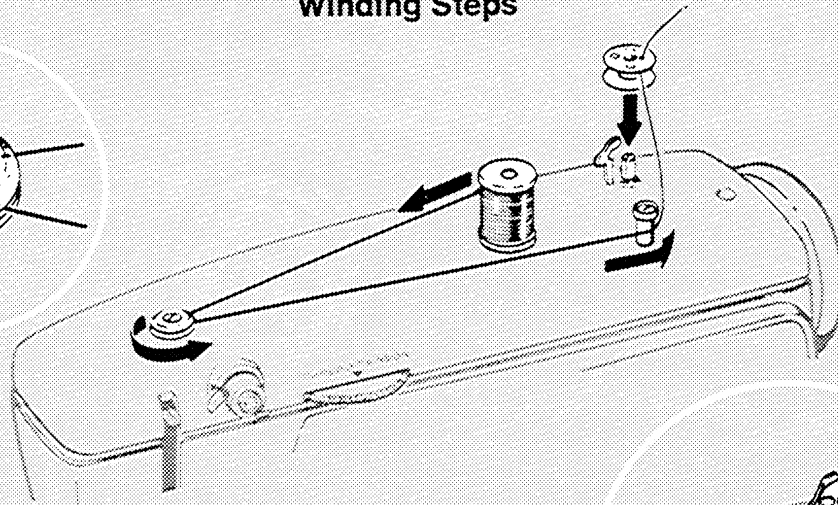
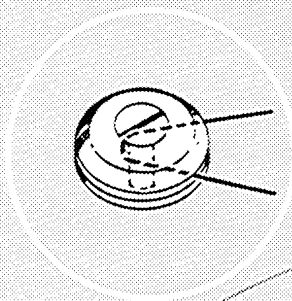
### **WINDING THE BOBBIN**

#### **Preparation**

It is best to wind the bobbin before you thread the machine.

1. Turn hand wheel toward you until needle is at its highest position.
2. Disengage hand wheel from sewing mechanism by loosening the hand wheel knob with your right hand while holding the hand wheel with the left.
3. Open the slide plate. Lift out the bobbin.

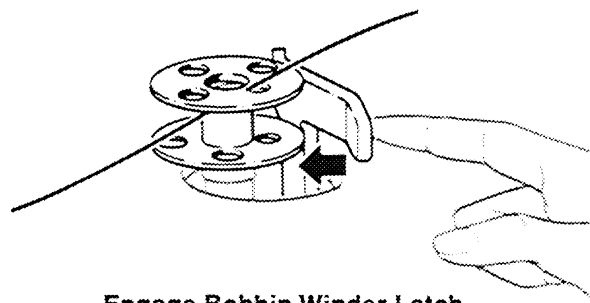
### **Winding Steps**



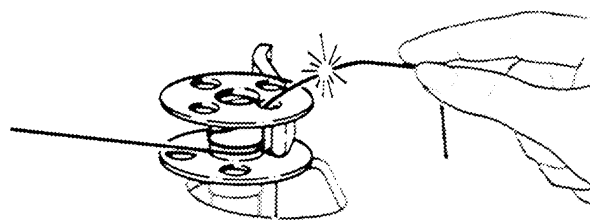
1. Place thread spool on spool pin over the spool pin felt. Lead thread between tension discs (as shown), around thread post and through small hole in bobbin (from the inside out).
2. Place bobbin on spindle.

## Winding Steps (continued)

3. Engage latch by pressing it toward the bobbin.
4. Hold thread end as shown and start the machine. Thread end will snap off after a few coils have been wound on the bobbin.
5. When required amount of thread has been wound (full bobbin will automatically release), cut thread and remove bobbin from spindle.
6. Tighten hand wheel knob by turning it away from you with your right hand while holding the hand wheel with your left hand.

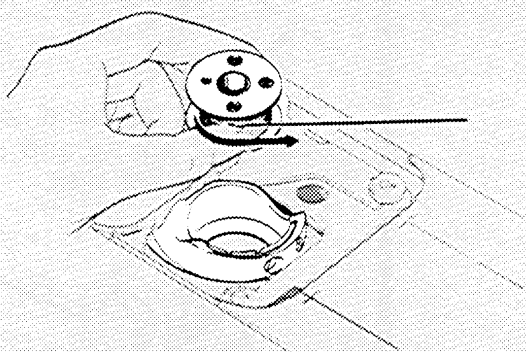


Engage Bobbin Winder Latch

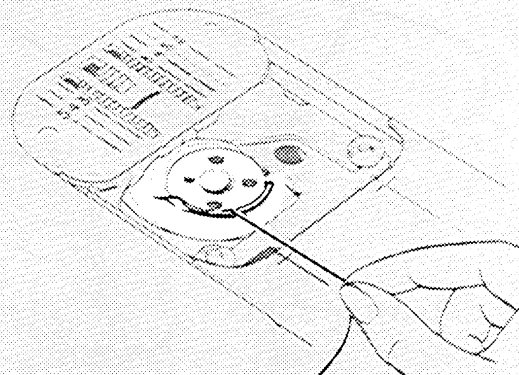


Hold Thread End to Start Winding

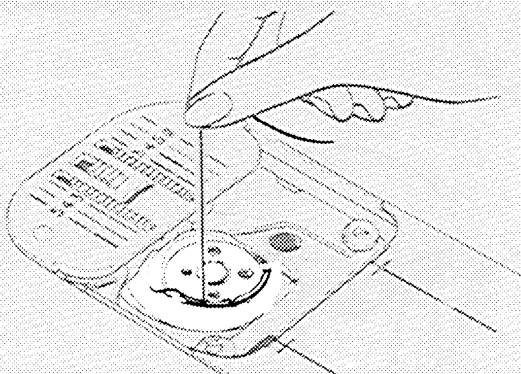
## THREADING THE BOBBIN CASE



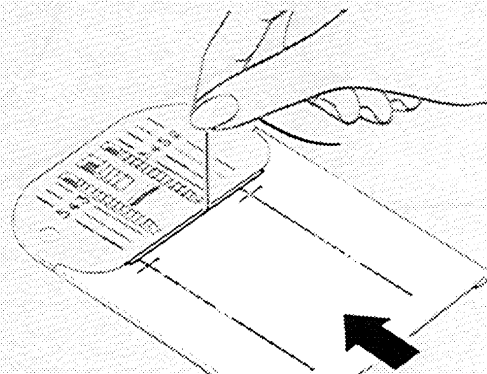
1. Hold bobbin so that the thread unwinds in direction shown, and put bobbin in bobbin case.



2. Pull thread into notch in bobbin case, draw it under the tension spring, and into the slot.



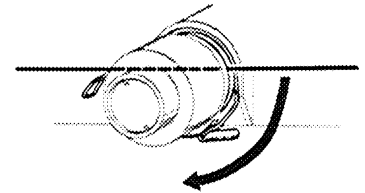
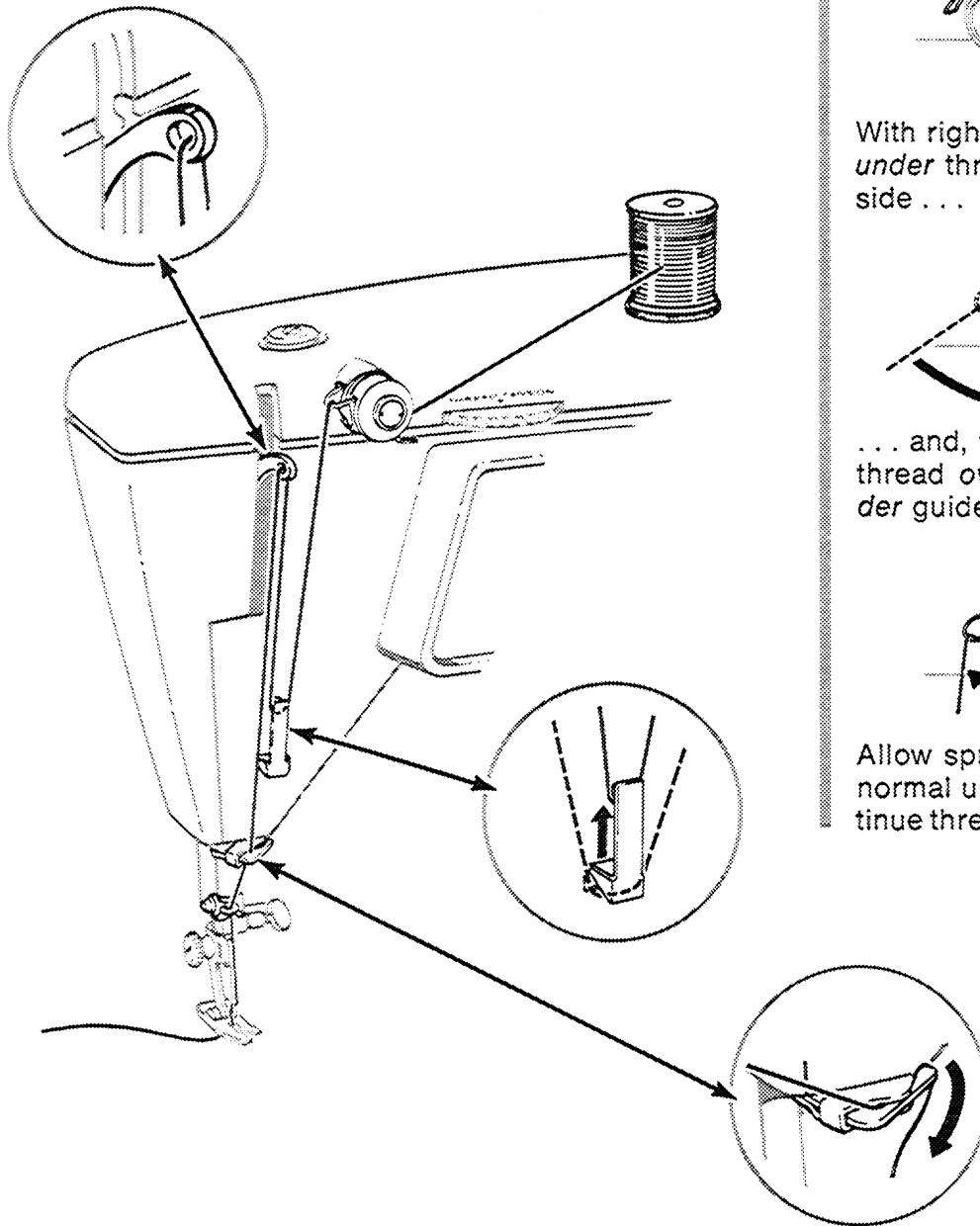
3. Draw approximately three inches of thread diagonally across the bobbin.



4. Close slide plate, allowing the thread to enter the slot in the slide plate.

## THREADING THE NEEDLE

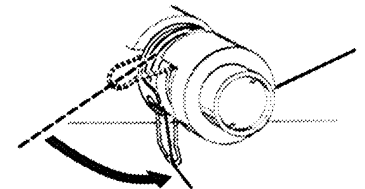
1. Turn hand wheel toward you to raise needle to highest position with take-up lever midway in slot. Raise presser foot to release tension discs.
2. Place spool of thread on spool pin over the spool pin felt. Lead thread through all points as shown, making sure to:
  - Thread tension discs as illustrated. ➡
  - Thread take-up lever from *right to left*.
  - Thread needle from *front to back*, drawing about four inches (100 mm) of thread through eye of needle.



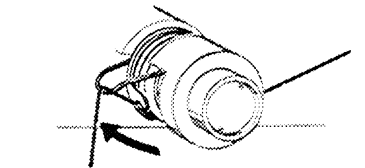
With two hands, slip thread horizontally *between* tension discs from the top.



With right hand, lead thread *under* thread guide on right side . . .



. . . and, with left hand, lead thread *over* spring and *under* guide on left side.



Allow spring to return to its normal up position and continue threading the machine.

## RAISING THE BOBBIN THREAD

Now that you have wound the bobbin and threaded the needle, you will need to raise the bobbin thread through the needle hole in the throat plate.

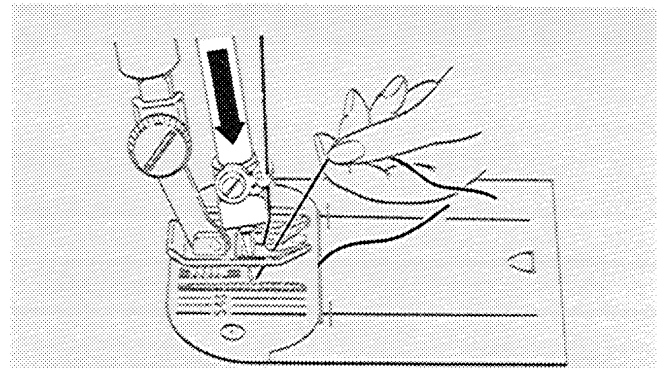
1. Hold needle thread lightly with the left hand and turn the hand wheel *slowly* toward you so that the needle enters throat plate.

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

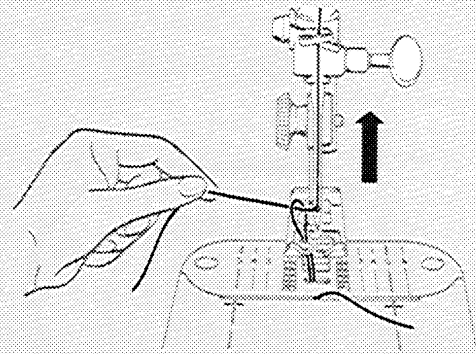
3. Undo the loop with your fingers.

4. Place both needle and bobbin threads under presser foot and draw to back of machine.

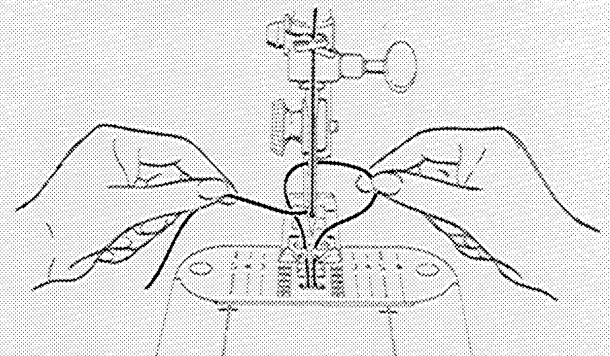
*... you are now ready to sew*



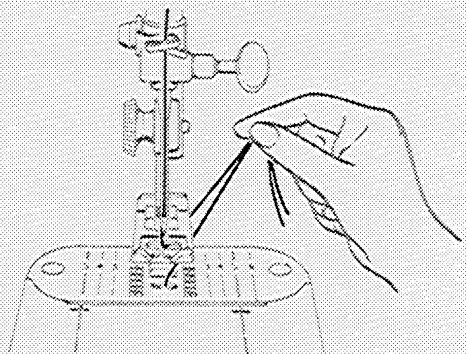
Step 1



Step 2

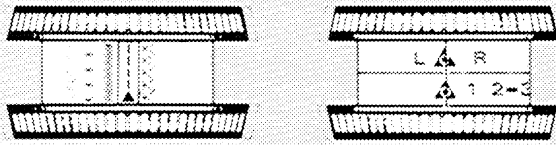


Step 3

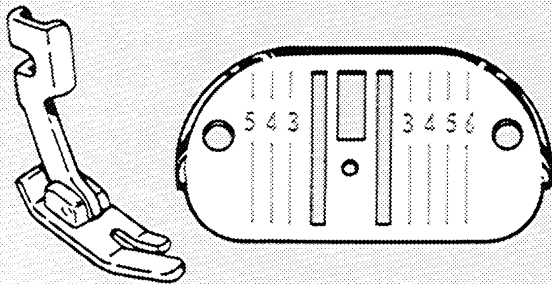


Step 4

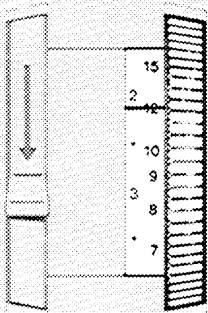
# 3. STRAIGHT STITCHING



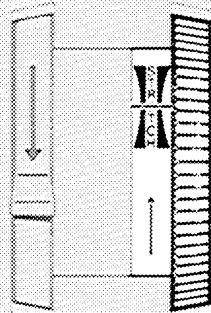
Dials Set for Straight Stitching



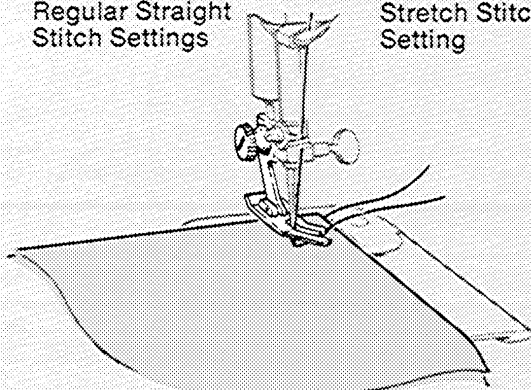
Straight Stitch Foot and Needle Plate



Regular Straight Stitch Settings



Stretch Stitch Setting



Starting to Sew

- Pattern: Straight Stitch
- Needle Position:  $\Delta$
- Stitch Width:  $\Delta$
- Stitch Control: To suit fabric
- Straight Stitch Throat Plate or Zig-Zag Throat Plate
- Straight Stitch Foot or Zig-Zag Foot

## preparation

Before you set the dials for straight stitching, turn the hand wheel toward you until the needle is above the throat plate.

## SETTING THE MACHINE

1. Set pattern dial selector at  $\Delta$ .
2. Move needle position dial to  $\Delta$ .
3. Set stitch width dial on  $\Delta$ .
4. Set stitch control for desired stitch length. For regular straight stitching, turn dial to a numbered setting; for straight stretch stitching, turn dial to **STRETCH** setting.

## CHOOSING ACCESSORIES

Best results will be obtained if you use the straight stitch foot and throat plate. However, the zig-zag foot and throat plate may also be used.

## starting to sew

- Place needle and bobbin threads under presser foot and draw to back of machine.
- Position the needle in the fabric where desired for stitching start.
- Lower the presser foot and start the machine.

To sew perfectly on a wide variety of fabrics adjust stitch length, pressure and thread tension as instructed on the following pages.

For information on straight stretch stitching, turn to page 34.



## adjusting for your fabric

### SETTING STITCH LENGTH

The stitch control dial regulates the length of both straight and zig-zag stitches. The numbers 6 to 20 represent the number of straight stitches per inch and the numbers 1 to 4 represent stitch length in millimeters. Generally, shorter stitches are best for lightweight fabric, longer ones for heavy fabric. Curved seams, bias-cut seams, and scallops require short straight stitches for elasticity and smooth contours.

The **FINE** area is used for adjustment of zig-zag satin stitching (page 24).

The **STRETCH** setting is used for straight-stretch stitching and *Flexi-Stitch* patterns only. For information on *Flexi-Stitch* patterns and straight-stretch stitching, see pages 21 and 32.

- To set stitch control, turn dial until setting desired is under the red line.

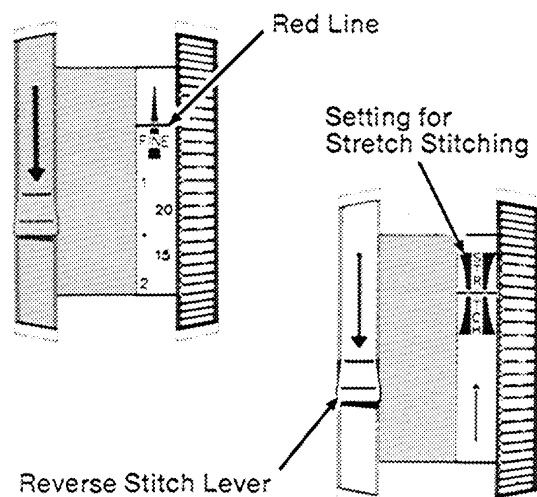
For reverse stitching, simply press reverse-stitch lever all the way down and hold in place. Release lever for forward stitching.

### REGULATING PRESSURE

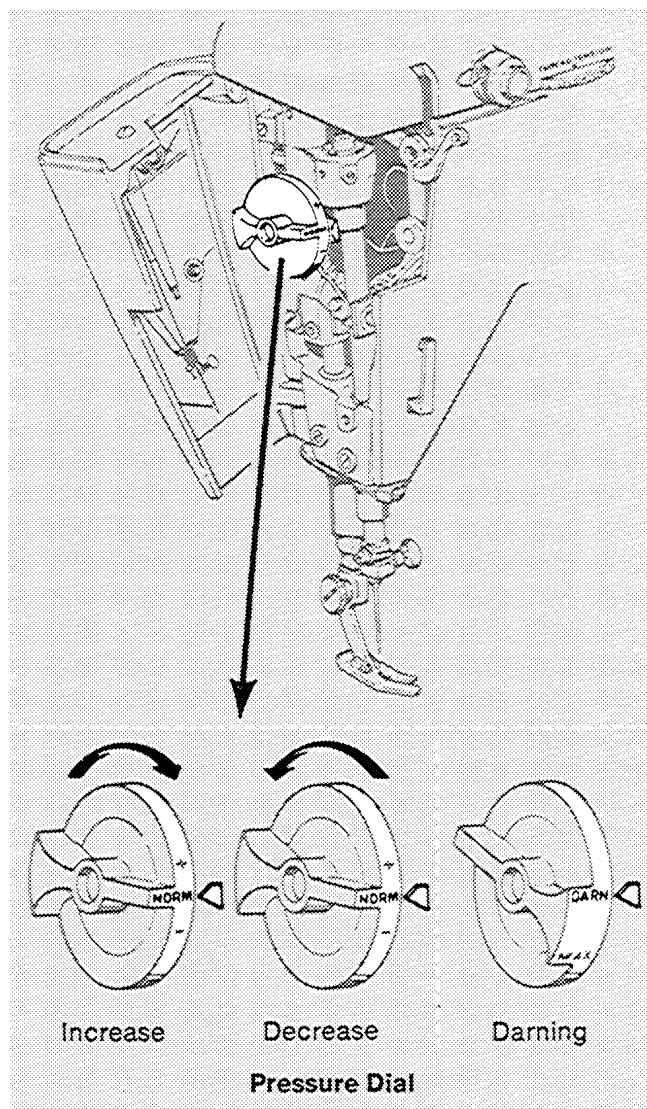
The pressure dial regulates the pressure that the presser foot exerts on the fabric. Correct pressure is important because it means fabric feeds smoothly and evenly. The **NORM** (normal) setting is an all-purpose setting that can be used for sewing a wide variety of fabrics of different weights and textures. Intermediate notched settings, above and below **NORM**, are also provided. When you need extra control to sew very heavy fabric, use the **MAX** (maximum) setting.

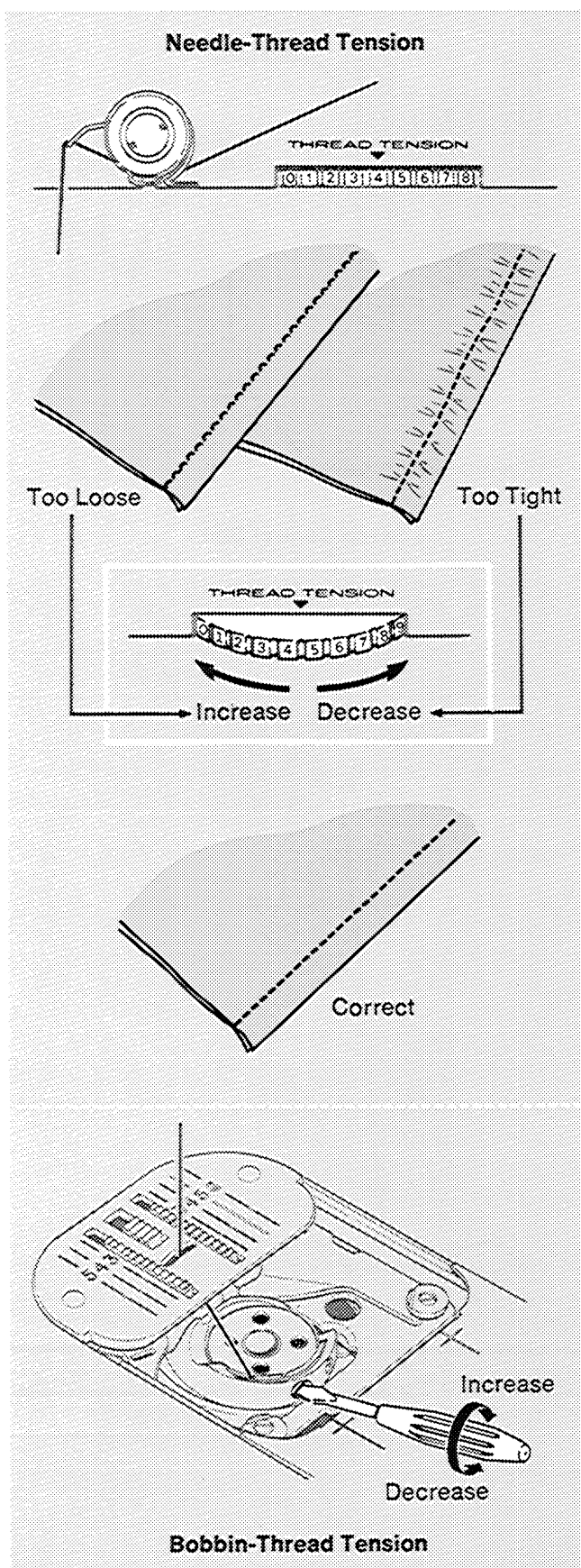
Lower the presser foot before setting pressure.

- To increase pressure, turn dial from **NORM** toward **MAX**.
- To decrease pressure, turn dial from **NORM** toward **DARN**.
- For darning, set dial on **DARN**.



Stitch Control Dial





## REGULATING THREAD TENSION

Correct tension is important because too much or too little will weaken your seams or cause your fabric to pucker. Make a test sample with the fabric and thread you plan to use, and examine it. A perfect stitch will have the needle and bobbin threads locked between the two layers of fabric with no loops on top or bottom and no puckers.

### Needle-Thread Tension

The tension dial regulates the degree of tension on your needle thread. Set it according to the type of thread and fabric you use. The numbers on the dial eliminate guesswork in duplicating settings.

If the stitches in your test sample look loose, increase needle-thread tension. If the fabric puckers, decrease tension.

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

### Bobbin-Thread Tension

Bobbin-thread tension is controlled by a screw located on the bobbin case. You will seldom need to adjust bobbin-thread tension since it is usually possible to obtain the correct balance by adjusting needle-thread tension alone.

On those rare occasions when it becomes necessary to adjust the bobbin-thread tension, use the small tension screwdriver furnished with your accessories. A very slight turn on the screw nearest the thread slot on the bobbin case will produce a noticeable change in bobbin-thread tension.

- **To increase tension**, turn screw clockwise.
- **To decrease tension**, turn screw counter-clockwise.

## sewing a seam

### PIN BASTING

Pin basting is a time saver and can be used in place of hand basting when you are straight stitching seams in easy-to-handle fabric.

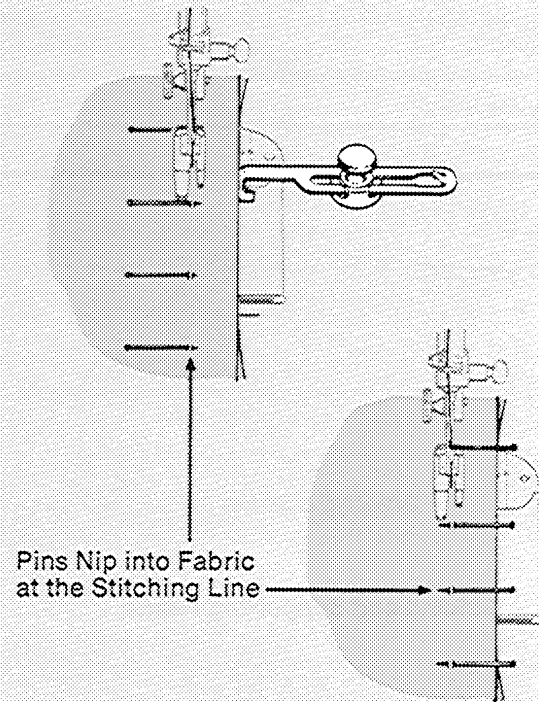
Use fine pins and place them so that:

- They are at right angles to the presser foot and just nip into the fabric at the stitching line.
- They do not extend under both sides of the presser foot. *Never place pins on the underside of the fabric in contact with the feed.*

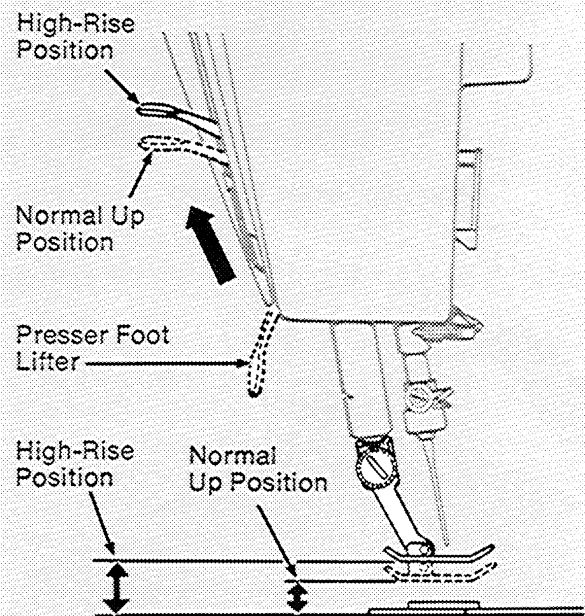
### PLACING FABRIC

Most fabric can be placed under the presser foot by raising the presser-foot lifter to its normal up position. When placing bulky fabrics, such as coating, knit or terry cloth, or multiple fabric layers, you will find it convenient to raise the presser-foot lifter to the high-rise position. Hold lifter in position (since it does not lock) while placing fabric under the presser foot. Make sure the lifter is all the way down before starting to sew.

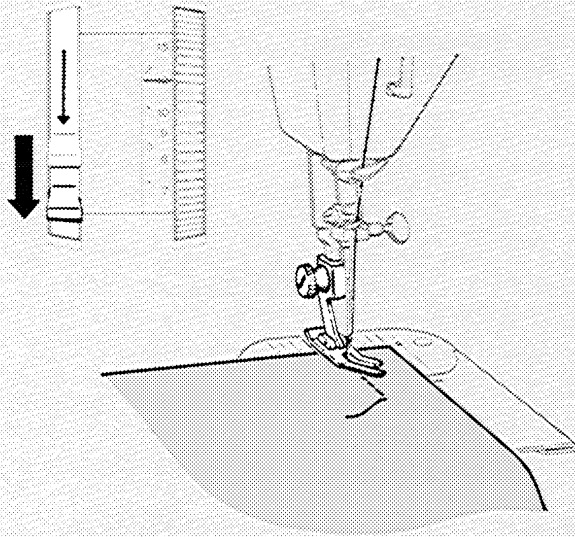
Pin Placement When Seam Guide Is Used



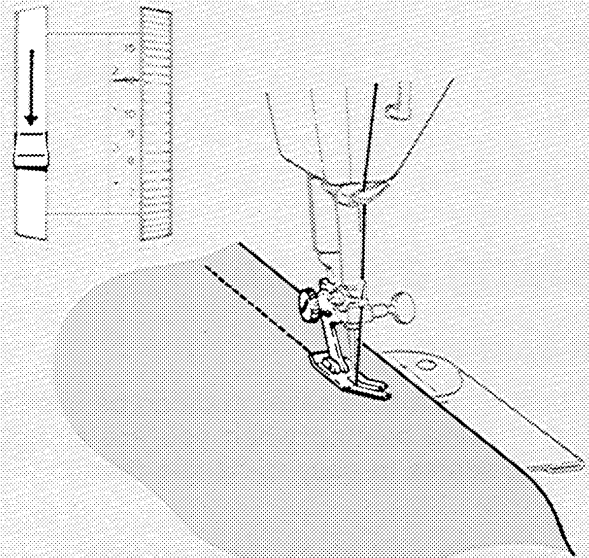
Pin Placement When Seam Guide Is Not Used



Presser Foot Lifter Settings

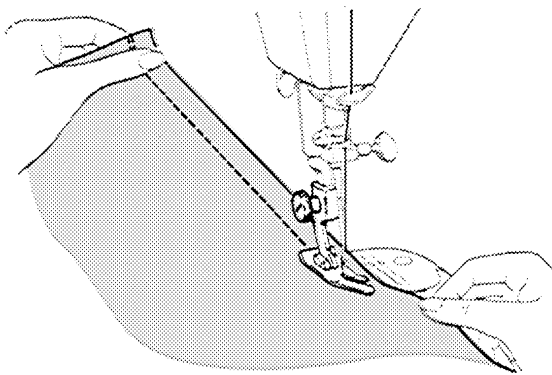


Starting a Seam

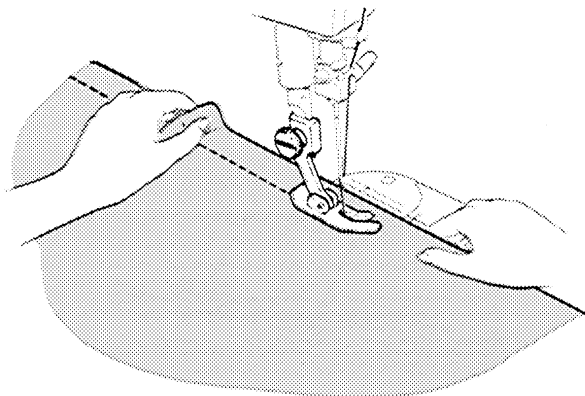


Stitching a Seam

### Guiding and Supporting Fabric



Applying Gentle Tension



Applying Firm Tension

### STARTING A SEAM

1. With presser foot raised, turn hand wheel toward you to position needle in fabric about 1/2 inch (13mm) from starting edge. Lower the presser foot.
2. Press reverse-stitch lever all the way down and hold in place. Backstitch to edge of fabric for reinforcement.
3. Release reverse-stitch lever and stitch in forward direction.

### GUIDING AND SUPPORTING FABRIC

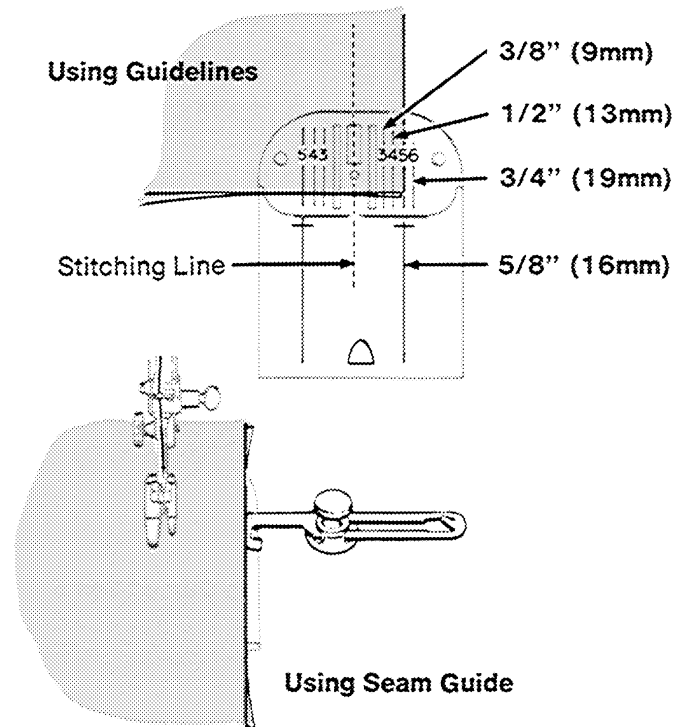
Most fabrics need only to be guided in front of the presser foot. Some fabrics, however, require support while being stitched, as shown. These fabrics require using the straight stitch presser foot.

- For filmy sheers, knits, tricot, 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 the conventional manner, guiding fabric in front of the presser foot.

## KEEPING SEAMS STRAIGHT

To keep the seam straight, use one of the numbered guidelines on the throat plate. The numbers indicate distance, in eighths of an inch, from the needle. If you want a 5/8 inch (16mm) seam, for example, line up your fabric with the number 5 guideline. Note that both number 5 guidelines (the most commonly used) are extended on the slide plate for your convenience: the crosslines serve as cornering guides when stitching a square corner.

For extra help in keeping the seam straight, you may wish to use the seam guide. Because it allows you to guide stitches between 1/8 inch (3mm) and 1-1/4 inches (32mm) from the fabric edge, it is useful for very narrow or unusually wide seams.



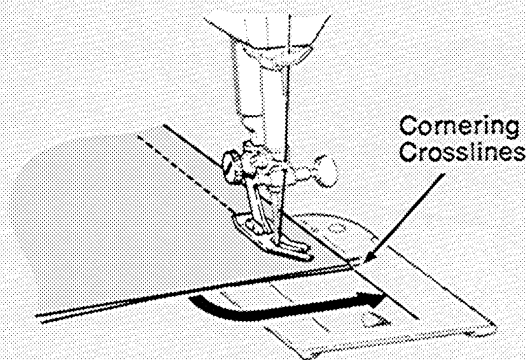
## TURNING SQUARE CORNERS

To turn a square corner 5/8 inch (16mm) from the fabric edge, you need not measure or mark the seam. Simply use the crosslines on the slide plate.

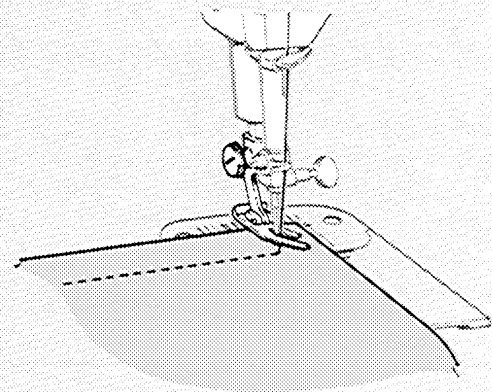
- Line up your fabric with right or left guideline 5 on the throat plate. Stitch seam, slowing speed as you approach corner.

- Stop stitching, *with the needle down*, when the bottom edge of the fabric reaches the cornering crosslines on the slide plate.
- Raise presser foot and turn fabric on needle, bringing bottom edge of fabric in line with guideline 5.
- Lower the presser foot and stitch in new direction.

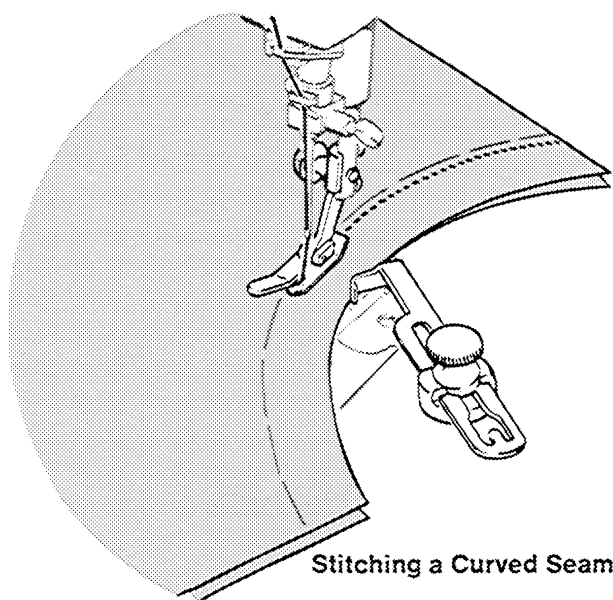
Pivoting at Corner



Fabric at Crosslines



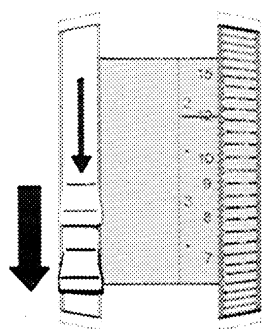
Fabric after Turning



Stitching a Curved Seam

## CURVED SEAMS

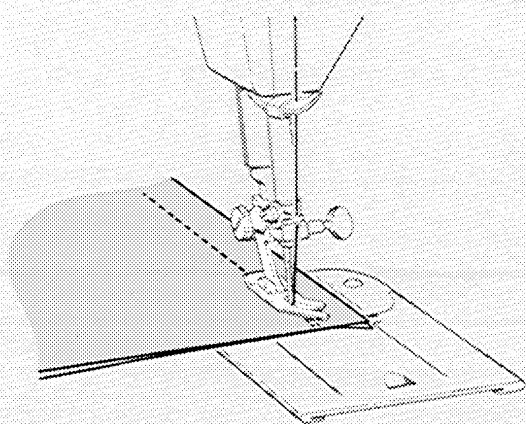
1. Use a short stitch for elasticity and strength. For example, if you use 12 stitches to the inch (stitches approximately 2mm long) for straight seams, select 15 to 20 per inch (stitches approximately 1.5mm long) to stitch curved seams in the same fabric.
2. If you use the seam guide to guide stitching, attach it at an angle so that the edge that is closer to the needle acts as a guide.



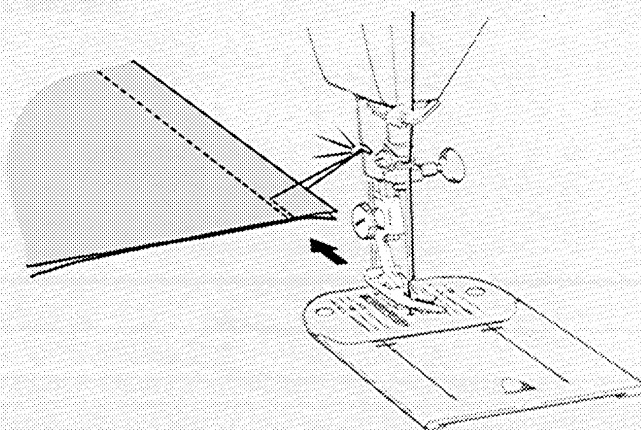
Reverse-Stitch Lever

## REINFORCING END OF SEAM

1. Stitch to the edge of the fabric.
2. Press reverse-stitch lever all the way down and hold in place. Backstitch approximately 1/2 inch (13mm) to reinforce end of seam. Release lever.
3. Raise needle to its highest position, raise the presser foot, and remove the fabric by drawing it to the back and left.
4. Cut threads on thread cutter at rear of presser bar.



Ending a Seam



Cutting Threads










# 4. ALL ABOUT ZIG-ZAG STITCHING

## two kinds of zig-zag stitches













The zig-zag stitches built into your machine include basic zig-zag stitches and *Flexi-Stitch* patterns. In addition to the obviously decorative uses of these stitches, some also serve practical purposes. Under the section called "Sewing the Professional Way" beginning on

page 28, you will find instructions for both decorative and practical uses of these stitches. All of the basic zig-zag stitches and some of the *Flexi-Stitch* patterns are charted below. (When sewing *Flexi-Stitch* patterns, set speed range at **SLOW**.)

### BASIC ZIG-ZAG STITCHES AND THEIR DIAL SETTINGS

Stitch Pattern	Pattern Dial	Stitch Width Dial	Needle Position Dial	Stitch Control
 Plain Zig-Zag Stitch		1-5	L  R	Numbered Area thru FINE
 Multi-Stitch Zig-Zag		1-5	L  R	Numbered Area
 Blindstitch		1-5	L  R	Numbered Area

### FLEXI-STITCH PATTERNS AND THEIR DIAL SETTINGS

Stitch Pattern	Pattern Dial	Stitch Width Dial	Needle Position Dial	Stitch Control
 Ric-Rac Stitch†		2-5	L  R	STRETCH
 Semaphore Stitch		2-5	L  R	STRETCH
 Slant Overedge Stretch Stitch†		2-5	L  R	STRETCH
 Overedge Stretch Stitch		2-5	L  R	STRETCH

†This stitch is designed for strength and permanence and cannot be readily ripped out without risk of fabric damage.

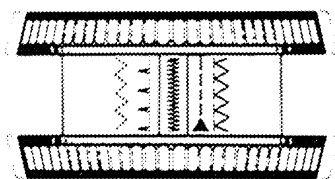
# adjusting dials

## SETTING PATTERN DIAL

Before moving the dial, make sure needle is above the fabric.

Push the pattern dial in and turn it until desired zig-zag stitch pattern is between the red lines.

To produce a *Flexi-Stitch* pattern, the stitch control dial must be turned until the symbol **STRETCH** appears under the red line.



- Push In
- Rotate
- Release

## ADJUSTING STITCH PLACEMENT

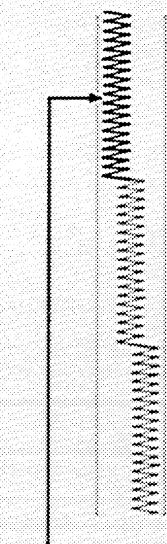
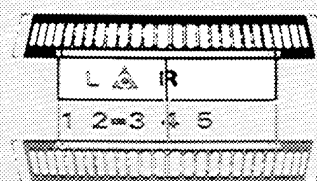
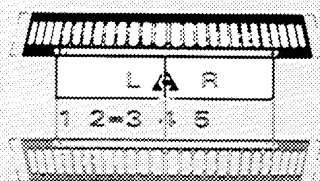
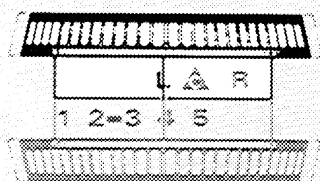
Before moving needle position dial, move stitch width to 5, and make sure needle is above the fabric.

Needle position setting **▲** places the needle in center stitching position. Settings **L** and **R** place the needle in left and right stitching positions at stitch widths less than 5.

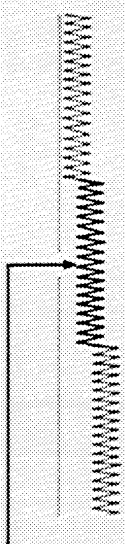
Setting **▲** is used most often. Settings **L** and **R** are for special placement of stitching. For example, an **L** setting is required for button-holing and button sewing. An **L** or **R** setting can be used to place narrow zig-zag stitching to the left or right of center in decorative work.

To adjust stitch placement, turn needle position dial until desired setting is aligned with the red line.

### Adjusting Stitch Placement



Left Needle Position



Center Needle Position



Right Needle Position



## ADJUSTING WIDTH OF DESIGN

Before moving dial, make sure needle is above the fabric.

To produce a zig-zag stitch, turn the stitch width dial to any setting between 1 and 5. The higher the number, the wider your stitch will be. A stitch width setting of 2 or more is recommended for *Flexi-Stitch* patterns.

## ADJUSTING NEEDLE-THREAD TENSION

Zig-zag stitching usually requires less needle-thread tension than straight stitching. Make a test sample with the fabric and thread you plan to use so that you can adjust tension to suit the stitch pattern you have chosen. The stitches should lie flat against the fabric without causing the fabric to pucker.

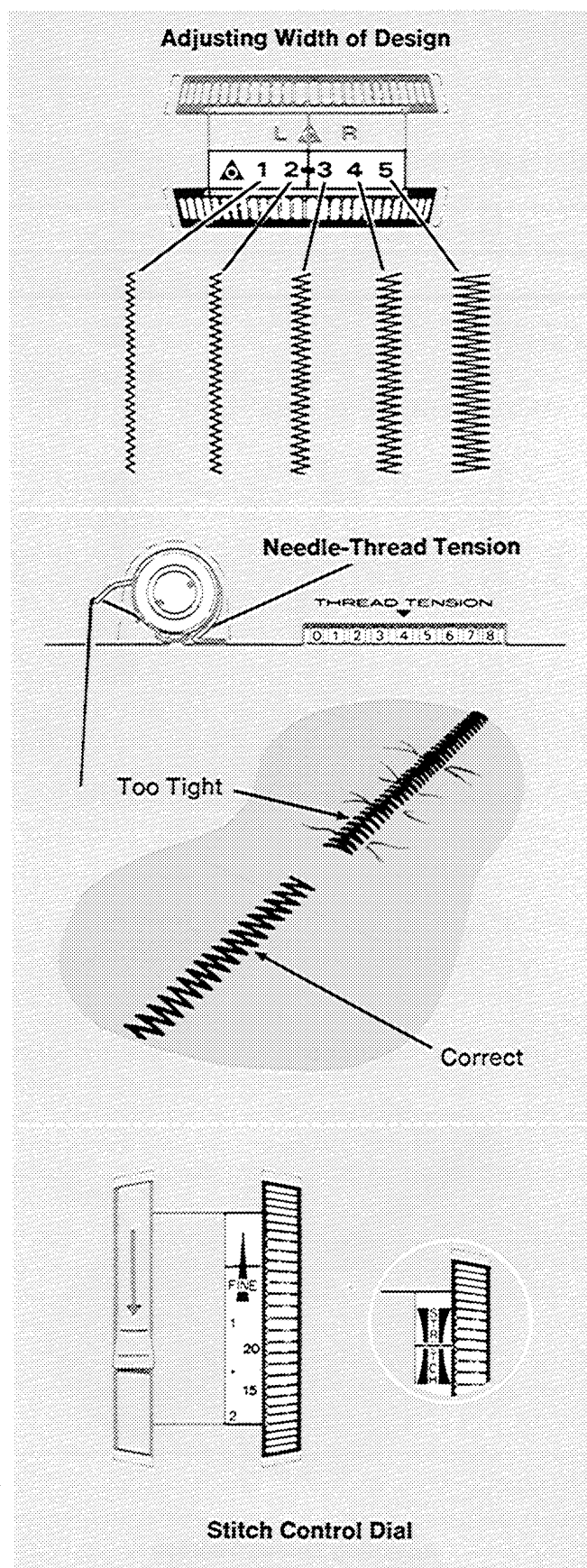
If the stitches are not flat and the fabric is puckered, lower the needle-thread tension by turning the dial to a lower number.

## ADJUSTING STITCH LENGTH

Any stitch control setting in the numbered area will give you an open zig-zag stitch of the pattern you select except *Flexi-Stitch* patterns. The triangular symbol on the dial designates the **FINE** stitch area and is used for the adjustment of zig-zag satin stitching (see page 24 for specific instructions).

To produce the overedge stretch stitch or any other *Flexi-Stitch* pattern (refer to stitch pattern chart), the stitch control dial must be set on the **STRETCH** symbol. Simply turn the dial downward until the symbol is centered under the red line. No further adjustment is necessary.

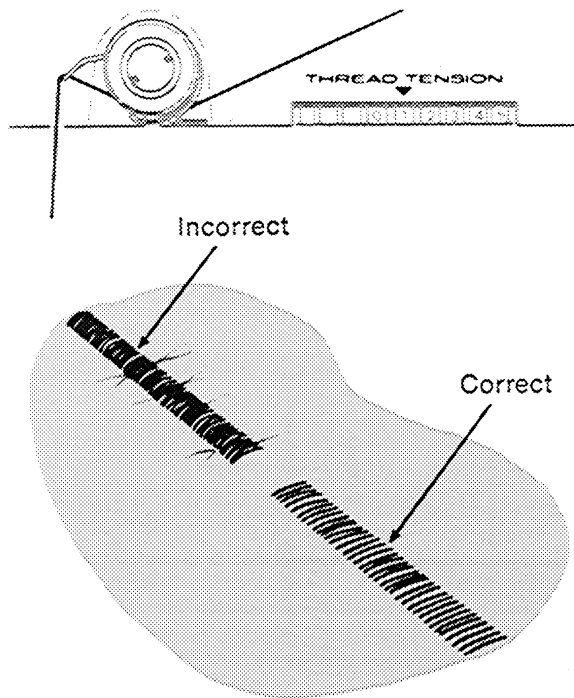
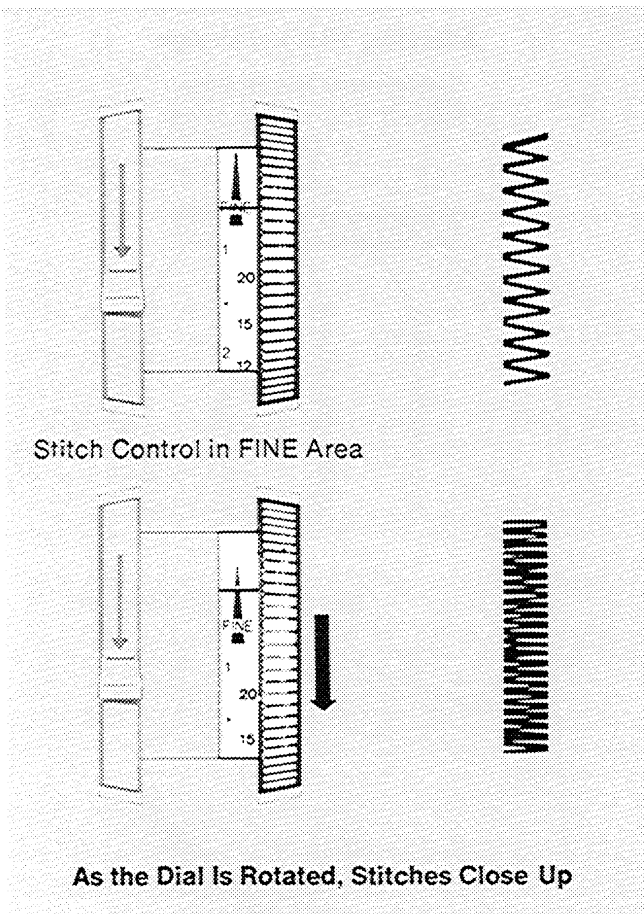
When using the **STRETCH** setting of the stitch control, you cannot backstitch the stitch pattern.



## satin stitching


Satin stitching, a series of closely spaced zig-zag stitches that form a smooth, satin-like surface, is useful for both practical and decorative work. The plain zig-zag stitch, for example, is suitable for bar tacks and applique when closed up to form a satin stitch. The *Flexi-Stitch* patterns, however, have a single stitch length setting (**STRETCH**) and cannot be satin-stitched.

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 fabrics may require a backing to ensure firm satin stitching. Crisp lawn or organdy is suitable for this purpose. For best results use the special purpose foot.



Adjusting Thread Tension

### DIAL SETTINGS

- Pattern: Plain Zig-Zag
- Needle Position: 
- Stitch Width: 2 to 5
- Stitch Control: In **FINE** area
- Zig-Zag Throat Plate
- Zig-Zag Foot or Special Purpose Foot (see note)

### Adjusting Stitch Length

1. Set stitch control dial at bottom of **FINE** area.
2. Run machine at **SLOW** speed.
3. Gradually turn dial downward until stitches are closely spaced and form a smooth surface.

### Adjusting Thread Tension

Satin stitching requires less tension than straight stitching or open zig-zag stitching. Furthermore, the wider the satin stitch, the lighter the tension on the thread must be. Notice the stitching on your sample. If the fabric is puckerd, lower the needle-thread tension by turning the tension dial to a lower number.

**NOTE:** For best results in satin stitching, the special purpose foot is recommended (available for purchase, see page 47).

# 5. BUTTONS AND BUTTONHOLES

## buttons

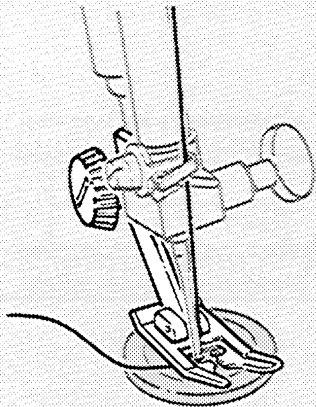
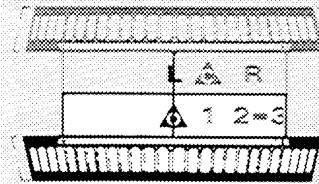
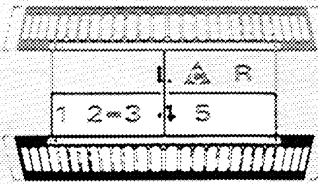
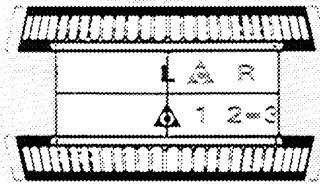
- Pattern: Plain Zig-Zag
- Stitch Width:  $\Delta$  and 4
- Needle Position: L
- Feed Cover Throat Plate
- Zig-Zag Foot

The space between the holes in the button determines the stitch width settings. The  $\Delta$  setting must always be used to position the needle over the left hole and fasten stitching. For buttons with standard hole spacing, use settings  $\Delta$  and 4. For buttons with unusual hole spacing, use setting  $\Delta$  and increase or decrease the width setting 4 as necessary.

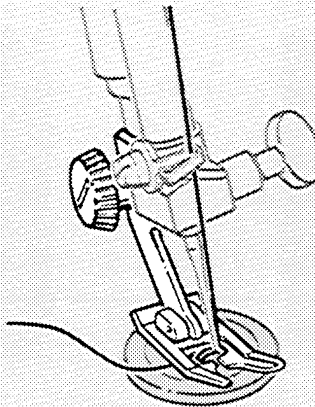
To sew on two- or four-hole buttons, approximately one inch (25 mm) in diameter or larger:

1. Set stitch width dial at  $\Delta$ . Position button under foot so that the needle will enter the left hole. Lower foot. Turn hand wheel toward you until needle rises out of button and is just above the foot.
2. Set stitch width at 4. Then, when you begin to stitch, the needle should enter the right hole of button. Take six or more zig-zag stitches at this setting, ending on left side.
3. To fasten stitching, return to stitch width  $\Delta$  and take about three stitches.

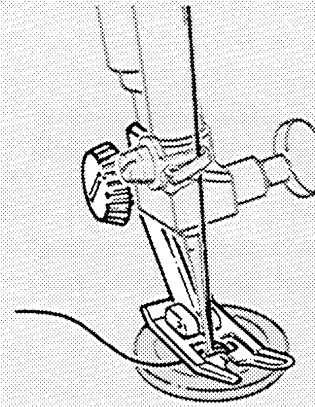
For best results with buttons smaller than one inch (25mm) in diameter, it is recommended that the Button Sewing Foot be used. See page 47.



Step 1



Step 2



Step 3

# buttonholes

- Pattern: Plain Zig-Zag
- Stitch Width: 2½ and 5 or to suit fabric
- Needle Position: L
- Stitch Control: FINE
- Zig-Zag Throat Plate
- Zig-Zag Foot or Special Purpose Foot†

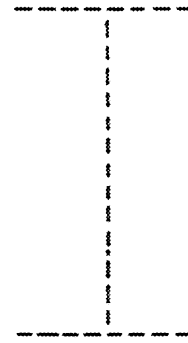
Always make a test buttonhole on a sample of your fabric. Be sure to duplicate the thickness of the garment and include interfacing if appropriate.

## BUTTONHOLE LENGTH

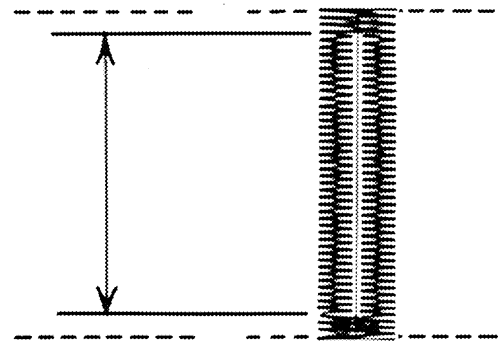
First decide how long the opening needs to be. This will depend on the diameter and the thickness of the button. To find the right length, cut a small slit in a scrap of your fabric and gradually enlarge it until the button slips through easily. Then add at least 1/8 inch or 3mm (1/16 inch or 1.5mm for 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.

## STITCH WIDTH SETTINGS

Next, determine the two stitch width settings that you will need: one for side stitching and one for bar tacks (closings at ends of buttonhole). Settings 2½ and 5 are illustrated below, although other combinations may be used, as long as the combined width of side stitching does not exceed the width of the bar tacks.

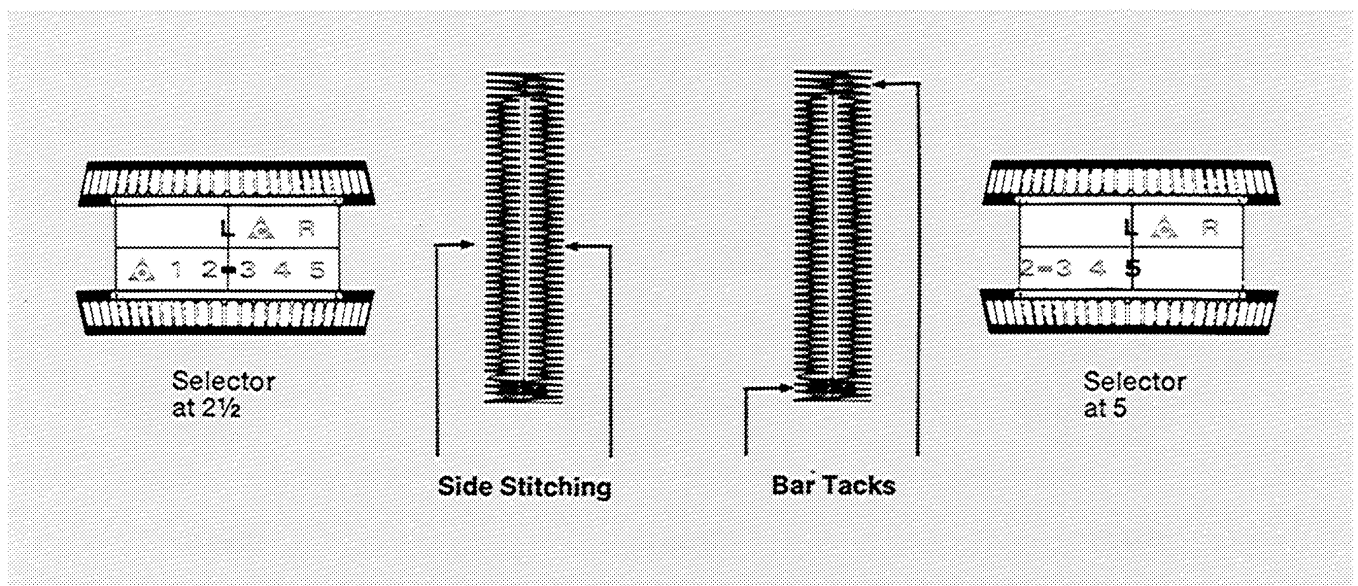


Marking Lines



Length of Cutting Space

Bar Tacks and Side Stitching



†The Special Purpose Foot described on page 47 is designed to aid in making buttonholes.

## PROCEDURE FOR MAKING BAR-TACK BUTTONHOLES

With needle position dial at **L**, set stitch width dial on  $2\frac{1}{2}$  for side stitching of buttonhole. Place work under needle, aligning center marking of buttonhole with slot in the presser foot.

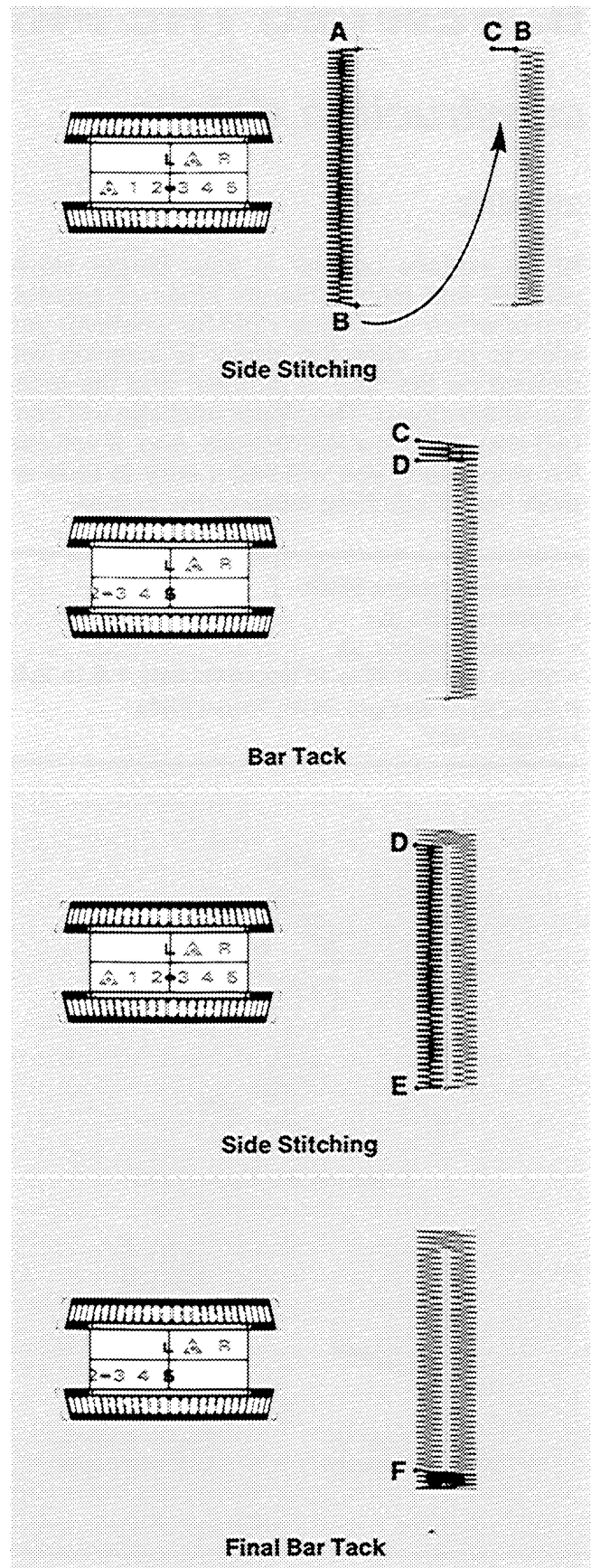
**Side Stitching:** Position needle in fabric at point **A**. Lower the foot and stitch to end of marking. Leave needle in fabric at point **B**. Raise the foot and pivot work on needle. Lower the foot. Take one stitch without changing width setting, bring needle to point **C**.

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

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

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

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



# 6. SEWING THE PROFESSIONAL WAY

## construction details

### ZIPPERS

At the notions counter in your Singer store, you will find many different kinds of zippers, one of which will be just right for whatever you wish to sew. How the zipper is inserted will depend on the type of garment and the location of the zipper. The zipper package will contain easy-to-follow instructions. And, if you use the zipper foot, you will find it easy to form an even line of stitching close to the zipper.

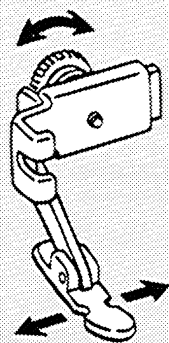
- 
- Pattern: Straight Stitch ▲
  - Stitch Width: ▲
  - Needle Position: ▲
  - Stitch Control: 10 to 15 (approximately 1.5 to 2.5)
  - Zig-Zag or Straight Stitch Throat Plate
  - Zipper Foot
- 

### Adjusting the Zipper Foot

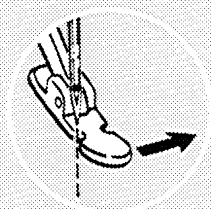
When the zipper is to the *right* of the needle:

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 turning the hand wheel to lower 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.
4. Lower presser bar. Make sure the needle clears the foot on all sides of the notch.

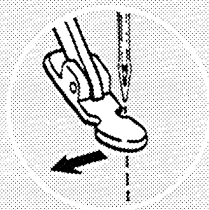
When the zipper is to the *left* of the needle, adjust the foot to the *right* of the needle in the same way.



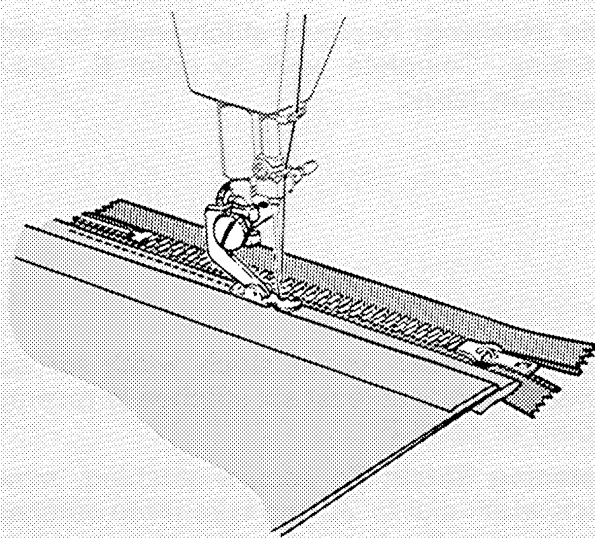
Adjusting the Zipper Foot



Zipper Foot to Right of Needle



Zipper Foot to Left of Needle



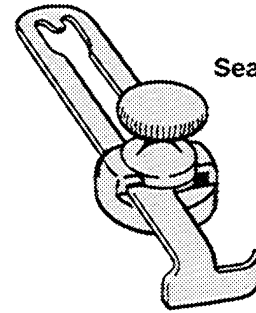
Zipper Insertion

## BLINDSTITCH HEMS

- Pattern: Blindstitch
- Stitch Width: 2 to 5
- Needle Position:  $\Delta$
- Stitch Control: 10 to 20 (approximately 1 to 2.5)
- Zig-Zag Throat Plate
- Zig-Zag Foot
- Seam and Blindstitch Hem Guide

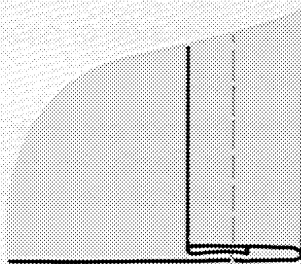
Blindstitching provides a durable hem finish that is almost invisible. It is best suited to straight or slightly curved hems. Taped, bound, turned, or unfinished hem edges can be blindstitched with equal ease. Blindstitching takes a little practice, however, so make a test sample first.

1. Mark, turn, and press hem in the usual way.
2. Baste a guideline 1/4 inch (6mm) from top of hem edge.
3. With the work wrong side up, turn the hem under, creating a soft fold about 1/4 inch (6mm) from top of hem.
4. Place hem edge over feed of machine with bulk of fabric to the left.
5. 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.
6. Stitch so that straight stitches fall on hem edge and sideward stitches pierce the soft fold. While stitching, guide the fold evenly against edge of hem guide.
7. When stitching is completed, swing guide out of position before raising presser foot. Remove basting stitch.

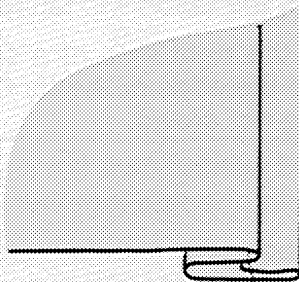


Seam and Blindstitch Hem Guide

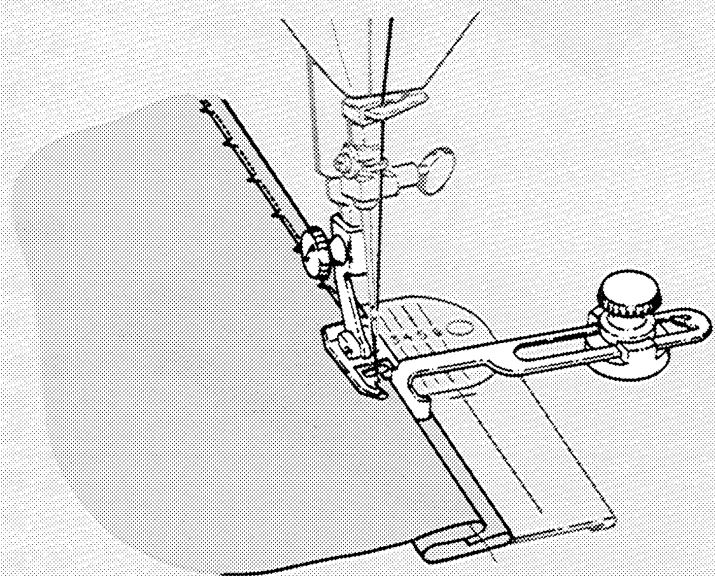
### Blindstitch Hem



Basted Guideline

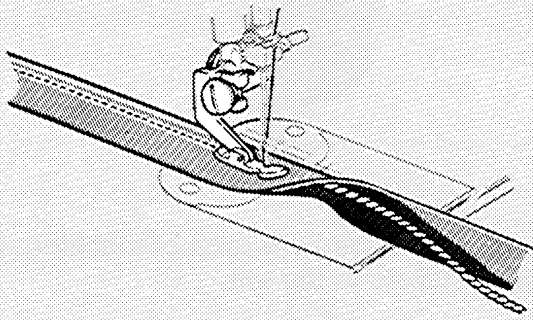


Soft Fold



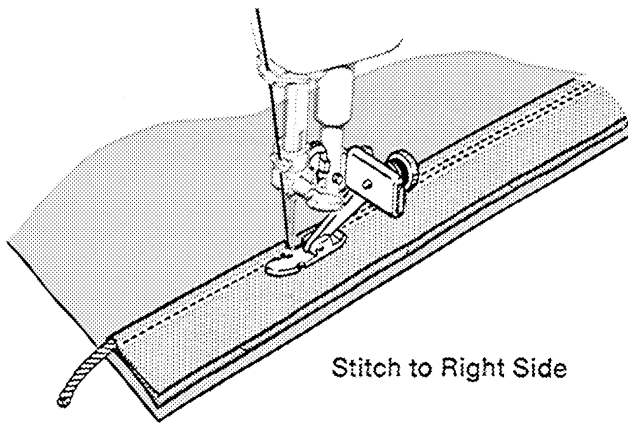
Blindstitching a Hem

### Making the Welting

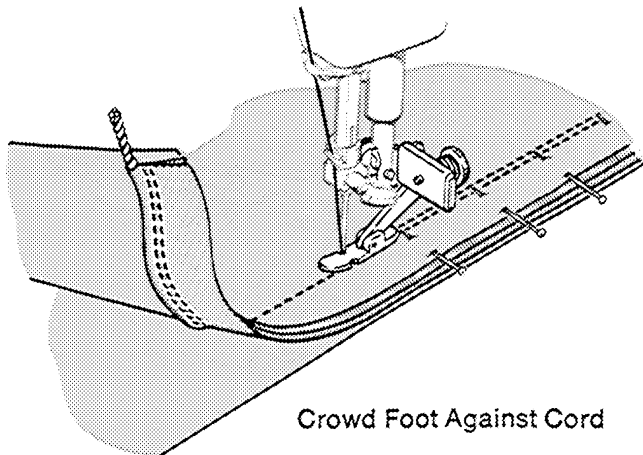


Stitch Close to Cord

### Making a Corded Seam





Stitch to Right Side



Crowd Foot Against Cord

## CORDED SEAMS

The corded seam is a professional treatment for slipcovers, 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.

- 
- Pattern: Straight Stitch
  - Stitch Width: 
  - Needle Position: 
  - Stitch Control: Slightly longer than for regular seaming
  - Zig-Zag or Straight Stitch Throat Plate
  - Zipper Foot
- 

### Making the Welting

1. Buy cable cord of desired size.
2. Cut bias strips of fabric to cover cord (width: three times the diameter of the cord plus 1-1/4 inches or 32mm).
3. If it is necessary to sew strips together to obtain desired length, join on the lengthwise fabric grain.
4. Fold bias fabric strip over cord, raw edges even.
5. Adjust zipper foot to left side of needle.
6. Lower the presser foot.
7. Stitch close to cord (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 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, crowding the foot against cord.






## SEAMS IN FABRICS THAT RAVEL

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 whether method #1 or method #2 best suits your fabric.

### Method #1 — Trimmed Seam Finish





---

- Pattern: Plain Zig-Zag  or Multi-Stitch Zig-Zag 
  - Stitch Width: 4 or 5
  - Needle Position: 
  - Stitch Control: 8 to 20 (approximately 1 to 3), to suit stitch and fabric
  - Zig-Zag Throat Plate
  - Zig-Zag Foot
- 

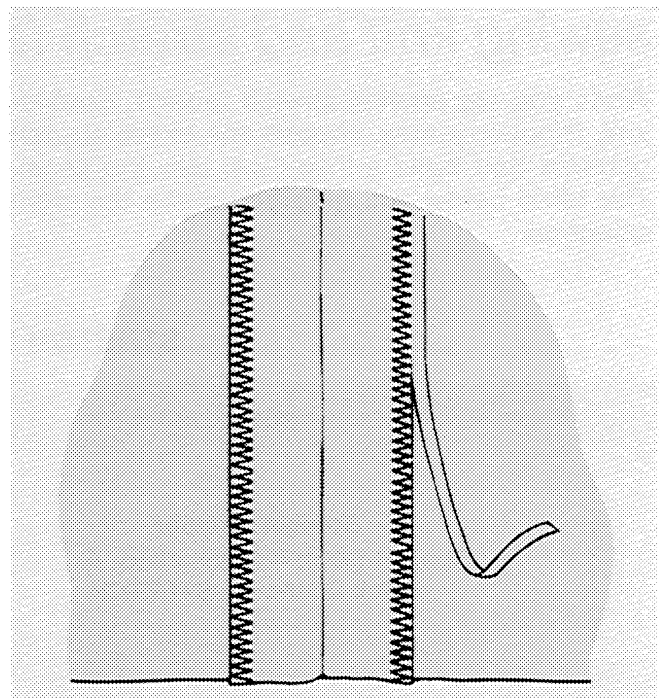
1. Select the stitch pattern that best suits your fabric.
2. Adjust stitch width and stitch length to give the most “open” stitch that will secure the fabric edge; avoid harsh over-stitching.
3. Place stitching near the edge of the seam allowance.
4. Trim seam edges evenly, as shown, after stitching is completed.

### Method #2 — Overedged Seam Finish

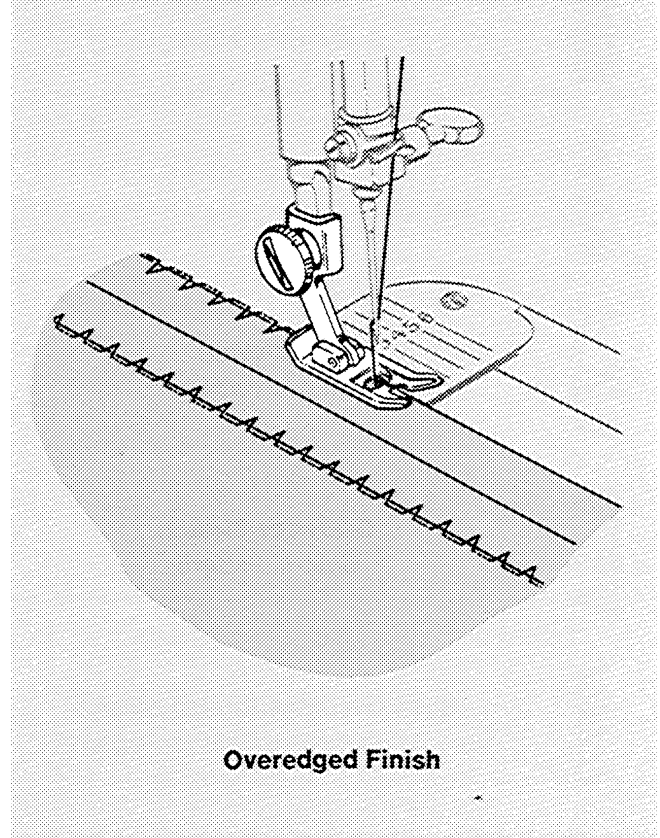
---

- Pattern: Plain Zig-Zag , Blindstitch , or Multi-Stitch Zig Zag 
  - Stitch Width: 4 or 5
  - Needle Position: 
  - Stitch Control: 8 to 20 (approximately 1 to 3), to suit stitch and fabric.
  - Zig-Zag Throat Plate
  - Zig-Zag Foot
- 

1. Adjust stitch length and stitch width to suit your fabric.
2. Trim seam edges evenly.
3. Place trimmed seam under the presser foot and stitch so that the zig-zag stitches fall over the edge of the seam allowance.



Trimming Edges



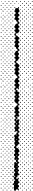






Overedged Finish

## sewing knit and stretch fabric

When you are sewing stretch fabrics, double-knit, tricot or jersey, choose one of the stretch patterns that build s-t-r-e-t-c-h into the seam. The table below will help you make the right selection.

*Remember to use a ball-point (yellow band) needle, Catalog 2045, in the machine, and increase presser foot pressure when you are attaching elastic or sewing a synthetic knit or stretch fabric.*

### STRETCH STITCH CHART

	Stitch	Where to Use
	<p><b>Straight Stretch†</b>            Straight Stitch — Stitch Width <math>\Delta</math>            Stitch Control on <b>STRETCH</b></p>	<p>Plain seams that s-t-r-e-t-c-h (press-open or closed construction) — Crotch seaming — Sleeve and gusset insertion — Flexible top stitching — Swim and ski suit construction — Attaching patch pockets — Repairing and reinforcing seams.</p>
	<p><b>Multi-Stitch Zig-Zag</b>            Built-in Pattern</p>	<p>Attaching elastic and stretch lace — Lingerie and swimsuit construction — Girdle seams — Seam finishes — Casings and waistband finishes.</p>
	<p><b>Plain Zig-Zag</b>            Built-in Pattern</p>	<p>All-purpose stretch sewing — Lingerie seams — Attaching stay tapes — Seam finishing — Edge finishing — Attaching stretch lace.</p>
	<p><b>Ric-Rac Stitch†</b>            (See Stitch Pattern Chart on Page 21)</p>	<p>Heavy-duty, all-purpose stretch sewing — Reversible topstitch applications.</p>
	<p><b>Blindstitch</b>            Built-in Pattern</p>	<p>Flexible blindstitch hemming — Overcast seam finishing — Shell hems in lingerie.</p>
	<p><b>Overedge Stretch</b>            Built-in Pattern</p>	<p>Overedge seams that stretch — Crotch seams — Waistband and seam finishes in shorts and slacks — Ski-suit, snow-suit, and swimsuit construction.</p>
	<p><b>Slant Overedge Stretch Stitch†</b>            (See Stitch Pattern Chart on Page 21)</p>	<p>Sweater and swimsuit construction — Overcast seams in bulky knits and stretch terry cloth — Attaching elastic and stretch lace — Edge finishes for seams, hems, and facings.</p>

†This stitch is designed for strength and permanence and cannot be readily ripped out without risk of fabric damage.




## GUIDING AND SUPPORTING FABRIC

Most fabrics of stretch or knit construction need only to be guided in front of the presser foot when you use one of the stretch stitches. Simply let the machine move the fabric to make the stitches that give *s-t-r-e-t-c-h* to the seam.

Some fabrics — nylon tricot and elasticized fabrics, for example — do require support while being stitched.

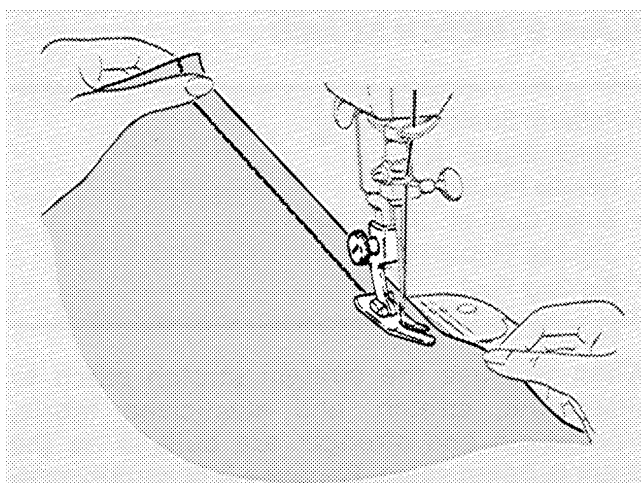
- For nylon tricot and similar synthetic knits, apply *gentle* tension by holding the seam in front and back of the presser foot as you sew.
- For elasticized fabric, stretch lace, and knits with an unusual amount of elasticity, apply *firm* tension in front and back of the presser foot to stretch the seam as the stitches are being placed.

## FINISHES FOR HEMS AND FACINGS

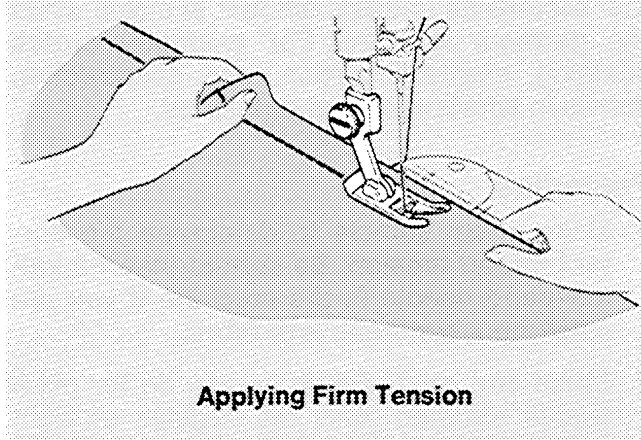
- 
- Pattern: Multi-Stitch Zig-Zag  or Slant Overedge Stretch  (see page 21)
  - Stitch Width: 5
  - Needle Position: 
  - Stitch Control: 8 to 20 (approximately 1 to 3) for Multi-Stitch Zig-zag or **STRETCH** for Slant Overedge Stitch
  - Zig-Zag Throat Plate
  - Zig-Zag Foot
- 

Hem and facing edges in knit and stretch fabrics will be less apt to press through and mark when given a flat edge-finish. Edge finishing with the slant overedge stitch or multi-stitch zig-zag eliminates the bulk of turned-in edges and retains fabric flexibility.

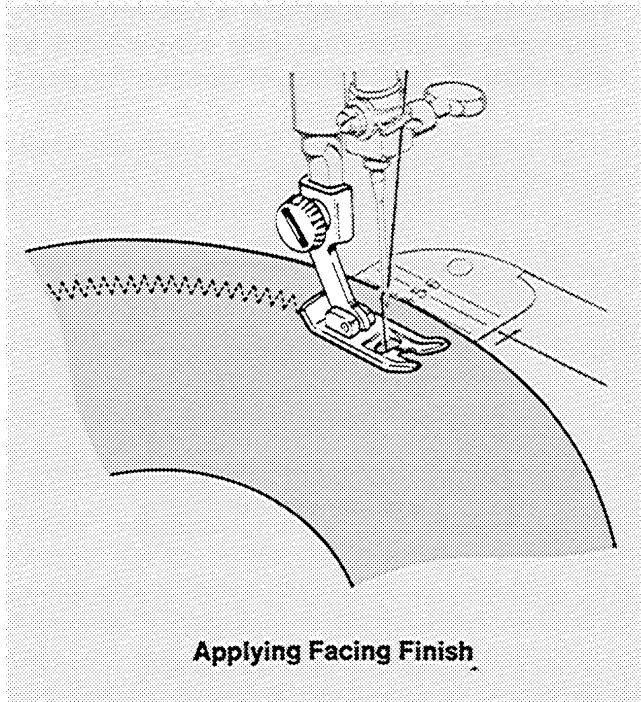
1. Make a test sample to check thread tension and stitch length if you are using the multi-stitch zig-zag.
2. Place stitching about 1/2 inch (13mm) from hem or facing edge.
3. Press after stitching and trim away excess fabric close to the stitching line.



Applying Gentle Tension






Applying Firm Tension



Applying Facing Finish

## PLAIN STRETCH SEAMS

- Pattern: Straight Stitch 
- Stitch Width: 
- Needle Position: 
- Stitch Control: **STRETCH**
- Zig-Zag Throat Plate
- Zig-Zag Foot

When you use the straight stretch stitch to seam knit, stretch, and elasticized fabric, *s-t-r-e-t-c-h* and strength are built in as the seam is being sewn. Because it is equally useful for closed or press-open seam construction and will not break thread under stress, the straight stretch stitch is also good for seams that receive an unusual amount of strain when the garment is worn. For example: crotch seaming, sleeve insertion, and construction seams in sportswear and swimsuits.



### Procedure

1. Make a test sample to determine the correct thread tension. Be sure to insert a yellow-band needle in the machine if you are stitching a synthetic knit fabric.
2. Stitch and guide fabric as you do for plain seams stitched with the regular straight stitch, letting the machine make the back-and-forth stitches that give *s-t-r-e-t-c-h* to the seam. If fabric has an unusual amount


of elasticity, it should be stitched under tension as instructed on page 33 (Guiding and Supporting Fabric).

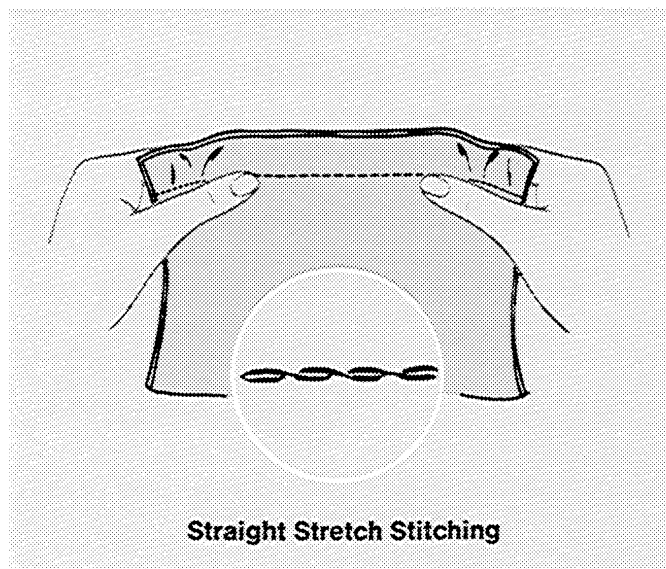
3. Press seam as when using the regular straight stitch.

## LINGERIE SEAMS

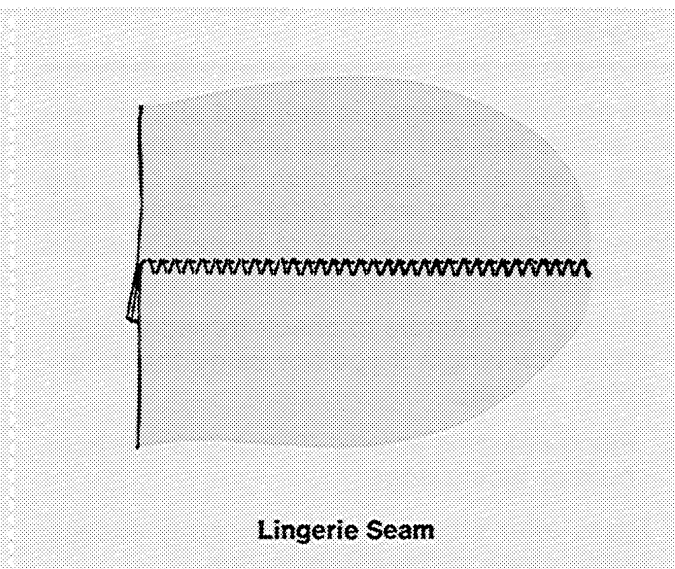
- Pattern: Plain Zig-Zag 
- Stitch Width: 1 to 2½
- Needle Position: 
- Stitch Control: 12 to 20 (approximately 1 to 2)
- Zig-Zag Throat Plate
- Zig-Zag Foot

To make a lingerie seam durable and flexible, use the plain zig-zag stitch at a narrow width setting. This seam treatment is particularly suitable for bias seams. When seaming nylon tricot, insert a yellow-band needle in the machine before you begin to sew.

- Straight-stitch the seam (dials set on black  symbols) on wrong side of fabric.
- Press both seam allowances in the same direction.
- From the right side, topstitch with narrow zig-zag stitching, letting the needle alternately enter the seam line and the seam thickness.





**Straight Stretch Stitching**



**Lingerie Seam**

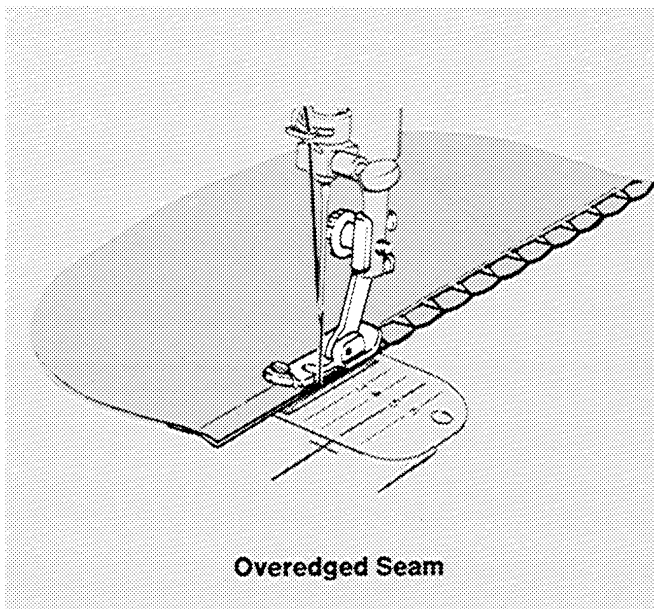
## OVEREDGED SEAMS

- Pattern: Overedge Stretch 
- Stitch Width: 5
- Needle Position: 
- Stitch Control: **STRETCH**
- Speed: In **SLOW** range
- Zig-Zag Throat Plate
- Overedge Foot



Seams in knit and stretch fabrics can be joined and finished in one operation when you use the overedge stretch stitch.

### Procedure

1. Make a test sample before beginning garment construction to test machine settings. Be sure to duplicate the cut of the garment seam in your test, and use a ball-point (yellow band) needle if you are sewing a synthetic knit fabric.
2. Cut and fit the garment in the regular way, using a 5/8 inch (16mm) seam allowance. Baste seam line.
3. Trim seam edge evenly to a scant 1/4 inch (6mm) from seam-line basting.
4. Place trimmed seam under the overedge foot so that the straight stitches fall on the basted seam line and zig-zag stitches fall over the seam edge.



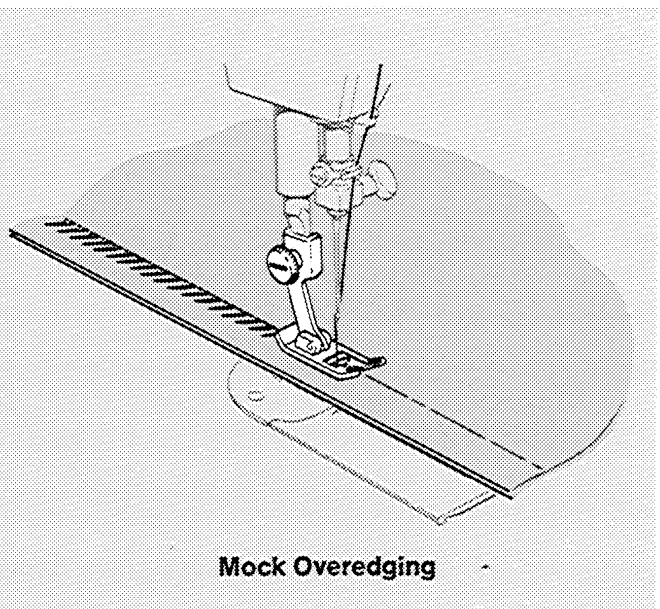
## MOCK OVEREDGING

- Pattern: Slant Overedge  (see page 21)
- Stitch Width: 5
- Needle Position: 
- Stitch Control: **STRETCH**
- Speed: In **SLOW** range
- Zig-Zag Throat Plate
- Zig-Zag Foot

When it is not practical to overedge a seam because of the construction of the fabric, a mock overedge finish can be applied. This finish is appropriate for bulky knits, fine tricot, and fabrics that curl or ravel.

### Procedure:

1. Make a test sample to check machine adjustments before beginning garment construction.
2. Cut and fit the garment, allowing for 5/8-inch (16mm) seam allowance. Baste seam line.
3. Place seam under the presser foot so that the straight stitches fall on the seam-line basting.
4. Press after stitching and trim away fabric to produce a narrow seam. When the seam supports the garment, omit the trimming step.



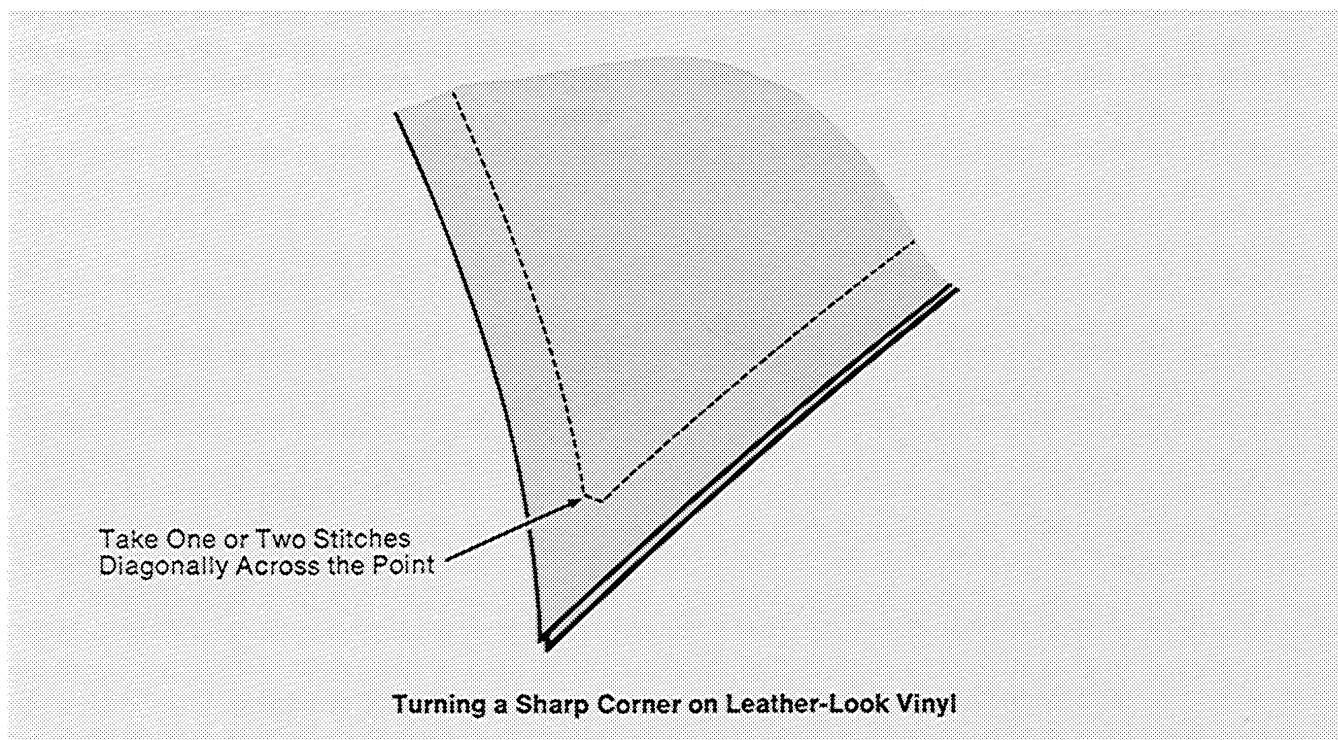
## hints on sewing special fabric

### LEATHER-LOOK VINYL†

- Use masking tape or zipper adhesive tape instead of pins or basting to hold seams, zippers and hems in place for stitching.
- Stitch with a long stitch (setting of 8 to 10 or 2.5 to 3). A short stitch may cut the fabric.
- Sew with a steady, even pace and stitch accurately. Seams cannot be ripped out without leaving needle marks in the fabric.
- The shiny side of some vinyls tends to stick to metal surfaces. Use a strip of tissue paper between the fabric and metal machine surfaces to prevent this.
- Reinforce button and buttonhole areas with interfacing. Bound buttonholes are the best choice for vinyls with knit backing.
- Topstitching holds seams and garment edges smooth and flat, and adds a decorative note.
- For sharp points on collars and lapels, take one or two stitches diagonally across the point to allow enough space to enclose the seam edge smoothly.

### CIRE (Wet-Look Taffeta and Tricot)†

- Do not use pins in any area of the garment that will be visible when completed.
- Use masking tape or zipper adhesive tape instead of pins or basting to hold seams, zippers and hems in place for stitching.
- Stitch accurately; seams cannot be ripped out because needle marks remain in the fabric.
- Sew seams under gentle tension by holding fabric slightly taut at front and back of needle.
- Stitch ciré taffeta with a fairly long stitch and use an enclosed edge finish for seams and hems.
- Stitch ciré knits with a medium-length stitch (setting of 12 or approximately 2) and use a fine ball-point needle.
- Machine-worked buttonholes, as well as bound buttonholes can be made in ciré fabric. Always use an interfacing and make sure the close zig-zag stitches do not cut the fabric.



†The Even-Feed Foot described on page 47 is designed to aid in sewing this fabric.

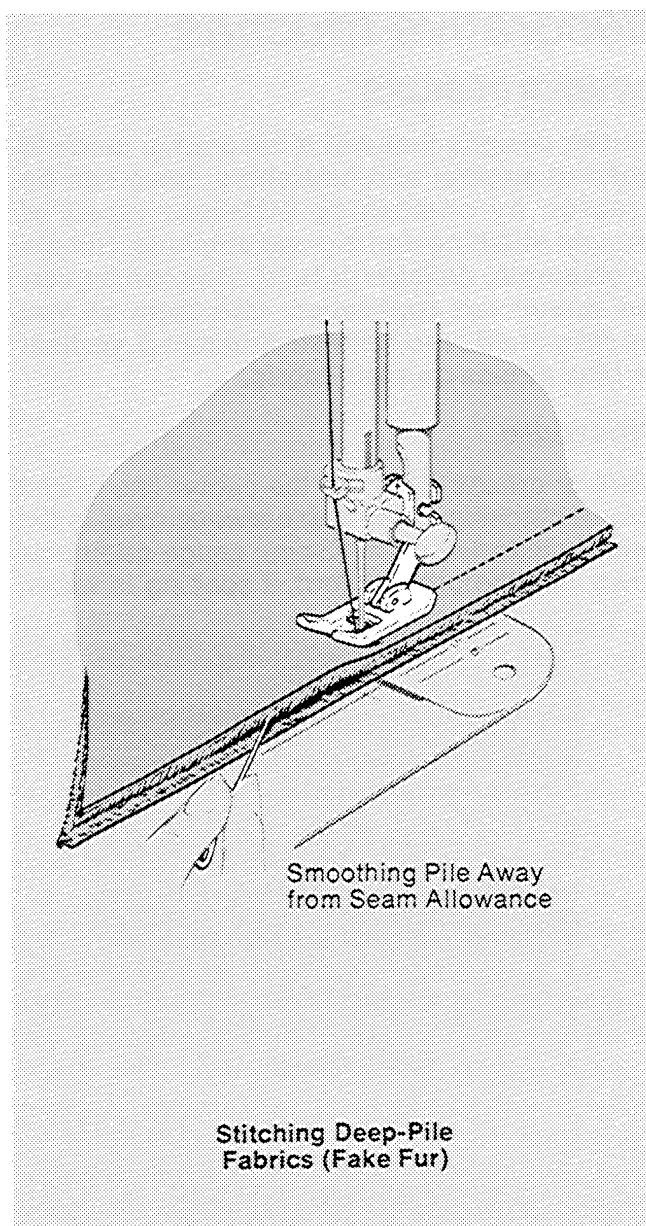
## DEEP-PILE FABRICS (Fake Fur) †

- Pin, rather than baste, seams. Place pins at short intervals at right angles to the seam line. Pins with colored heads are easy to see and remove.
- Sew in direction of nap.
- Stitch with a fairly long machine stitch (settings of 8 to 10 or approximately 2.5 to 3) and use polyester/cotton thread in a size 14 or 16 Catalog 2020 needle.
- As seam is stitched, smooth pile away from seam allowance with a darning needle or upholstery pin.
- After stitching seams with a 5/8 inch (16mm) seam allowance, use small hand scissors to shear pile from entire seam allowance to reduce bulk.
- Stitch 1/4 inch (6mm) preshrunk tape into neckline and shoulder seams for stability and reinforcement, or stitch with the straight stretch stitch (stitch control set on **STRETCH**).
- Leather and leather-look fabrics complement fur fabrics; use them for bound button-holes and easy button loops.
- Coat hems are less bulky if narrow and finished with a 3 inch (76mm) fabric facing or gros-grain ribbon.
- Slash through the center fold of darts and finger-press open or stitch with a narrow zig-zag stitch and trim away excess fabric after stitching.

## VELVET AND VELVETEEN †

- Use a light pressure dial setting to prevent crushing pile.
- Mark and baste with silk thread.
- Use a Catalog 2020, size 11 needle and a fine thread for seaming. "A" silk or nylon thread is recommended for sewing velvet and velveteen.
- Always stitch in the direction of the nap.
- Pin or hand-baste seams and sew under gentle tension by holding fabric slightly taut at front and back of needle (see page 18). Extra-long straight seams may be machine basted with a long, wide zig-zag stitch.
- To sew panné velvet, use a ball-point needle (yellow band) and a shorter-than-normal stitch length (settings of 12 to 15 or approximately 1.5 to 2).

†The Even-Feed Foot described on page 47 is designed to aid in sewing this fabric.



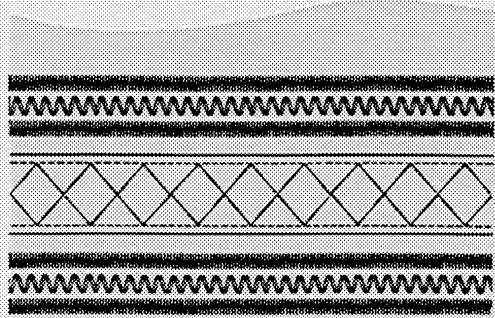
# decorative touches

## BORDER DESIGNS

Border designs that add a decorative touch to wearing apparel and household items can be created by combining different types of straight stitching and zig-zag stitching. Simple or elaborate, delicate or bold, they can be varied to suit the application. Use them as you would a braid or to simulate horizontal, vertical or bias stripes on plain fabric.

### Procedure

Mark or crease fabric for the center line of first row of stitching. If spacing between rows is not greater than 1/2 inch (13mm), gauge additional rows with the presser foot. If spacing is wider,



Border Design



Method #1—Trimming after Stitching

mark for each line of stitching. Use a backing of crisp lawn, organdy or organza and be sure to make a test sample on a swatch of your fabric to check stitch settings and thread tension.

## APPLIQUE

Applique adds beauty and interest to clothing and household linens. You can create your own design, trace a simple outline from a coloring book, or use a motif cut from a printed fabric. Fabrics of like or different texture combine equally well.

Use a closely spaced, fairly narrow zig-zag stitch. Although you may vary stitch width to accommodate fabric weave or texture, never allow the stitch to be too wide.

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

### Preparation

- Baste applique design to fabric.
- Outline design with straight stitching (use a short stitch).
- Remove basting and press.
- Attach zig-zag throat plate and foot.

### Method #1

1. Set stitch width dial. Adjust stitch length in the **FINE** area of the stitch control.
2. Outline the entire design with applique stitching.
3. Cut away the fabric on the outer edges of the stitching with embroidery scissors.

### Method #2

1. Trim outside edges close to straight stitch outline of design.
2. Set stitch width dial. Adjust stitch length in the **FINE** area of the stitch control.
3. Overedge the design with satin stitching. This step will produce a smooth, lustrous finish that requires no additional trimming.

NOTE: For best results in satin stitching, the special purpose foot is recommended (available for purchase, see page 47).





## keeping up appearances

Many zig-zag stitch patterns are just as useful for mending as they are for creative sewing. The multi-stitch zig-zag (a built-in pattern) forms a firm, flexible bond that is ideal for repairing tears.

### MENDING A TEAR


---

- Pattern: Multi-Stitch Zig-Zag 
  - Needle Position: 
  - Stitch Width: 2 to 5
  - Stitch Control: Approximately 20 (1 to 1.5)
  - Zig-Zag Throat Plate
  - Zig-Zag Foot
- 

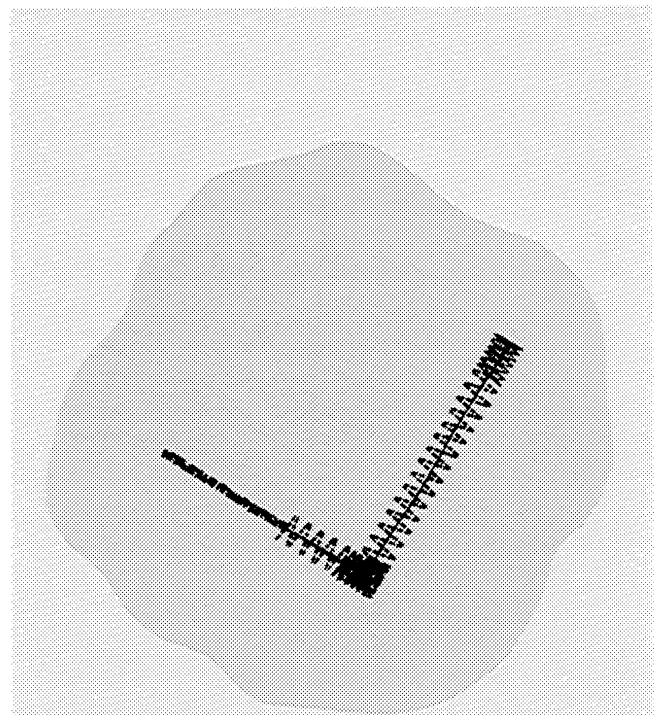
1. Trim ragged edges.
2. Place underlay on the wrong side of tear for reinforcement. (It is best not to baste or pin the underlay, since you will be bringing the edges together in the next step.)
3. Stitch on the right side, bringing the edges of the tear together. Shorten stitch length at ends and corners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

### BLANKET BINDING

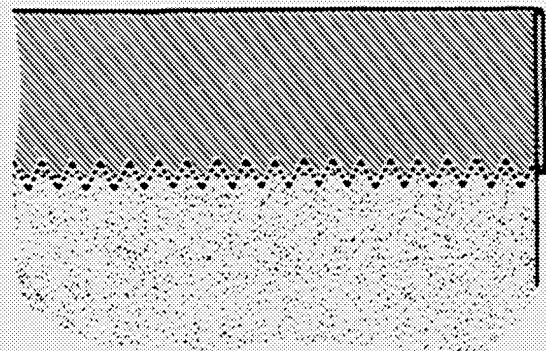
Often you can make an old blanket look almost new by replacing the binding. A zig-zag stitch pattern such as the plain zig-zag or multi-stitch zig-zag or the semaphore *Flexi-Stitch* pattern may be used.

- Pattern: Desired zig-zag stitch (see above)
  - Stitch Width: 5
  - Needle Position: 
  - Stitch Control: **STRETCH** for Flexi-Stitch pattern, or approximately 15 to 20 (1.5), to suit stitch and fabric
  - Pressure: **NORM** or less
  - Zig-Zag Throat Plate
  - Zig-Zag Foot
- 

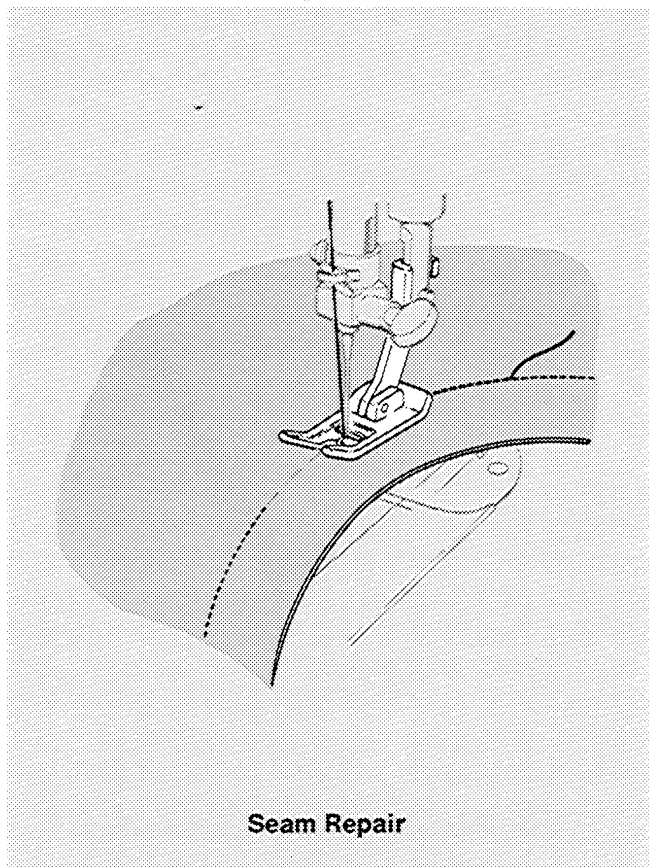
1. Make a sample to determine correct dial settings. Reduce pressure on fabric and increase stitch length, if necessary, so that blanket feeds freely.
2. Remove worn binding and baste new binding securely in place.
3. Stitch, and remove basting.



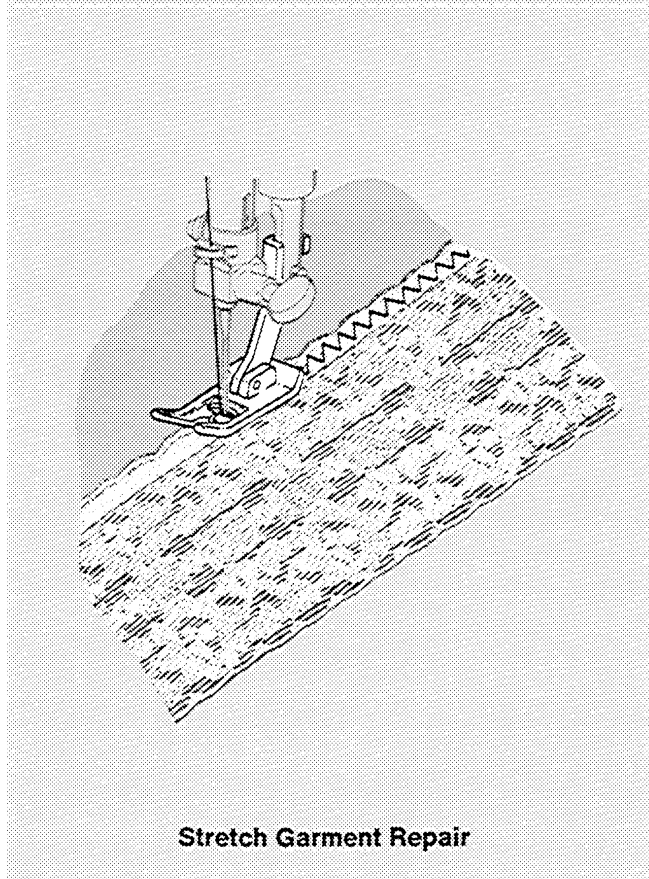
Tear Mended with Multi-Stitch Zig-Zag



Blanket Binding





Seam Repair





Stretch Garment Repair

## REPAIRING SEAMS

Breaks in press-open garment seams can be repaired quickly and easily when you use the straight stretch stitch (stitch pattern , stitch width  and stitch control on **STRETCH** setting). This reinforced stitch is both strong and flexible. It is ideal for knit and stretch fabrics and particularly useful for repairing or strengthening curved seams or seams that will receive strain when worn.

1. Make a test sample to check dial settings.
2. Remove loose thread along the break and press the seam edges together.
3. Re-stitch along original seam line, guiding seam under presser foot without stretching fabric, letting the machine move the fabric to make the back-and-forth stitches that give *s-t-r-e-t-c-h* to the seam. Overlap stitching one inch at each end. Press seam open.

## REPAIRING STRETCH GARMENTS

- 
- Pattern: Plain Zig-zag 
  - Needle Position: 
  - Stitch Width: 3 to 5
  - Stitch Control: 20 (approximately 1 to 1.5) or to suit fabric
  - Zig-Zag Throat Plate
  - Zig-Zag Foot
- 

Seams and hems in stretch and elasticized garments retain their elasticity when stitched with the plain zig-zag stitch. This stitch is particularly effective when used in topstitch applications (as shown) or to overedge. Make a test sample to check dial settings.



### Bar Tacks

Bar tacks, to reinforce points of strain, are made with the plain zig-zag stitch at satin stitch length. Use them at pocket corners, to attach garters, secure shoulder straps, belt loops and zipper openings.

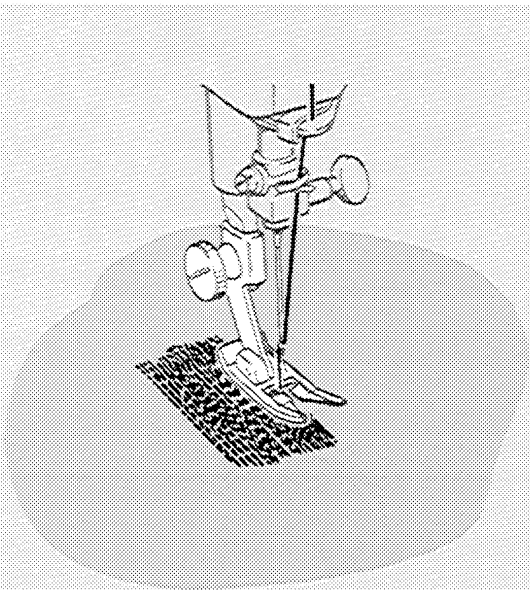
## DARNING

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, an embroidery hoop is usually best.

### Without Embroidery Hoop



- Pattern: Straight Stitch
- Needle Position: 
- Stitch Width: 
- Stitch Control: **10 to 15** (approximately 1.5 to 2.5)
- Pressure: **DARN**
- Zig-Zag Throat Plate
- Zig-Zag Foot

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

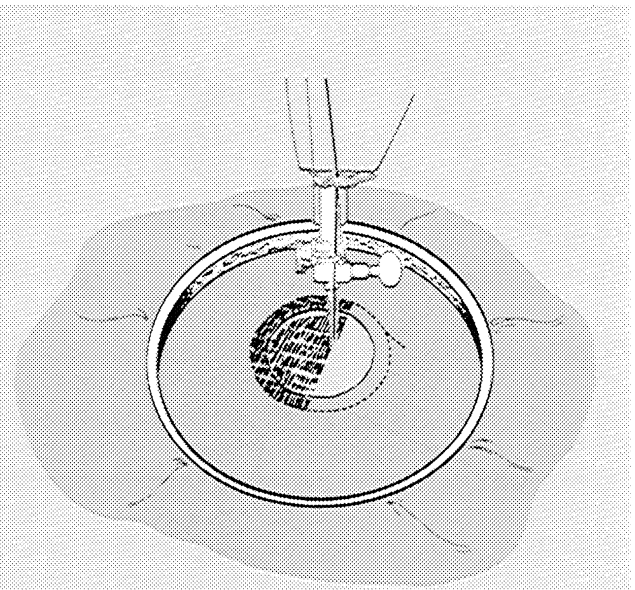


Darning without Embroidery Hoop

### With Embroidery Hoop

- Pattern: Straight Stitch
- Needle Position: 
- Stitch Width: 
- Stitch Control: In **FINE** area
- Feed Cover Throat Plate
- No presser foot

1. Trim ragged edges from area to be darned.
2. Center worn section in embroidery hoop.
3. Position work under needle over feed cover plate 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 with Embroidery Hoop

# 7. CARING FOR YOUR SEWING MACHINE

## *cleaning the machine*

Your machine will serve you perfectly for many years if you take a few moments of your time to keep it clean. How often you will need to clean the machine will depend on how often you use it.

**CAUTION:** Before cleaning your machine, disconnect power-line plug from electrical supply.

Remove lint or fluff from exposed parts. With a soft cloth, clean:

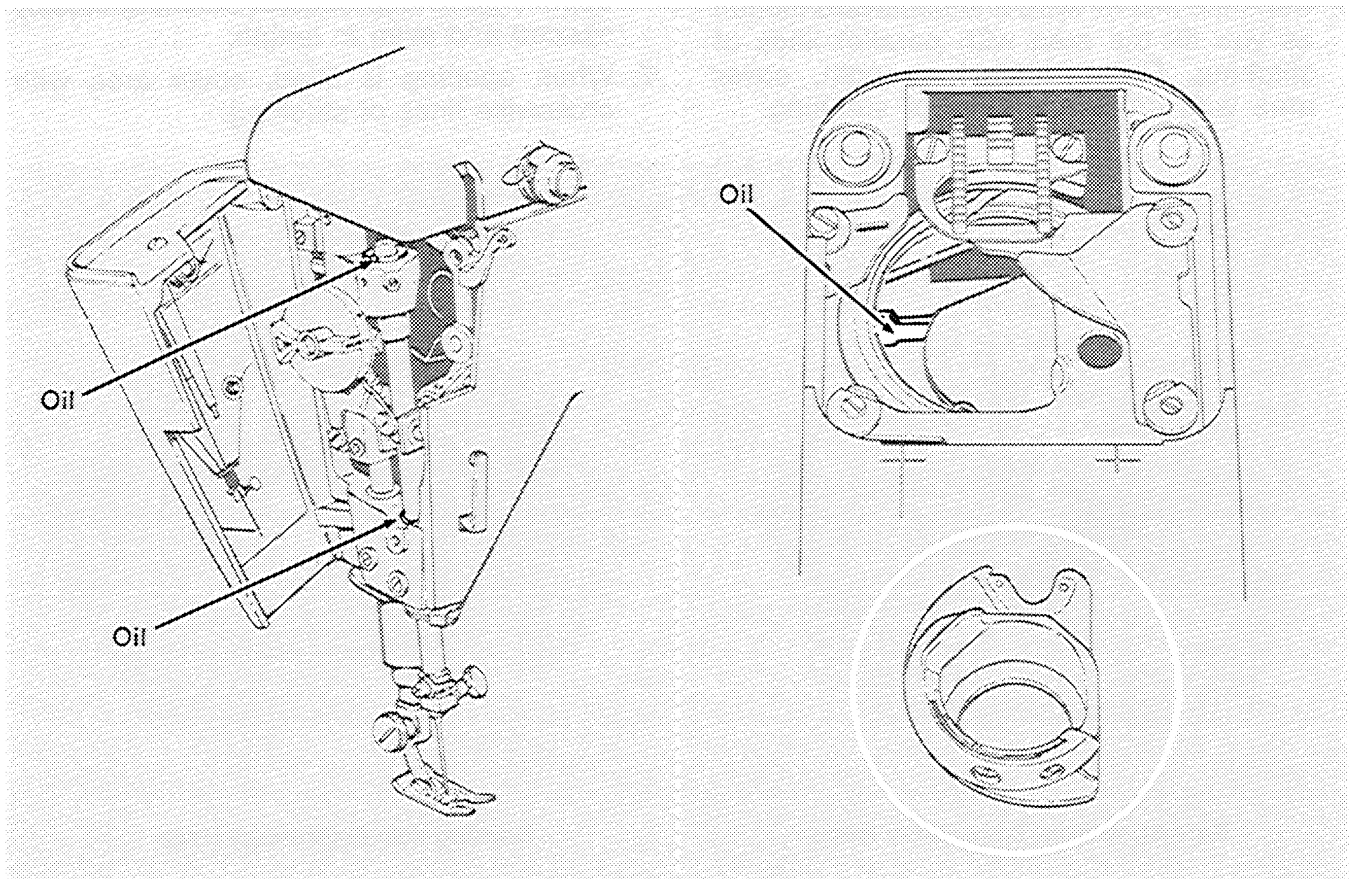
- Tension discs, presser bar, and needle bar
- Take-up lever and thread guides
- Bobbin case (If there is a lot of lint in the area, remove bobbin case for cleaning. See page 44 for instructions.)
- Machine surface (If necessary, dampen the cloth and use a mild soap.)

Open the face plate and clean area behind it with a brush.

Remove throat plate as instructed on page 6 and, using a brush, clean the rotating hook area under the throat plate and slide plate.

After cleaning, apply only SINGER\* oil at points indicated below. SINGER oil is specially prepared and does not contain harmful deposits that can interfere with the smooth action of precision parts.

Approximately once every year, remove top and bottom covers as instructed on page 43, and clean and lubricate all moving or rotating machine connections to ensure freedom of movement and to protect metal parts from excessive wear. To determine which connections are moving or rotating, turn hand wheel slowly (by hand) while covers are removed.



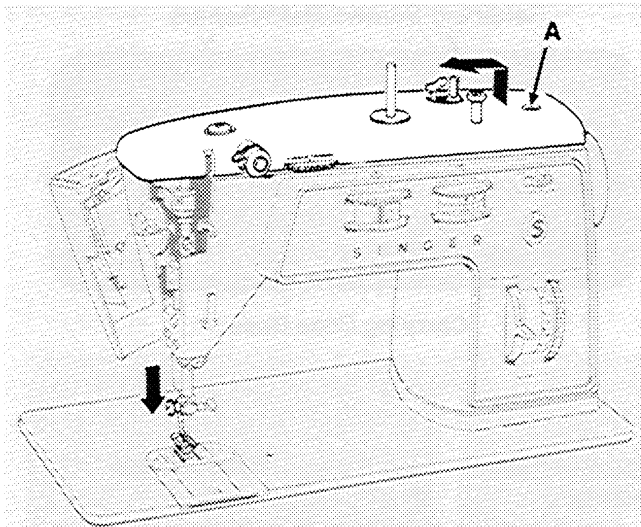
## removing covers, bobbin case, and bulb

**CAUTION:** Before removing covers, bobbin case, and light bulb, disconnect power-line plug from your electrical supply.

### REMOVING AND REPLACING TOP COVER

Move take-up lever to a low point and lower the presser foot.

1. Open face plate and remove screw **A**, lift up right end of top cover, and slide cover toward left and off machine.
2. Replace cover by positioning it on top of arm with a *slight* overhang on left side.
3. Engage bobbin winder latch and slide cover to the right as *far as it will go*. Replace and securely tighten screw **A**.
4. Release bobbin winder latch.



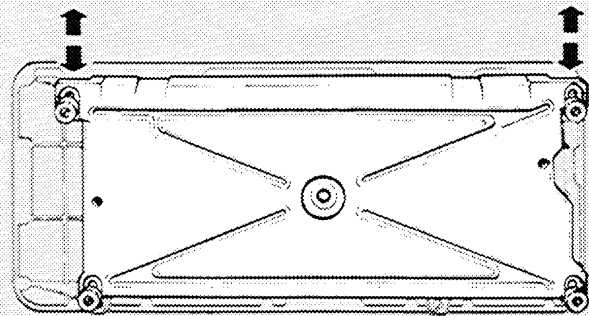
Removing and Replacing Top Cover

### REMOVING AND REPLACING BOTTOM COVER

If your machine is a portable, first remove the carrying case base as instructed on next page.

#### Household Machine

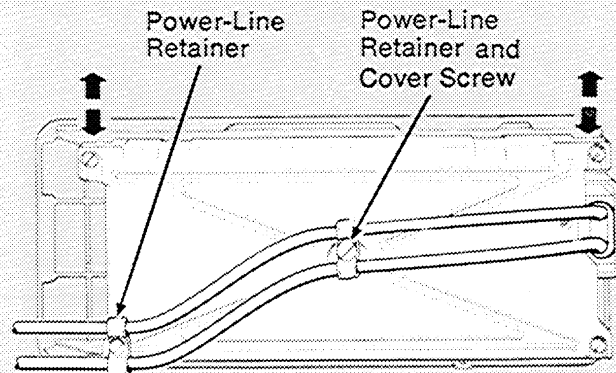
1. Tilt machine back, remove screw from center of bottom cover, and pull cover straight up (parallel to machine).
2. Replace bottom cover by positioning slots in cover over the cushion pins. Push down on cover to snap it into place. Replace and tighten screw in center of cover.



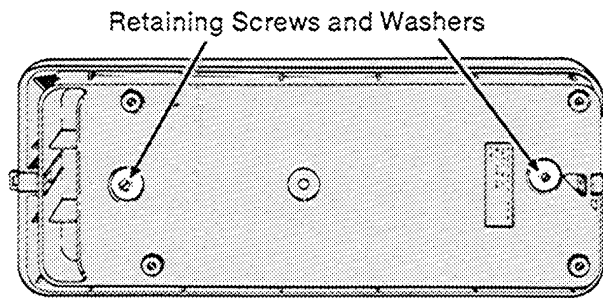
Removing and Replacing Bottom Cover  
on Household Machine

#### Classroom Machine

1. Tilt machine back, remove screw from center of bottom cover, loosen the four corner screws, and pull cover straight up (parallel to machine).
2. Replace bottom cover by positioning slots in cover over the four corner screws. Push down on cover, make sure cover is between power-line retainer at bottom left corner and machine casting, and snap cover into position.
3. Replace and tighten center screw and powerline retainer. Tighten the four corner screws.



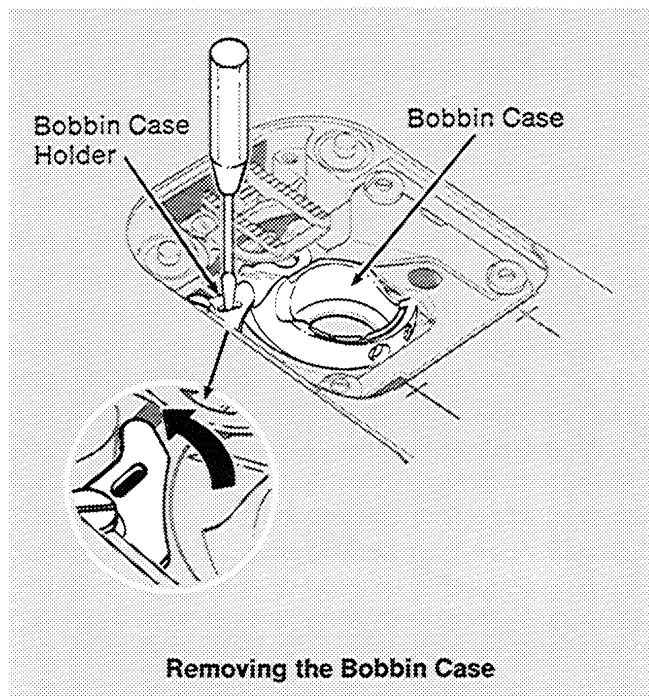
Removing and Replacing Bottom Cover  
on Classroom Machine



Carrying Case Base

### 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.



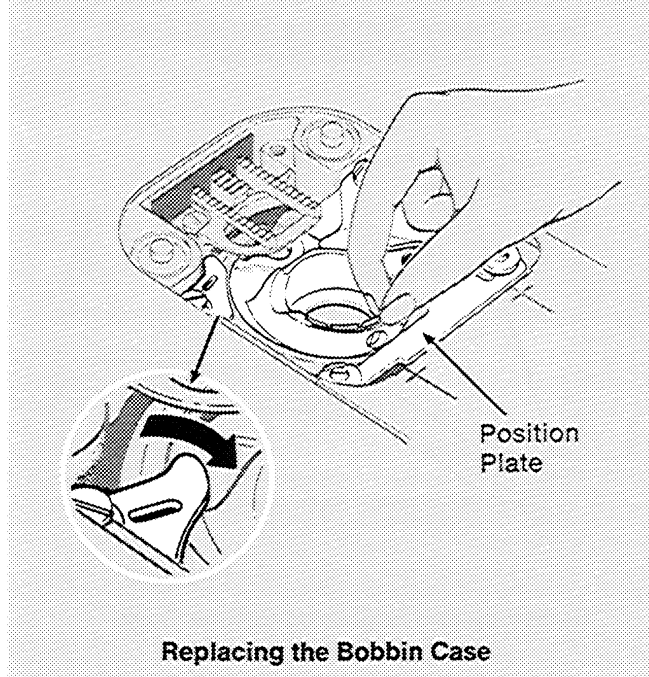
Removing the Bobbin Case

### REMOVING THE BOBBIN CASE

1. Turn hand wheel toward you to raise take-up lever to its highest position.
2. Open slide plate, remove throat plate (see page 6 for instructions), and remove bobbin.
3. Turn bobbin case holder to back as far as it will go.
4. Lift out bobbin case.

### REPLACING THE BOBBIN CASE

1. Turn hand wheel to raise take-up lever to its highest position.
2. Insert bobbin case with a back-and-forth motion so that the front of the case is under the position plate as illustrated.
3. Turn holder all the way forward to lock bobbin case in position.
4. Replace bobbin and throat plate and close slide plate.

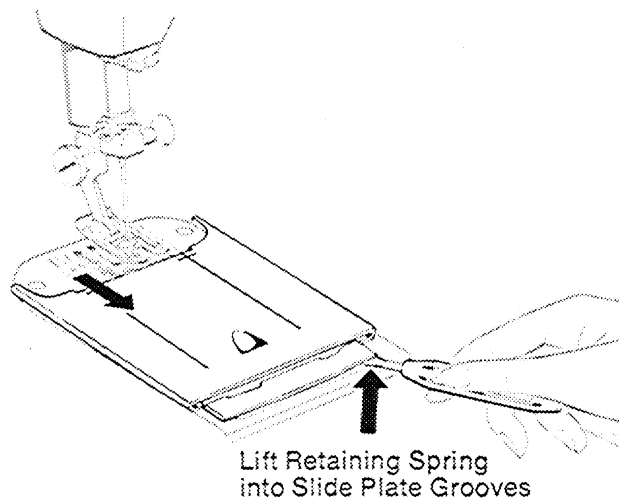


Replacing the Bobbin Case

## 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.



Replacing the Slide Plate

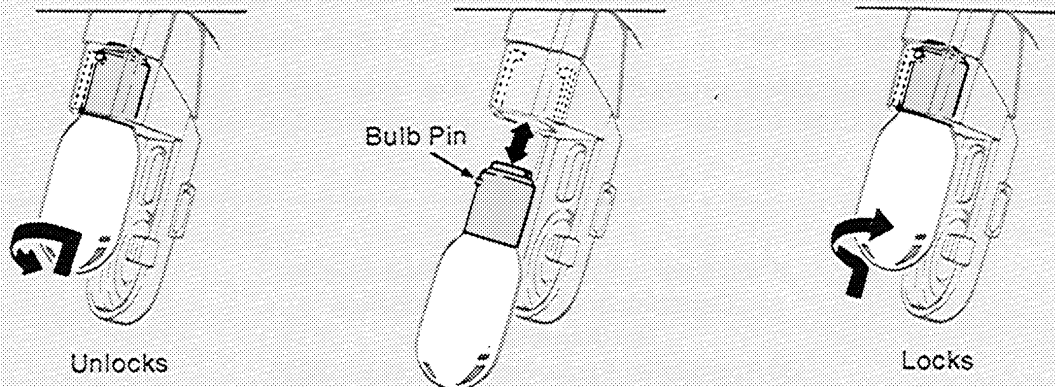
## CHANGING THE LIGHT BULB

**Caution:** Before changing light bulb make sure you have disconnected power-line plug from electrical outlet.

**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 the 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.



# performance checklist

## REMEMBER TO

- Make sure electrical plug is properly connected.
- Turn on power and light switch.
- Turn hand wheel toward you to raise needle above fabric or throat plate before making adjustments to stitch width or needle position.
- Use a ball-point (yellow band) needle to sew nylon tricot and synthetic double-knits.
- Use high-lift presser bar setting to place heavy fabric under presser foot.
- Start and finish sewing with take-up lever in its highest position.
- Adjust stitch length, pressure, and thread tension to suit your fabric.
- Test stitch on a fabric sample before starting a sewing job.
- Replace bent or burred needles.
- Lower presser foot before setting pressure dial.
- Tighten hand-wheel knob after winding a bobbin.
- Use the zig-zag throat plate and zig-zag foot for all zig-zag stitching, and for straight stitching in **L** (left) or **R** (right) needle positions.
- Remove feed cover throat plate after button sewing and after free-motion darning or embroidery.
- Sew at a moderate speed (**SLOW** speed setting) when using the straight stretch stitch or *Flexi-Stitch* patterns.

## IF THREAD BREAKS

- Is the machine properly threaded?
- Is the bobbin case properly threaded?
- Is thread unwinding freely from spool?
- Is the needle securely tightened in the needle clamp?
- Is the needle straight?
- Is the thread suitable for the size of the needle and free of slubs and knots?
- Is the spool-pin felt being used under the thread spool?
- Is the needle-thread tension too tight?
- Is the bobbin-thread tension too tight?
- Is the bobbin-case area free of lint and loose thread ends?
- Are the thread guides and tension discs also free of lint?

## IF FABRIC FAILS TO FEED

- Is the presser foot down?
- Is pressure dial adjusted properly for the weight and texture of your fabric?
- Is the stitch control dial properly set?
- Are you using the feed-cover throat plate instead of the regular throat plate?

*Enjoy Sewing*

If you have any questions, please write to:  
Department of Sewing Education  
The Singer Company  
30 Rockefeller Plaza, New York, N.Y. 10020



## 8. FASHION AIDS

### *special accessories for special jobs*

*Fashion Aids* have been designed to increase the versatility of your sewing machine and enable you to give your sewing that extra professional touch. The ones described below are just a few of the complete selection available at your local Singer Sewing Center.

#### **Professional\* Buttonholer** No. 102991

The Professional Buttonholer sews six kinds of buttonholes, plus eyelets in a wide variety of fabrics. You choose the style and length and make perfect buttonholes every time.

#### **Monogrammer** No. 171256

With the monogrammer, you can stitch initials 3/8 inches (9mm) high, to form monograms or names that add a charming individual touch to handkerchiefs, blouse collars, ties, etc.

#### **Deluxe Monogrammer** No. 171276

With the deluxe monogrammer you will have the pleasure of stitching initials 1-1/2 inches (38mm) high to create monograms that are ideal for adding a personal touch to table linens, towels, and wearing apparel. An attractive flower motif can also be made.

#### **Even Feed Foot** No. 506415

The Even Feed Foot is effective in keeping fabric piles even, and in matching plaids, stripes, and patterns. It is an invaluable aid for sewing hard-to-feed vinyl and fake fur, pile, stretch, banded and laminated fabrics. Ideal for topstitching.

#### **Hemmer Foot** No. 171145

Narrow hems can be turned and stitched 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.

#### **Ruffler** No. 161561

This accessory offers a simple, effective way to make gathered and pleated ruffles. The ruffler is used for straight stitching only.

#### **Binder Foot** No. 81200

The binder foot is used to apply ready-made bias tape or unfolded bias binding to an unfinished edge. It can also be useful for binding seam edges that might ravel.

#### **Special Purpose Foot** No. 163483

This light, flexible foot is specially designed for zig-zag satin stitching, applique and buttonholing. It has a raised center section that allows closely spaced zig-zag stitches to feed evenly. The small eyelets at the front of the foot hold a filler cord when desired.

#### **Darning and Embroidery Foot** No. 161875

This foot is recommended for all types of free-motion work. It is ideal for embroidery, monogramming, and decorative designs because the transparent toe fully reveals the line of the design to be followed.

#### **Button Sewing Foot** No. 161168

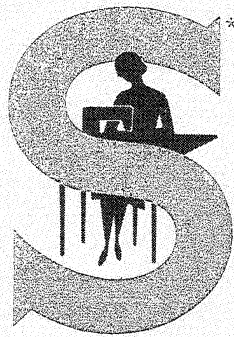
This short, open foot holds any two-hole or four-hole button securely for stitching. The groove in the foot can be used to hold a needle, over which a thread shank can be formed.

#### **Finger Guard** No. 161681

The finger guard provides extra safety by protecting fingers from the needle. It is ideal for the student, beginner, or the blind person.

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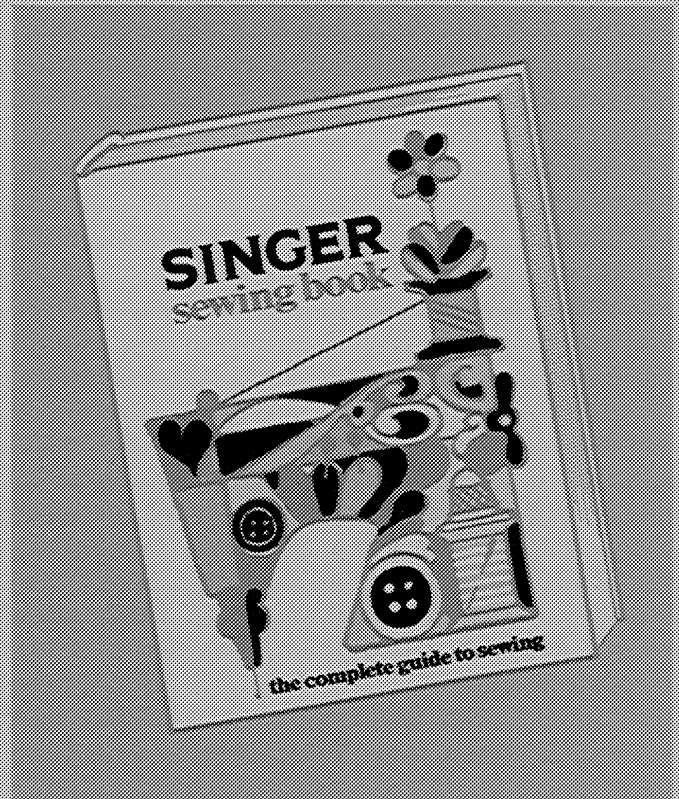
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Everything you need to sew up fashion is at a nearby Singer Sewing Center. Fabulous fabrics plus matching thread, zippers, and all the trimmings that add up to fashion excitement... special sewing aids like buttonholers and monogrammers to give your clothes a designer touch... pamphlets and books to tell you how to sew like a pro... all these and many more products are always available at Singer. And if you need any sewing help, Singer experts are always glad to supply advice and suggestions.



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