

# Futura

sewing machine  
model 900

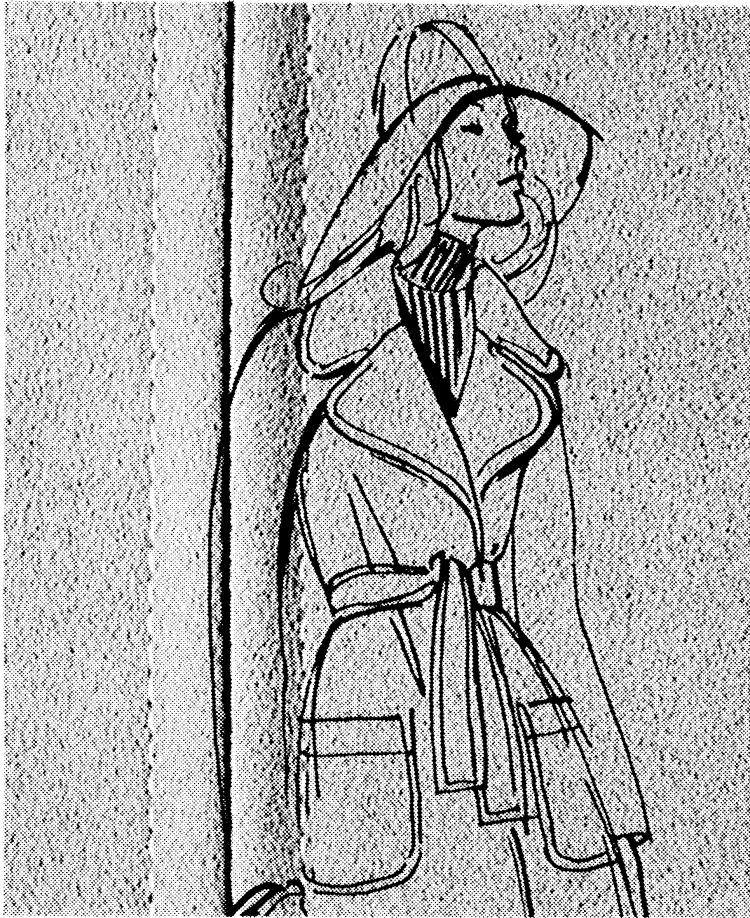
Everything  
you should  
know about  
sewing on  
the world's  
most advanced  
sewing machine.



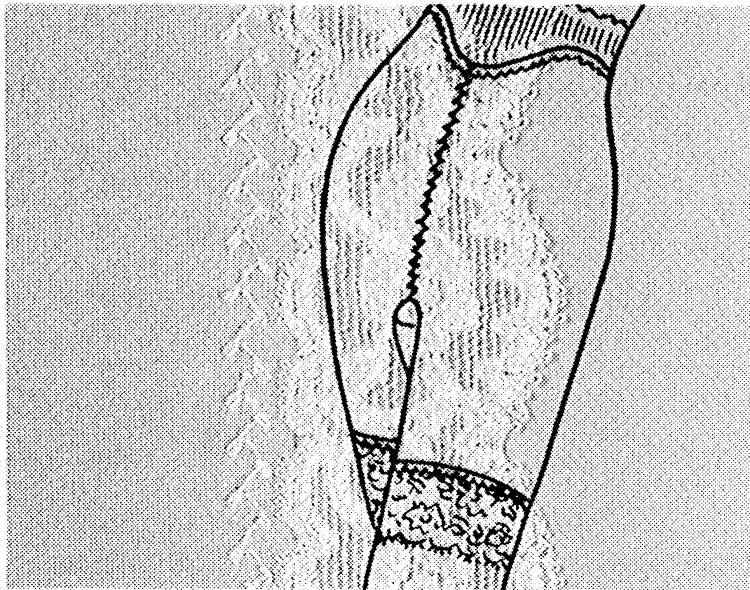
# SINGER



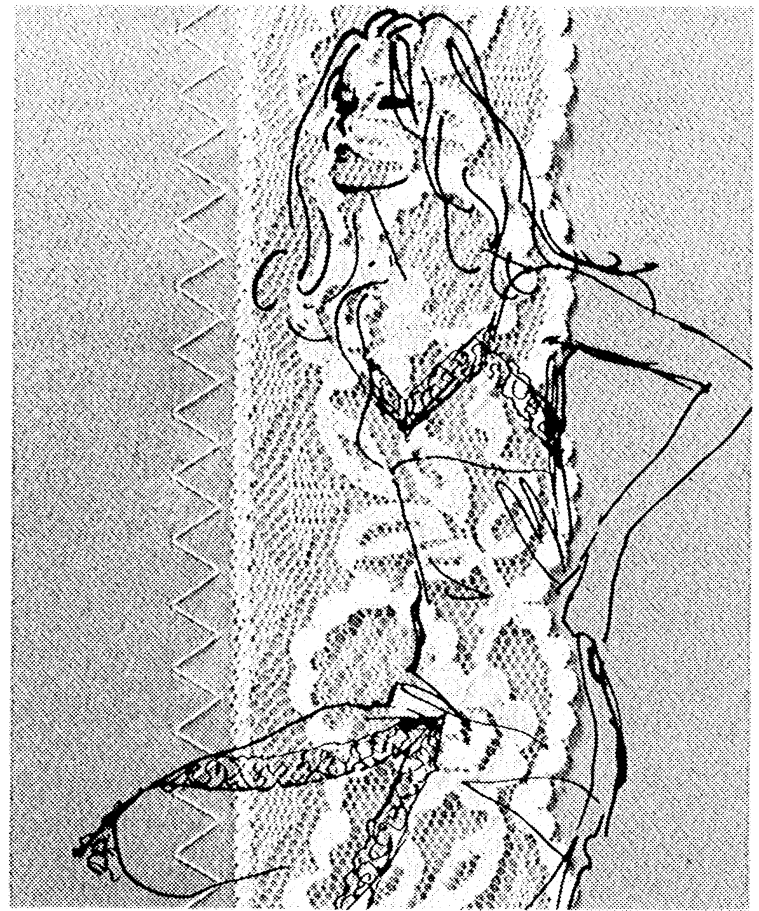
Sew like a pro with your  
**futura**  
sewing machine.



Flawless topstitching on leatherlike fabric



Featherstitching on spandex



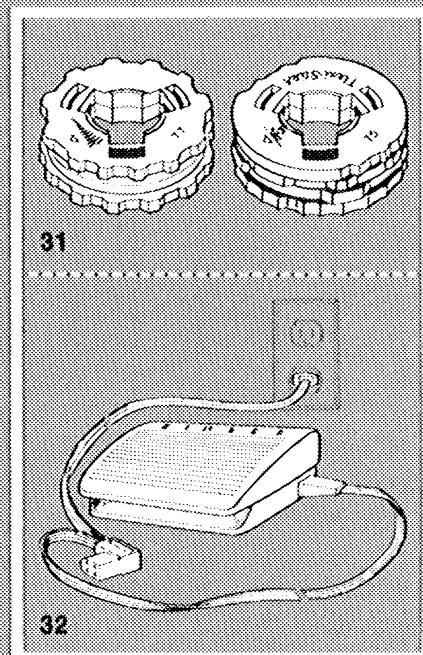
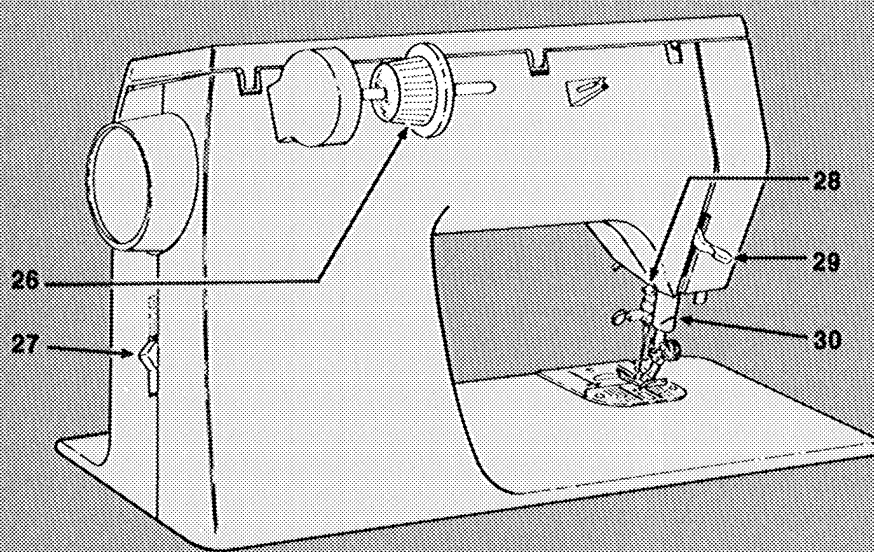
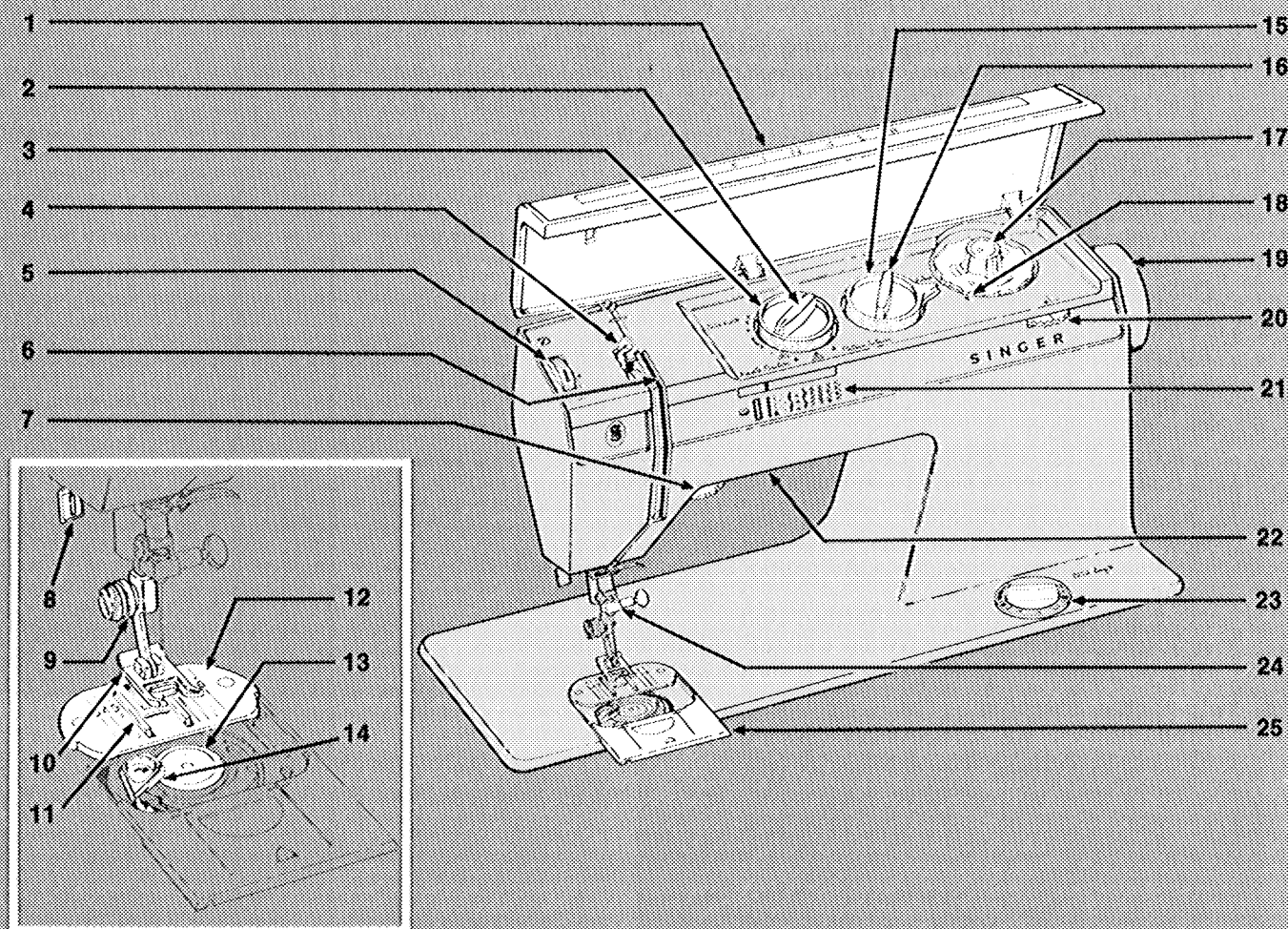
Delicate zig-zag stitching on satin



Lace stitch pattern on tricot



# 1. GETTING TO KNOW YOUR MACHINE



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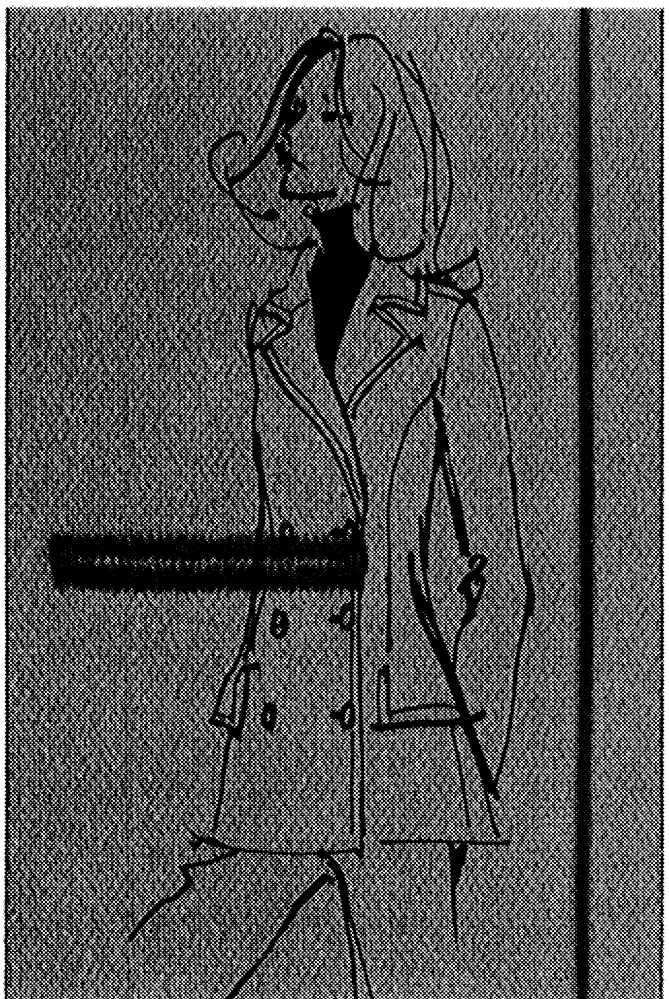




Overedge stretch stitch on a stretchy knit








Honeycomb and slant overedge stitches on terry





## *principal parts and what they do*

1. **Console Cover** protects against dust, is hinged for easy access to controls.
2. **Stitch-width Dial** controls zig-zag stitch width and positions the needle for straight stitching and bobbin winding.
  - **To set**, turn dial to desired setting. Use  setting for straight stitching and bobbin winding.
3. **Needle-position Ring** places needle in either  (left),  (center), or  (right) stitching position.
  - **To set needle position**, turn ring to setting desired. Use  (center) position for straight stitching and bobbin winding.
4. **Take-up Lever** controls flow of needle thread. Self-threading eyelet simplifies and speeds threading of machine. Has enclosed eyelet for chainstitching.
5. **Pressure Dial** regulates presser-foot pressure on fabric. It has a general-purpose sewing setting plus settings for extra-light and extra-heavy pressure and for darning.
  - **To increase pressure**, lower presser foot and turn dial from **NORM** toward **MAX**.
  - **To decrease pressure**, lower presser foot and turn dial from **NORM** toward **DARN**.
  - **For darning**, lower presser foot and set dial on **DARN**.
6. **Tension Discs**, controlled by the tension dial, regulate the amount of tension on your needle thread.
7. **Tension Dial** lets you select just the right tension for your stitch, thread and fabric. The numbers eliminate guesswork in duplicating settings.
  - **To increase tension**, turn dial to a higher number.
  - **To decrease tension**, turn dial to a lower number.
8. **Buttonhole Lever** sets the machine for buttonholing.
  - **To set**, pull lever straight down as far as it will go. Then pull it toward you until it stops. See page 37.
9. **Thread Retainer** holds needle thread end with just the right amount of tension for winding the bobbin.
10. **Presser Foot** holds fabric against feed. Presser feet snap off for quick removal.
11. **Soft-touch Feed** moves fabric under presser foot and adjusts from wide to narrow for superior straight stitching. Soft surface does not injure fabric, even the most delicate.
12. **Zig-Zag Plate** secured by magnets. Guidelines on right and left sides help you keep seams straight.
13. **Transparent Bobbin** shows thread supply.
14. **Bobbin Latch** allows you to switch from sewing to bobbin winding without removing bobbin.
15. **Pattern-selector Release Lever** unlocks the pattern selector and raises the needle above the fabric, making stitch selection safe and effortless.
  - **To set**, turn lever clockwise until it locks in place. If lever fails to lock, turn hand wheel slightly and reset.
16. **Pattern Selector** controls pointer on stitch panel, can be set to produce either a smooth straight stitch, a decorative or practical zig-zag stitch, a stretch stitch, a buttonhole, or a basting stitch.
  - **To select a stitch**, set pattern-selector release lever (15) and turn pattern selector until pointer on panel is above the desired stitch setting.

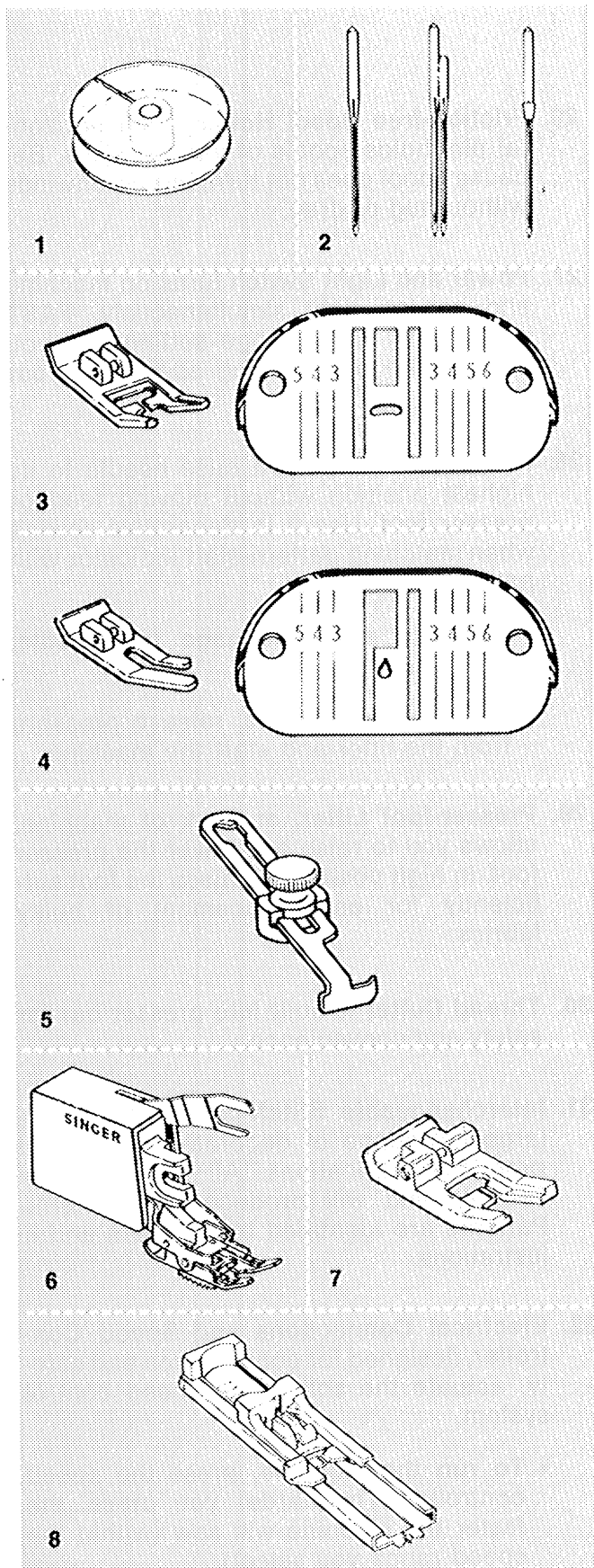


17. **Disc Holder** holds any one of the interchangeable stitch-pattern discs. Raise it, and the disc comes up for easy removal. To insert a disc, place on holder and press down until it snaps in place.
18. **Pattern-start Indicator**, when matched with the pattern-start symbol (▼), lets you start stitching at the beginning of a stitch-pattern unit. The ▼ is on each interchangeable stitch-pattern disc. When using a built-in pattern, match the indicator to the ▼ on the disc holder.
19. **Hand Wheel** controls movement of take-up lever and needle. Always turn it toward you.
20. **Stitch-balance Dial** adjusts balance of *Flexi-Stitch* patterns and buttonholes.
21. **Stitch Pattern Panel** pictures stitches and allows for quick selection. Color identifies stitch type: white for *Fashion* stitches, yellow for *Flexi-Stitch* designs, red for a buttonhole. Panel lights up when power is on.
22. **Built-in Sewing Light** illuminates sewing area. Pull-down bracket makes it easy to replace bulb.
23. **Stitch-length Dial** allows for a variety of stitch lengths, including **FINE** for zig-zag satin stitching. Has special settings for buttonholing, *Flexi-Stitch* patterns, and speed basting.
  - **To set**, turn dial to bring line to desired setting.
  - **To reverse stitching**, press dial all the way down and hold in place.
24. **Needle Clamp** holds single and twin needles. It is designed to eliminate the possibility of inserting needle backwards.
25. **Slide Plate** has window to show bobbin-thread supply at a glance. Slides open for easy access to bobbin. Seam guidelines (extended from needle plate) have cross lines to help you turn square corners.
26. **Friction-free Spool Holder**, with horizontal pin, holds spools of various sizes. Because spool does not turn, thread unwinds without tug or drag.
27. **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.
28. **Needle Lifter** lets you raise needle to its highest position without moving feed or presser foot. Use it in decorative sewing when matching pattern-start indicator with pattern-start symbol.
  - **To raise and disengage the needle**, press needle lifter up.
  - **To re-engage needle**, release pressure from the lifter and start the machine.
29. **Presser-foot Lifter**, at back of machine, allows you to raise and lower the presser foot. In high position, it raises the foot sufficiently for easy placement of bulky fabrics.
30. **Thread Cutter** is built into presser bar for safety and convenience.
31. **Interchangeable Stitch-pattern Discs** enlarge the scope of decorative as well as practical applications. All discs are reversible and will produce two patterns. Patterns are identified by numbers and illustrations.
32. **Electrical Connections and Speed Controller**, designed for convenience and safety, actuate the solid-state speed control system.
  - **To run the machine**, press the speed controller. The harder you press, the faster the machine will sew (within the speed range you select).



## accessories

The accessories that come with your *Futura* Model 900 sewing machine are designed to help you do many kinds of sewing easily and perfectly.



### 1. Transparent Bobbins

### 2. Needles . . .

- Style 2020 for all-purpose sewing.
- Style 2045 for sewing knits, stretch fabrics and elastic.
- Style 2028 for twin-needle decorative stitching.

**3. Zig-Zag Foot and Zig-Zag Plate†** on your machine when delivered. Use them for alternating between straight and zig-zag stitching as well as utility zig-zag sewing. They can also be used for straight-stitching firm fabrics.

**4. Straight-stitch Foot and Straight-stitch Plate†** Use these when your fabric or sewing procedure requires close control.

These accessories, recommended for all straight-stitch sewing, are especially helpful for edge stitching and collar pointing, or for stitching delicate or spongy fabrics.

**5. Seam Guide** helps you keep seam allowances perfectly even.

**6. Even Feed Foot** for sewing hard-to-feed pile, stretch, and bonded fabrics. Also excellent for matching plaids and stripes and for topstitching. (Cannot be used for speed basting or sewing with maxi-stretch stitch, disc 69.)

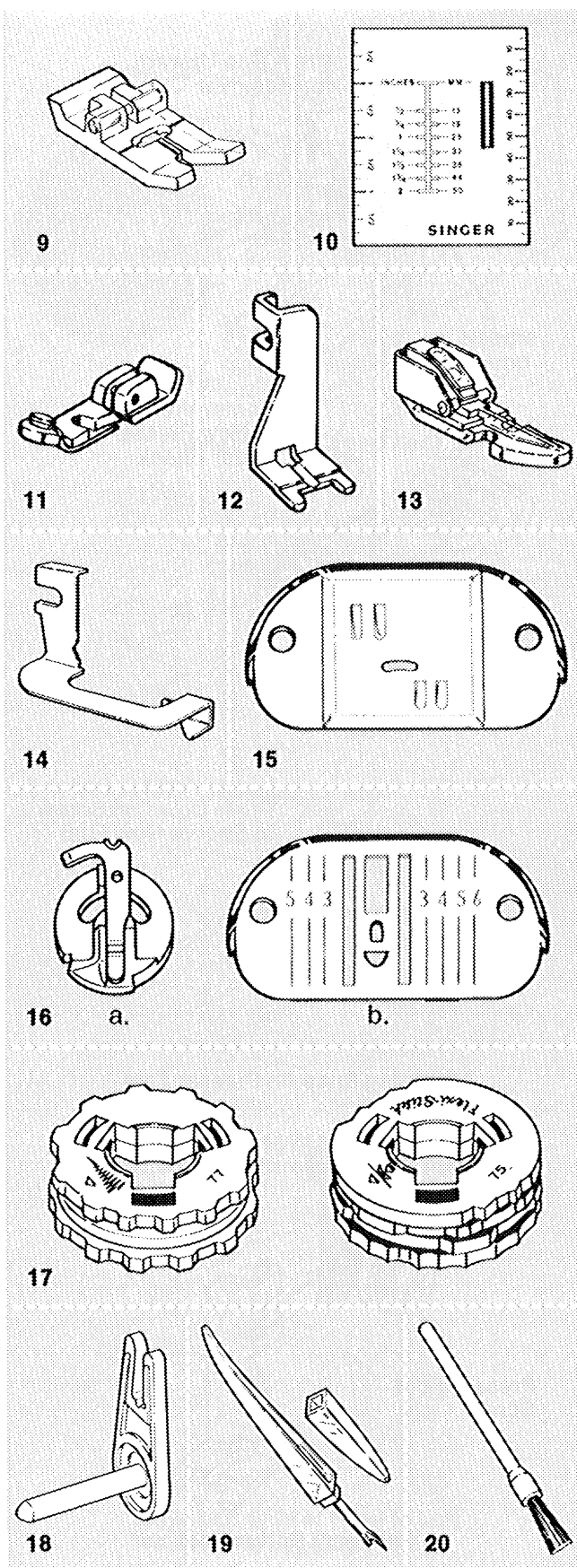
**7. Special-purpose Foot.** Use this for all kinds of decorative zig-zag stitching.

**8. One-step Buttonhole Foot** allows you to stitch complete buttonhole for a flat button up to 1½ inches in diameter in a single step. It also allows you to determine correct buttonhole length, either by placing button in foot or by using gauge on foot.

†Numbers on plate indicate distance from needle in eighths of an inch.

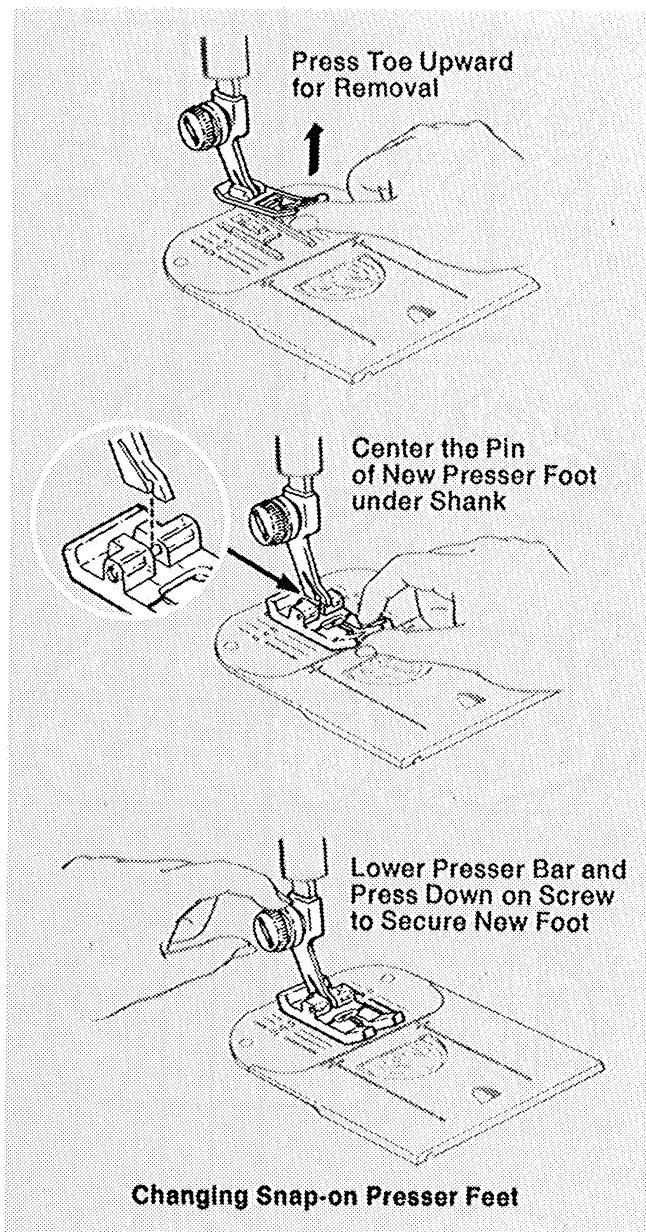


9. **Two-step Buttonhole Foot** lets you stitch buttonholes of *any* length in two easy steps. Use it when buttons are extra large or extra thick.
10. **Buttonhole Gauge** has slots for marking buttonhole guidelines.
11. **Overedge Foot** used with overedge stretch stitch for seams in stretch fabrics.
12. **Button Foot** holds buttons securely for stitching.
13. **Zipper Foot** for inserting zippers and stitching corded seams.
14. **Blindstitch Hem Guide.** Use this with the zig-zag foot to position the hem for blind-stitch hemming.
15. **Cover Plate** for button sewing and free-motion work.
16. **Chainstitch Fittings**
  - a. Bobbin-case Insert
  - b. Chainstitch Plate†
17. **Stitch-pattern Discs**
  - One reversible *Flexi-Stitch* disc on holder in machine when delivered.
  - Five discs in accessory box: three reversible *Flexi-Stitch* discs and two reversible *Fashion Stitch* discs.
  - Each reversible disc produces two patterns.
18. **Detachable Spool Pin** for decorative twin-needle stitching and two-thread topstitching.
19. **Seam Ripper** to pick and cut threads quickly and neatly without damage to the fabric. Also for cutting the button opening in buttonholes.
20. **Lint Brush** for cleaning your sewing machine.



†Numbers on plate indicate distance from needle in eighths of an inch.





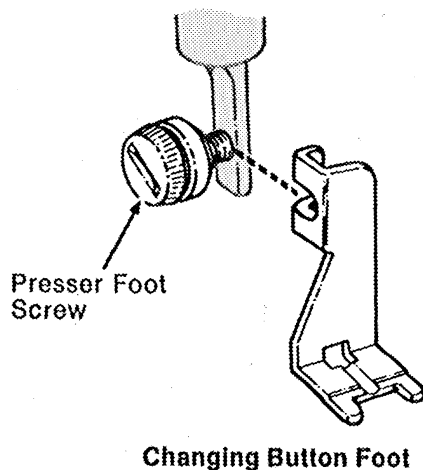
## CHANGING PRESSER FEET

### Snap-on Presser Feet

Most of the presser feet furnished with your machine snap on and off a common shank.

1. Raise take-up lever to its highest position by turning the hand wheel *toward you*.
2. Raise presser foot.
3. Press toe of presser foot upward (as far as it will go) and then snap down to remove.
4. Center the new presser foot under the shank and lower the presser-foot lifter so that the shank fits over the presser-foot pin.
5. Press presser-foot screw down until foot snaps into place.

To remove and replace the shank of snap-on presser feet, follow instructions below for one-piece presser feet.



### One-piece Presser Feet

1. Raise take-up lever to its highest position by turning the hand wheel *toward you*.
2. Raise presser foot.
3. Loosen presser foot screw and remove the foot.

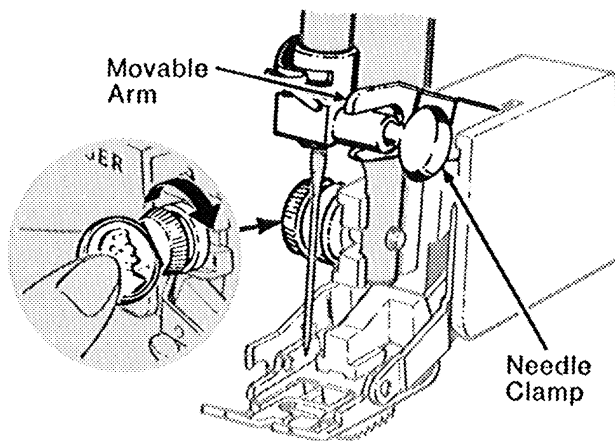
### The Button Foot

- Hook button foot around the presser bar and tighten presser-foot screw.



## The Even Feed Foot

- Guide Even Feed foot into position from back of machine, making sure the movable arm straddles the needle clamp. Tighten presser-foot screw securely with a coin.

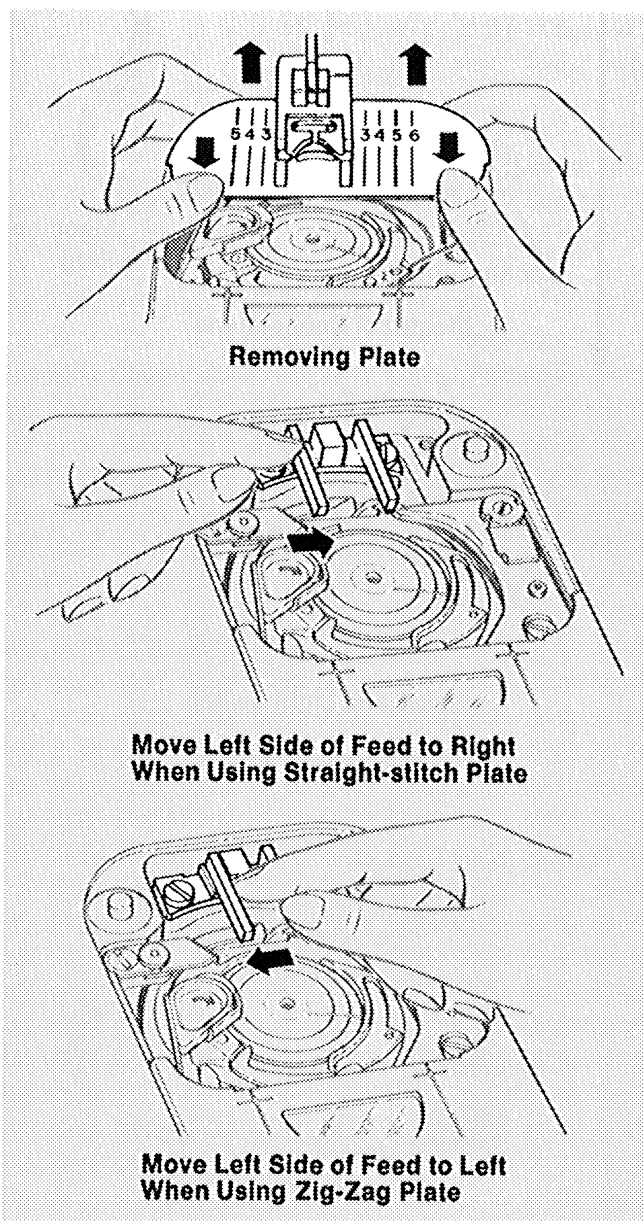


Changing Even Feed Foot

## CHANGING PLATES

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

1. Raise take-up lever to its highest position by turning the hand wheel *toward you*.
2. Raise presser foot.
3. Open slide plate. Press down on front edge of plate and lift up and out.
  - When changing to straight-stitch plate, **move left side of feed to right**.
  - When changing from straight-stitch plate to any other plate, **move left side of feed to left**. (See special instructions for attaching chainstitch needle plate on page 30.)
4. Position new plate over pins and release. (Plate is drawn into position by magnets.)
5. Close slide plate.





## 2. GETTING READY TO SEW

### *first steps*

#### 1. CONNECTING MACHINE

Before plugging in your machine, be sure that the voltage and number of cycles shown next to the machine socket conform to your electrical power supply.

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

#### 2. OPERATING MACHINE

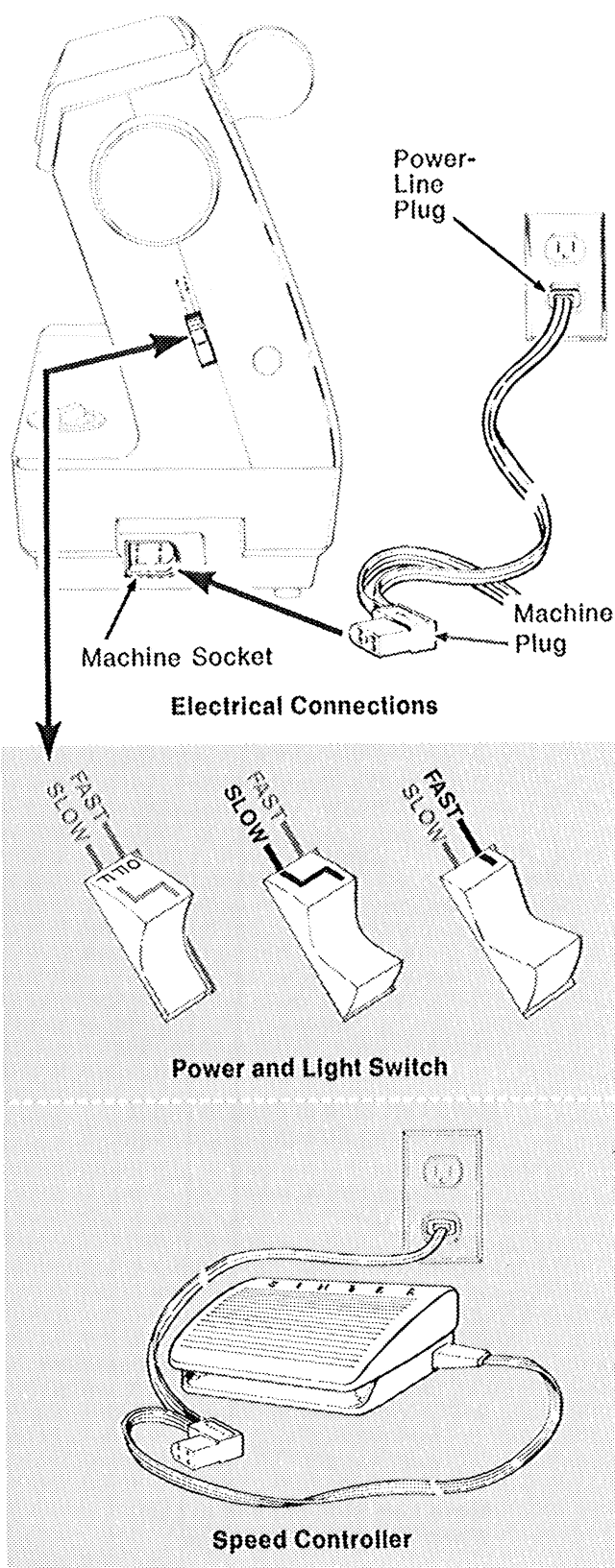
To turn on the machine and sewing light, and set speed range, set the power and light switch in the selected range.

- The **SLOW** setting (switch pressed in halfway) allows for maximum control. Use this setting for special jobs such as button sewing and buttonhole making, *Flexi-Stitch* patterns, and where intricate details require close control.
- The **FAST** setting (switch pressed in all the way) 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 are needed.

**CAUTION:** We recommend that you turn off the power and light switch before changing needles, presser feet or 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.

Very light pressure on the controller (or knee lever) will operate the machine very slowly, enabling you to stop the machine with the needle or take-up lever in any desired position, up or down.





## needles

The needle you use should be straight and not bent to ensure perfect stitch formation and needle penetration through the fabric. The needle should also be fine enough to prevent the fabric from being marred with large punctures, yet heavy enough to pierce the fabric without being bent or deflected. Remember, too, that the eye of the needle must be large enough for the thread to pass through freely; too fine a needle will cause the thread to fray.

For general-purpose sewing in a wide range of fabrics, the Style 2020 needle, in sizes 9 through 18, will give you excellent results.

Knits, woven stretch fabrics, bonded vinyls, and elastic require the use of a Style 2045 ball-point (yellow band) needle for best results.

The twin needle, Style 2028, is used exclusively for decorative stitching in light and medium-weight woven fabrics.

For sewing leathers, real and simulated, the Style 2032 needle, available for purchase at your Singer Sewing Center, is recommended.

### CHANGING THE NEEDLE

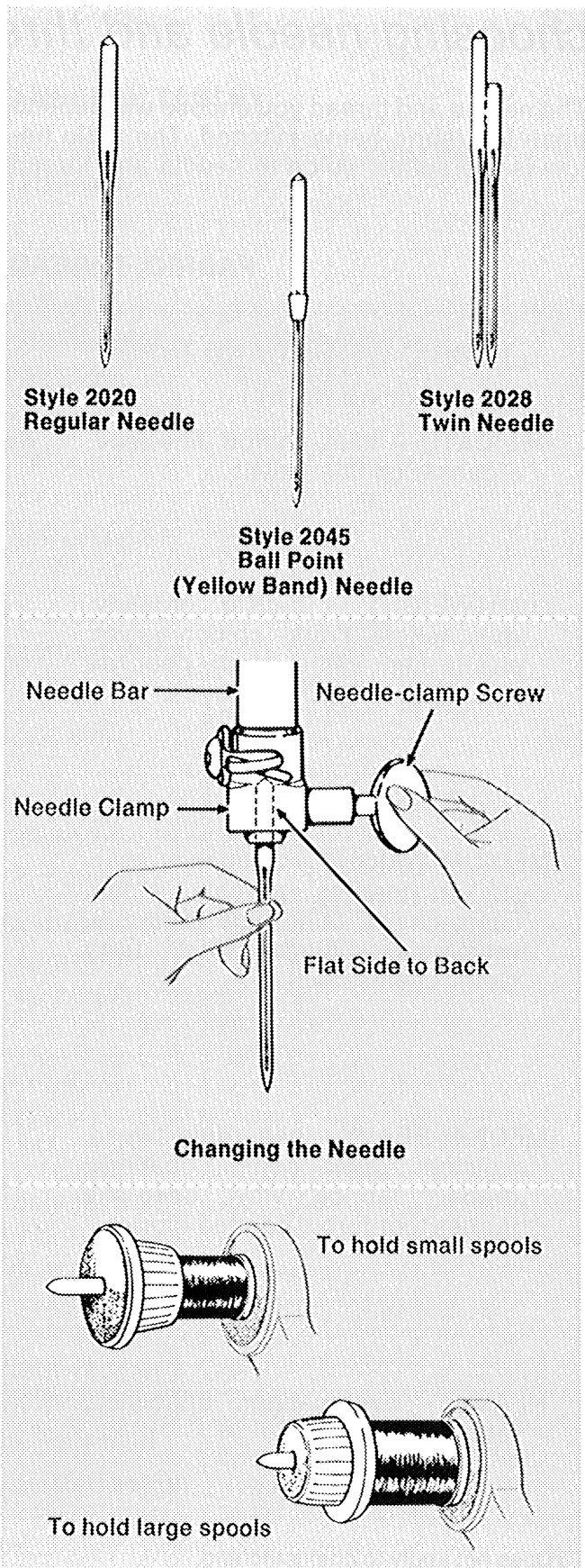
1. Raise needle to its highest point by *turning the hand wheel toward you*. Loosen needle-clamp screw, and remove the needle.
2. Insert new needle in clamp, with the flat side of the needle to the back; push it up as far as it will go.
3. Tighten needle-clamp screw.

### SPOOL HOLDER

Spools of various sizes are held firmly on the horizontal spool pin with the spool holder. Slip spool of thread onto spool pin and press holder firmly against spool so that thread unwinds from a stationary spool.

**To hold small spools** — press small end of holder against spool.

**To hold large spools** — press wide end of holder against spool.





# 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 WEIGHT AND TYPE	THREAD	NEEDLES	
		TYPE	SIZE
DELICATE — tulle, chiffon, fine lace, organza, chiffon velvet	Fine polyester, nylon, or cotton thread	Style 2020 (15x1)	9††
LIGHTWEIGHT — batiste, organdy, voile, taffeta, crepe, chiffon velvet, plastic film, satin, surah, peau de soie, shantung, brocade	Cotton-wrapped polyester (FINE) 100% polyester 50 mercerized cotton "A" nylon "A" silk	Style 2020 (15x1)	11
MEDIUM WEIGHT — gingham, seersucker, madras, percale, piqué, linen, chintz, faille, fine corduroy, velveteen, suitings, vinyl, terry cloth, challis, twill	Cotton-wrapped polyester 100% polyester 50 mercerized cotton 60 cotton "A" silk	Style 2020 (15x1)	14
MEDIUM HEAVY — gabardine, tweed, sailcloth, duck, denim, coatings, drapery fabrics, vinyl, deep-pile fabrics, corduroy, bonded fabric	Cotton-wrapped polyester 100% polyester Heavy-duty mercerized cotton 40 to 60 cotton	Style 2020 (15x1)	16
HEAVY — overcoatings, upholstery fabrics, canvas	Cotton-wrapped polyester Heavy-duty mercerized cotton 40 cotton	Style 2020 (15x1)	18

†Does not apply to chainstitching.

††Size 9 needle recommended for sewing only. For bobbin winding, use larger size needle.



**FABRIC, THREAD AND NEEDLE TABLE†**

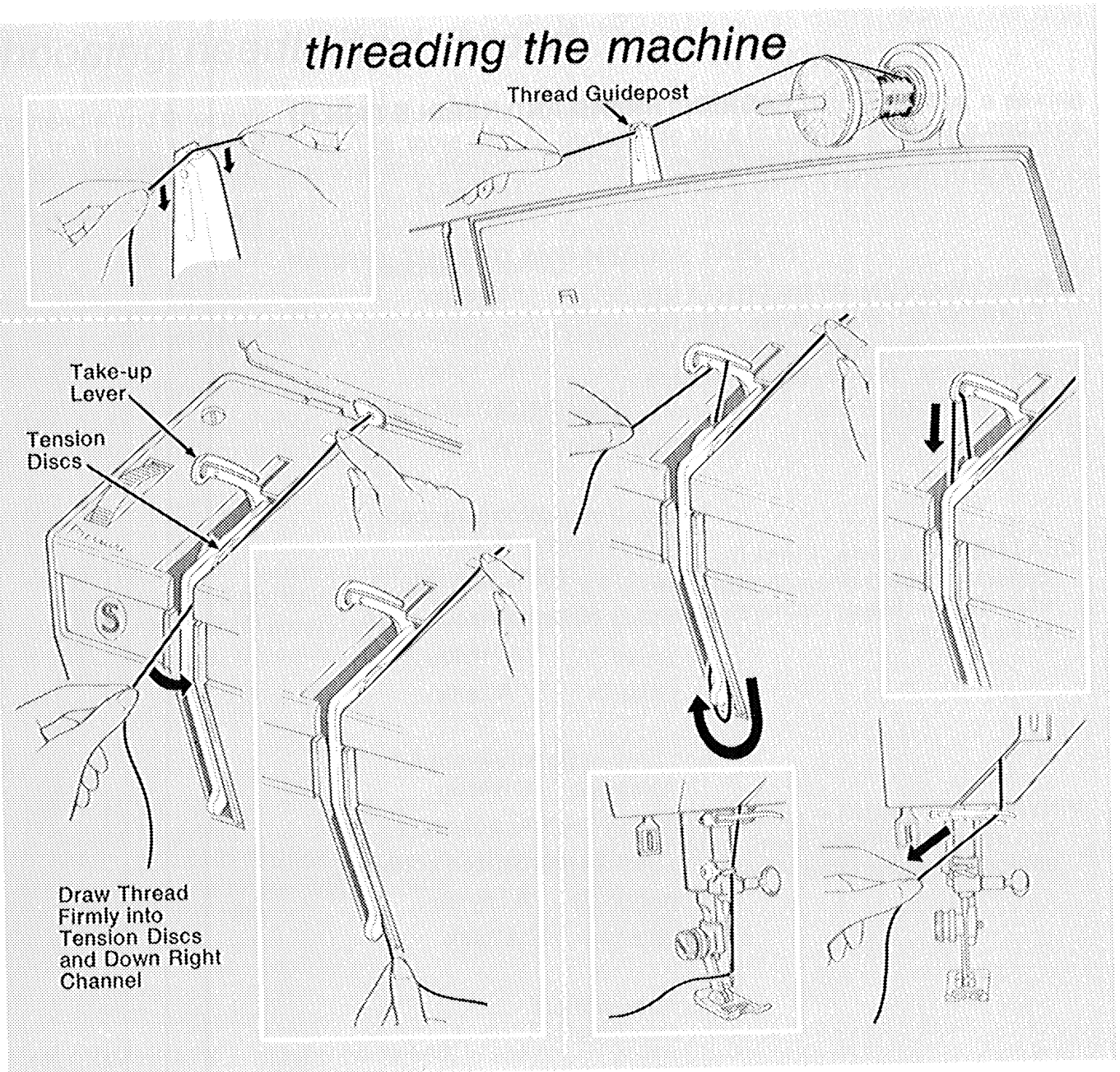
FABRIC WEIGHT AND TYPE	THREAD	NEEDLES	
		TYPE	SIZE
KNITS, WOVEN STRETCH AND ELASTIC — double knits, bonded knits, spandex, nylon tricot, ciré tricot, jersey, panne velvet, stretch terry	Cotton-wrapped polyester 100% polyester "A" nylon 50 mercerized cotton "A" silk	Style 2045 Ball Point (Yellow Band)	14
LEATHER — suede, kidskin, calf, capeskin, buckskin, cabretta, patent, cobra, lined leathers, simulated leathers	Cotton-wrapped polyester 100% polyester 50 mercerized cotton "A" nylon "A" silk	Style 2032 (15x2)	11 14 16
VINYLS (KNIT BACK) — suede, imitation reptile, crinkle patent, patent, embossed and printed vinyls	Cotton-wrapped polyester 100% polyester 50 mercerized cotton "A" nylon "A" silk	Style 2045	14
WOVEN FABRICS (ALL WEIGHTS) — decorative straight-stitch topstitching	"D" silk††† (Buttonhole twist)	Style 2020 (15x1)	16 18
LIGHT AND MEDIUM WEIGHTS (WOVEN) — decorative twin-needle stitching	Cotton-wrapped polyester 100% polyester 50 mercerized cotton	Style 2028 (twin)	14

†Does not apply to chainstitching.

†††Use with mercerized cotton, "A" silk, or polyester thread in bobbin.



## threading the machine






### THREADING THE NEEDLE

1. Raise take-up lever to its highest position by turning the hand wheel toward you. Raise presser foot to release the tension discs.
2. Lead thread from spool holder and snap it down into guidepost eyelet.
3. Raise console cover and lead thread through all points shown, making sure to **hold thread under finger** as illustrated while:
  - Drawing thread **firmly** between tension discs, down right-hand channel, and up left-hand channel.
  - Threading take-up lever by guiding thread down over top of lever and then up into eyelet.
  - Leading thread from take-up lever down into left channel and then into lower thread guides.
4. Thread needle from **front to back**, drawing about four inches of thread through eye of needle.

## WINDING THE BOBBIN

You will find a bobbin in place under the slide plate of your machine. (To open slide plate, simply draw it gently toward you.) If the bobbin runs out of thread during sewing, you can re-wind it without removing it from the machine. The window in the slide plate lets you see bobbin-thread supply at a glance, to help avoid running out of thread in the middle of a seam.

### Preparation Steps

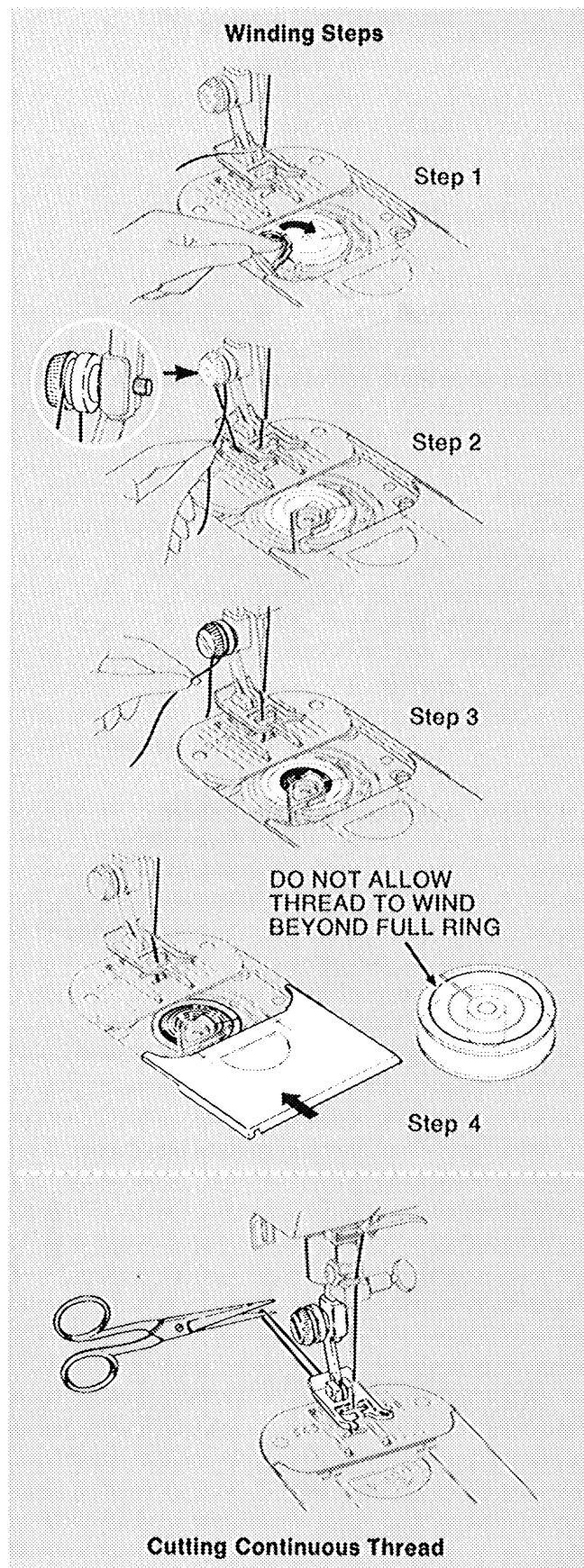
1. Raise the take-up lever to its highest position by pressing lightly on the speed controller or by turning the hand wheel toward you.
2. Raise the presser foot to release tension discs.
3. Open slide plate and make sure bobbin is empty. For removal of bobbin and thread, see page 12.
4. Set pattern-selector release lever by turning it clockwise, see page 14, and set stitch control dials for straight stitching: stitch pattern , needle position  (center) and stitch width .

If pattern-selector release lever fails to lock into place, turn the hand wheel slightly toward you and then reset lever.

### Winding Steps

1. Move bobbin latch to right (wind position).
2. Draw needle thread back between toes of presser foot, under left side of presser foot, then up, into and around thread retainer, as shown. **Do not hold thread end.** Start the machine, running it at a moderate speed.
3. Pull thread end away after it has separated from bobbin.
  - Keep your eye on the bobbin as it fills. Do not allow thread to wind beyond the outside FULL ring.
4. Close slide plate to release bobbin latch to sewing position.

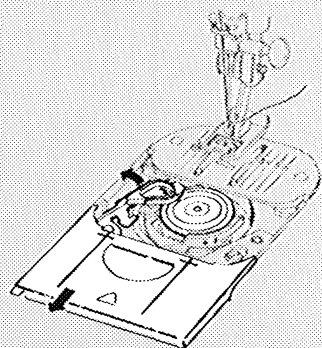
**To start sewing,** pull thread back under presser foot and cut. Place threads diagonally under foot to right or left side, position needle in fabric where desired, lower presser foot, and start machine.



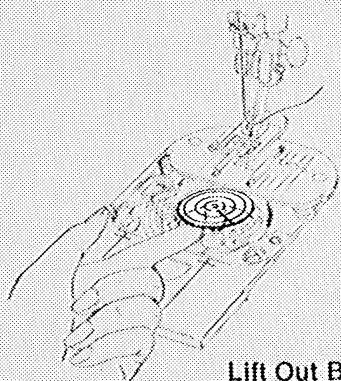


## changing the bobbin

### Removing Bobbin

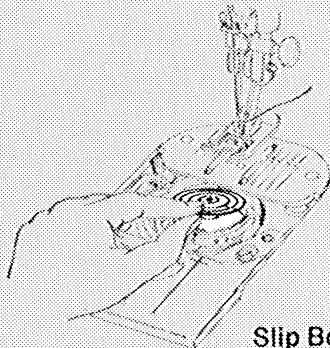


Open Slide Plate and Move Bobbin Latch to Left



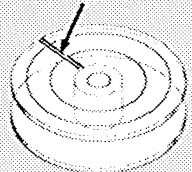
Lift Out Bobbin

### Replacing Empty Bobbin



Slip Bobbin into Case

Thread Slot



Move Bobbin Latch to Right  
(Wind Position)



### REMOVING THE BOBBIN

*Raise take-up lever to its highest position.*

1. Open slide plate; move bobbin latch to left.
2. Remove bobbin by inserting fingernail under rim of bobbin.

### REPLACING AN EMPTY BOBBIN

1. Slip bobbin (slot on top) into bobbin case.
2. Move bobbin latch to right (wind position).
3. Leave slide plate open until you have finished winding the bobbin.

### REMOVING THREAD FROM BOBBIN

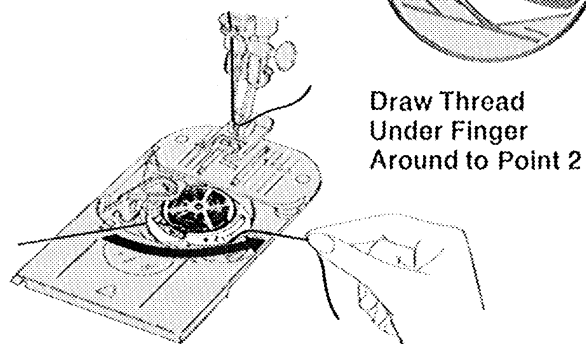
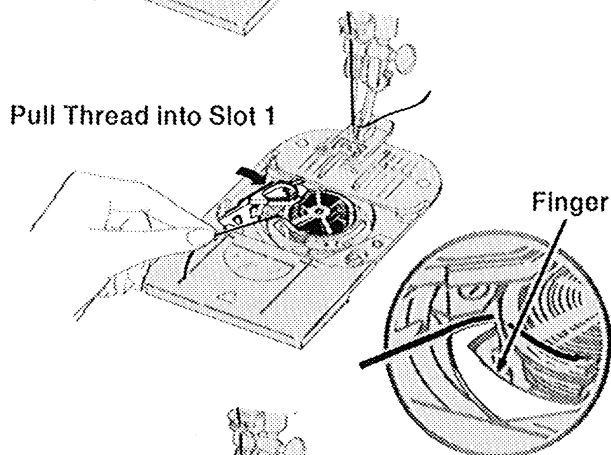
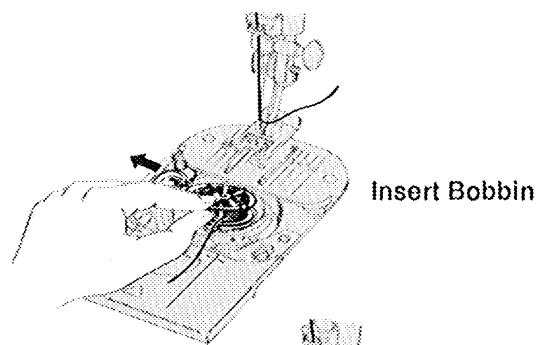
You can leave the bobbin in place while removing thread. With slide plate closed, pull thread end through the plate with a steady motion. Do not pull the thread across the feed as this may damage it.

## Replacing a Wound Bobbin

### REPLACING A WOUND BOBBIN

*Raise take-up lever to its highest position.*

1. Open slide plate; move bobbin latch to left.
2. Draw about an inch of thread from bobbin and place bobbin in case. Move bobbin latch to right (sewing position).
3. Pull thread into bobbin-case slot (point 1), draw it under finger and around to (or slightly past) point 2, leaving two or three inches of free thread. (Leave slide plate open.)

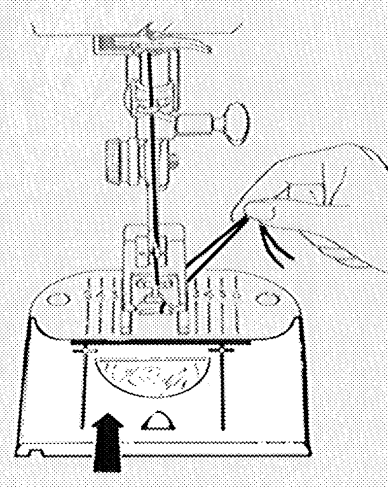
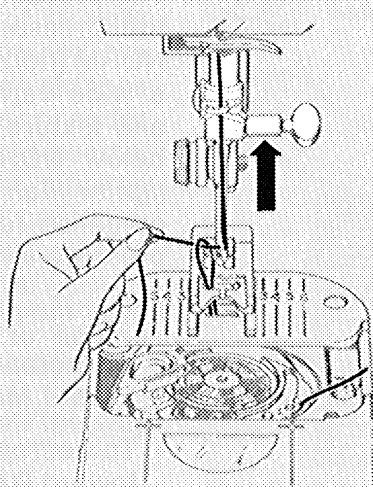
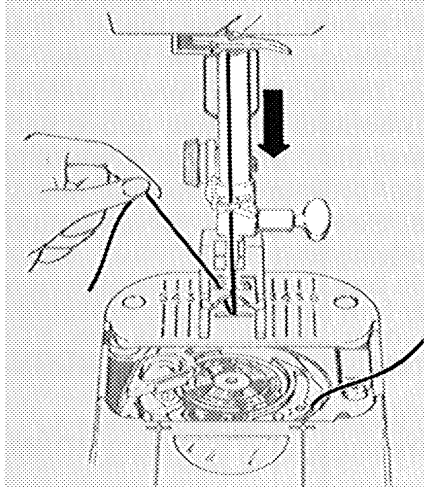


### RAISING THE BOBBIN THREAD

*Set stitch width dial at  $\triangle$ .*

1. Hold needle thread lightly with left hand and turn hand wheel slowly toward you so the needle enters plate.
2. Continue turning hand wheel and holding needle thread until needle rises. Tighten your hold on the needle thread and bring up bobbin thread in a loop.
3. Open the loop with your fingers, draw needle and bobbin threads under the presser foot and place them diagonally to right or left. Then close the slide plate.

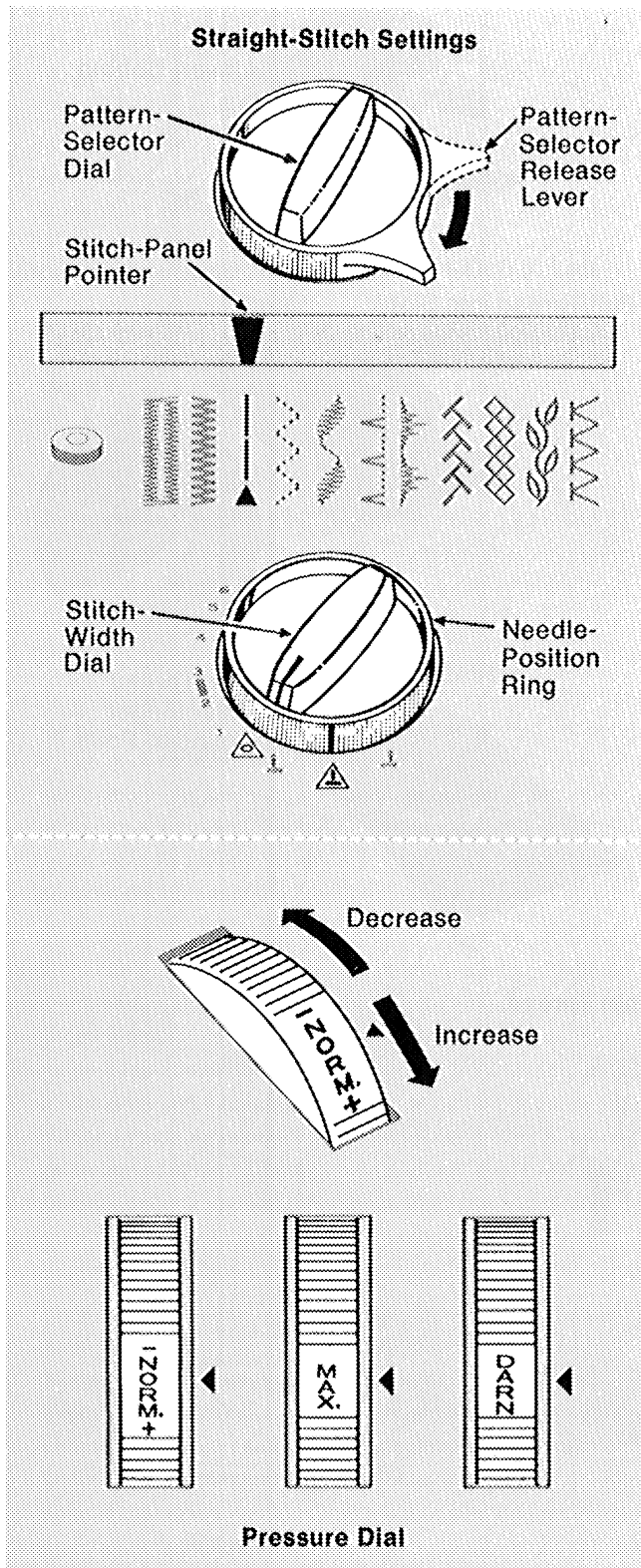
### Raising the Bobbin Thread





# 3. TIPS ON STRAIGHT STITCHING




## *adjusting machine to your fabric*




### SETTING CONTROLS

1. Set pattern-selector release lever by turning it clockwise until it locks in place. If lever fails to lock, turn hand wheel slightly and reset lever.

**NOTE:** Do not attempt to turn pattern-selector release lever after it is locked in place. It repositions itself when you start the machine or turn the hand wheel.

2. Turn pattern-selector dial until stitch-panel pointer is above  setting.
3. Turn stitch width dial to  and turn needle position ring to  (center).
4. Attach straight-stitch foot and straight-stitch plate (see pages 4 and 5).

**NOTE:** When alternating between straight and zig-zag stitching use the zig-zag foot and zig-zag plate, and set pattern selector on zig-zag setting .

### REGULATING PRESSURE

The pressure dial regulates the pressure that the presser foot exerts on the fabric. The NORM (normal) setting can be used for sewing a wide variety of fabrics of different weight and texture. Intermediate settings, above and below NORM, are also provided. Generally *lighter than normal* pressure is best for heavy or dense fabrics. See page 47 for adjusting pressure when sewing knits.

*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.**

## REGULATING NEEDLE-THREAD TENSION

The tension dial regulates the degree of tension on your needle thread and lets you select just the right setting for your stitch, thread, and fabric. The numbers on the dial eliminate guesswork in duplicating settings.

Correct tension is important because too much or too little will weaken your seams. To find the correct tension setting, make a test on a sample of your fabric. If the fabric puckers or the bobbin thread is pulled to the fabric surface, decrease tension. If the surface or underside stitches look loose, increase tension.

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

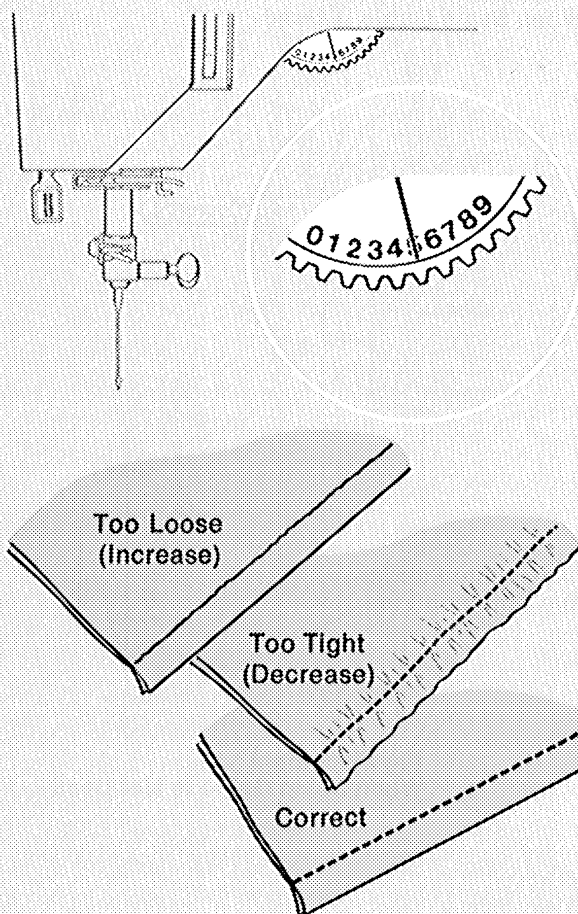
**NOTE:** *The tension dial controls needle-thread tension only. Bobbin-thread tension has been correctly set at the factory, and you do not need to adjust it.*

## SETTING STITCH LENGTH

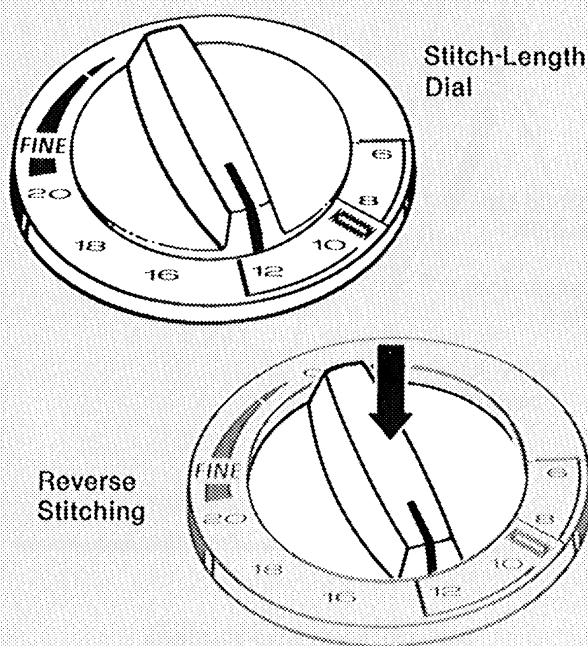
The stitch-length dial regulates the length of both straight and zig-zag stitches. The numbers 6 to 20 represent the number of straight stitches per inch: *the higher the number, the shorter the stitch*. Generally, shorter stitches are best for lightweight fabric; longer ones for heavy fabric. Curved seams, bias-cut seams, and scallops require short straight stitches (15 to 20) for elasticity and smooth contours. Bound buttonholes should be sewn with a short stitch for durability and strength.

- **To set stitch length**, turn dial to setting desired.
- **For reverse stitching**, press dial all the way down and hold in place.

### Regulating Needle-thread Tension

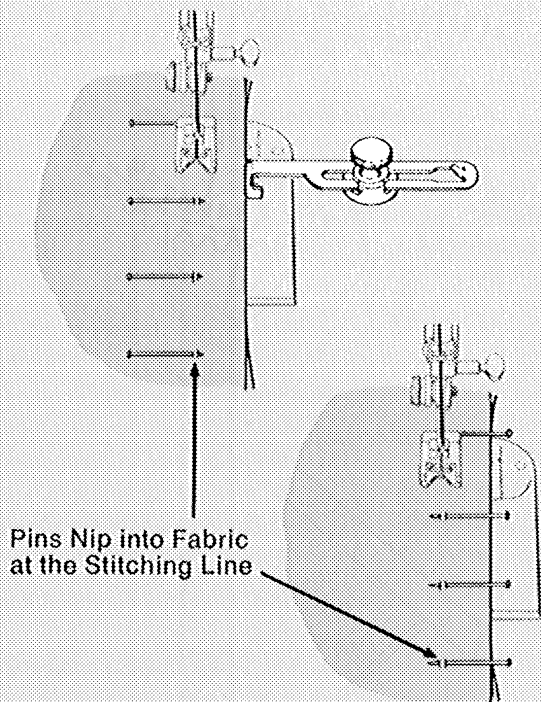


### Setting Stitch Length

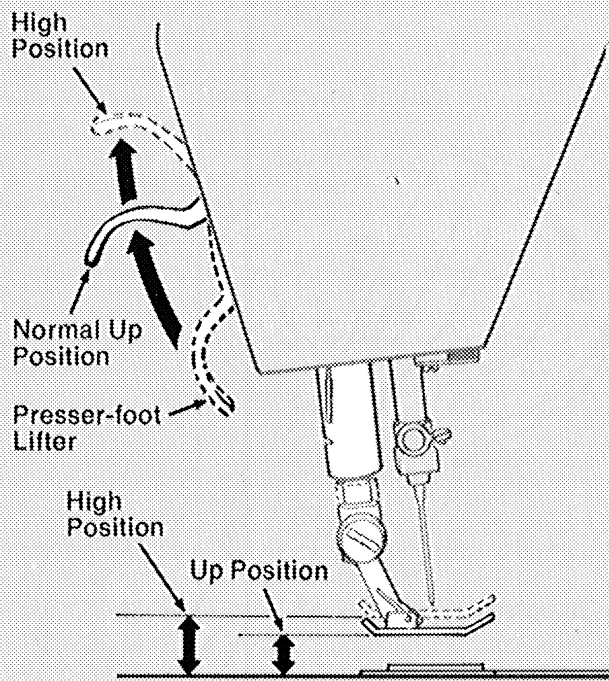




### Pin Placement When Seam Guide is Used



### Pin Placement When Seam Guide is Not Used



### Presser-foot Lifter Settings

## sewing a seam

### PIN BASTING

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

For information on speed basting by machine, turn to page 28.

### PLACING FABRIC

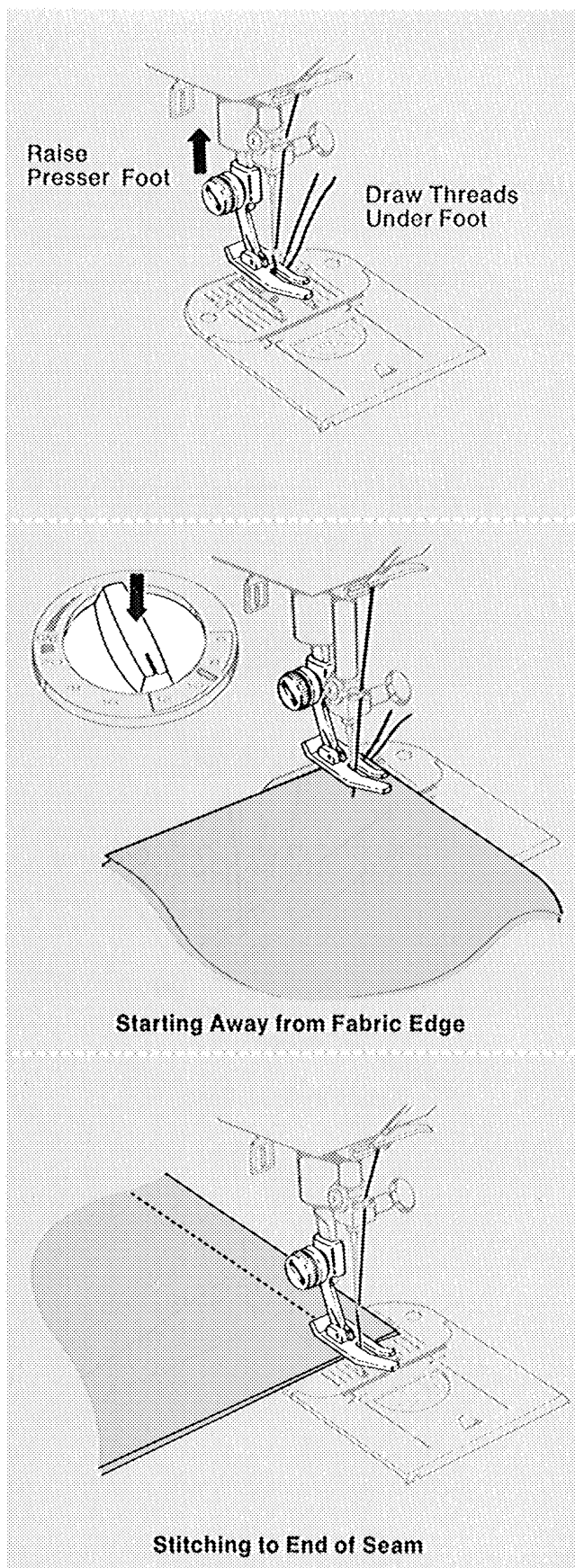
Most fabric can be placed under the presser foot by raising the presser-foot lifter to its up position. When placing bulky fabrics, such as coating, knit or terry cloth, or several fabric layers, raise the presser-foot lifter to its high position and make sure needle is at its highest point. Hold lifter 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.

## STARTING THE SEAM

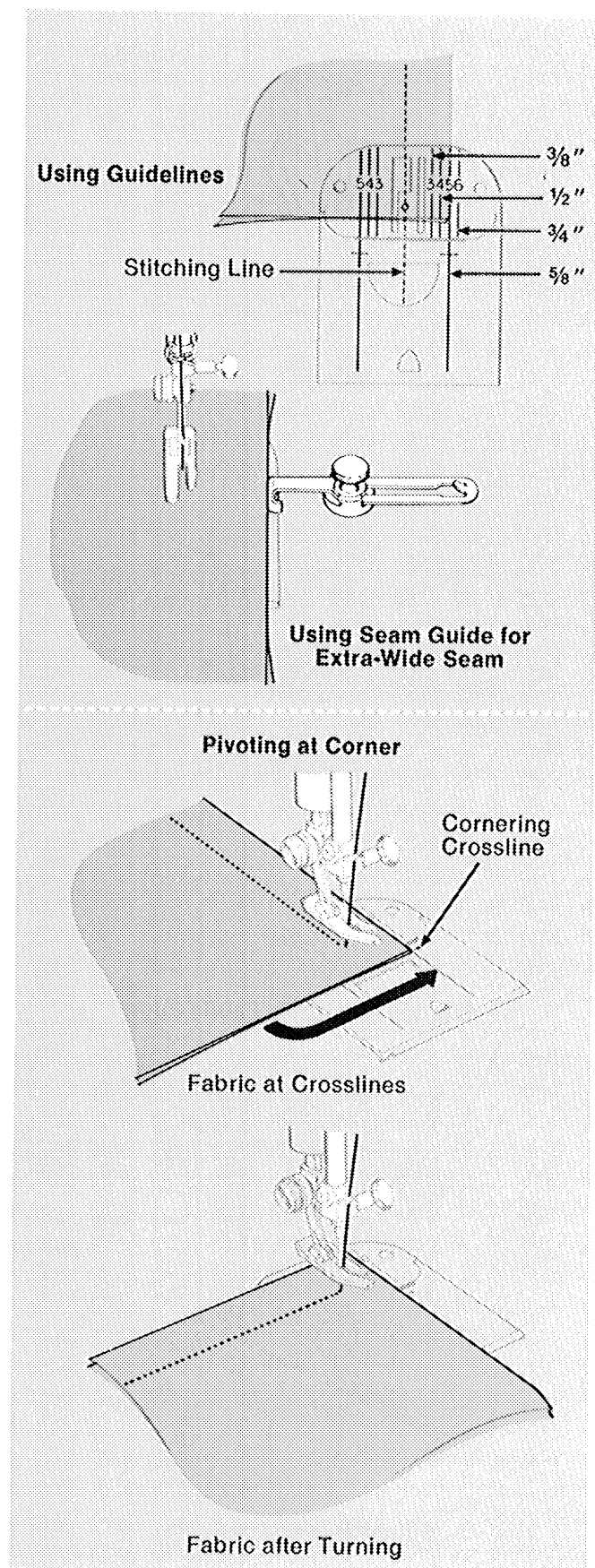
Always test-stitch seams on fabric scraps before stitching your garment. This will enable you to get the feel of handling the fabric. Also, it will indicate whether tension, pressure, stitch length, needle and thread are correct.

To avoid tangled threads on the underside of the fabric, it is important to start and end seams carefully.

- Raise the take-up lever to its highest position by turning the hand wheel toward you or pressing lightly on the speed controller. Raise presser foot.
- Draw needle and bobbin threads under foot and place them diagonally to right.
- Hold thread ends and with a light touch on the speed controller or by turning the hand wheel toward you, position needle in fabric about ½ inch from fabric edge.
- Lower the presser foot.
- Press stitch-length dial all the way down and hold in place.
- Start machine and backstitch to edge of fabric.
- Release the stitch-length dial and sew in forward direction.







## KEEPING SEAMS STRAIGHT

To keep the seam straight, use one of the numbered guidelines on the plate. The numbers indicate distance, in eighths of an inch, from the needle. If you want a  $\frac{5}{8}$ -inch seam, for example, line up your fabric with the number 5 guideline. Note that both number 5 guidelines (the most commonly used) are extended on the slide plate for your convenience; the cross lines serve as 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 evenly between  $\frac{1}{8}$  inch and  $1\frac{1}{4}$  inches from the fabric edge, it is particularly useful for very narrow or very wide seams.

## TURNING SQUARE CORNERS

To turn a square corner  $\frac{5}{8}$  inch from the fabric edge, you need not measure or mark the seam. Simply use the cross lines on the slide plate.

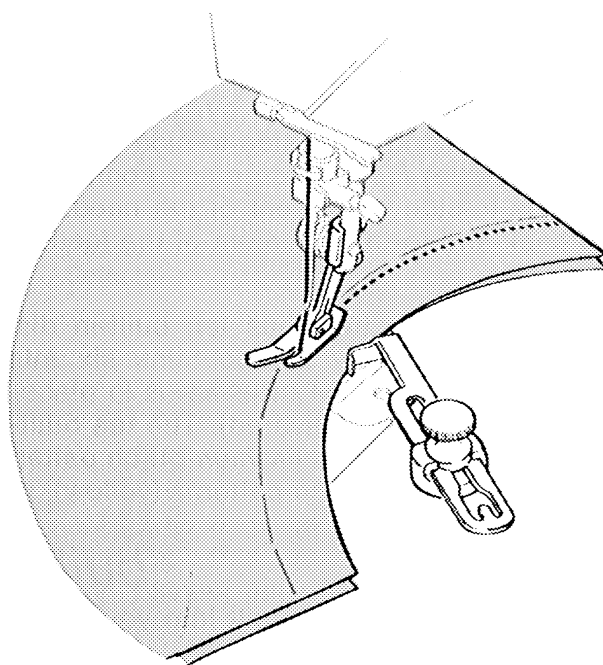
- Line up your fabric with right or left guideline 5 on the plate. Stitch seam, slowing speed as you approach corner.
- Stop stitching, *with the needle down*, when the bottom edge of the fabric reaches the cornering cross lines on the slide plate.
- Raise presser foot *slightly* and turn fabric on needle, bringing bottom edge of fabric in line with guideline 5.
- Lower the presser foot and stitch in new direction.

## CURVED SEAMS

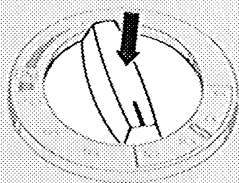
1. Use a short stitch for elasticity and strength. For example, if you use 12 stitches to the inch for straight seams, select 15 to 20 per inch to stitch curved seams in the same fabric.
2. If you use the seam guide, attach it at an angle so that the edge that is closer to the needle acts as a guide.

## REINFORCING END OF SEAM

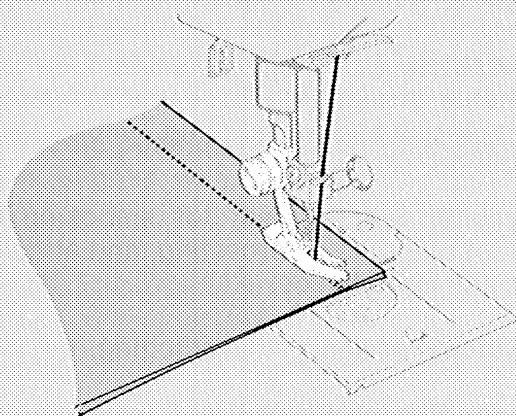
1. Stitch to the edge of the fabric.
2. Press stitch-length dial all the way down and hold in place. Backstitch approximately  $\frac{1}{2}$  inch to reinforce end of seam. Release stitch-length dial.
3. Raise take-up lever to its highest position and raise presser foot. Remove the fabric by drawing it to the back and left.
4. Cut threads on thread cutter at rear of presser bar.



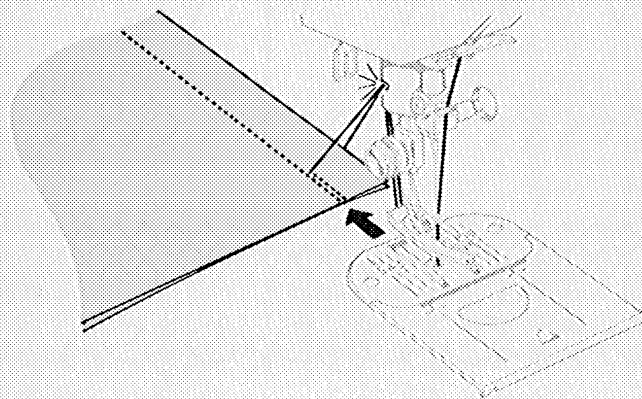
Stitching a Curved Seam



Reverse Stitching



Ending a Seam



Cutting Threads



# 4. ALL ABOUT ZIG-ZAG STITCHING

## how stitches are produced

All stitches are produced by discs. *Fashion* Stitch discs control the side-to-side movement of the needle; *Flexi-Stitch* discs control both the side-to-side movement of the needle and the back-and-forth movement of the feed.

Your sewing machine has ten built-in discs and your accessory set contains six interchangeable discs (one of which is in place in the machine when delivered). The ten built-in discs can produce five *Fashion* Stitch patterns (white), four *Flexi-Stitch* patterns (yellow), and

a straight stitch. (The straight-stitch disc can also produce speed basting, see page 28.) All interchangeable discs have designs on both sides and produce 12 patterns — four *Fashion* Stitch and eight *Flexi-Stitch* patterns.

In addition to the obviously decorative uses of the stitch patterns, some serve very practical purposes. In the section called "Sewing the Professional Way," beginning on page 43, you will find instructions for both decorative and practical uses of these patterns.

### built-in stitches

The ten discs built into your sewing machine produce the stitches illustrated



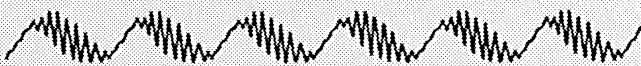
**Plain Zig-Zag Stitch.** Used for general-purpose stretch sewing, buttonholes, attaching buttons, bar tacks, and applique.



**Straight Stitch.** For seaming and speed basting.



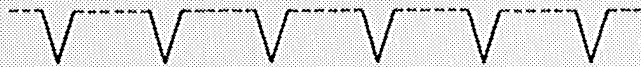
**Multi-stitch Zig-Zag.** Lets you mend, join, and reinforce without bulk.



**Ribbon Stitch.** A decorative pattern for single- and twin-needle work.



**Icicle Stitch.** Perfect for ornamental borders and edges.



**Blindstitch.** Indispensable for finishing hems.



**Featherstitch.** Extremely versatile. Use it for stretchable straight-stitch seams in knit and stretch fabrics and for fagoting, embroidering, and quilting.



**Honeycomb Stitch.** Ideal for smocking and useful for mending, overcasting, and attaching elastic and stretch lace.



**Leaf Stitch.** For decorative stitching.

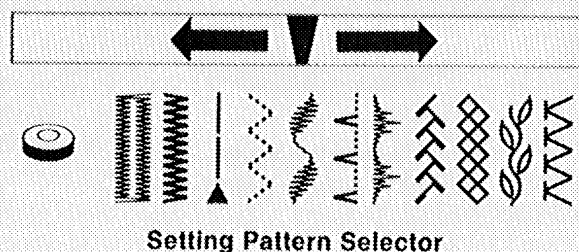
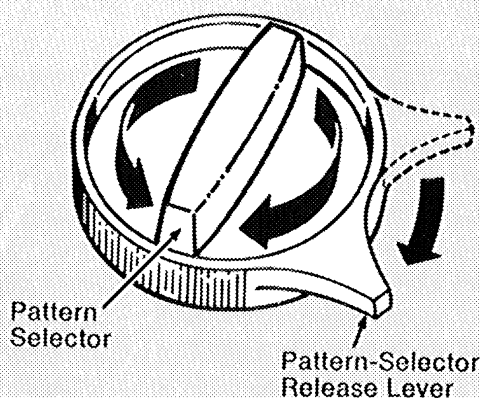


**Overedge Stretch Stitch.** Used for joining and overedging seams in knit and stretch fabrics in one operation.




## SETTING PATTERN SELECTOR






Turn pattern-selector release lever toward you until it locks in place. Then turn pattern selector until pointer on panel is above desired stitch.

**NOTE:** If pattern-selector release lever fails to lock, turn hand wheel slightly toward you and reset lever. *Do not attempt to turn the release lever after it is locked in place.* It will reposition itself when you start the machine or turn hand wheel.

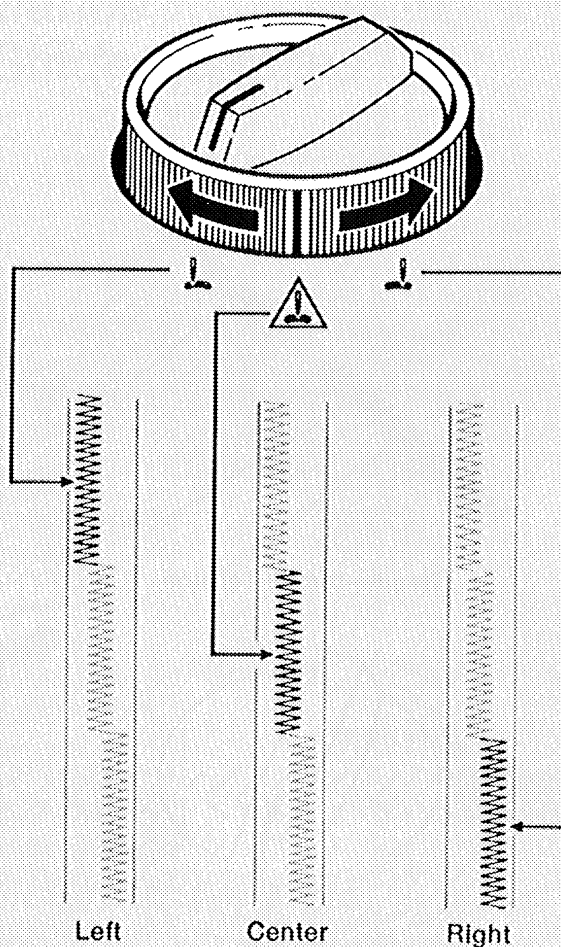


## ADJUSTING STITCH PLACEMENT

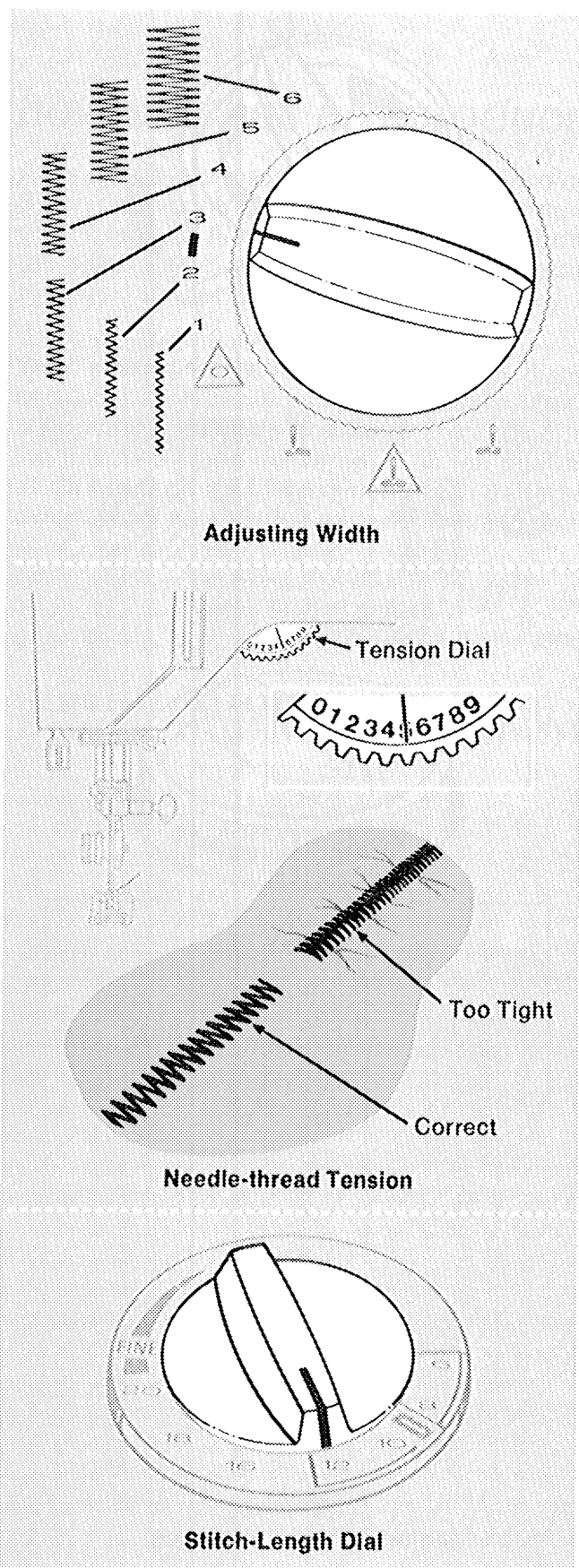
Needle-position setting  places the needle in center stitching position. Settings  and  place the needle in left and right stitching position at stitch widths less than 6.

Center setting  is used most often. Right  is required for buttonholing and left  for button sewing and twin-needle work.  or  setting can be used for placing narrow zig-zag stitching to the left or right of center in decorative work.

**To set needle position,** turn ring until desired setting is aligned with indicator line on ring.







## ADJUSTING STITCH WIDTH

To produce a zig-zag stitch, turn the stitch-width dial to any setting between 1 and 6. The higher the number, the wider the stitch.

## ADJUSTING NEEDLE-THREAD TENSION

Generally, zig-zag stitching at open stitch lengths requires the same needle-thread tension as straight stitching. *Flexi-Stitch* patterns, however, may require more needle-thread tension than *Fashion Stitch* patterns. Make a test sample with the fabric and thread you plan to use so that you can adjust the tension to suit the stitch 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 tension dial to a lower number.

For tension adjustment of *Fashion Stitch* patterns at satin-stitch length, turn to page 56.

## ADJUSTING STITCH LENGTH

### For *Fashion Stitch* Patterns



Any stitch length setting from 6 to 20 will give you an open zig-zag stitch of the pattern you select. The lower the number, the more open, or farther apart, your stitches will be. The symbol on the dial above 20 designates the **FINE** stitch area and is used for adjusting satin stitching (see page 56 for specific instructions).

### For *Flexi-Stitch* Patterns


When you use a *Flexi-Stitch* pattern, set the stitch length dial in the 6 to 8 area indicated by the yellow band. The higher the number, the shorter your stitches will be. Dial numbers in this case do not represent length of stitches per inch.

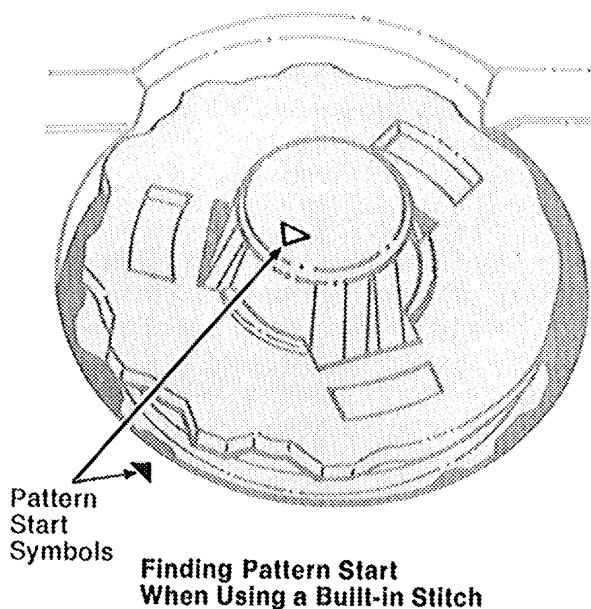
*Stitching cannot be reversed when using a **Flexi-Stitch** pattern.*

## finding the beginning of a pattern unit when using a built-in stitch

To start stitching one of the built-in *Fashion Stitch* or *Flexi-Stitch* patterns at its beginning, align the start indicator  on the disc holder with the start indicator  on the machine.

### To align both start symbols:

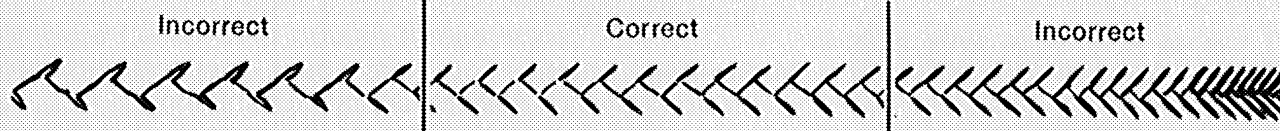
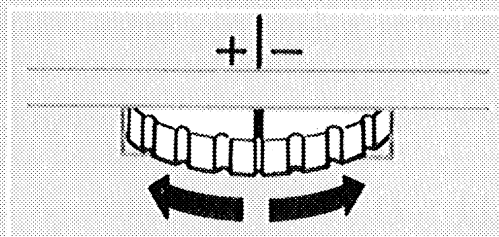
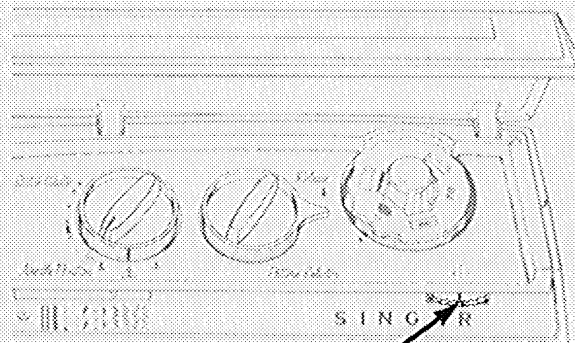
- Hold needle and bobbin threads.
- Press and hold needle-lift button up and run the machine until both  symbols are aligned.
- Release needle-lift button and start to sew.





## adjusting stitch balance when using Flexi-Stitch patterns

When using a *Flexi-Stitch* pattern, you may need to adjust the stitch-balance dial to correct the appearance of the stitch.

Before you move the stitch-balance dial from its neutral position, make a test sample. If adjustment is required, stitch slowly and move the stitch-balance dial as you sew.




Turn the dial slowly to *left* (  symbol) to bring forward and reverse stitches of the pattern together.

Turn the dial slowly to *right* (  symbol) to separate forward and reverse stitches of the pattern.







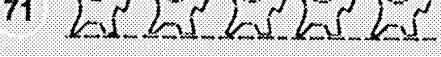







# interchangeable Fashion and Flexi-Stitch discs


The six interchangeable discs that come with your machine produce the stitches illustrated below. All discs are reversible and produce two patterns. A reproduction of the pattern design and the disc number appear on each disc. *Flexi-Stitch* discs are identified by name.

Insert the desired disc (see next page for instructions) and set pattern-selector pointer over . Adjust needle position, stitch width

and length, and thread tension for all disc patterns (except maxi-stretch stitch) as you would when using a built-in pattern. See pages 21 and 22. **The maxi-stretch stitch requires special selector settings**, which are described on page 49. When using a *Flexi-Stitch* disc, adjust stitch length and stitch balance as instructed on pages 22 and 23, and set speed range at **SLOW**.

INTERCHANGEABLE DISCS	
Circled numbers indicate disc numbers.	
	<b>Fashion Stitch Disc Patterns</b>
	<b>77 Arrowhead Stitch</b> — Combines beauty and utility. Individual pattern units reinforce points of strain. Use them on pocket corners in place of bar tacks.
	<b>78 Bead Stitch</b> — A decorative stitch for single-needle and twin-needle work.
	<b>79 Scallop Stitch</b> — Makes perfectly formed, evenly spaced scallops for edgings and tucks.
	<b>80 Zig-Zag Point Stitch</b> — Finishes and decorates in one operation. Makes shadow hems, attaches lace, and inserts elastic.
	<b>Flexi-Stitch Disc Patterns</b>
	<b>69 Maxi-Stretch Stitch</b> — A straight stretch stitch that can be adjusted in length to suit fabric weight and elasticity. See page 49 for special selector settings.
	<b>70 Lace Stitch</b> — A decorative pattern for single-needle work.
	<b>71 Scottie Dog Stitch</b> — A novel design, especially appropriate for children's wear.
	<b>72 Surf Stitch</b> — Attractive for borders and for smocking with elastic thread.
	<b>73 Paris Point Stitch</b> — A traditional pattern used for hemstitching, drawn-thread work, picot-like edgings, and applique.
	<b>74 Ric-Rac Stitch</b> — For heavy-duty, general-purpose stretch sewing. Also reversible topstitching.
	<b>75 Tulip Stitch</b> — Ideal trimming for collars and cuffs on little girls' dresses.
	<b>76 Slant Overedge Stitch</b> — Provides flexibility. Ideal for sewing knit, stretch, and elasticized fabrics. Joins and finishes at the same time.

## CHANGING DISCS

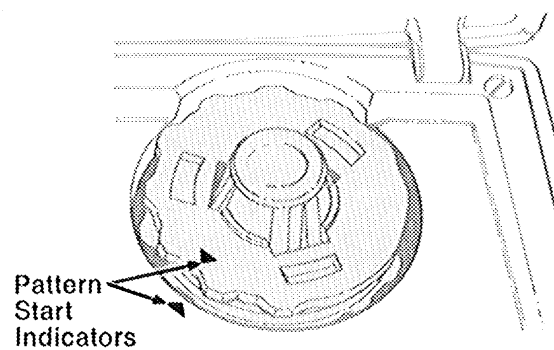
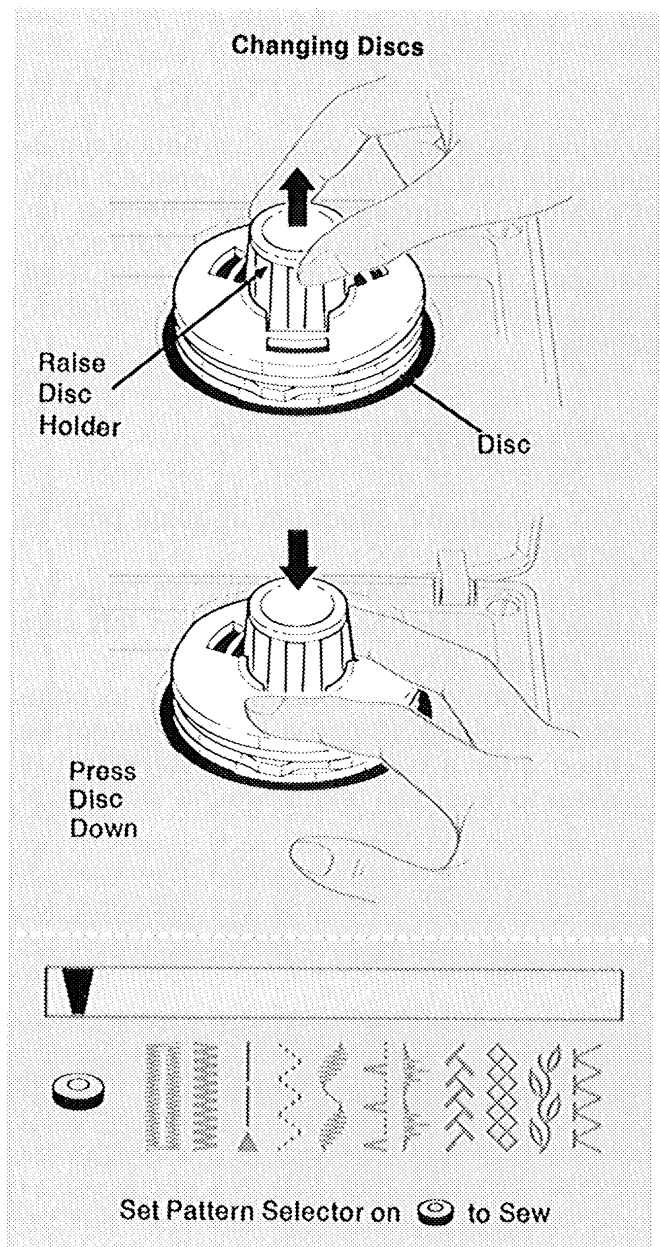
1. Open console cover.
2. Turn pattern-selector release lever clockwise until it locks in place. If lever fails to lock, turn hand wheel slightly toward you and reset lever.
3. Raise disc holder. (Disc will rise for easy removal.) Then remove disc from holder.
4. Place a new disc (desired pattern side up) on holder so that the three inside grooves fit properly on holder.
5. Press down on disc with fingers until it snaps into place.
6. Set pattern selector on  to activate disc.

## Finding the Beginning of a Pattern Unit When Using a Disc

To start stitching one of the *Fashion Stitch* or *Flexi-Stitch* disc patterns at its beginning, align the start symbol ▼ on the disc with the pattern-start symbol ▲ on the machine.

### To align both start symbols

- Hold needle and bobbin thread ends.
- Press and hold needle-lift button up and run the machine until both ▲ symbols are aligned.
- Release the needle-lift button and start to sew.



**Starting at Beginning of Pattern Unit**



## 5. TWIN-NEEDLE STITCHING

By using a twin needle, you can produce simultaneously two parallel, closely spaced lines of straight or zig-zag stitching. Effective for decoration, twin-needle stitching is not recommended for seams or for use on knits. Soft fabrics should be sewn with a paper or fabric backing.

### *preparation*

1. Clip detachable spool pin to guide post as shown.
2. Thread machine as instructed on page 10, making certain thread passes on **left** side of tension disc.
3. Wind bobbin with enough thread to complete stitching. (Since a bobbin cannot be filled after a twin needle is inserted, it is wise to keep an extra wound bobbin at

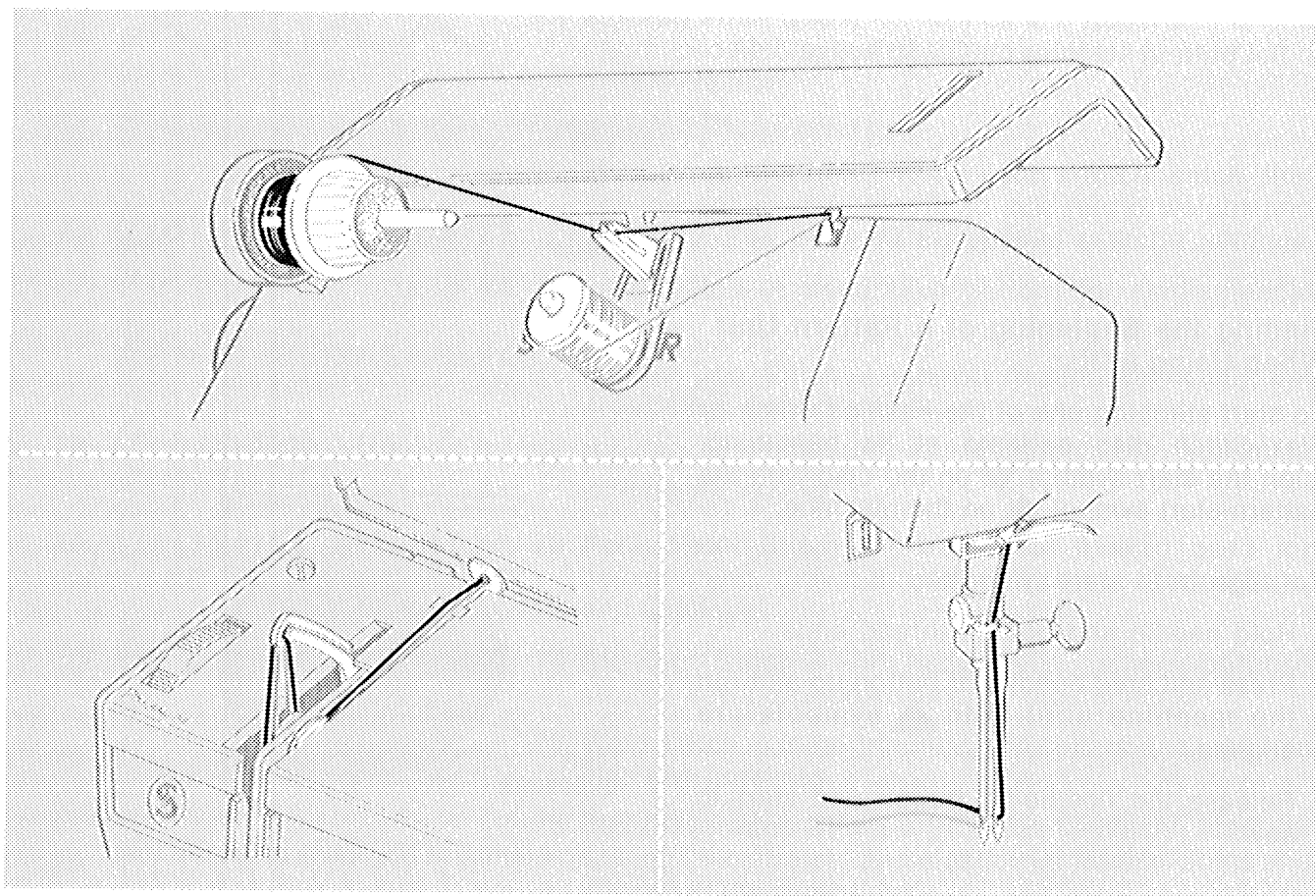
hand for replacement.)

**NOTE:** When inserting a previously wound bobbin, follow the instructions on page 13.

4. Close slide plate and pull out a loop of thread between the needle and bobbin.
5. Cut thread about four inches from needle, and unthread the needle.
6. Remove the single needle and insert the twin needle.




















### *threading the needle*

1. Pass thread through **right** eye of needle.
2. Place spool of thread on detachable spool pin and thread machine as for one-needle stitching *except*:
  - Pass thread on **right** side of tension disc and through **left** eye of needle.



## *twin-needle stitch chart*

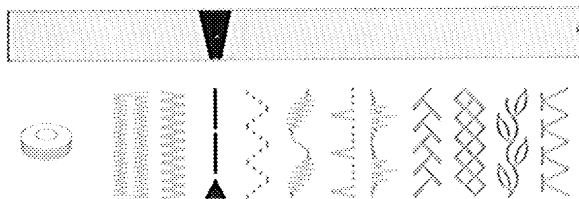
To produce patterns at right, use settings, discs and accessories shown below.

						
<b>Stitch Pattern</b>						
<b>Disc No.</b>	—	80	—	—	73	—
<b>Stitch Width</b>	0	2½ (maximum)	2½ (maximum)	2½ (maximum)	2½ (maximum)	2½ (maximum)
<b>Needle Position</b>	 or 					
<b>Stitch Length</b>	12	FINE	FINE	6 (yellow)	6 (yellow)	6 (yellow)
<b>Presser Foot</b>	Zig-Zag	Special Purpose	Special Purpose	Special Purpose	Special Purpose	Special Purpose
<b>Plate</b>	Zig-Zag	Zig-Zag	Zig-Zag	Zig-Zag	Zig-Zag	Zig-Zag
<b>Speed Setting</b>	SLOW	SLOW	SLOW	SLOW	SLOW	SLOW

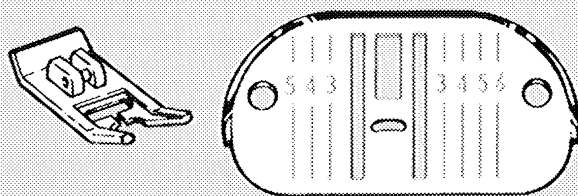
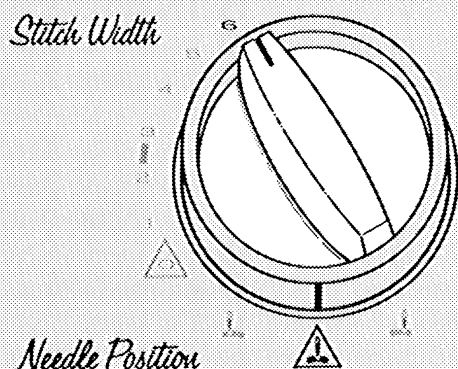
†Sew this stitch with a paper backing.



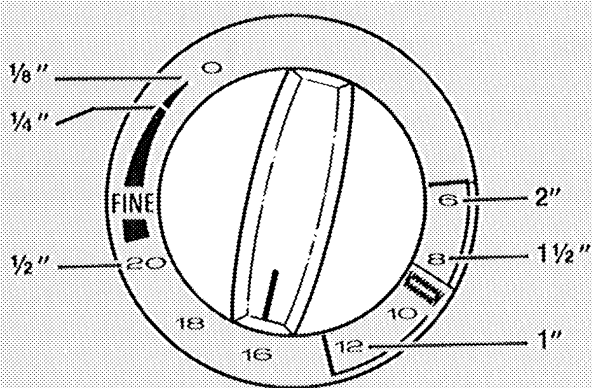
## 6. TEMPORARY STITCHING



Set Pattern Selector for Straight Stitching



Zig-Zag Foot and Plate



Stitch Length Settings for Speed Basting

### *speed basting*

With the basting stitch that is built into your sewing machine, you can produce basting stitches of any length up to two inches. Thus, you can choose just the right length for your sewing job, considering the weight of your fabric and how securely the pieces need to be held together. A few of the many sewing jobs for which you will find speed basting particularly useful are:

- Joining seams for trial fittings.
- Marking construction guidelines.
- Basting pleats, hems, and seams.

- 
- Stitch: Straight
  - Stitch Width: 6 only
  - Needle Position: only
  - Stitch Length: 6 through FINE
  - Speed: In **SLOW** range
  - Zig-Zag Plate only
  - Zig-Zag Foot only
- NOTE: The Even Feed Foot cannot be used for speed basting.
- 

### Stitch Length

The stitch-length dial regulates the length of basting stitches but, because the basting disc changes the interval at which the needle enters the fabric, the numbers on the dial no longer represent stitches per inch.


The settings on the dial and the approximate length of the basting stitches they produce are illustrated. The very short stitches produced in the triangle above the **FINE** area are used to fasten stitching starts.

## Thread Tension

Speed basting requires a light needle-thread tension. When tension is correctly adjusted, stitches up to 1 inch long should lie flat in firm fabrics. If stitches are more than ½ inch long, place tension on the fabric by holding it in front and back of the presser foot, as you sew, to prevent pucker.

## PREPARATION

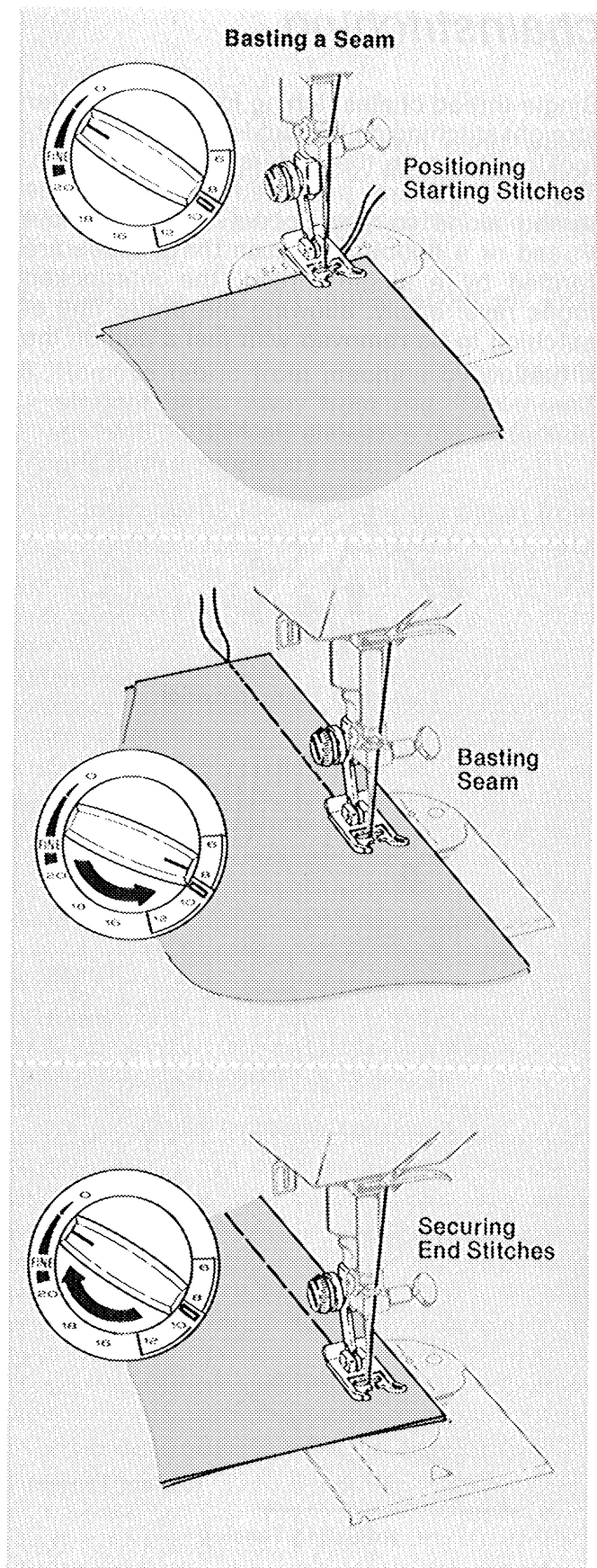
Select needle and thread according to your fabric: a fine needle and a soft pliable thread are recommended when basting stitches are not to be removed before pressing, as in the case of pleats or hems. Choose a thread color to contrast with your fabric so that it can be seen easily.

Thread the machine in the usual way and wind the bobbin using straight-stitch settings. If you insert a wound bobbin instead of winding a new one, set the stitch-width dial on  to raise the needle thread through the needle hole.

*Make sure the zig-zag foot and zig-zag plate are on the machine and do not attempt to use the Even Feed Foot.*

## PROCEDURE

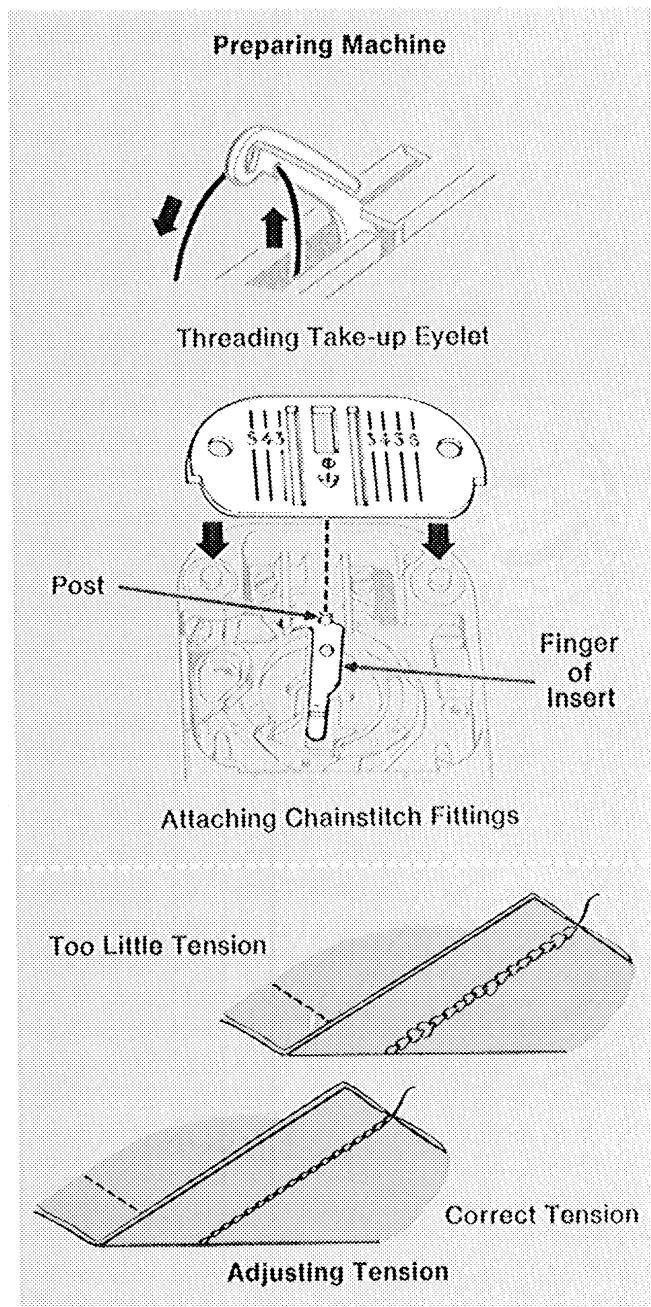
1. Set stitch-length dial for a short stitch in the triangle above the **FINE** area. Place work under the needle, lower the presser foot, and take a few stitches to position and secure basting start.
2. Reset stitch-length dial for the length of basting stitch desired (stitches less than 1 inch long are recommended for seam basting) and proceed as for regular sewing. Stitch slowly, supporting the fabric in front and back of the presser foot if stitches are more than ½ inch long.
3. To secure the end of basting, set dial for a short stitch in the **FINE** area and take a few stitches.





# chainstitching

Single-thread chainstitching looks like regular straight stitching on top but is a series of interlocking loops on the underside of the fabric. The stitches are produced by the needle thread alone so you do not need a bobbin thread or a bobbin. Because the stitches are formed by a single thread, the interlocked loops ravel easily, allowing the entire line of stitching to be removed with just a pull on the thread end.



Here are a few of the many sewing jobs for which you will find chainstitching useful.

- Sewing temporary hems and tucks to extend the life of children's clothes, and curtains and linings that might shrink.
- Hemming curtains and draperies that may need to be altered.
- Attaching woven and stretch hem tape.
- Making stay chains (French tacks) to anchor linings, or belt carriers to hold belts in place.
- Basting for trial fittings.

## PREPARATION

1. Raise take-up lever to its highest position and raise presser foot. Open slide plate.
2. Move bobbin latch to left and remove bobbin and plate.
3. Place bobbin-case insert in bobbin case as shown, with finger of insert positioned under the feed.
4. Position chainstitch plate over holding pins, making certain that the post of the bobbin-case insert finger enters the hole in the plate. Close slide plate.
5. Select needle and thread according to your fabric. Thread the machine in the usual way except for the take-up lever. *For chainstitching, pass the thread through the small eyelet as shown.*

## ADJUSTING TENSION

To find the correct tension setting for chainstitching, set the tension dial on 3 and make a test sample in your fabric. If the loops in the chain on the underside of the fabric are loose and irregular in size, increase tension. When the tension is correctly adjusted, the chain will be flat and smooth and the fabric unpuckered.

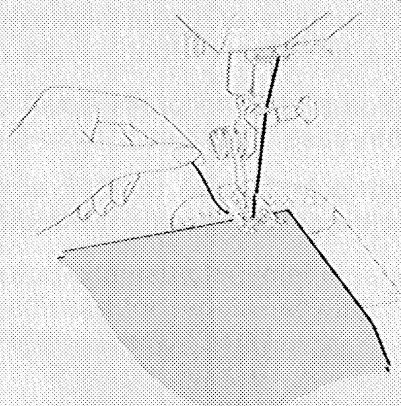
- **To increase tension**, turn dial to a higher number.
- **To decrease tension**, turn dial to a lower number.

## SEWING A CHAINSTITCH SEAM

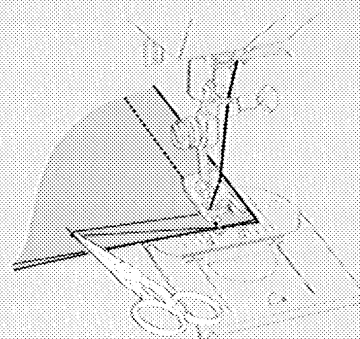
- Stitch: Straight
- Stitch Width: 
- Needle Position: 
- Stitch Length: 10 to 12 only
- Take-up Lever: Thread Eyelet
- Bobbin-case Insert
- Chainstitch Plate
- Zig-Zag Foot

1. Draw thread under foot to back of machine, hold thread end and position needle in fabric. Lower foot.
  2. Start machine and stitch to end of seam, ending with needle in fabric. *Do not attempt to stitch in reverse or sew off the fabric edge.*
  3. Raise presser foot and turn hand wheel to raise take-up lever to its highest point.
  4. Pass scissors under presser foot and draw out a loop of thread.
  5. Hold loop and cut thread about an inch from end of stitching.
  6. Remove fabric from machine by pulling it straight back, away from you. The thread end will pull through fabric to the underside and form a temporary lock.
- Instructions for releasing the chain from the machine without forming a temporary lock in the fabric are given on the following page.

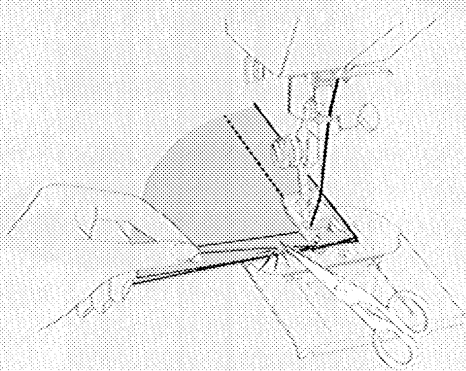
### Sewing a Chainstitch Seam



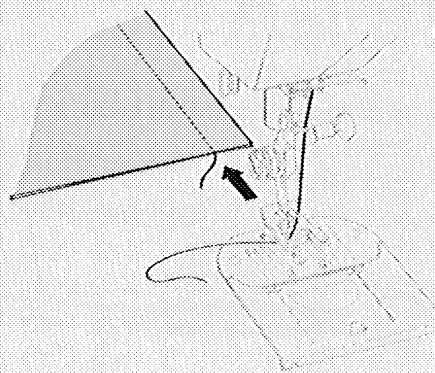
Starting to Sew



Pulling Out Loop of Thread



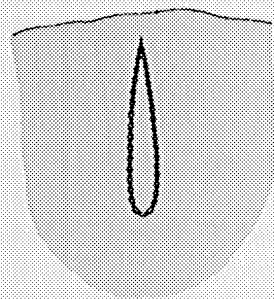
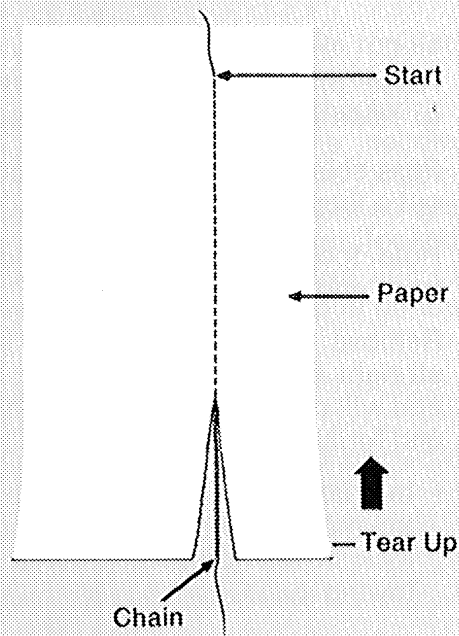
Cutting Thread



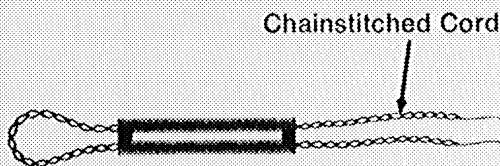
Removing Fabric



### Making a Thread Chain



Chainstitched Belt Loop



Chainstitched Buttonhole Cord

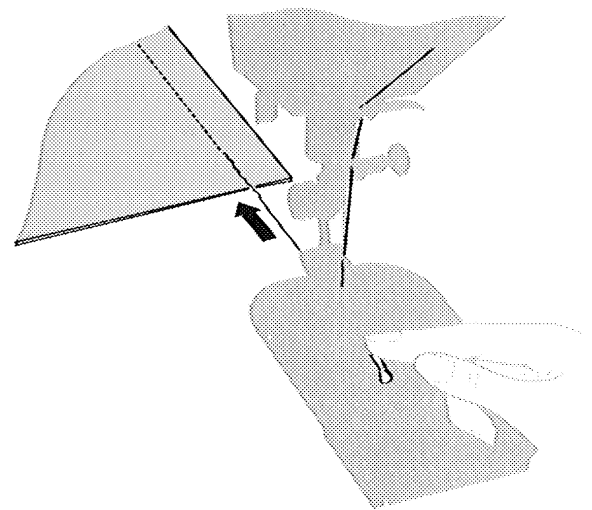
### Making a Thread Chain

Stay chains (sometimes called French tacks), belt loops and chains for cording buttonholes, normally time-consuming hand-worked finishes, can be quickly chainstitched. To produce a chain, stitch on paper for desired length, remove work from machine and tear paper away from the stitching. Follow instructions on page 31 for starting and ending stitching.

### Releasing the Chain from the Machine

To release the chain from the machine without locking end of stitching in fabric or paper:

- Raise take-up lever to its highest position and raise the presser foot.
- Open slide plate and press down on finger of bobbin-case insert.
- Draw fabric (or paper) to back of machine. Chain will unravel as work is withdrawn.



Releasing Chain from Machine