

SINGER*

936



The Deluxe Zig-zag Sewing Machine

Model 936

Congratulations!

As the owner of the new deluxe zig-zag sewing machine Model 936, you are about to enter a wonderful new world of sewing! From the moment you first use your new machine, you will be delighted with these remarkable features.

You will enjoy

- the simplicity of dial controls — you simply dial a stitch length, a stitch width and a stitch pattern; 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 knit and stretch fabrics and for producing intricate designs.
- built-in buttonhole system simplifies making buttonholes.
- push-button bobbin — you can wind the bobbin while it stays right in the machine.
- snap-on presser feet — quickly removed and easily replaced.
- convenient power and light switch that gives you a choice of two sewing speeds.
- convertible bed for both flat bed and free-arm sewing and many more advanced features.

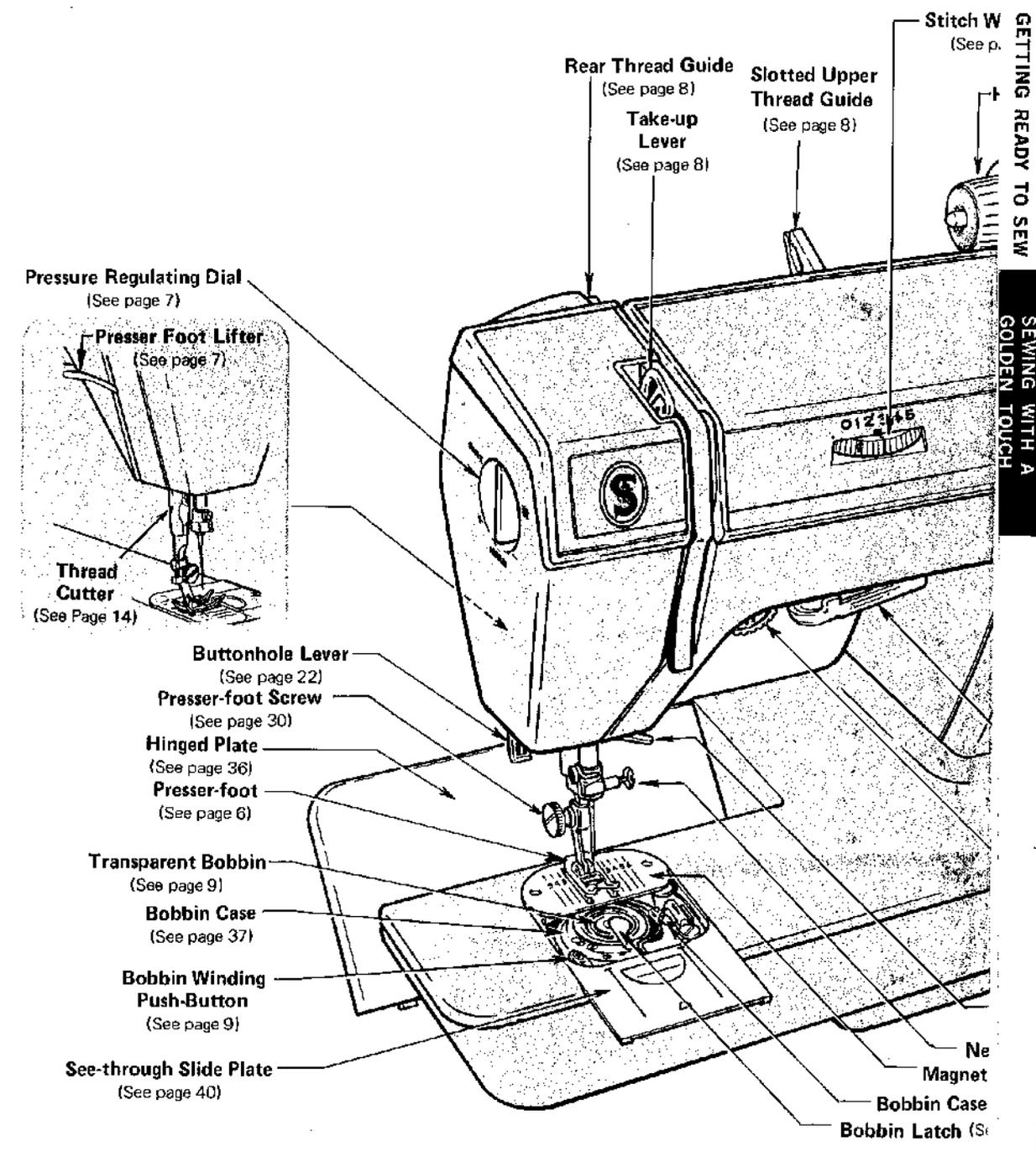
May we recommend that, before you actually start to use your new sewing machine, you discover all the many advantages and the ease of operation by going through this instruction book carefully.

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1. PRINCIPAL PARTS

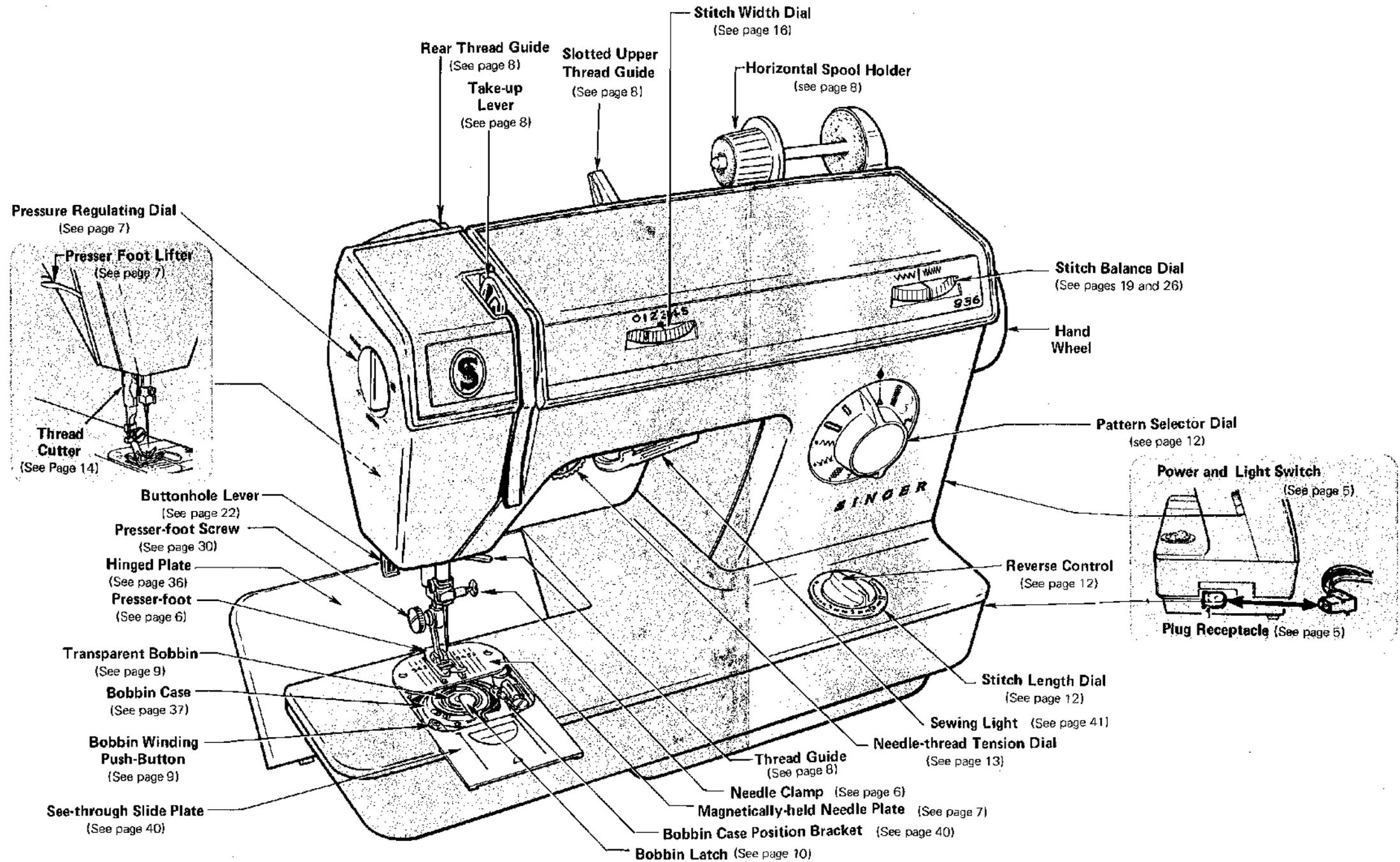


GETTING READY TO SEW

SEWING WITH A GOLDEN TOUCH

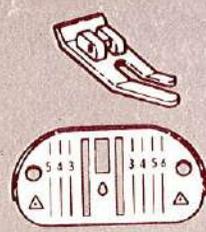
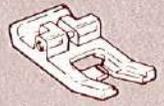
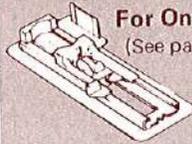
CAROLINA FOR YOU

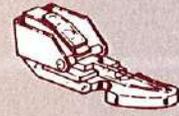
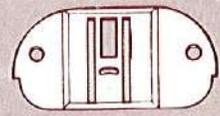
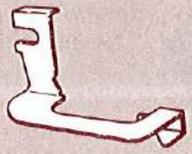
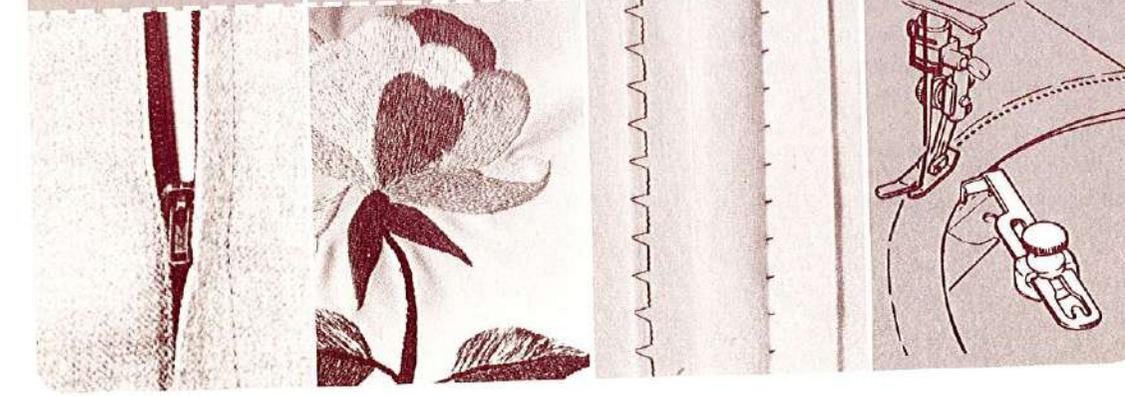
1. PRINCIPAL PARTS

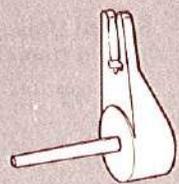
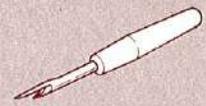
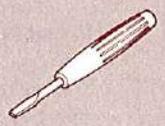
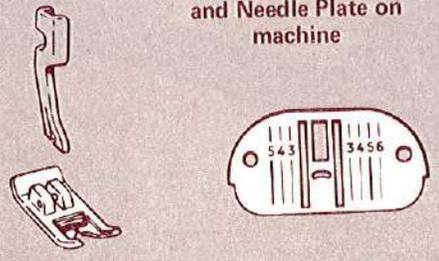
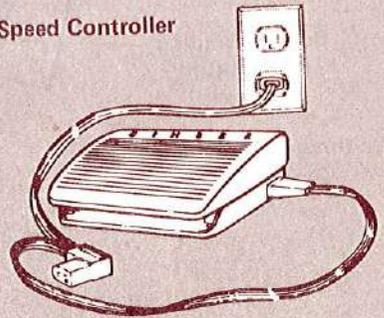


2. ACCESSORIES

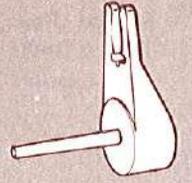
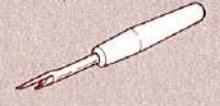
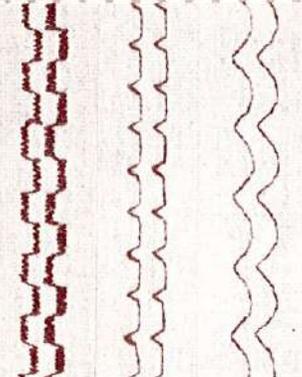
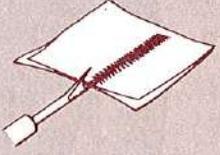
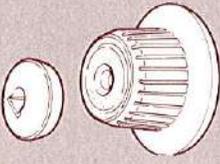
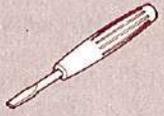
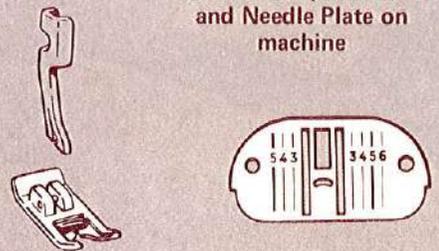
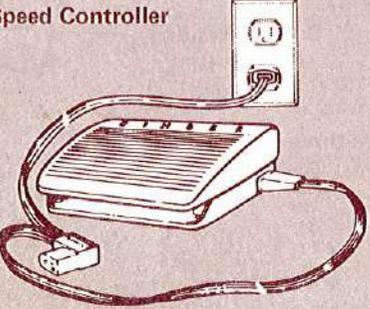
The following accessories are designed to help you do every kind of sewing easily and perfectly.

<p>Presser Foot and Needle Plate for Straight Stitching (See page 12)</p> 	<p>Special Purpose Foot (See page 16)</p> 	<p>Overedge Foot (See page 29)</p> 	<p>Buttonhole Foot For One-Step (See page 20)</p>  <p>For Two-Step (See page 24)</p>  <p>Buttonhole Gauge</p> 
			

<p>Zipper Foot (See page 31)</p> 	<p>Feed Cover Plate (See page 34)</p> 	<p>Blindstitch Guide (See page 30)</p> 	<p>Seam Guide (See page 15)</p> 
			

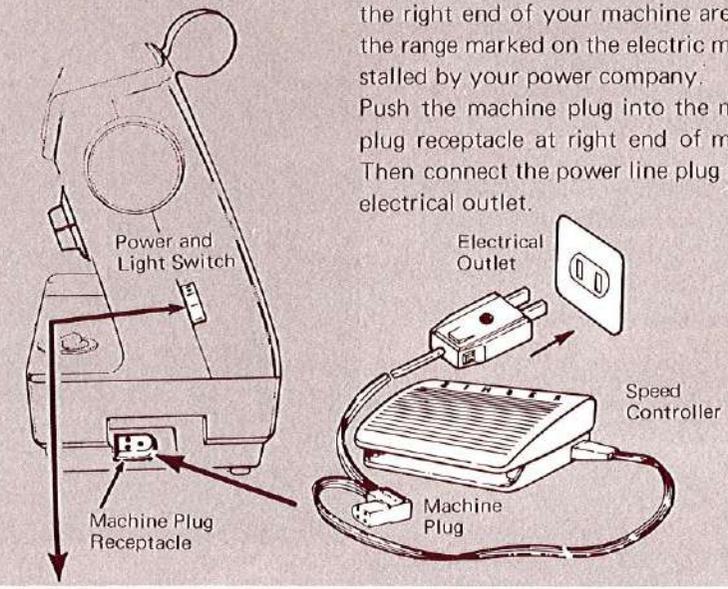
<p>Detachable Spool pin (See page 28)</p> 	<p>Seam Ripper (See page 23)</p> 	<p>Needles (See page 6)</p> 	
			
<p>Bobbin</p> 		<p>Lint Brush</p> 	<p>Screwdriver</p> 
<p>General Purpose Foot and Needle Plate on machine</p>  <p>Foot Needle Plate</p>		<p>Oil Container</p> 	<p>Speed Controller</p> 

3. GETTING READY TO SEW

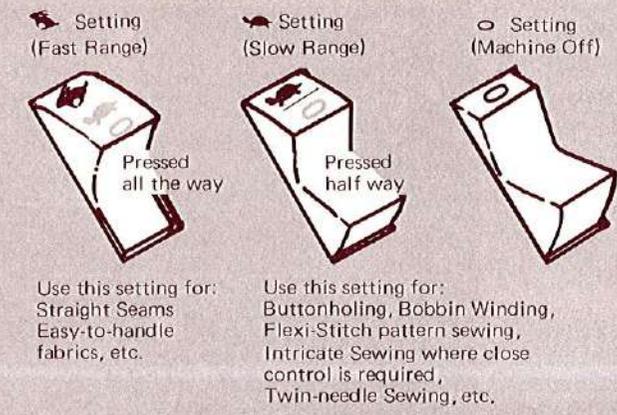
<p>Detachable Spool pin (See page 28)</p> 	<p>Seam Ripper (See page 23)</p> 	<p>Needles (See page 6)</p> 
	<p>For removing seam stitching</p> 	<p>Spool Holder (Large & Small) (See page 8)</p> 
<p>Bobbin</p> 	<p>Lint Brush</p>  <p>Oil Container</p> 	<p>Screwdriver</p> 
<p>General Purpose Foot and Needle Plate on machine</p>  <p>Foot Needle Plate</p>		<p>Speed Controller</p> 

1. CONNECTING MACHINE

Before plugging in your machine, be sure that the voltage and number of cycles stamped on the electrical name plate at the right end of your machine are within the range marked on the electric meter installed by your power company. Push the machine plug into the machine plug receptacle at right end of machine. Then connect the power line plug to your electrical outlet.

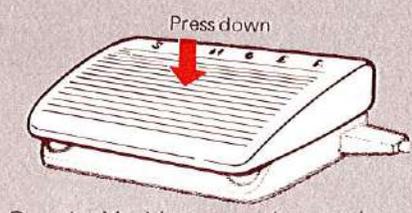


2. SELECTING AND SETTING THE SPEED RANGE



To turn on the machine and sewing light, and set speed range, press the power and light switch to the selected range as shown.

3. RUNNING MACHINE



To Run the Machine, press the speed controller down with your foot. The harder you press, the faster the machine will sew within the selected speed range.

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.

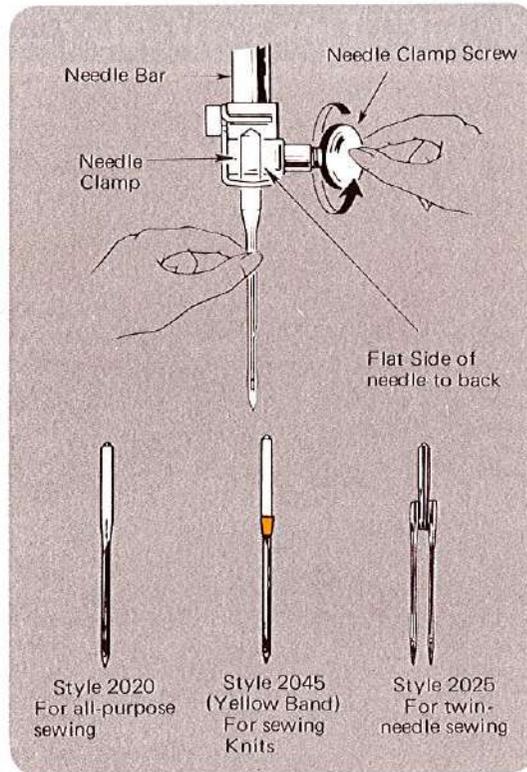
CAUTION: Because of the up-and-down movement of the needle, you must work carefully and watch the sewing area when operating the machine.

4. CHANGING NEEDLE

CAUTION: The needle you use should be straight and not blunt to ensure perfect stitch formation and needle penetration through the fabric.

Switch off the machine.

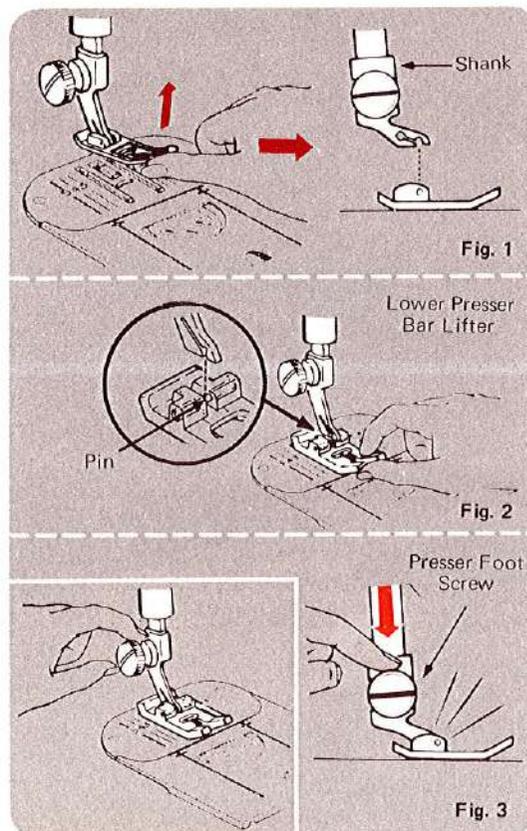
- (1) Raise needle to its highest point by turning hand wheel towards you. Loosen needle clamp screw, and remove the needle.
- (2) Insert new needle in clamp, with the flat side of the needle to the back; push it up as far as it will go.
- (3) Tighten needle clamp screw.



5. CHANGING PRESSER FEET

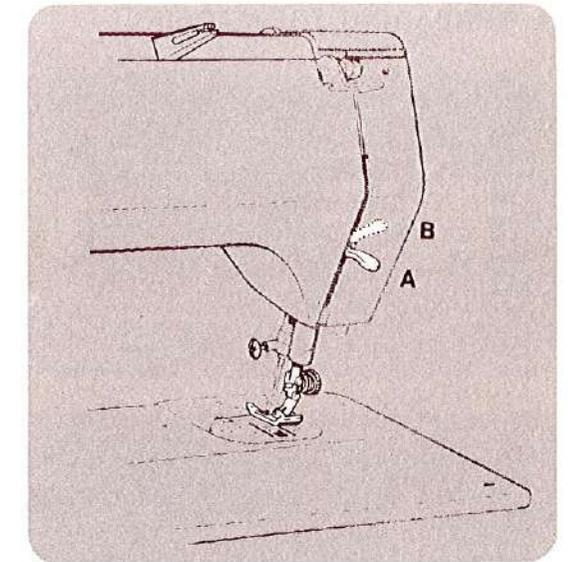
All of the presser feet furnished with your machine snap-on and off a common shank.

- (1) Make sure needle and presser foot lifter are raised. Press toe of the foot upward or downward and then snap down to remove, as shown in Fig. 1.
- (2) Centre the new foot under the shank and lower presser foot lifter so that shank opening fits over the foot pin, as shown in Fig. 2.
- (3) Press down firmly on presser foot screw until foot snap into place, as shown in Fig. 3.



6. LIFTING PRESSER FOOT

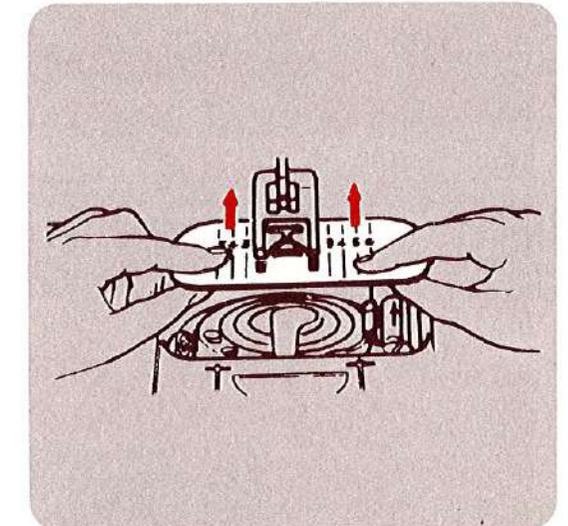
The presser-foot lifter **A** allows you to raise and lower the presser foot. Extra-high lift position **B** permits easy placement of bulky fabrics. Make sure the lifter is all the way down before starting to sew.



7. CHANGING NEEDLE PLATE

Switch off machine.

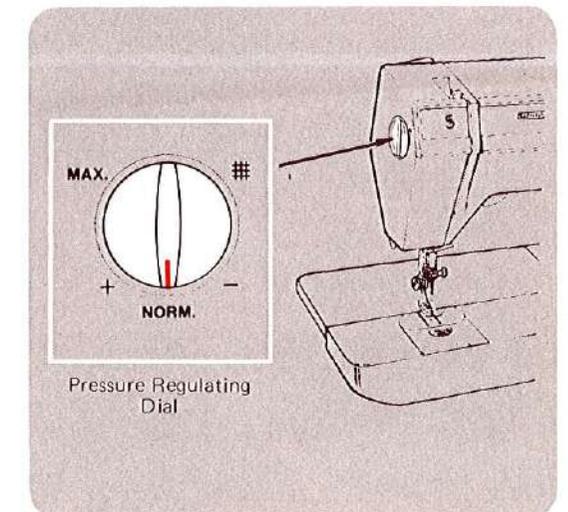
- (1) Raise needle to its highest position.
- (2) Raise presser foot.
- (3) Open slide plate.
- (4) Place thumbs under needle plate, press up and lift out.
- (5) Position desired needle plate over the two pins and release. Needle plate is drawn into position magnetically.
- (6) Close slide plate.



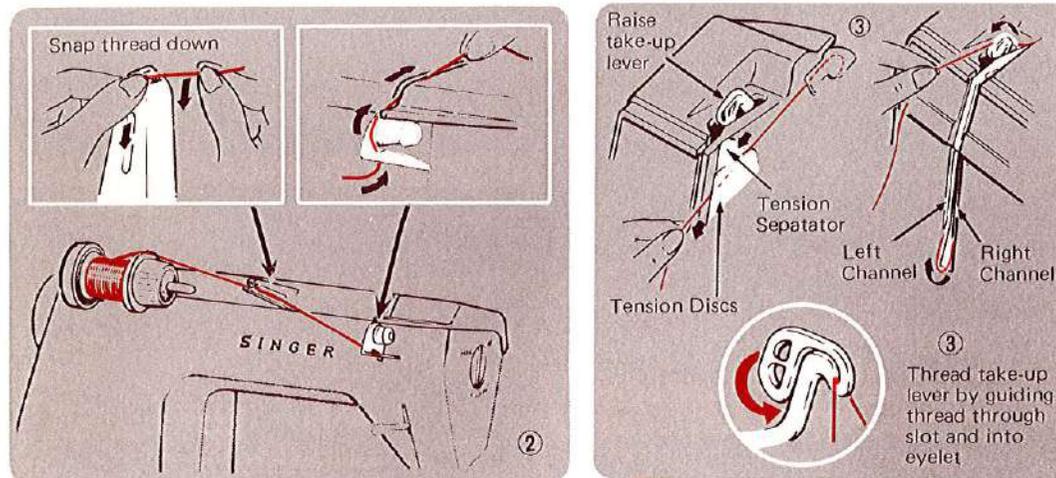
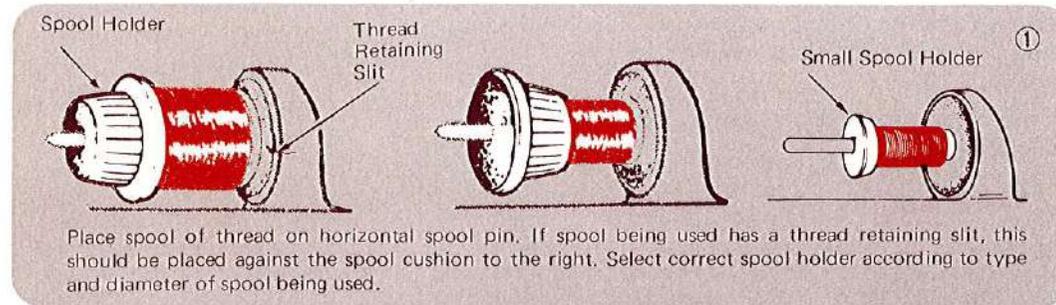
8. REGULATING FOOT PRESSURE

The pressure regulating dial regulates the pressure that the presser foot exerts on the fabric. Correct pressure is important to feed fabrics smoothly and evenly. The NORM (normal) setting is an all-purpose setting that can be used for sewing a wide variety of fabrics.

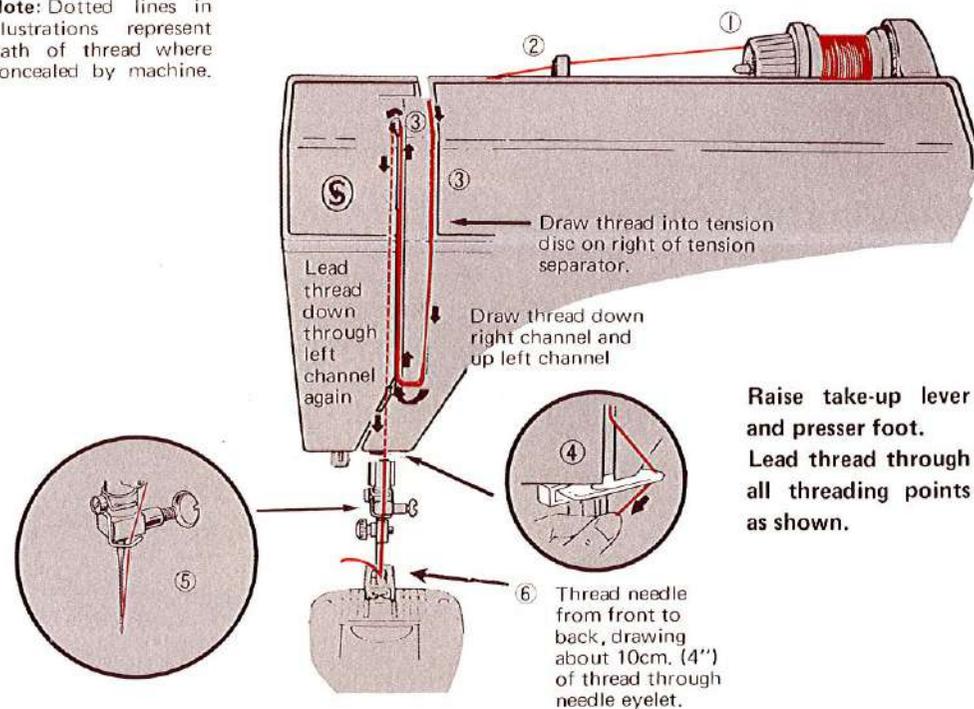
- To increase pressure, turn the dial from NORM toward MAX (maximum).
- To decrease pressure, turn the dial from NORM toward #.
- For darning and free-motion work, set the dial on #.



9. THREADING THE MACHINE



Note: Dotted lines in illustrations represent path of thread where concealed by machine.



10. WINDING THE BOBBIN

You will find that the push-button bobbin makes your sewing go faster than ever before. You can wind bobbin without removing it from the machine.

Preparation

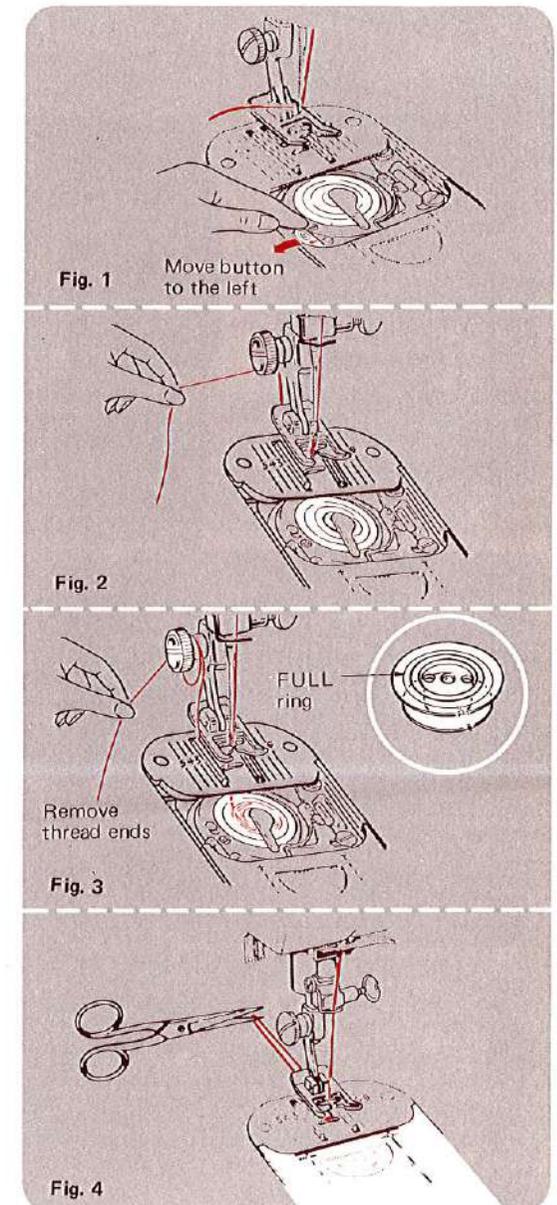
- Raise needle to its highest point by turning hand wheel towards you.
 - Open the slide plate.
 - Make sure the bobbin is empty.
- For removal of bobbin and thread, see page 10.
- Set the pattern selector dial to (straight stitching) symbol.
 - Set the machine speed to slow () range.

Winding Steps

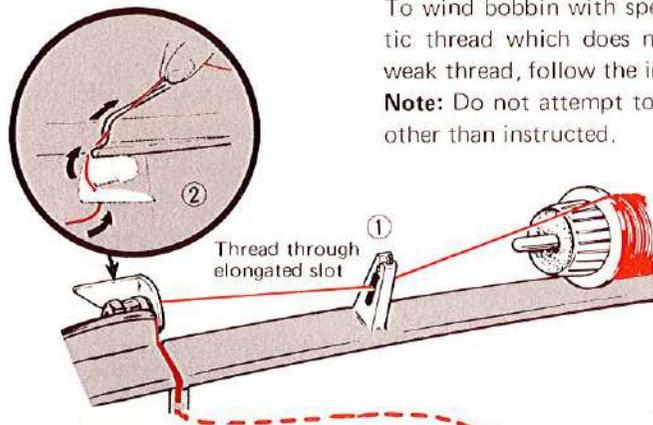
1. Press bobbin push-button to the left as shown in Fig. 1.
2. Draw needle thread back between toes of presser foot, under left side of presser foot; draw up and wrap thread end around the presser foot screw. Hold thread end *firmly* and run the machine at a moderate speed. (Fig. 2).
3. Pull thread end away as soon as it has separated from bobbin. Watch the bobbin as it fills. **Do not allow thread to wind beyond the FULL ring.** (Fig. 3)

CAUTION: Be careful not to wind a bobbin when there is already thread on the bobbin.

4. Close slide plate to release the bobbin winding push-button. Pull threads back under presser foot and cut, leaving about 10 cm. (4").
- Note:** If the bobbin runs out of thread during sewing, rewind it following the above procedure.



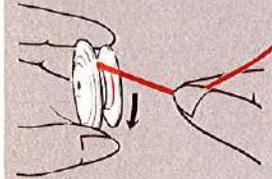
● WINDING SPECIAL THREAD (DIRECT WINDING)



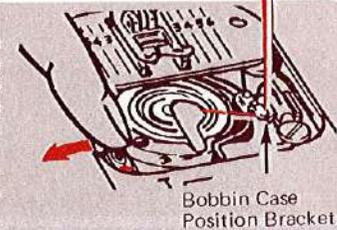
To wind bobbin with special threads such as heavy elastic thread which does not pass through needle eye or weak thread, follow the instructions as shown at left.

Note: Do not attempt to pass thread through any points other than instructed.

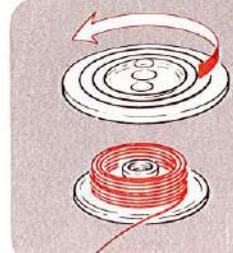
④ Hold an empty bobbin as shown and wrap a few coils of thread securely onto bobbin by hand. Remove tail of thread.



⑤ Place the bobbin into bobbin case with the thread leading off to the underside of the bobbin case position bracket as shown. Press bobbin push button to the left and run the machine. Do not wind thread past FULL ring.



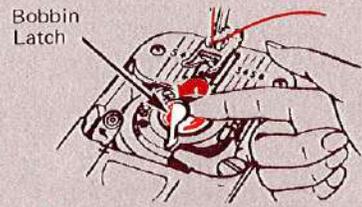
⑥ After winding, remove thread from elongated slot (step 1) and re-thread machine in the usual way.



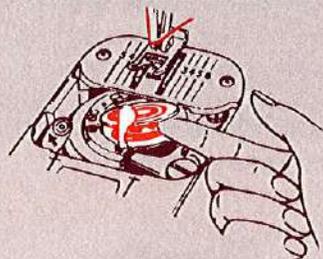
REMOVING THREAD FROM BOBBIN

To remove the thread from bobbin, unscrew the two halves of the bobbin as shown. After removing all the thread, tighten bobbin halves *securely*.

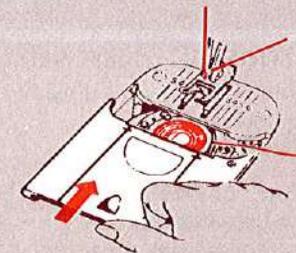
11. CHANGING THE BOBBIN



- Raise needle to its highest point by turning hand wheel towards you, and open slide plate. Then, raise bobbin latch as shown.

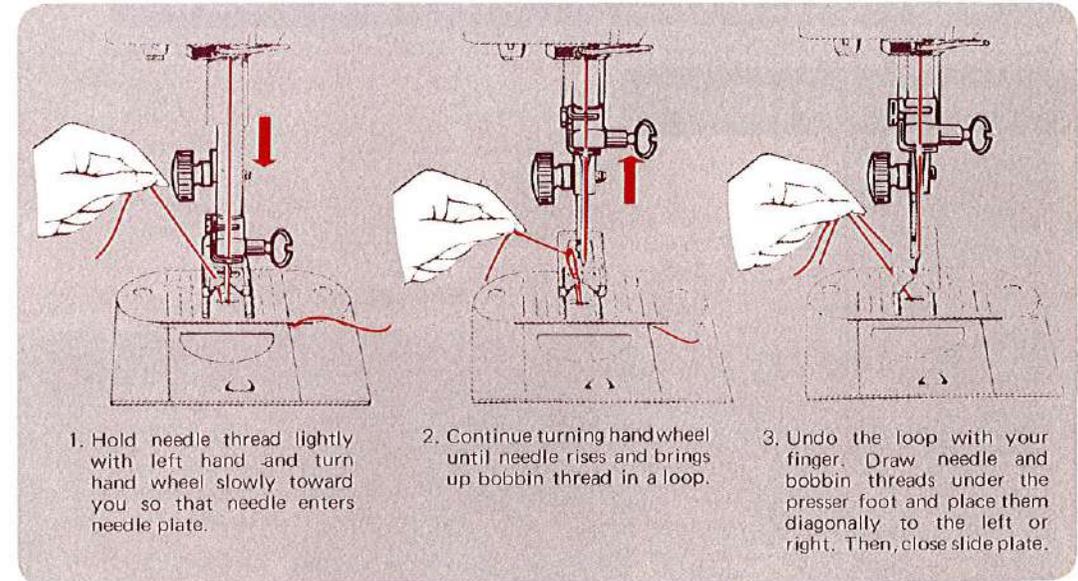


- Lift out bobbin as shown. When replacing, insert it (wide side up) into bobbin case.



- When replacing a previously wound bobbin, place bobbin in bobbin case with thread leading off to the right of the latch. Allow thread to lay in the slot in the slide plate when closed.

12. RAISING THE BOBBIN THREAD



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

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

3. Undo the loop with your finger. Draw needle and bobbin threads under the presser foot and place them diagonally to the left or right. Then, close slide plate.

13. 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 the needle and thread selection.

Refer to it before starting to sew. For best results, use the same size and type of thread in both needle and bobbin.

NEEDLES

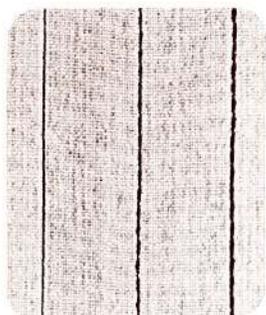
IMPORTANT: Your SINGER sewing machine has been designed to obtain best results with SINGER® needles. You should follow the recommendations in this instruction book or on the needle package for correct style and size of needle for different types and weights of fabric.

Fabrics	Thread Sizes	Needle Sizes
DELICATE — tulle, chiffon, fine lace, silk, organdy	100 Cotton, 80 Silk Fine Synthetic Thread	Cat. 2020 9
LIGHTWEIGHT — batiste, organdy, jersey, voil, taffeta, silk, crepe, plastic film	80 to 100 Cotton 60 to 80 Silk Synthetic Thread	Cat. 2020 9 or 11
MEDIUM WEIGHT — gingham, percale, linen, vinyl, chintz, faille, satin, fine corduroy, suitings, twill	50 to 60 Cotton 40 to 50 Silk Synthetic Thread	Cat. 2020 11 or 14
MEDIUM HEAVY — gabardine, tweed, sailcloth, denim, coatings, drapery fabrics, vinyl, corduroy.	40 to 50 Cotton 40 to 50 Silk Synthetic Thread	Cat. 2020 16
HEAVY — overcoatings, dungaree, canvas, upholstery fabrics, denim.	20 to 40 Cotton Heavy duty mercerized cotton.	Cat. 2020 16 or 18
SYNTHETIC KNITS and STRETCH FABRICS — knit, nylon, tricot, jersey, bonded fabrics, spandex, polyester, etc.	40 to 60 Cotton, 40 to 60 Silk, Polyester Thread, Knitting Thread	Cat. 2045 Yellow-band, 14
ALL WEIGHTS — decorative straight topstitching	20 to 30 Cotton Buttonhole Twist	Cat. 2020 16
LIGHT and MEDIUM WEIGHTS — decorative twin-needle stitching	50 Silk, Synthetic Thread	Cat. 2025 14 (Twin)

For handling special fabrics, see pages 37 and 38.

4. SEWING WITH A GOLDEN TOUCH

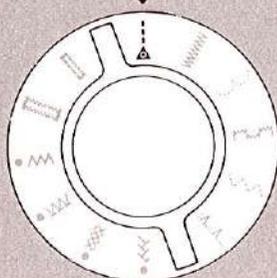
STRAIGHT STITCHING



MACHINE SETTINGS

Pattern Selector Dial

- Raise needle above fabric.
- Rotate the pattern selector dial to align the 1 (straight stitch pattern) with the diamond symbol.

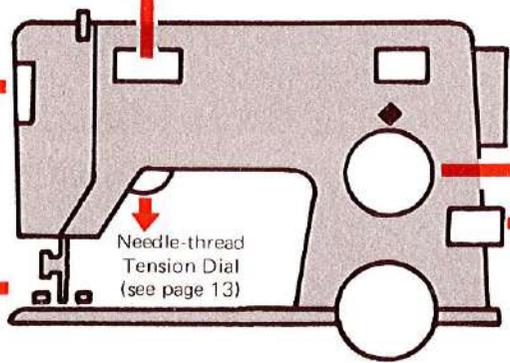


Pressure Regulating Dial



Set dial to NORM. (normal) position. (See pages 7 and 33)

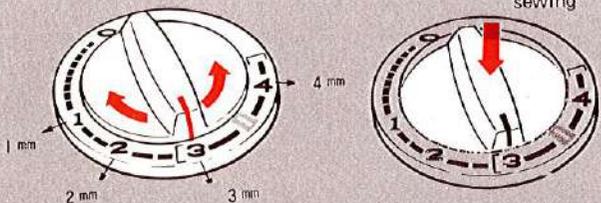
Stitch Width Dial (Any setting)



Needle-thread Tension Dial (see page 13)

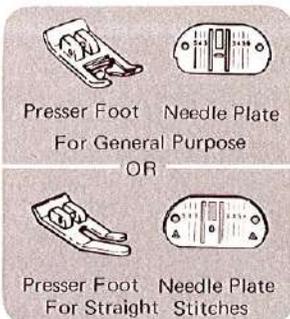
Machine Speed FAST SLOW or Ranges

Stitch Length Dial



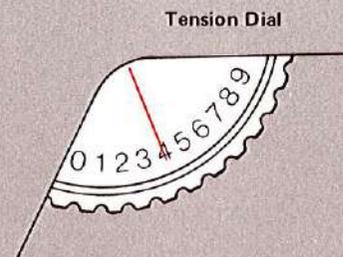
Set stitch length dial on the number desired between 1 and 4. The numbers represent stitch length in millimeters.

For reverse sewing, press the dial all the way down and hold in place as long as you wish to sew in reverse.



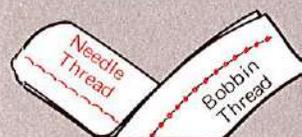
TO REGULATE NEEDLE THREAD TENSION

The Tension Dial regulates the degree of tension on your needle thread. For a trial seam on medium weight fabrics, set the tension dial to approx. 3 to 5.



- If the stitches on the underside of fabric are loose or looping, increase tension by turning the dial to a higher number.
- If the stitches on top of fabric are loose, appearing as if thread is just laying on surface, decrease tension to a lower number.
- If the fabric puckers, decrease tension to a lower number.
- When tension is set correctly, stitches should appear similar on both top and bottom of fabric.

Too Little Tension



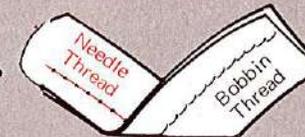
Lower stitches look loose

Correct Tension



Upper and lower stitches look the same

Too Much Tension

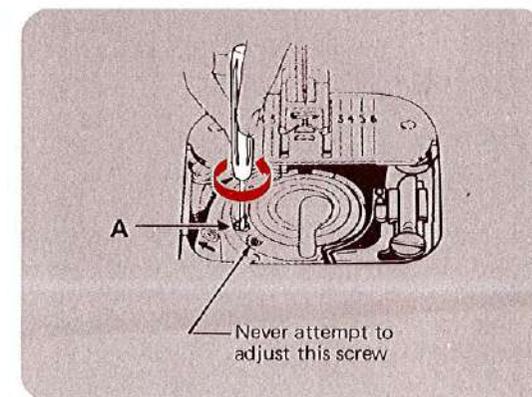


Upper stitches look loose

TO REGULATE BOBBIN THREAD TENSION

The bobbin thread tension has been set at the factory for most types of stitching. For fine fabrics, we recommend to reduce tension by turning screw A anti-clockwise as far as possible, using the small screwdriver furnished with your accessories. Always return screw A to its position for regular sewing.

Note: In most cases, correct tension can be obtained by adjusting the needle thread tension dial only.



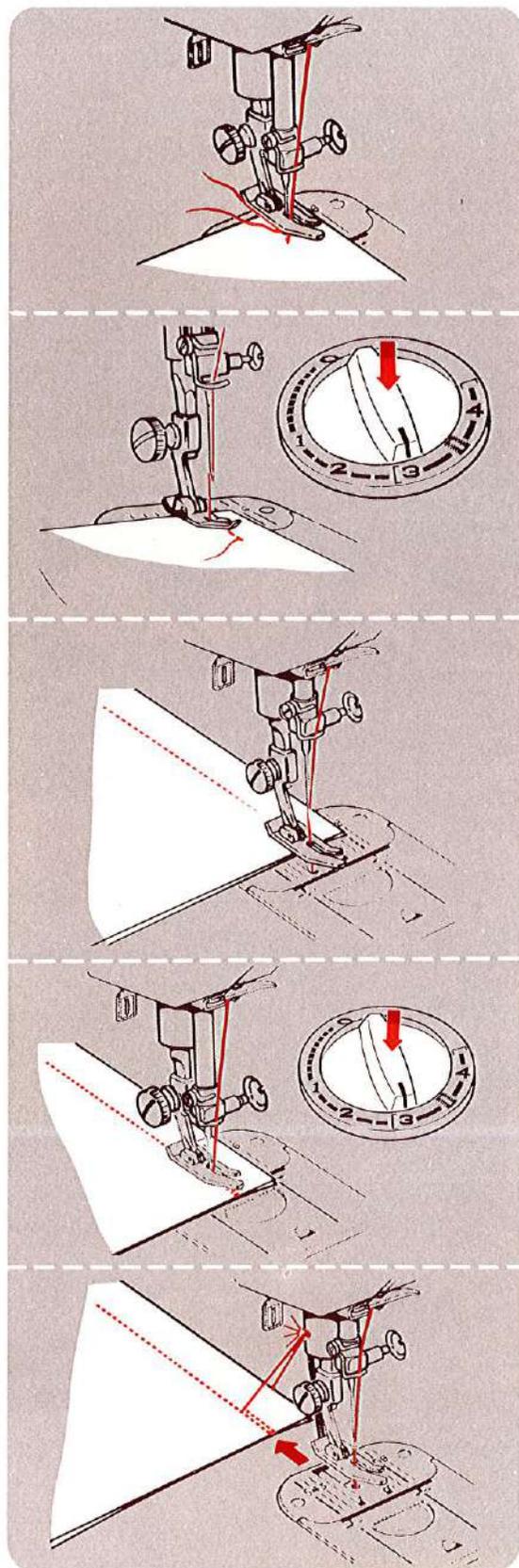
HOW TO SEW A SEAM

1. Position needle in fabric about 1 cm (3/8") from the edge. Always leave at least 10 cm (4") of thread laying diagonally behind the foot.
2. Lower presser foot. Press the stitch length dial all the way down and while holding it by hand, backstitch to the edge of fabric for reinforcement.
3. Release the stitch length dial for forward stitching and stitch to end of seam.
4. Press the stitch length dial and while holding the dial in place, backstitch approximately 1 cm (3/8") to reinforce end of seam.

5. Raise take-up lever to highest point by turning hand wheel towards you. Raise presser foot and remove fabric. Cut threads on thread cutter at rear of presser bar.

Note:

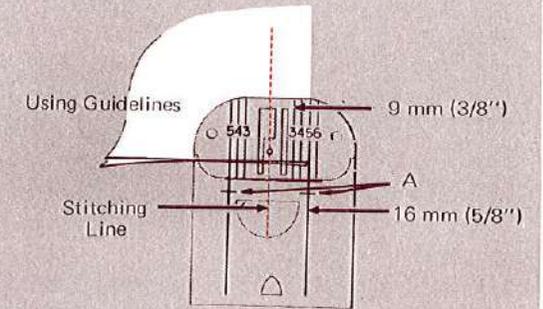
1. Do not pull the fabric while you are stitching as this may deflect the needle, causing it to break.
2. For instructions on handling stretchable fabrics, see page 33.



TO KEEP SEAMS STRAIGHT

Using Guidelines on Needle Plate

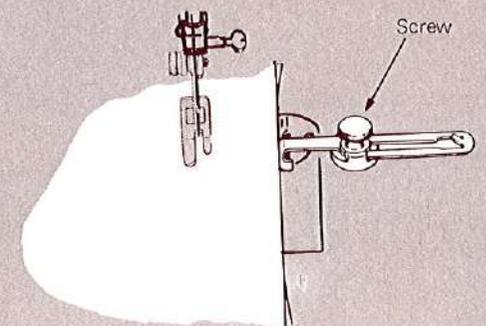
To keep the seam straight, use one of the numbered guidelines on the needle plate. Line 5, the most commonly used, is extended on the slide plate for your convenience. The crosslines A serve as guides when stitching a square corner.



Using Seam Guide

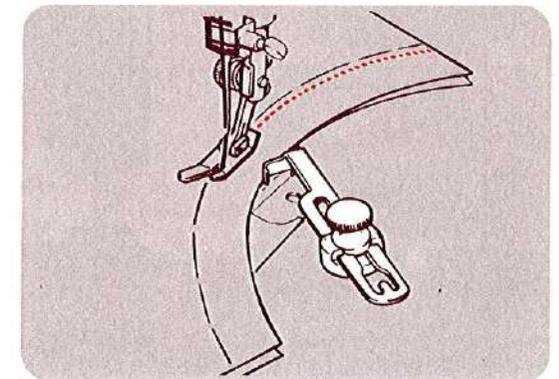
To Attach the Guide, place screw in hole in bed to the right of the slide plate; line up straight edge of guide with the needle plate guideline for desired seam width; and tighten the screw.

Because it allows you to guide stitches evenly between 3 mm (1/8") and 32 mm (1-1/4") from the fabric edge, it is particularly useful for very narrow or very wide seams.



CURVED SEAMS

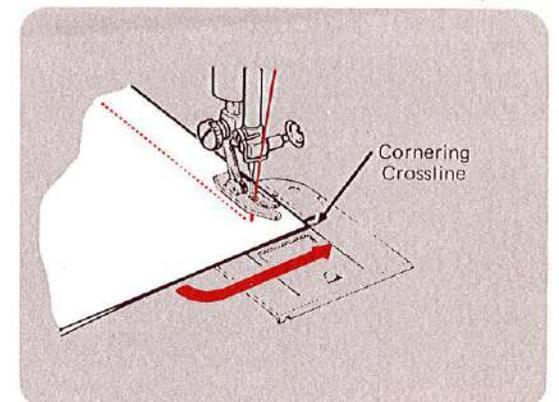
Use a short stitch for elasticity and strength. If you use the seam guide, attach it at an angle so that the edge that is closer to the needle acts as a guide.



TO TURN SQUARE CORNERS

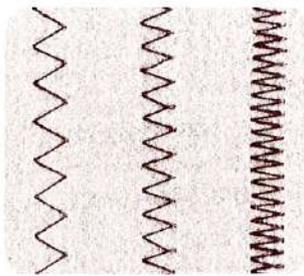
To turn a square corner 1.6 cm (5/8") from fabric edge, simply use the crosslines on the slide plate.

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



ZIG-ZAG STITCHING

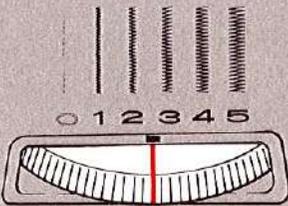
MACHINE SETTINGS



- Raise needle above fabric before adjusting stitch width and selecting patterns.

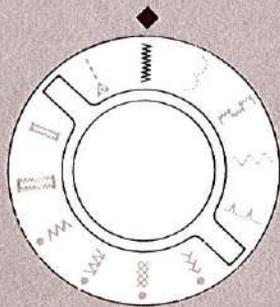
Stitch Width Dial

To produce a zig-zag stitch, rotate stitch width dial to any setting between 1 and 5.

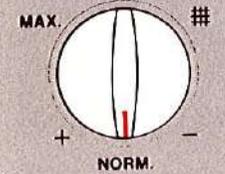


Pattern Selector Dial

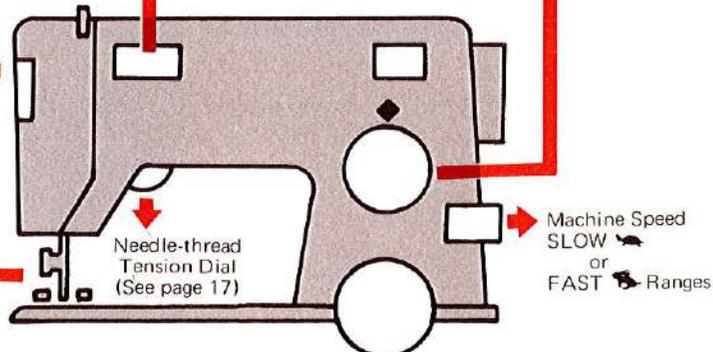
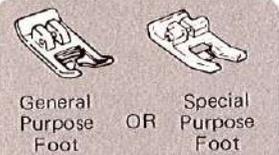
Rotate the dial to align with ♦ symbol.



Pressure Regulating Dial

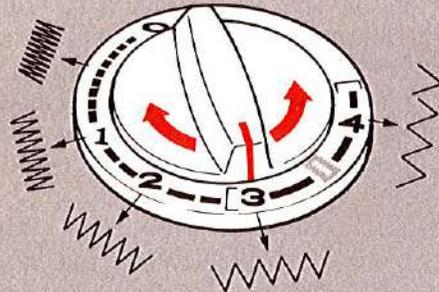


Set dial to NORM. (normal) position (See page 7 and 33)



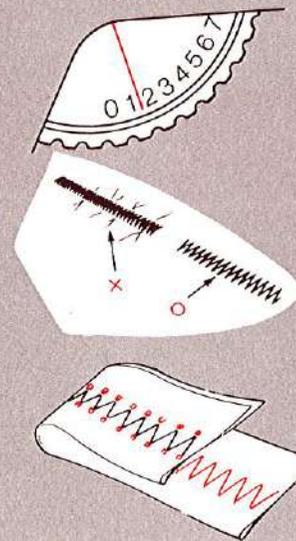
Stitch Length Dial

When sewing plain open zig-zag stitches, set the stitch length dial between 1 and 4. The higher the number, the more open or farther apart, your stitches will be. When sewing satin stitches (closely spaced zig-zag stitches) and closed decorative patterns, rotate the dial from 1 toward 0.



TO REGULATE NEEDLE THREAD TENSION

Needle Thread Tension Dial



(For Zig-Zag and Flexi-Stitch Patterns)

Open zig-zag stitching usually requires less tension than straight stitching.

Satin stitching, a series of closely spaced zig-zag stitches, requires less tension than straight stitching or open zig-zag stitching.

The stitches should lie flat on the fabric without causing the fabric to pucker.

- If the stitches look loose, increase tension by turning the dial to a higher number.
- If the stitches pucker, decrease tension by turning the dial to a lower number.

TO REGULATE BOBBIN THREAD TENSION

Follow instructions given on page 13. For a balanced open zig-zag stitch where both bobbin and needle threads lock at the corner of each stitch, turn screw A anti-clockwise as far as it will go. Always return screw A to its position for regular sewing.

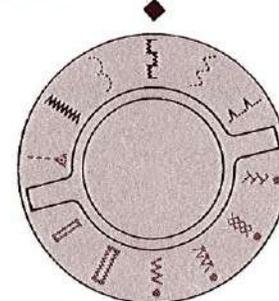
SEWING ZIG-ZAG STITCH PATTERNS

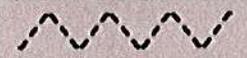
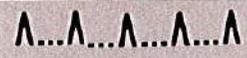
Your machine produces the zig-zag stitch patterns as shown below.

Some you will use for functional purposes, others are purely decorative.

To Select The Pattern

1. Always raise needle above fabric by turning hand wheel toward you.
2. Rotate the pattern selector dial to align the desired pattern with ♦ symbol as shown below.



Patterns	Applications
 Plain Zig-zag Stitch	Used for normal zig-zag stitching, bar tacks, etc.
 Scallop Stitch	Produces evenly spaced and perfectly formed scallops for decorative trims.
 Domino Stitch	A decorative pattern for single and twin needle work.
 Multi-Stitch Zig-zag	For mending, joining and reinforcing.
 Blindstitch	Ideal for finishing hems and for shell tucking.

SEWING FLEXI-STITCH PATTERNS

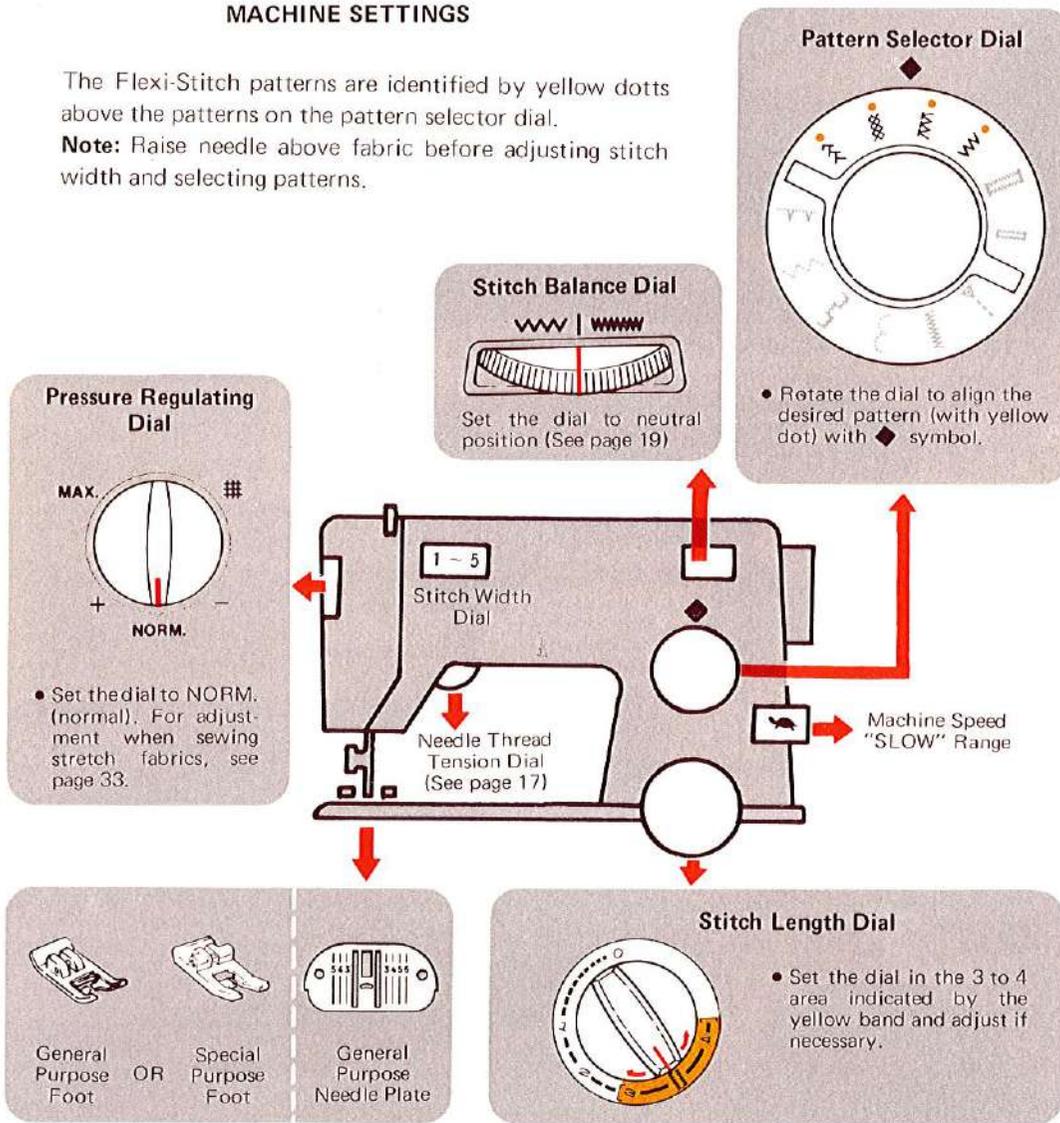
In addition to the zig-zag stitch patterns, the Flexi-Stitch patterns shown on page 19 are produced by your machine. These patterns produce a variety of stitches by causing the fabric to move backwards and forwards

automatically. Each of these stitches are useful for producing stretchable stitches for knits and other stretch fabrics. Also intricate stitch designs for decorative and functional uses.

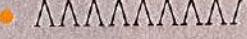
MACHINE SETTINGS

The Flexi-Stitch patterns are identified by yellow dots above the patterns on the pattern selector dial.

Note: Raise needle above fabric before adjusting stitch width and selecting patterns.



*It is recommended to use a Yellow Band needle, No. 2045 when sewing knits or stretch fabrics.

Patterns	Applications
 Feather Stitch	Use it for stretchable straight stitch (Stitch Width at "0") seams in knit and stretch fabrics. Ideal for fagotting.
 Honeycomb Stitch	Used for attaching elastic and stretch lace.
 Overedge Stretch Stitch	Used for joining and overedging seams in knit and stretch fabrics in one operation.
 Ric-Rac Stitch	For heavy-duty, general purpose stretch sewing.

TO BALANCE FLEXI-STITCHES

To change the appearance of a Flexi-Stitch pattern, adjust the stitch balance dial. Before you move the dial from its neutral position, make a test sample. If adjustment is required, stitch slowly and move the stitch balance dial in either direction, as you sew, until desired pattern appearance is obtained. Always return the dial to neutral position after sewing Flexi-Stitch patterns.

Stitch Balance Dial

Incorrect → Correct

Move dial slowly to the right (▶) to bring stitches together.

Incorrect → Correct

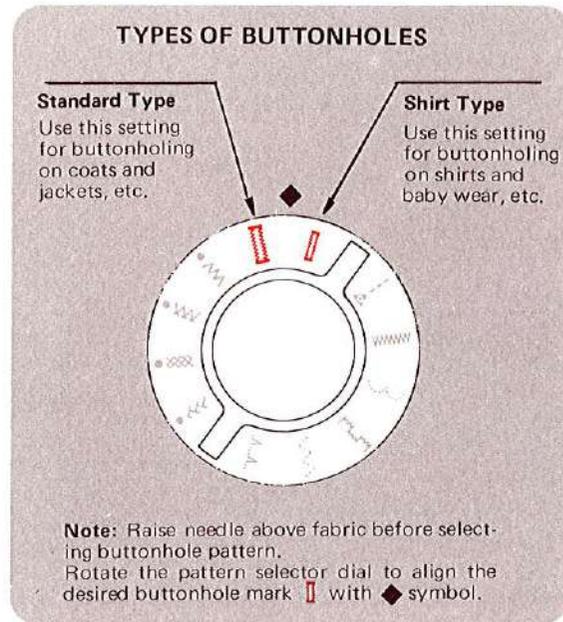
Move dial slowly to the left (◀) to separate stitches

BUTTONHOLES



Your machine offers you two types of bartack buttonholes and two buttonholing methods. Before deciding which of the two methods to use, you should measure your button and make a test buttonhole.

- **One-Step Method** for flat buttons up to 3.4 cm (1-3/8") in diameter.
- **Two-Step Method** for buttons larger than 3.4 cm (1-3/8") across or for buttons of unusual shape or thickness.



ONE-STEP BUTTONHOLING

For flat buttons up to 3.4 cm (1-3/8") across, use the one-step method.

MACHINE SETTINGS

Stitch Width Dial

For Standard Type
Buttonholes – 2 to 2.5

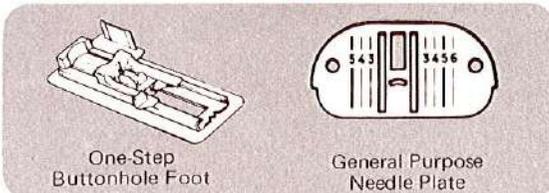
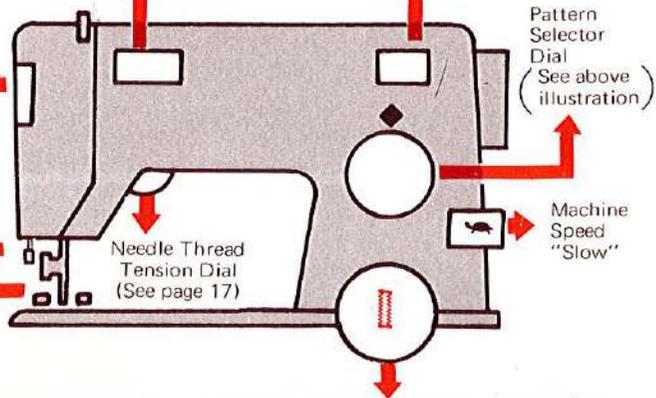
For Shirt Type
Buttonhole – 1.5 to 2
If adjustment is required, see page 25.

Stitch Balance Dial

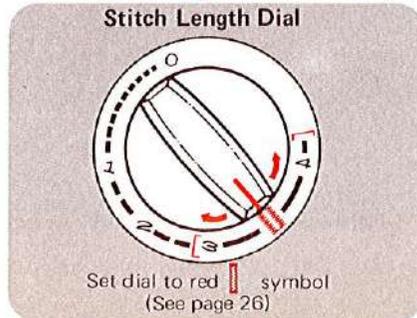
Set dial to neutral position (See page 26)



Pressure Regulating Dial (See pages 7 and 33)



Note: For instructions on attaching the one-step buttonhole foot, see page 21.



BUTTONHOLE POSITION ON GARMENT

Accurate guidelines are essential to keep buttonholes at a uniform distance from the garment edge, evenly spaced, and on the grain of the material. For centre closures, place guidelines as follows:

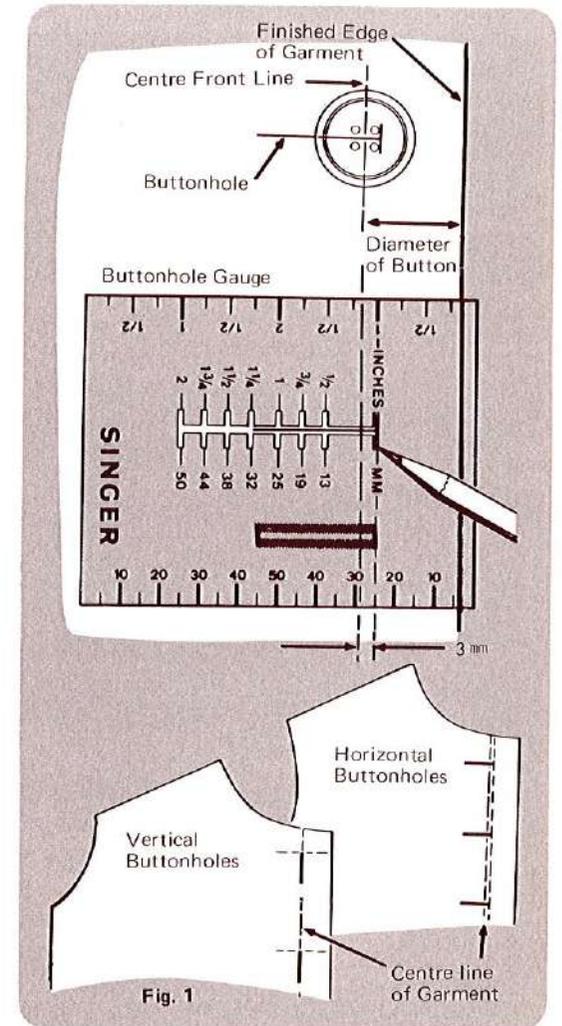
- (1) Mark centre front line on the garment. This guideline can be made by hand or machine basting.
- (2) Mark a position guideline for each buttonhole. With the buttonhole gauge, mark the start and centre line of each buttonhole.

For Horizontal Buttonholes:

Place cut-out slot of gage to the marked position and slide towards garment edge, thus extending 3 mm (1/8") beyond centre front line as illustrated. Mark start and centre line through the cut-out slots.

For Vertical Buttonholes:

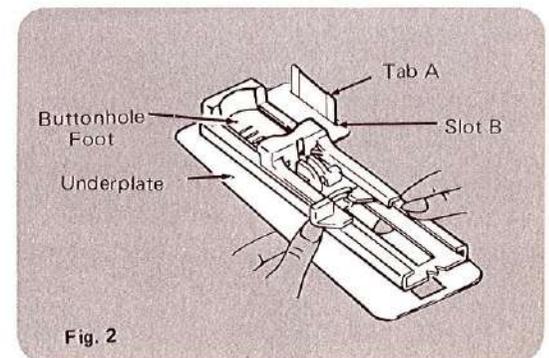
Centre front line should run through centre of buttonhole. Only the start of the buttonhole need to be marked.



PREPARATION AND PROCEDURE

Note: Before making a buttonhole on a garment, a sample buttonhole should be tested on same density of fabric and all adjustments should be made prior to putting buttonholes on a garment.

1. Remove presser foot and attach one-step buttonhole foot to the machine. When sewing lightweight and knit fabrics such as thin muslin and nylon tricot, we recommend removing underplate from the foot. Assemble underplate to the one-step buttonhole foot with tab A entering slot B in the foot. (See Fig. 2) Then, attach the foot to the machine as instructed on page 6.



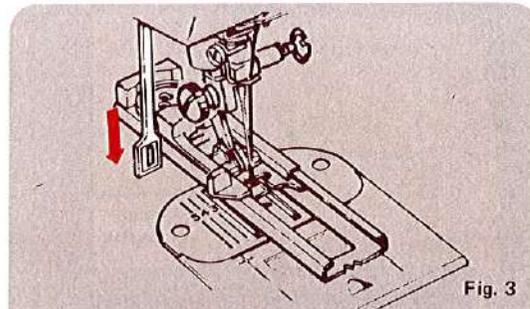


Fig. 3

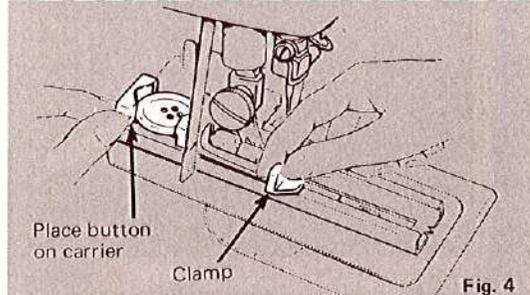


Fig. 4

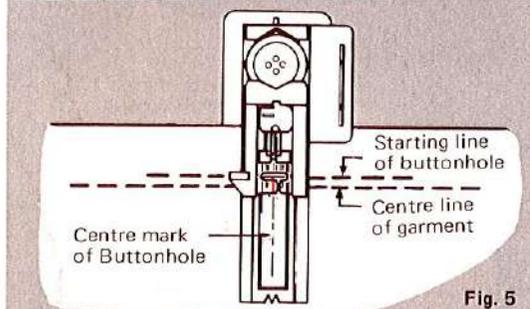


Fig. 5

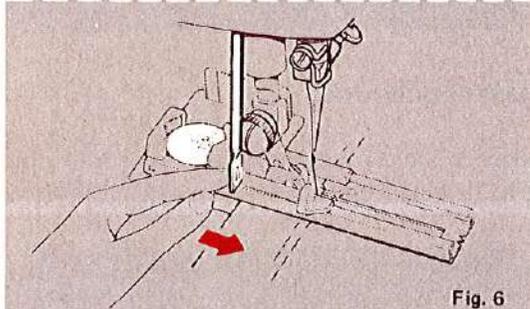


Fig. 6

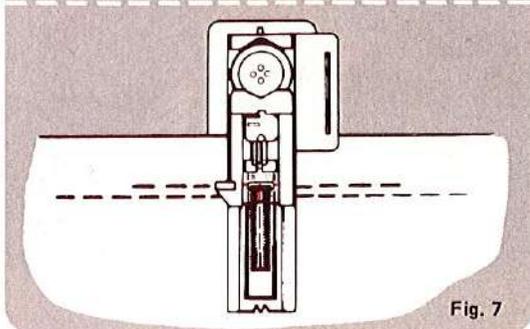


Fig. 7

2. Pull down buttonhole lever. (See Fig. 3)
3. Set the machine for buttonhole stitching as shown on page 20.

Note: Fill bobbin with enough thread to complete buttonholes. (The bobbin can not be conveniently filled after buttonhole foot is attached.)

4. Place the button on the button carrier of the buttonhole foot and slide clamp toward back to secure button. (See Fig. 4)

5. Draw needle and bobbin threads under foot to back of machine.

6. Place garment between buttonhole foot and underplate; align buttonhole starting line on the fabric with red horizontal guideline on the foot. Align centre marking of buttonhole with the vertical guideline on the foot. (See Fig. 5)

7. Press buttonhole lever toward you. (See Fig. 6)

8. Run machine at a moderate speed and let it stitch the entire buttonhole. Stop machine when stitching starts to overlap the starting bar-tack (See Fig. 7). With needle above fabric, move stitch width dial to 0 setting and take one or two fastening stitches.

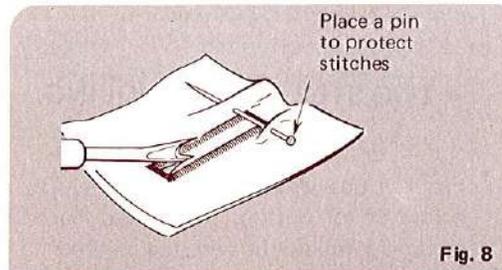


Fig. 8

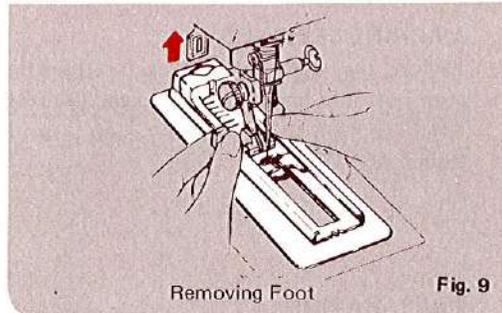


Fig. 9

9. Remove work from machine, clip thread ends, and cut button opening with the seam ripper or a pair of small sharp scissors. (Fig. 8).

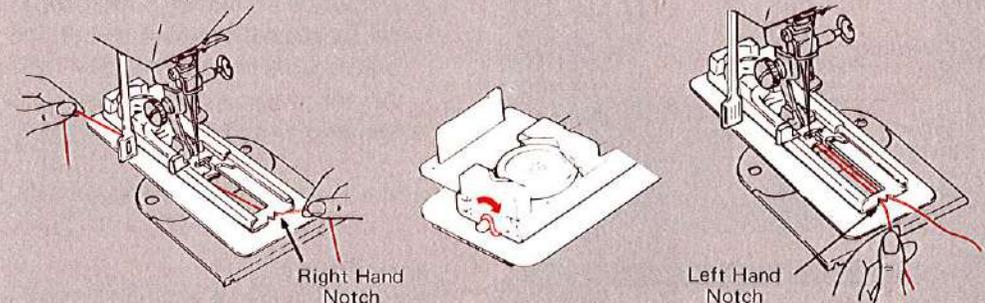
When buttonholes are completed, push buttonhole lever up into machine and reset dials for regular sewing.

TO REMOVE BUTTONHOLE FOOT

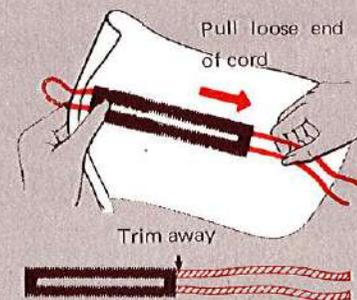
To remove, press down on the button carrier on either side of the presser foot shank. (See Fig. 9)

Corded Buttonholes (One-Step Method)

Soft threads used for embroidery and crocheting make suitable filler cords for raised buttonholes. A fine pearl cotton or silk buttonhole twist can also be used.



1. Raise foot. Hold filler cord in both hands, and insert it between foot and underplate from left side. Insert one end of the cord in right hand notch at the front of the foot.
2. Lead the cord back under the foot and loop it over the cord spur from right to left.
3. Bring cord between foot and underplate back to the front of the foot and secure end in left hand notch.



4. Sew buttonhole in the usual way. When buttonhole is completed, remove work from the machine. Hold end of buttonhole where cord is looped with one hand and pull the loose ends of the cord firmly to draw the surplus loop of cord back through the buttonhole. Then, trim away ends of cord.

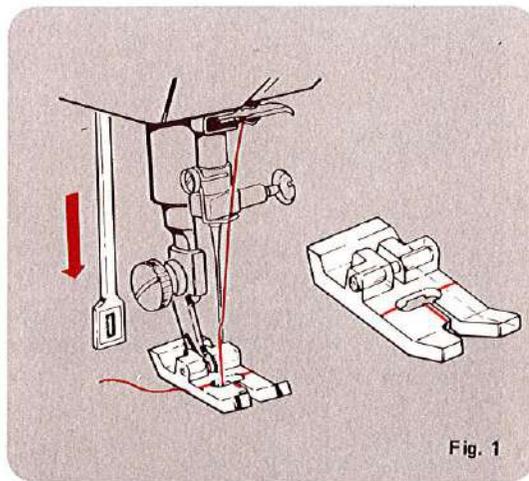


Fig. 1

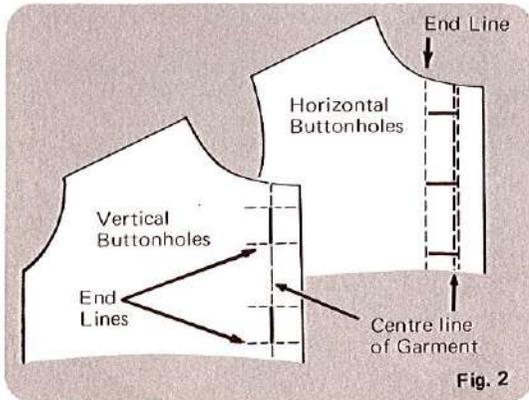


Fig. 2

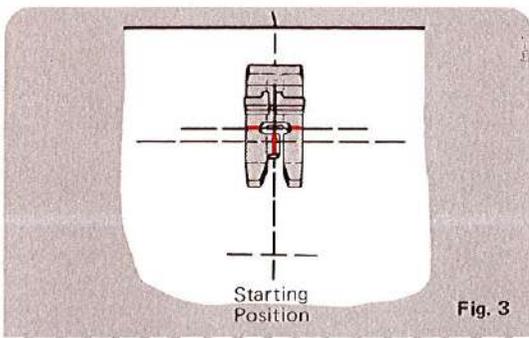


Fig. 3

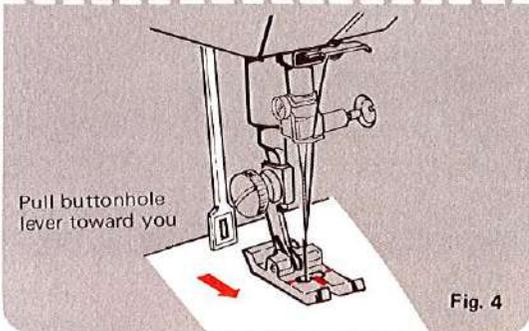


Fig. 4

• TWO-STEP BUTTONHOLING

For buttons larger than 3.4 cm (1-3/8") across or for buttons of unusual shape or thickness, follow the two-step method.

MACHINE SETTINGS

Follow the same settings as for the one-step buttonholing shown on page 20, with the exception of using a two-step buttonhole foot.

PREPARATION

1. Attach the two-step buttonhole foot to the machine and pull down buttonhole lever. (See Fig. 1)
2. Determine length of button and mark the start and end lines of buttonholes on the garment. (See Fig. 2) Always make a test buttonhole on a sample of your fabric.

PROCEDURE

1. Draw needle and bobbin threads under foot to back of machine.
2. Place garment under the buttonhole foot so that the buttonhole start line on the garment is aligned with red guideline on the foot. (See Fig. 3). Lower the foot.
3. Press buttonhole lever toward you. (See Fig. 4)

4. Start machine and let it complete step 1 (first leg) of the buttonhole cycle. Stop machine just before guideline on buttonhole foot reaches end of buttonhole guideline on garment. (See Fig. 5)

5. Press buttonhole lever away from you. (See Fig. 6)

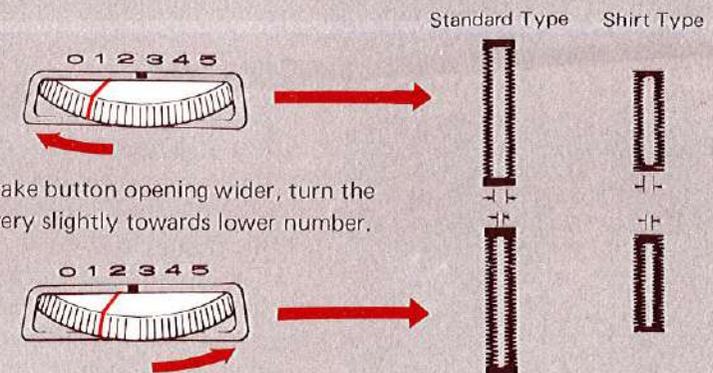
6. Start machine and let it complete step 2 (second leg) of the buttonhole cycle. Stop sewing when stitching reaches starting bar tack. (See Fig. 7) With needle above fabric, move stitch width dial to 0 position and take one or two fastening stitches.

7. Raise needle to its highest position and raise presser foot. Remove work from machine, clip thread ends, and cut button opening.

• BUTTONHOLE ADJUSTMENT

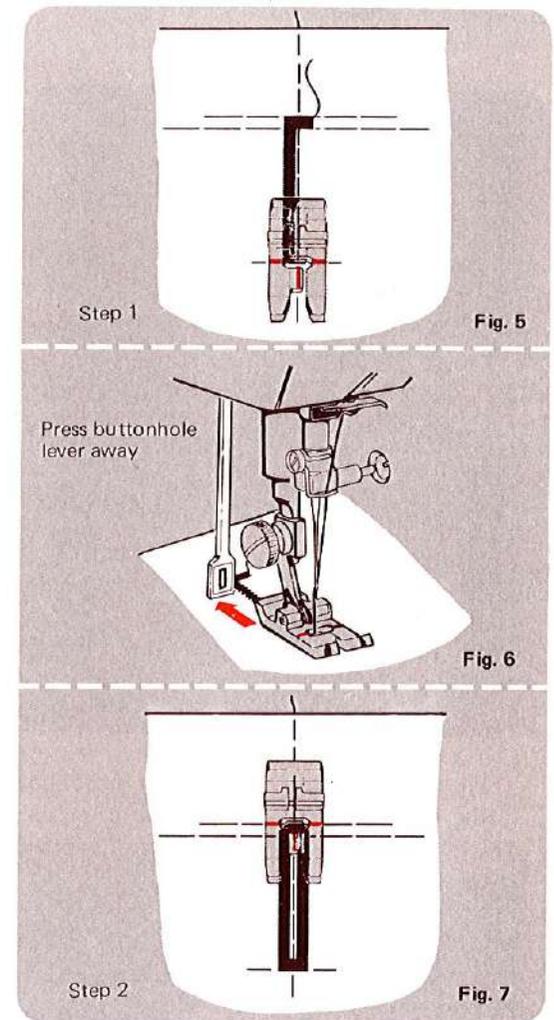
Adjusting Width of Button Opening

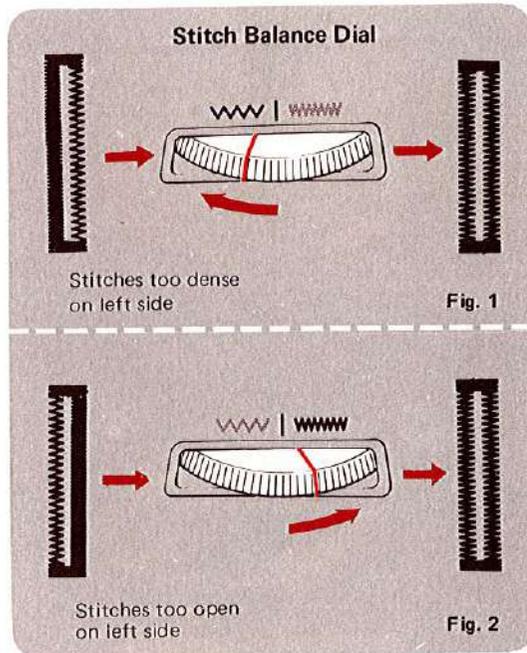
The width of button opening is regulated by the Stitch Width Dial.



To make button opening wider, turn the dial very slightly towards lower number.

To make button opening narrower, turn the dial very slightly towards higher number.





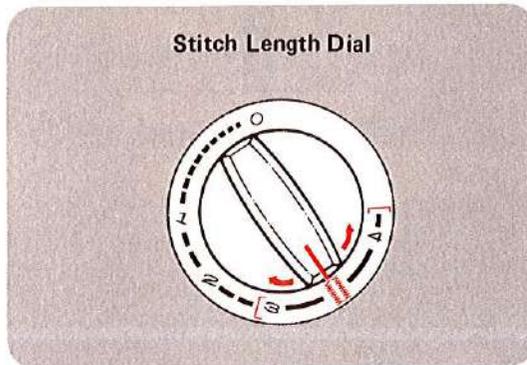
Adjusting Stitch Balance

Stitch density on left and right sides of the buttonhole is balanced with the Stitch Balance Dial.

A slight movement of the dial produces a noticeable change in density.

- If the stitches on the left side of the buttonhole are too dense, turn the balance dial to the left (toward W) while sewing the first leg of the buttonhole until you obtain the appearance of the stitch to your liking. (See Fig. 1)
- If the stitches on the left side are too open, turn the balance dial to the right (toward WWW) while sewing the first leg of the buttonhole until you obtain the appearance of the stitch to your liking. (See Fig. 2)

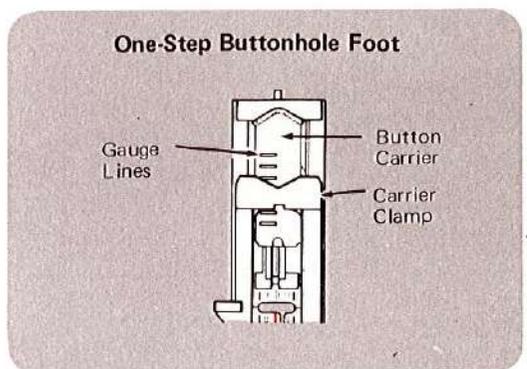
When you are satisfied that the buttonhole has an equalized appearance, that is, appear the same number of stitches on each side, you can increase or decrease the number of stitches on each side by using the stitch length dial as instructed below.



Adjusting Stitch Length

Buttonhole stitch length is regulated by stitch length dial. Set it to suit your fabric within the red bracketed area. Generally, short stitches are best for lightweight, woven fabric; longer ones for heavier fabric and knits. Set dial in center of buttonhole symbol for your test buttonhole.

- For shorter stitches, turn dial toward 3.
- For longer stitches, turn dial toward 4.

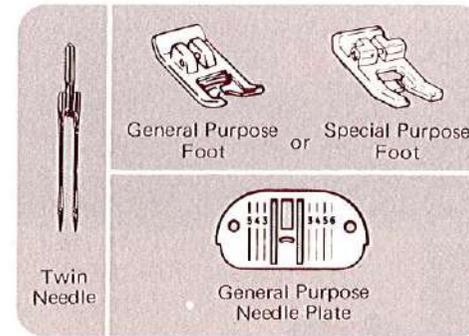


Adjusting Length of Button Opening

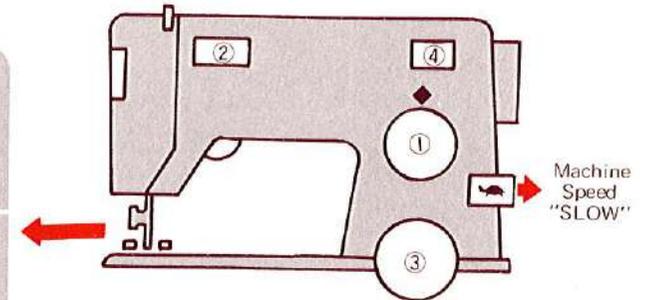
The length of button opening in one-step buttonholes is controlled by button carrier clamp. If the button will not pass through the button opening of your test buttonhole, remove button from the carrier and slide clamp forward. Use gauge lines on the carrier to set length and stitch buttonhole without a button. If the button opening is not long enough for the button when the clamp is set in its farthest forward position, use the two-step method. See page 24.

TWIN-NEEDLE SEWING

By using a twin-needle, you can produce simultaneously two parallel, closely spaced lines of straight or zig-zag stitching.



MACHINE SETTINGS

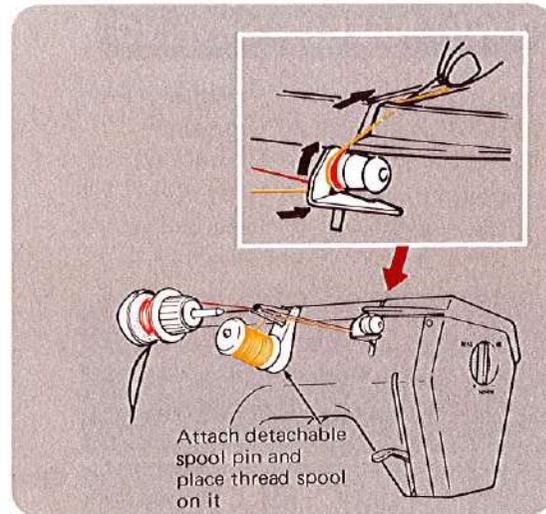
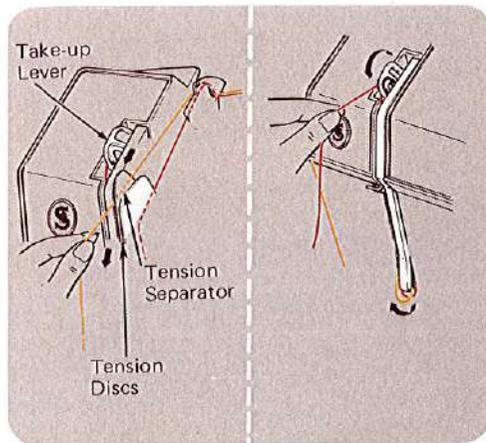


For machine settings, see table below.

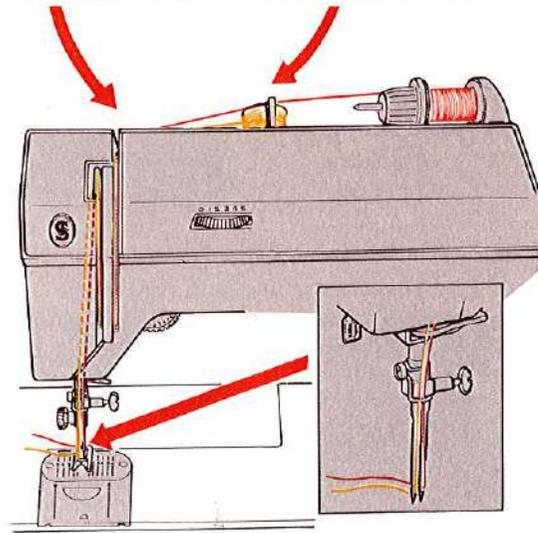
EXAMPLES OF DECORATIVE TWIN-NEEDLE SEWING

① To produce patterns at right, use settings shown below.						
② Stitch Width Dial	1 ~ 4 Max.	2 ~ 2.5 Max.	2 ~ 2.5 Max.	2 ~ 2.5 Max.	2 ~ 2.5 Max.	2 ~ 2.5 Max.
③ Stitch Length Dial	1 ~ 4	0.5 ~ 2	1 ~ 3	1 ~ 3	3 ~ 4 (Yellow Area)	3 ~ 4 (Yellow Area)
④ Stitch Balance Dial (See page 19)					Adjust if necessary	Adjust if necessary

TO THREAD THE NEEDLE



Note: Dotted lines in the illustrations show concealed thread path.



Raise the presser foot.

1. Thread the machine with the first spool of thread in the usual way, making certain it passes between tension separator and *right* hand tension disc, and through *right* eye of needle.
2. Place second spool of thread on the detachable spool pin and pass thread through the *elongated* slot of upper thread guide. Pass thread between tension separator and *left* hand tension disc and through *left* eye of needle. Lead thread through all other points as you did with the first thread.

TO SEW A SEAM

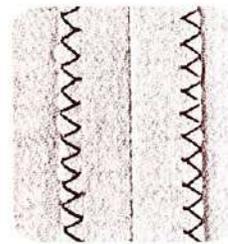
Note:

- Wind as many bobbins as you will need with a regular needle. You can not wind a bobbin using a twin-needle.
- Soft fabrics should be sewn with a firm fabric backing, or paper backing which can be removed after stitching.
- After twin-needle stitching is completed, remove twin-needle and detachable spool pin.

Start sewing in the same way as for one-needle stitching. When turning a corner, be sure to raise needle from fabric.

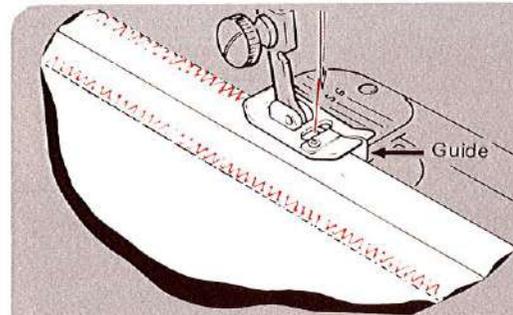
5. SEWING THE PROFESSIONAL WAY

OVEREDGED SEAMS

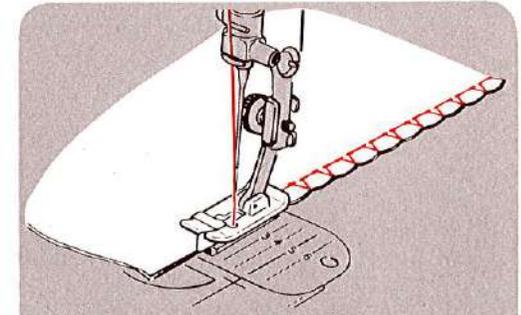


The overedge foot furnished with your machine helps to guide seam stitching straight and parallel to the edge of the fabric.

Stitch Patterns Used			
Machine Settings	Plain Zig-zag stitch	Overedge stretch	Multi-stitch zig-zag
Stitch Width Dial	5 only	5 only	3 to 5
Stitch Length Dial	1 to 3	3 to 4 (Yellow Area)	1 to 3
Presser Foot		Overedge Foot	General Purpose Foot
Needle Plate		General Purpose Needle Plate	



Trim fabric edges evenly. Guide the fabric edges lightly against the guide of the foot while sewing.

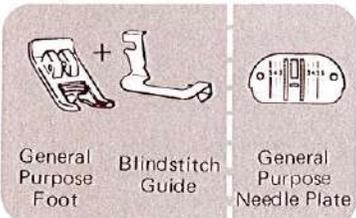
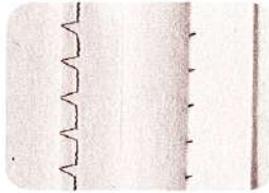


Seams in knit and stretch fabric can be joined and finished in one operation when using the overedge stretch stitch.

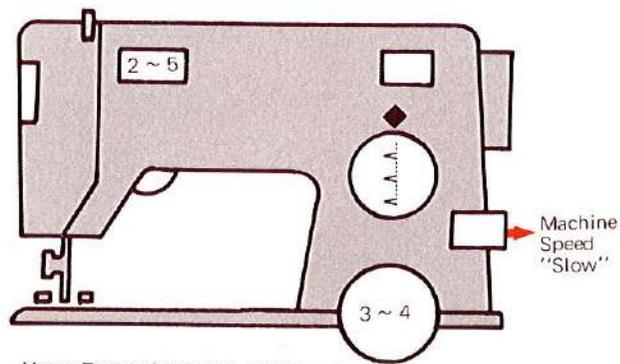
CAUTION:

1. Be sure to set the stitch width at 5 only when using the Overedge Foot.
2. The Overedge Foot can not be used with the Multi-stitch zig-zag pattern.
3. When overedging, set the machine speed to "SLOW" range.
4. Make sure the garment being made fits correctly before trimming and turning to approx. 5 mm (1/4"). Corrections can not be made after sewing.
5. The overedge foot should be removed if the bobbin is to be wound.

BLINDSTITCHING



MACHINE SETTINGS

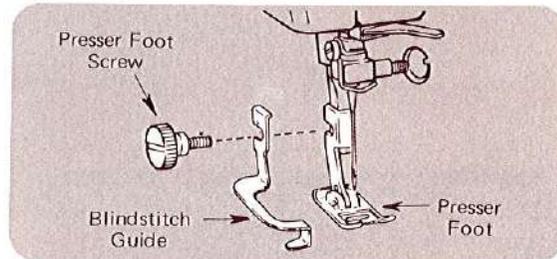


Note: Determine stitch width and stitch length to suit fabric used.

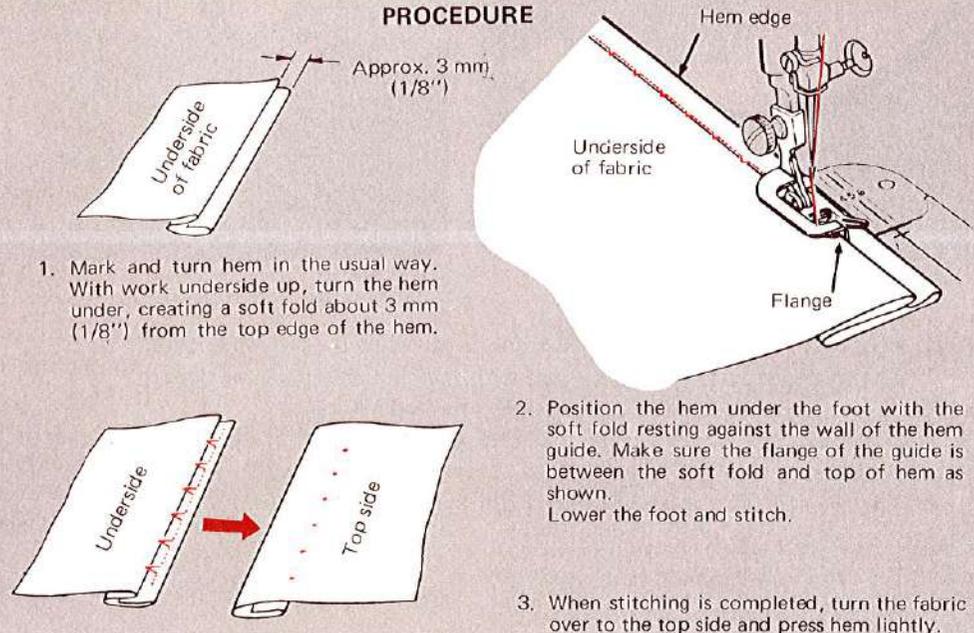
Blindstitching provides a durable hem finish that is almost invisible and is best suited for curtains, draperies, table lines and skirts, etc.

TO ATTACH THE BLINDSTITCH GUIDE

Raise presser foot, loosen presser foot screw, slip blindstitch guide between the screw and the shank of the presser foot, and tighten the screw as shown at right.



PROCEDURE

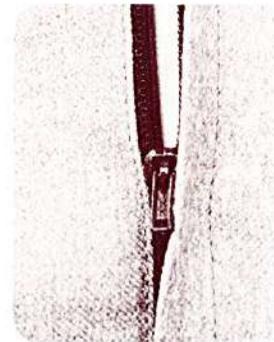


1. Mark and turn hem in the usual way. With work underside up, turn the hem under, creating a soft fold about 3 mm (1/8") from the top edge of the hem.

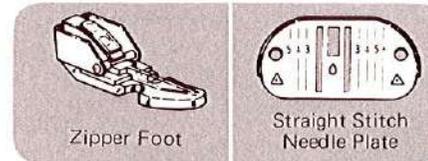
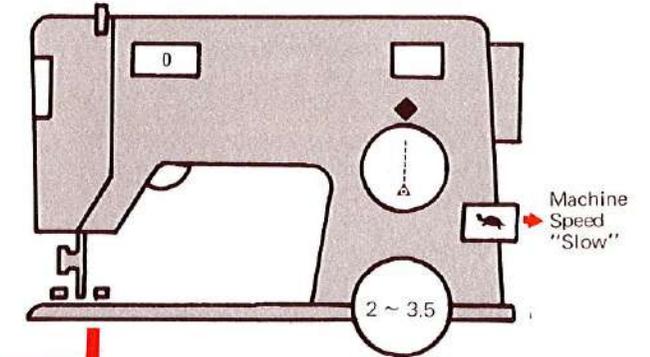
2. Position the hem under the foot with the soft fold resting against the wall of the hem guide. Make sure the flange of the guide is between the soft fold and top of hem as shown. Lower the foot and stitch.

3. When stitching is completed, turn the fabric over to the top side and press hem lightly.

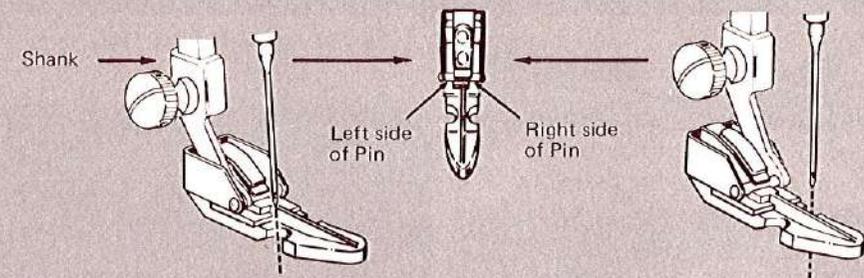
ZIPPER INSERTION



MACHINE SETTINGS

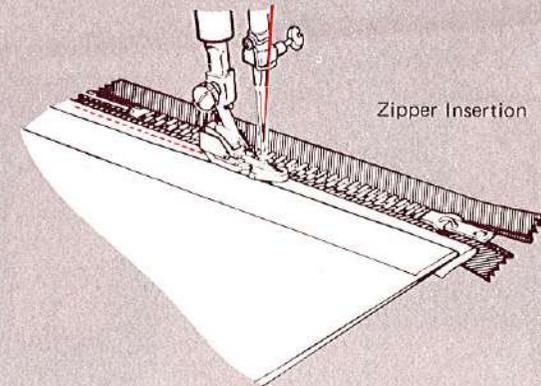


TO ATTACH THE ZIPPER FOOT



When the Zipper is to the left of the needle:
Place the zipper foot under the foot shank and lower the presser bar to allow the shank to fit over the pin on the left side of the zipper foot, so that the needle will enter the left notch in foot.

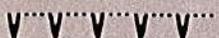
When the Zipper is to the right of the needle:
Place the zipper foot under the foot shank and lower the presser bar to allow the shank to fit over the pin on the right side of the zipper foot, so that the needle will enter the right notch in foot.



STRETCH STITCHING

When you sew stretch fabrics, double knits, tricot and jersey, choose one of the stitch patterns that build stretch into the seam. The table below shows stitch patterns

which are useful for practical stretch sewing. Remember to use a Yellow Band needle No. 2045 when sewing knits or stretch fabrics.

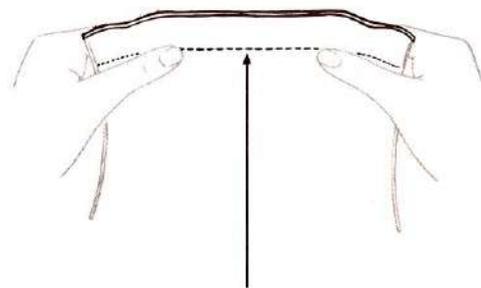
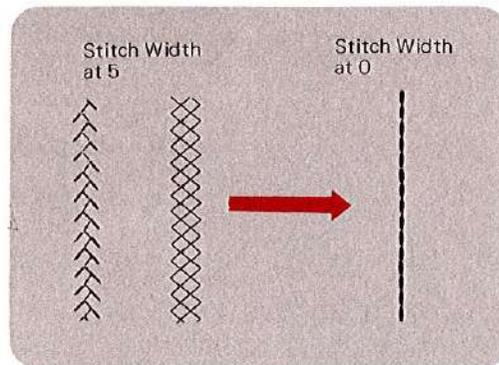
	Multi-Stitch Zig-zag	For mending and reinforcing. Attaching elastic and stretch lace.
	Blindstitch	Flexible blindstitch hemming. Shell hems in lingerie.
	Feather Stitch †	Attaching stretch lace. For fagotting and embroidery, etc.
	Honeycomb Stitch †	Ideal for attaching elastic and stretch lace.
	Overedge Stretch Stitch †	Overedge seams that stretch. Joining and overedging in one operation.
	Ric-Rac Stitch †	Heavy-duty, general purpose stretch sewing-Reversible topstitching.

† See pages 18 and 19.

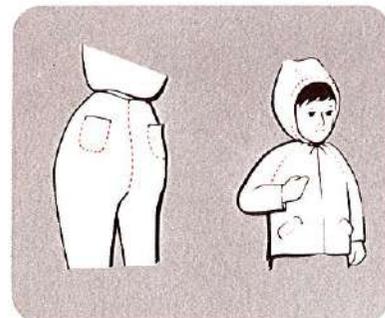
• Straight Stretch Stitches

When you use the Feather stitch or Honeycomb stitch at 0 stitch width setting, a straight stretch stitch can be produced as shown at right.

This stitch can be used on sections of your work where stress will be exerted on a seam, e.g. armholes, pockets, back yoke seams, children's playwear, all sports or active wear garments.



Straight Stretch Seams

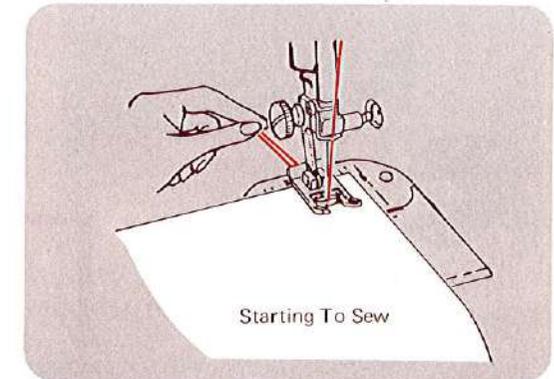


• SEWING STRETCHABLE FABRICS

Starting to Sew Using A

Flexi-Stitch Pattern

Draw needle and bobbin threads under foot to back of machine. Hold thread ends and position needle in fabric with a light touch on the speed controller. Lower foot and hold thread ends at back of foot as you start to sew. This will prevent the thread being drawn down into the needle hole.



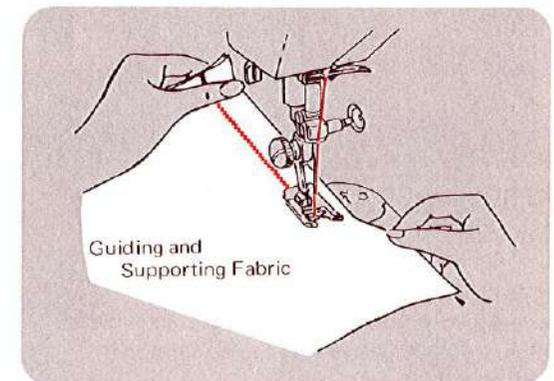
Starting To Sew

Guiding and Supporting Fabric

Most stretch and knit fabrics need only to be guided in front of the foot when you use one of the stretch stitches. Some fabrics, however, require support while being stitched.

- For nylon tricot and similar synthetic knits, apply gentle tension by holding seam in front and back of the foot as you sew.

Do not pull the fabric as this may deflect the needle, causing it to break.



Guiding and Supporting Fabric

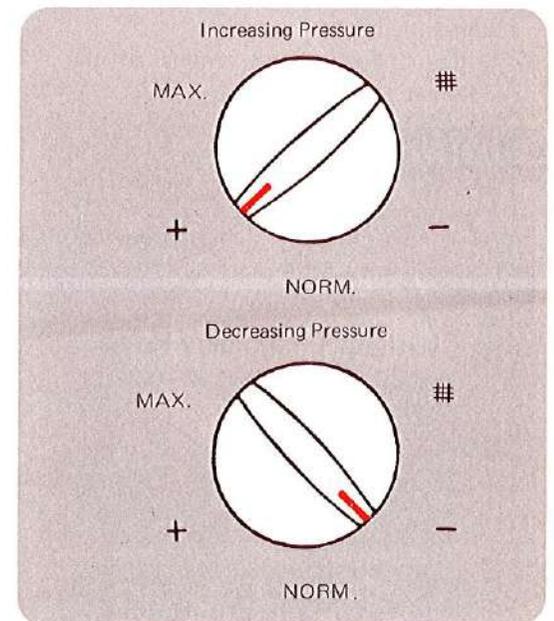
Adjusting Pressure when

Sewing Stretch Fabrics

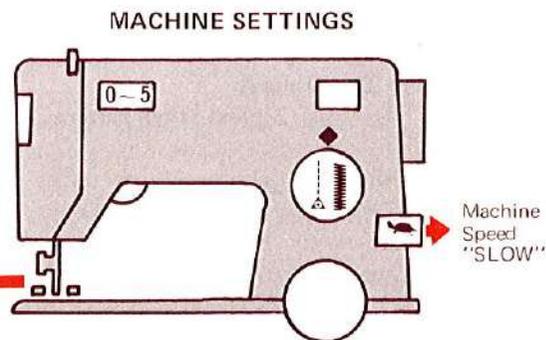
Some knit and stretch fabrics, because of their structure, require either more or less than normal presser-bar pressure to feed smoothly and evenly. According to the structure of the fabric, adjust the pressure as shown.

- For nylon tricot and similar hard surface synthetic knits, increase pressure by turning the pressure regulating dial from NORM. (normal) towards MAX. (maximum).

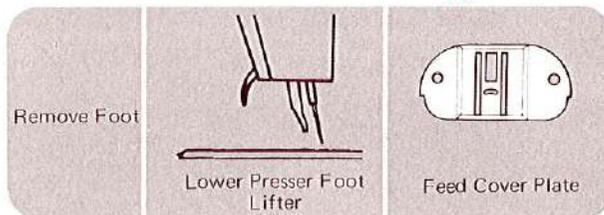
- For thick, soft or very stretchy knits, decrease pressure by turning the pressure regulating dial from NORM. (normal) towards #.



FREE-MOTION EMBROIDERY

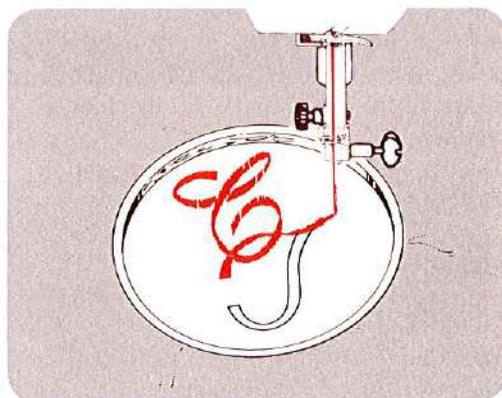


In free-motion embroidery, you control the direction and speed of fabric movement by means of an embroidery hoop. Because you can move the hoop in any direction, free-motion stitching is extremely useful for intricate embroidery.



PROCEDURE

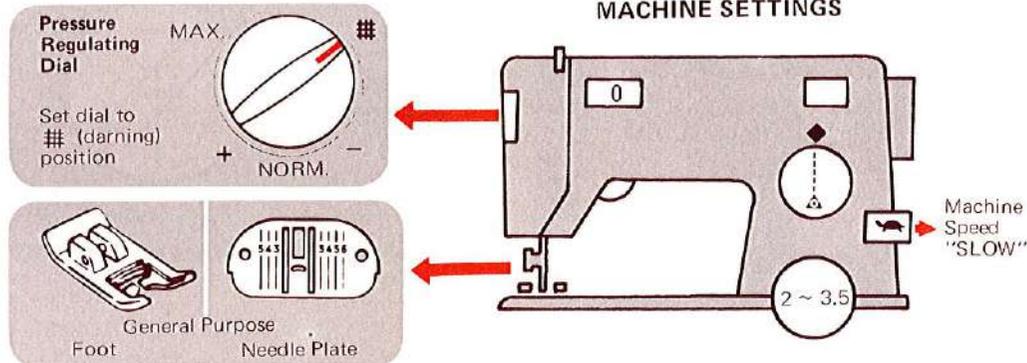
1. Transfer the design to the top side of fabric.
2. Place work in embroidery hoop.
3. Position work under needle and lower presser foot lifter to engage tension.
4. Turn hand wheel toward you to bring bobbin thread up through fabric at start of design and hold both threads as you start stitching.
5. Stitch, following the outline of the lettering.



DARNING

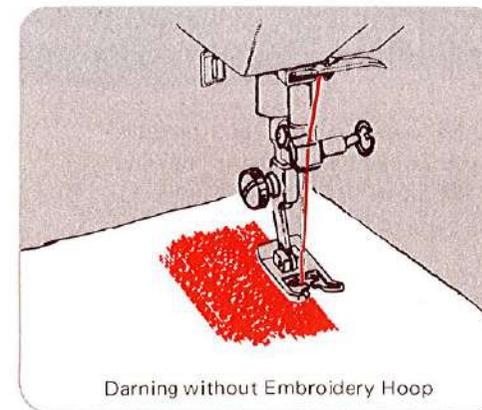
Worn or torn spots on children's clothes, knits, and household linens can be darned effortlessly and quickly with little practice. You may choose to darn either with or without an embroidery hoop. When greater control is needed, use an embroidery hoop.

Without Embroidery Hoop

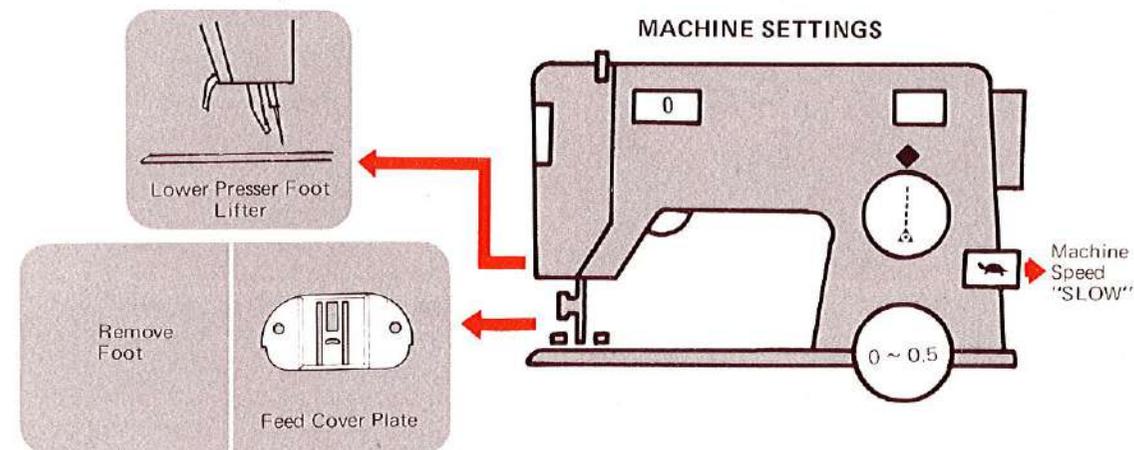


PROCEDURE

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.

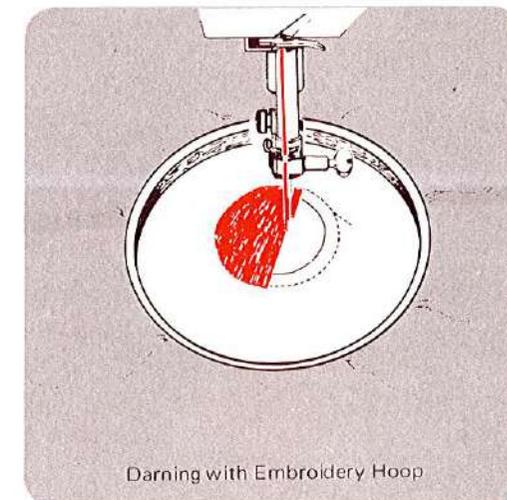


With Embroidery Hoop



PROCEDURE

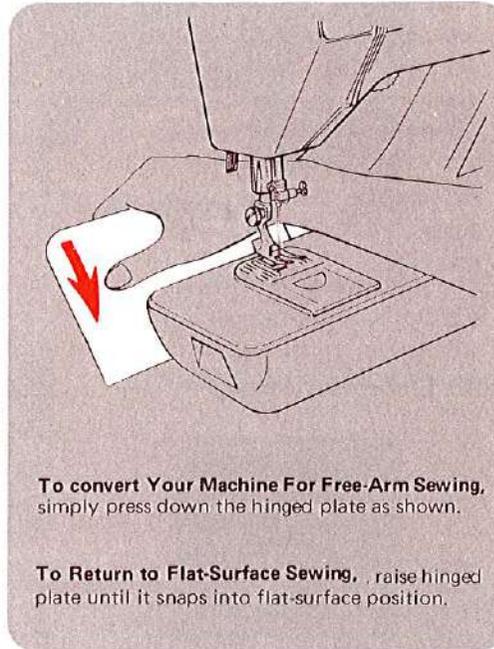
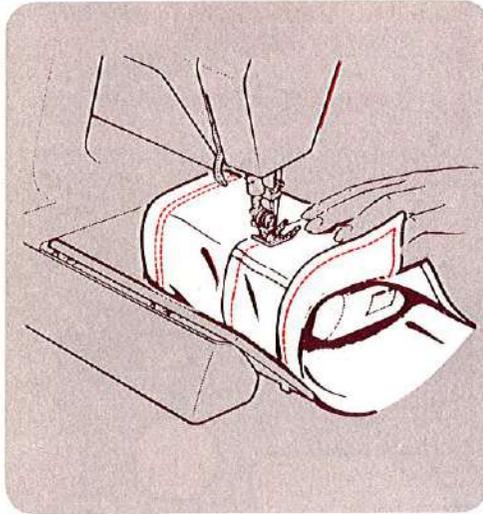
1. Trim ragged edges from area to be darned and centre worn section in embroidery hoop.
2. Position work under needle and lower the presser bar to engage tension.
3. Hold needle thread loosely with left hand, turn hand wheel over, and draw bobbin thread up through fabric. Hold both thread ends and lower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



- For best results, hinged plate should be up when darning with embroidery hoop.

6. FREE-ARM SEWING

When sewing tubular and hard-to-reach garment areas, fabric handling is simplified when you convert your machine to free-arm sewing.

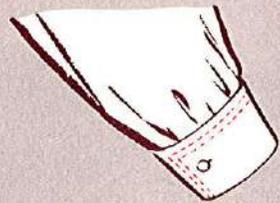


To convert Your Machine For Free-Arm Sewing, simply press down the hinged plate as shown.

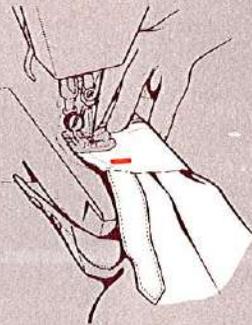
To Return to Flat-Surface Sewing, raise hinged plate until it snaps into flat-surface position.

A few of the sewing jobs for which you will find the free-arm particularly useful are shown below.

Cuffs and Sleeves



Buttonholes



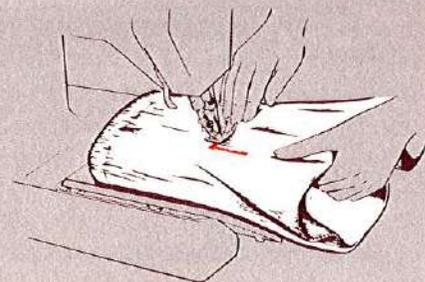
Hats



Top Stitching



Darning and Mending



7. HANDLING SPECIAL FABRICS

Many fabrics, because of their construction or finish, demand special attention in sewing. Techniques used in stitching and handling will vary with the fabric.

Let the table below guide your selection. Refer to page 19 for instructions on sewing knit and stretch fabrics. Thread usage information is tabulated on page 11.

FABRIC-HANDLING TABLE

FABRIC	SPECIAL HANDLING	STITCH Length-Type	NEEDLE Style-Size
VINYL — leather-look patent, suede, reptile	Use transparent tape as a substitute for pins or basting — Topstitch to hold seams and edges flat — Avoid worked (machine) buttonholes.	Long Straight Stitch	Style 2020 Size 14 for woven backing Style 2045 Size 14 for knit backing
PILE — velvet, velveteen, corduroy	Stitch in direction of nap — use plain seams — Overcast or bind seam edges to prevent fraying — Press over a self-fabric cloth.	Medium Straight Stitch for seams Medium Zig-zag or Honeycomb Stitch for overcasting	Style 2020 Size 11 or 14 Style 2045 for panned velvet
DEEP PILE — fake fur	Pin rather than baste seams — Stitch in direction of nap — Use plain seams for short-hair furs; narrow overedged seams for shaggy, bulky furs — Shear pile from seam allowances to reduce bulk.	Long Straight Stitch for plain seams Medium to Short Zig-zag Stitch for overedged seams	Style 2020 Size 14 or 16
PERMANENT PRESS — percale, broadcloth, shirting	Control seam tension manually by holding fabric taut as it passes under the presser foot. Sew at moderate speed.	Medium Straight Stitch	Style 2020 Size 11 or 14
PLAIDS and STRIPES	Cut fabric pieces so that stripes match exactly at seam line — Line up stripes and fabric edges carefully at seam start — Pin or baste long seams.	To suit fabric	To suit fabric See chart, page 11
FINE KNITS — tricot, jersey	Use narrow overedged, double stitched, or French seams — Hold thread ends securely for a few stitches at start of seam — Support seams while stitching. — Increase presser-foot pressure.	Medium Straight Stitch Medium to Short Narrow Zig-Zag or Narrow Overedge	Style 2045 Size 14 only

FABRIC-HANDLING TABLE

FABRIC	SPECIAL HANDLING	STITCH Length-Type	NEEDLE Style-Size
BLANKET BINDING — satin face	Hand-baste binding to blanket (pin marks show) — Miter corners.	Long Straight Stitch Medium to Long Zig-Zag Stitch or Decorative Stitch	Style 2020 Size 11 or 14
SOFT SHEER — chiffon, voile, China silk	Use French seams, double stitched — Hold ends of needle and bobbin thread when you begin to stitch — Support fabric while stitching.	Medium to Short Straight Stitch	Style 2020 Size 9 or 11
BEADED and SEQUINED FABRIC	Remove beads from seam allowance — Baste seam line — Stitch with zipper foot to right of needle.	To suit fabric backing	To suit fabric backing
BONDED OR LAMINATED FABRIC	Use welt, flat-felled, or double-topstitched seams — Slash darts, grade seams and reinforce button and buttonhole areas.	Long Straight Stitch	Style 2020 Size 14 for foam backing Style 2045 Size 14 for knit backing
NAPPED FABRIC — cashmere, mohair, camel hair	Cut with nap running down — Sew in direction of nap — Topstitch to hold seams and edges flat.	Medium to Long Straight Stitch	Style 2020 Size 14 - 16

8. CARING FOR YOUR SEWING MACHINE

CLEANING YOUR MACHINE

CAUTION: Before cleaning your machine, disconnect power line plug from your electrical outlet.

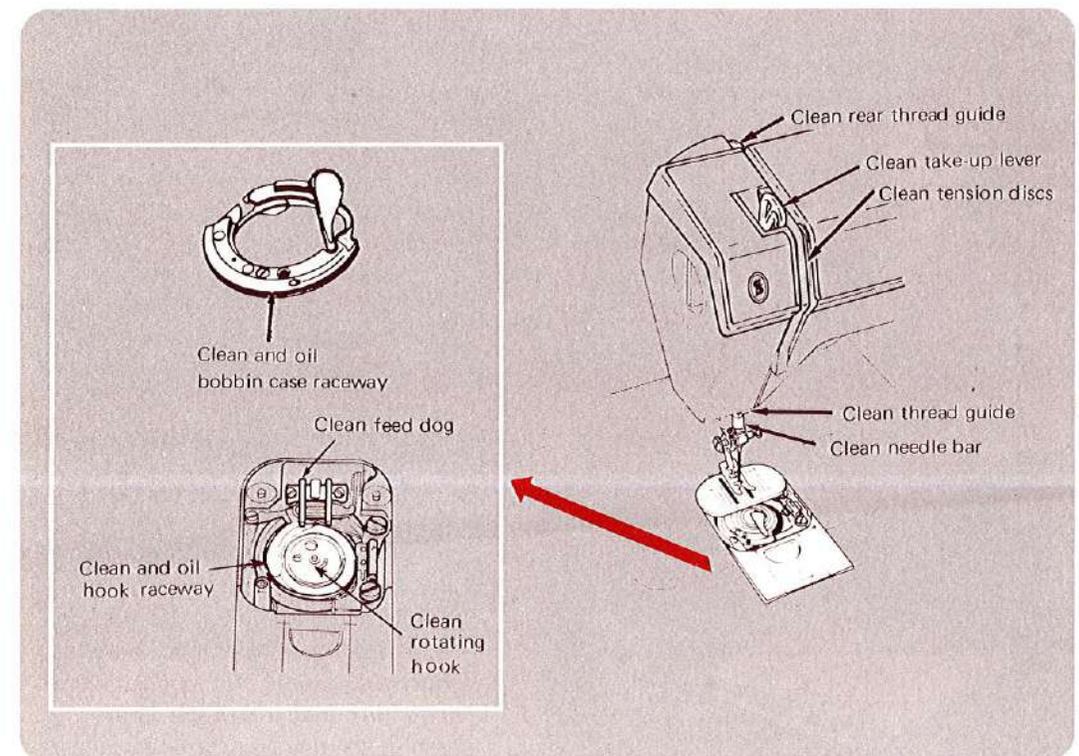
Your machine will serve you perfectly for many years if you take a few moments of your time to keep it clean. How often you will need to clean the machine will depend on how often you use it.

With a soft cloth or lint brush, clean all points indicated by arrows, especially the bobbin case area and the soft-touch fabric feed.

To remove lint which may collect under the window of the see-through slide plate, pull slide plate toward you and clean from underneath with the lint brush.

Your machine requires no oiling under normal conditions, however apply a drop of oil only to the areas (bobbin case raceway and hook raceway) indicated below after cleaning.

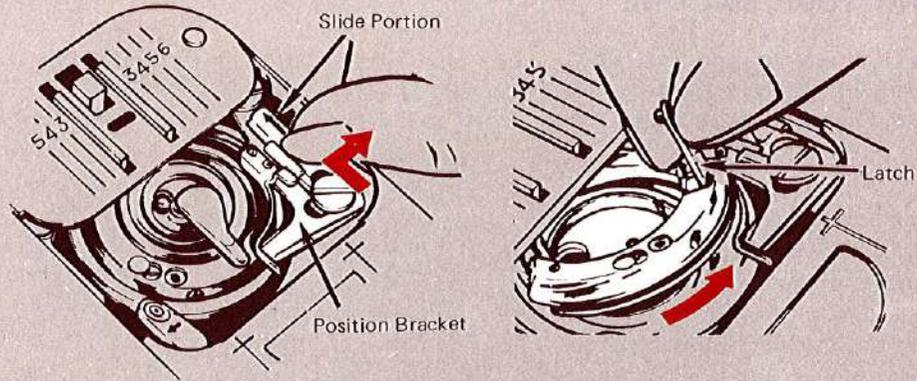
Your SINGER representative, or Approved Dealer, will examine the permanently lubricated parts whenever your machine requires servicing.



CAUTION: Do not attempt to adjust the motor belt drive. Refer to your nearest Singer Service Centre should any adjustment be required.

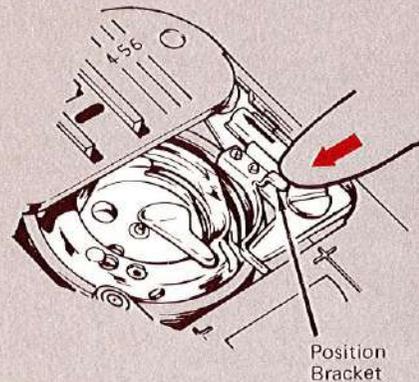
REMOVING AND REPLACING BOBBIN CASE

TO REMOVE



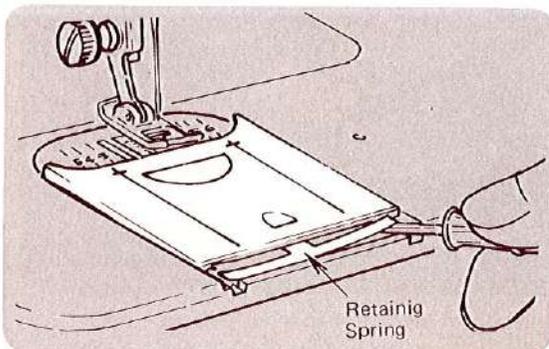
1. Raise needle and open slide plate. Slide the slide portion of bobbin case position bracket to arrow direction (right backward) by fingernail to unlock position bracket.
2. Raise bobbin case latch and remove bobbin. Hold latch, twist bobbin case to the right and lift out.

TO REPLACE



Slip bobbin case in position in the reverse order for removal. Push position bracket to the left until it snaps down, locking bobbin case in place.

REPLACING SLIDE PLATE

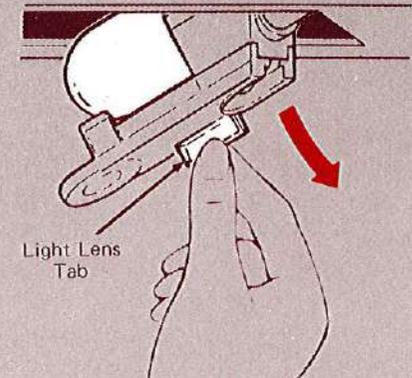


You will not have any occasion to remove the slide plate. However, if it should accidentally become disengaged, it is easily replaced.

Place slide plate in slide way with the front edge close to, but not covering, the retaining spring. With a small screwdriver, lift each end of the spring into each of the side grooves on the underside of the slide plate. Draw the slide plate gently toward you and fully engage the spring. Close slide plate.

CHANGING LIGHT BULB

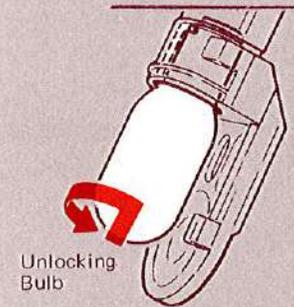
CAUTION: Before changing light bulb, make sure you have disconnected power line plug from electrical outlet.



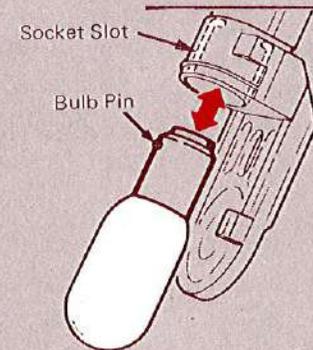
This machine is designed to use a 15-watt bulb.

With thumb of right hand, pull down on tab located under light lens to lower light bracket.

Removing Bulb

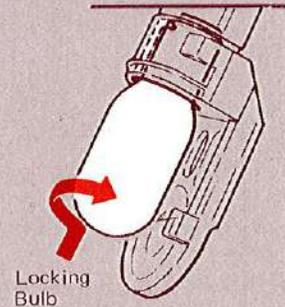


Unlocking Bulb



Socket Slot
Bulb Pin

Replacing Bulb



Locking Bulb

Press bulb up into the socket and at the same time turn it over in the direction shown to unlock bulb pin.

Do not attempt to unscrew the bulb.

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

PERFORMANCE CHECKLIST

(What To Do If)

Whenever sewing difficulty is encountered, review the sections of the instruction book that explain the operation you are performing to make sure you are using the machine correctly. If the problem still exists, the following checklist may help you to correct it. If you still have difficulties, call your nearest authorized SINGER DEALER.

What To Do If:

Refer To
Page:

Needle Breaks

Make sure

- Needle is fully inserted into needle clamp 6
- Needle is not being pulled to one side as fabric is removed from the machine 6
- Presser foot or accessory is securely fastened to presser bar 6
- Fabric is not being pulled while sewing causing needle to hit needle plate 14

Thread Breaks

Make sure

- Machine is properly threaded 8
- Needle is straight and sharp 6
- Needle thread tension is not too tight 13
- Thread is unwinding freely from spool 8
- Thread is free from frays and knots 8
- Bobbin case area is free of lint and loose thread ends 39

Machine is Noisy or Stuggish

Make sure

- Bobbin case and feed dog area are free of lint and loose thread ends 39

Fabric Does Not Move Properly

Make sure

- Presser foot or accessory is correctly attached to machine 6
- Stitch length dial is correctly set 12
- Lint has not accumulated around feed dog 39
- Pressure is set correctly for fabric being used 7 & 33

Skipped Stitches

Make sure

- Needle is straight and sharp 6
- Needle is correct class for machine and size for thread 11
- Machine is correctly threaded 8
- Presser foot pressure is correct 7 & 33
- Needle is securely fastened to needle bar 6

What to Do If:

Refer To
Page:

Fabric Puckers

Make sure

- Needle thread tension is not too tight 13
- Presser foot pressure is correctly set 7 & 33

Bobbin Winding Difficulties

1. Needle thread breaks while winding bobbin

Make sure

- Machine is correctly threaded 8
- Thread is unwinding freely from spool 8
- Machine is run at moderate speed 10

2. Thread does not wind onto bobbin

Make sure

- Bobbin winding push button is in winding position 9
- Bobbin halves are securely tightened 10
- Bobbin is empty (do not attempt to wind thread over thread) 9
- Thread is not being pulled tightly while holding thread end 9

Also remember

- Make sure needle is above fabric before rotating the pattern selector dial or changing stitch width. (See page 12)
- If Flexi-Stitch patterns are imperfect, make sure stitch balance dial has been correctly adjusted. (See page 19)
- If side stitches of buttonholes are unbalanced, make sure stitch balance dial has been correctly adjusted. (See page 26)
- If the machine does not start, make sure power and light switch is on. (See page 5)
- Do not attempt to adjust the motor belt drive. Refer to your nearest Singer Service Centre should any adjustment be required.

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