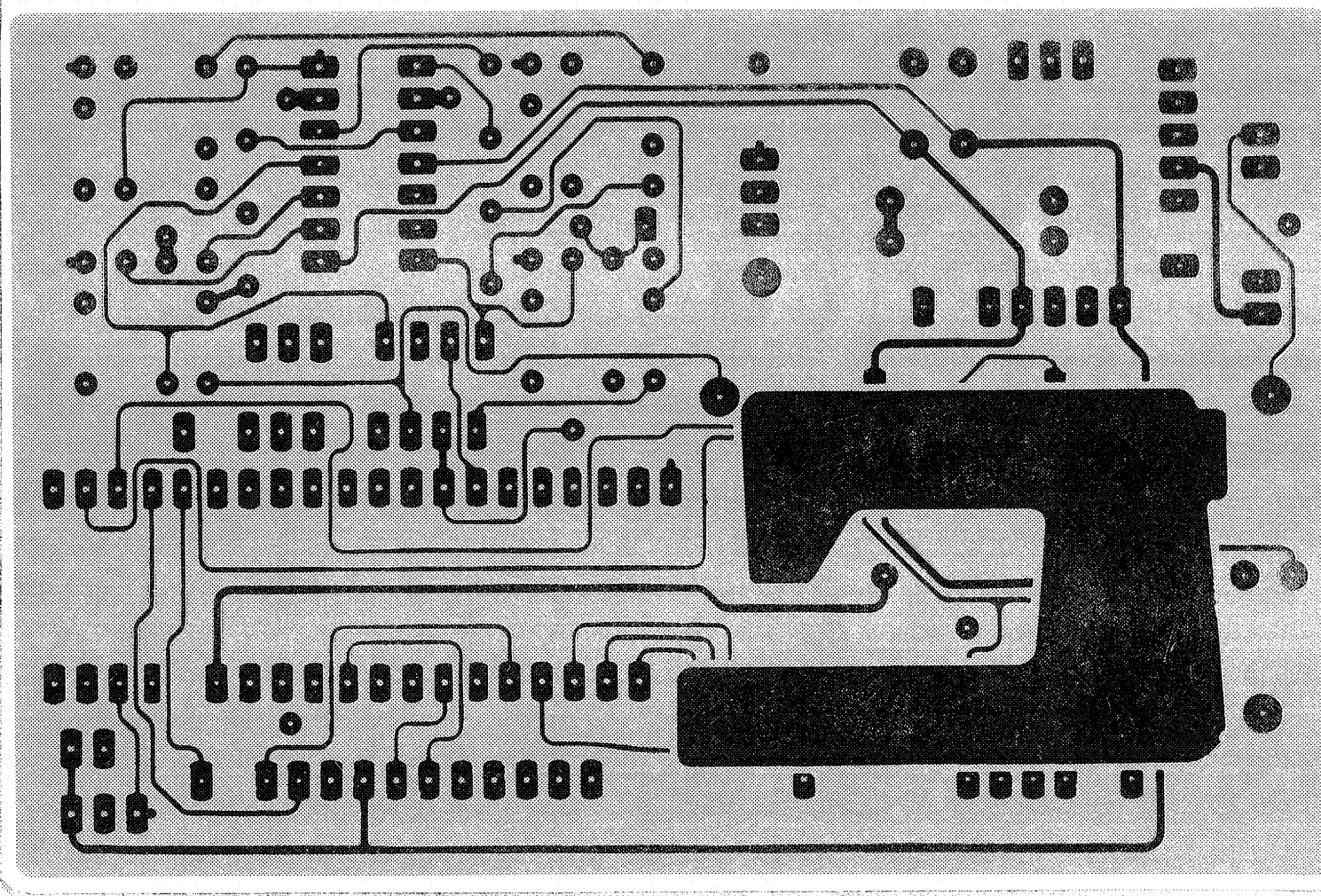


SINGER

TOUCH-TRONIC 2005

memory machine

operator's guide



***TOUCH-TRONIC*^{*} 2005**

memory machine

Congratulations . . .

You are about to sew on the most advanced sewing machine in the world . . . the model 2005 machine.

It makes sewing so simple, so foolproof — and so much fun! — you will be astounded.

The crowning achievement of years of Singer research, model 2005 sewing machine features these important technological breakthroughs:

- **Exclusive Solid-state Electronic Sewing System.** The model 2005 is the sewing machine with the “memory”. A storehouse of sewing knowledge, it automatically programs your machine to sew one of *twenty-five* different stitches — including two types of buttonholes.
- **Exclusive Light Touch Fingertip Controls.** They're the buttons on the front of the machine. You simply touch the one under the pattern you want — the red indicator light comes on — and the machine is ready to sew. Any stitch is instantly available, at the touch of a single button.
- **Exclusive Individual Preference Panel.** Your very own “control panel,” it allows you to modify the programmed stitch dimensions to your heart's content, to suit special fabrics and satisfy personal preferences.

And that is only the beginning! There are so many *more* new features. Such as the Exclusive Pattern Repeat Button — that lets you sew one *unit* of a pattern, for superb decorative touches. And Exclusive Light Touch Fingertip Quick Reverse Button — for an instant or continuous reverse straight stitch. And over a dozen more Singer Exclusives. *Plus*, all of the other Singer advances of the past decade. Such as the fabulous Exclusive built-in *Flip & Sew*^{*} panel for both flat and in-the-round sewing. Soft-touch Fabric Feed, that will not injure even the most delicate fabrics. Variable-speed. Solid-state Control System, that enables you to maintain the same pressure on the speed controller as you sew through varying fabric thicknesses. And many, many more advances, from Singer.

We suggest you take a few moments to read through this new operator's guide, as you sit at your machine. You will quickly discover how simple it is to do any sewing operation you desire on the model 2005 machine.

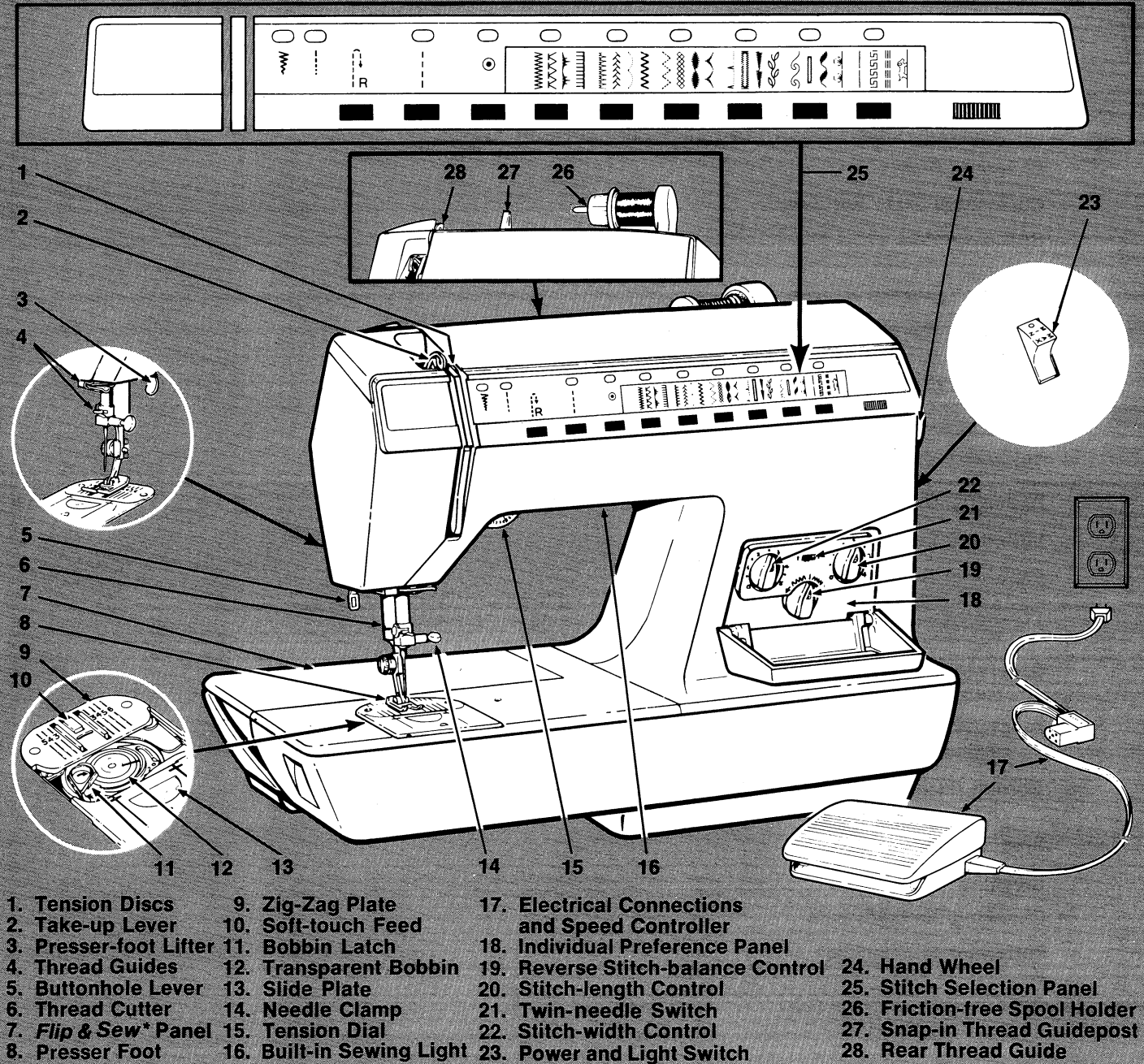
Welcome . . . to the future world of sewing!

Today!

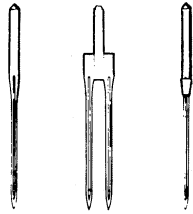
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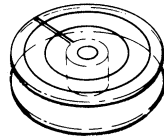
Getting to Know Your Machine



ACCESSORIES



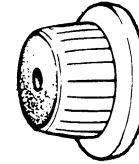
Needles



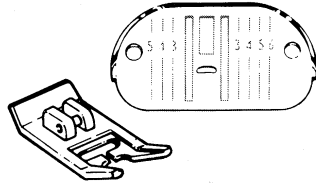
Transparent Bobbins



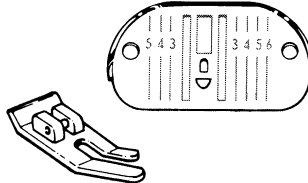
Small Spool Holder



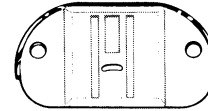
Large Spool Holder



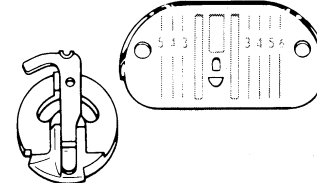
Zig-Zag Foot and Plate



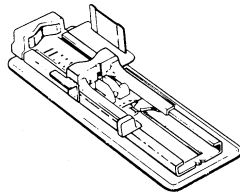
Straight-stitch Foot and Plate



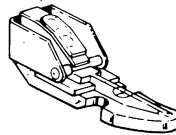
Cover Plate



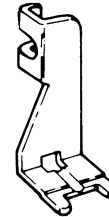
Chainstitch Fittings



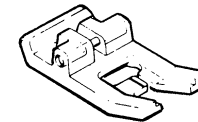
One-step Buttonhole Foot



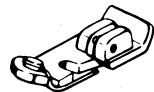
Zipper Foot



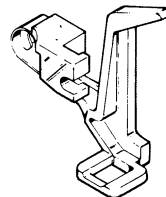
Button Foot



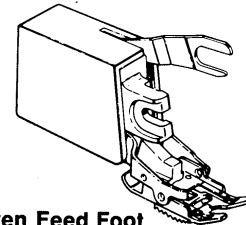
Special-purpose Foot



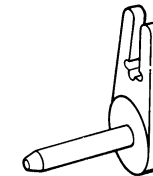
Overedge Foot



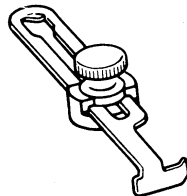
Darning and Embroidery Foot



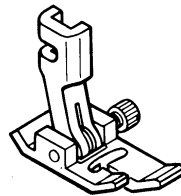
Even Feed Foot



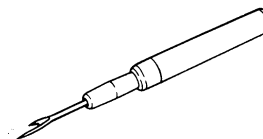
Secondary Spool Pin



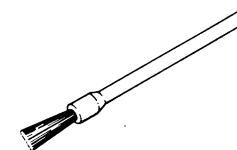
Seam Guide



Blindstitch Foot

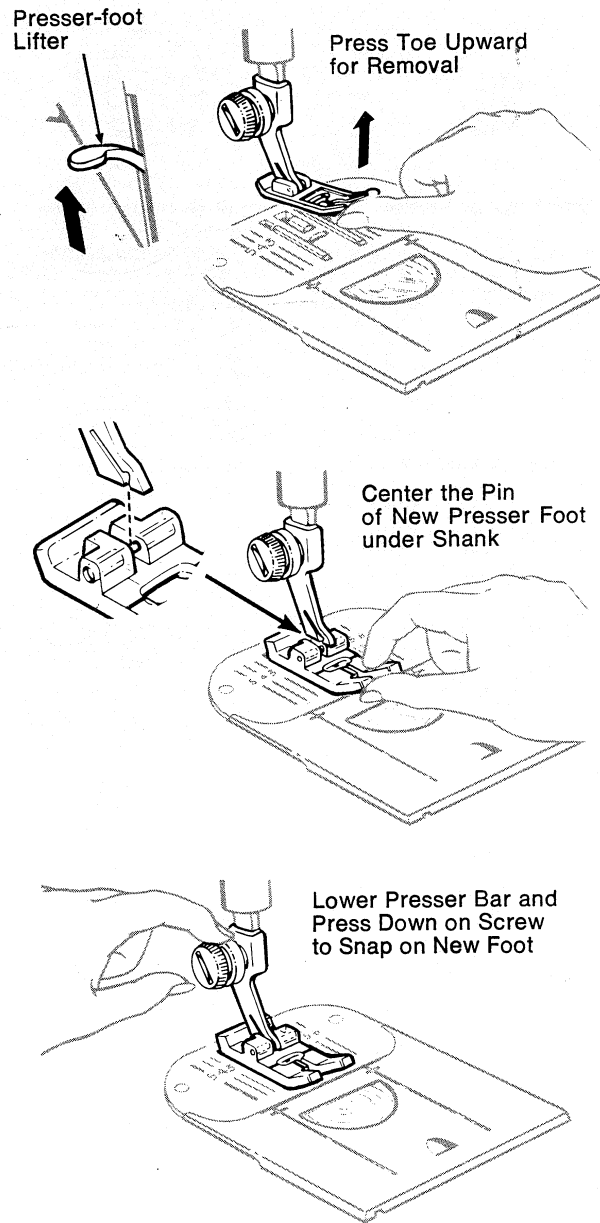


Seam Ripper



Lint Brush

Changing Snap-on Presser Feet



CHANGING PRESSER FEET

Snap-on Presser Foot

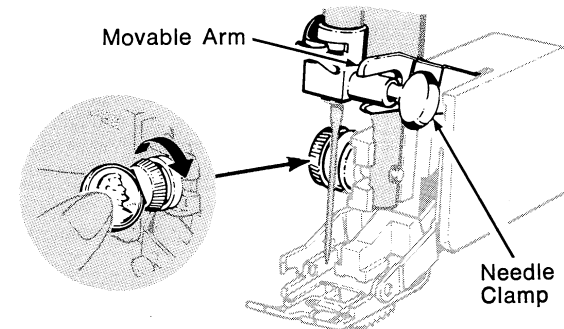
Raise take-up lever to highest position by turning hand wheel toward you. Raise presser foot by raising presser foot lifter, located at back of machine. Press front of foot up as far as it will go, then snap down to remove. Center new foot under shank. Lower presser-foot lifter so shank fits over pin. Press presser-foot screw down until foot snaps in place.

The Button Foot and The Zipper Foot

Raise take-up lever to highest position by turning hand wheel toward you. Raise foot. Loosen presser-foot screw and remove presser-foot shank. Hook one-piece presser foot around presser bar and tighten presser-foot screw.

Even Feed Foot

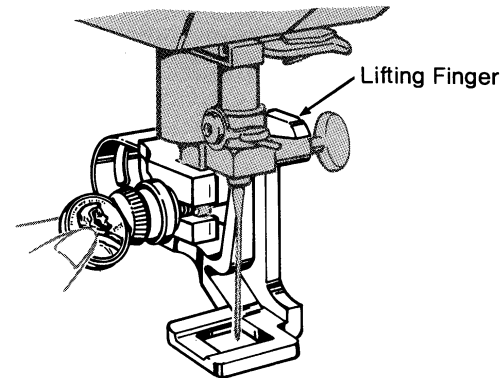
Raise take-up lever to highest position by turning hand wheel toward you. Raise foot. Loosen presser foot screw and remove presser foot shank. Guide Even Feed Foot into position from back of machine. Make sure movable arm straddles needle clamp. Tighten presser-foot screw with coin.



Attaching Even Feed Foot

Darning and Embroidery Foot

Raise *needle* to highest position by turning hand wheel toward you. Raise foot. Loosen presser foot screw and remove presser foot shank. Guide Darning and Embroidery Foot into position from back of machine. Make sure lifting finger is above needle clamp. Tighten presser foot screw with coin.



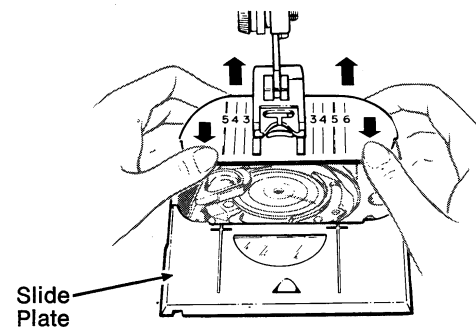
Attaching Darning and Embroidery Foot

CHANGING PLATES

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

Raise take-up lever to its highest position by turning the hand wheel toward you. Raise presser foot. Pull slide plate toward you. As shown in top diagram at right, press down on front edge of plate you have been sewing with, and lift up and out.

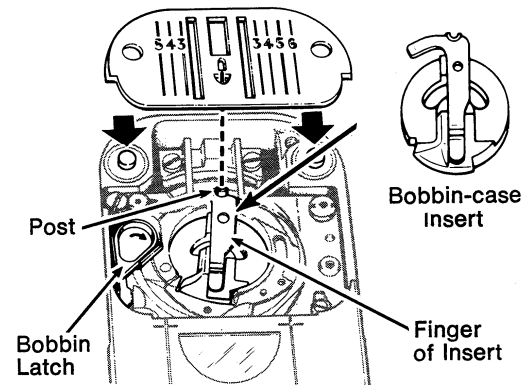
Position new plate over pins. Plate is drawn into position by magnets. Replace bobbin. Close slide plate.



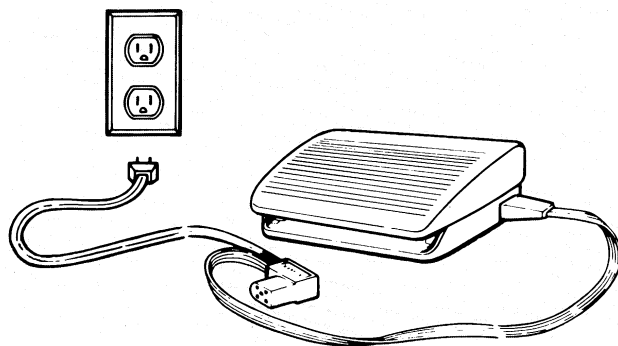
Removing Plate

CHAINSTITCH FITTINGS

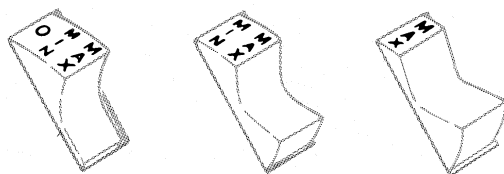
Raise take-up lever to its highest position and raise presser foot. Open slide plate. Move bobbin latch to left and remove bobbin and plate you have been sewing with. Place bobbin-case insert in bobbin case as shown, with *finger of insert positioned under the feed*. Position straight stitch plate over holding pins, making certain that the post of the bobbin-case insert finger enters the hole in the plate. Close slide plate.



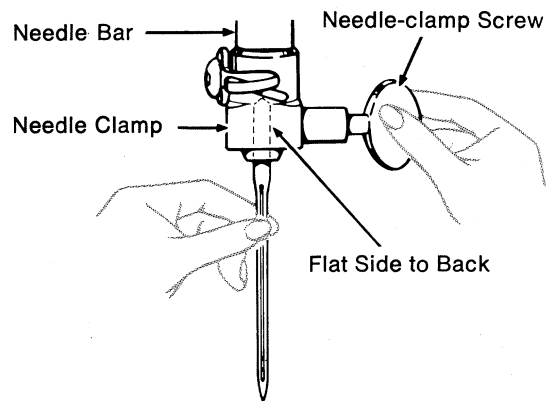
Attaching Chainstitch Fittings



Speed Controller



Power and Light Switch



Changing the Needle

SPEED CONTROL

Note: Before plugging in machine, be sure voltage and number of cycles shown by machine socket conform to your electrical power supply.

Push machine plug into machine socket. Connect powerline plug to electrical outlet. To turn on machine and sewing light, and to set speed range, press power and light switch on.

- **MIN** (switch pressed halfway) for maximum control in slow speed.
- **MAX** (switch pressed all the way) for full speed.

CAUTION: Switch off the power and light switch before changing needles, presser feet or plates and when leaving machine unattended. This eliminates the possibility of starting the machine by accidentally pressing the speed controller.

If at any time you accidentally switch your machine off, make sure you re-select the desired stitch.

To run machine, press speed controller. The harder you press, the faster machine will sew. To stop the machine from sewing, remove pressure from speed controller.

NEEDLES

The needles supplied in your accessory set are color coded. Color coding simplifies needle selection for each of your sewing needs.

The top of each needle is coded according to needle style. Style 2020 needles designed for sewing woven fabrics, are colored red. Style 2045 needles designed for sewing knit fabrics, are colored yellow. The band beneath the Style color represents needle size. The needle pack illustrates size coding.

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

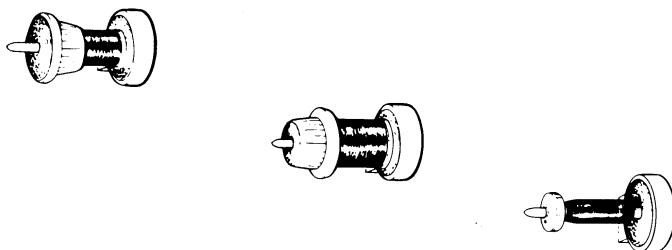
Changing the Needle

Raise needle to highest point by turning the hand wheel toward you. Loosen needle-clamp screw and remove needle. Insert new needle in clamp, which will *only* accept needle when inserted correctly, with flat side of needle to back. Push needle up as far as it will go. Tighten screw.

THREADING THE MACHINE

Threading the Needle

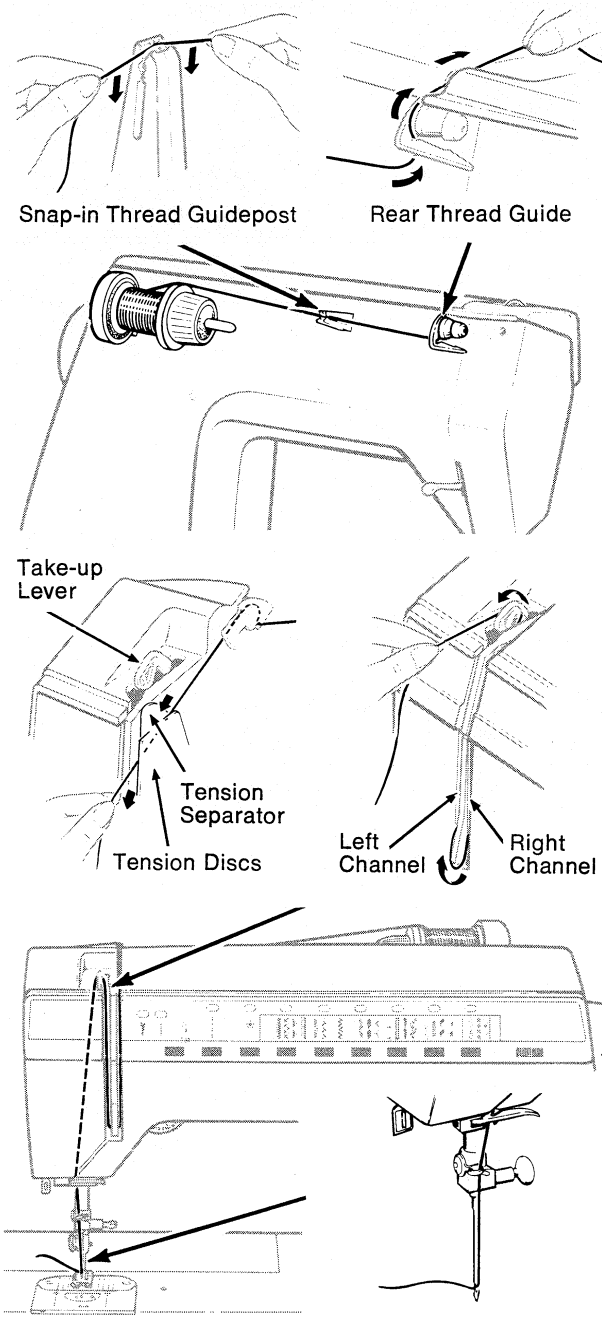
Place spool of thread on horizontal spool pin. If spool being used has a retaining slit, this should be placed against the spool cushion to the right. Select correct spool holder according to type and diameter of spool being used. The diameter of the end of the spool holder should always be larger than that of the spool itself. Press spool holder firmly against spool.



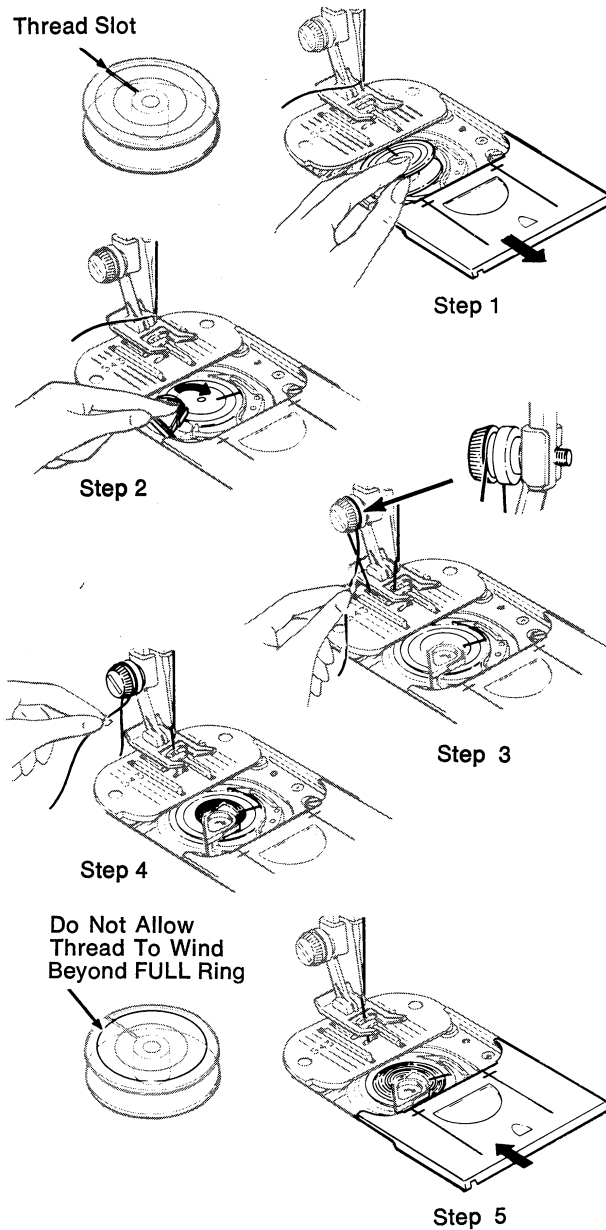
Raise take-up lever to its highest position by turning the hand wheel toward you. Raise presser foot to release tension discs. Lead thread from spool holder and snap it down into guidepost eyelet. Lead thread under rear thread guide, through the pretension and across the slot in the top of the machine.

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

Draw thread **firmly** into tension disc on right of tension separator. Draw thread down right channel and up left channel. Thread take-up lever by guiding thread through slot and into eyelet. Lead thread from take-up lever down through left channel again, follow it diagonally to the end, then into lower thread guides. Thread needle using the needle threader, refer to the instructions in your accessory box.



Bobbin Winding Steps



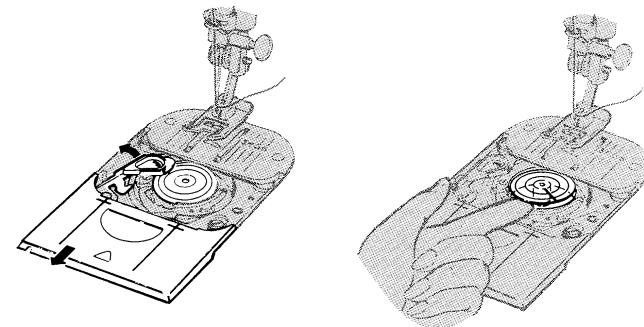
THE BOBBIN

Winding the Bobbin

1. Open slide plate. Move bobbin latch to left. Slip empty bobbin with the slot on top into case. Leave slide plate open until bobbin is wound. Turn on power switch. Press straight-stitch button.
2. Move bobbin latch to right into wind position.
3. Draw needle thread back, under left side of presser foot, then up and around and into thread retainer. Do not hold thread end. Start machine running at moderate speed.
4. Pull thread end away after it has separated from bobbin. Do not allow thread to wind beyond outside FULL ring.
5. Close slide plate. Before starting to sew, pull thread back under presser foot and cut, leaving about four inches.

Removing the Bobbin

Raise take-up lever. Open slide plate; move bobbin latch to left. Remove bobbin by inserting finger under rim.



Replacing a Wound Bobbin

Raise take-up lever. Open slide plate; move latch to left. Draw four inches of thread from bobbin and place bobbin in case. Pull thread into slot of bobbin case at Point 1, draw it under flat spring and beyond Point 2. Leave four inches of free thread. Leave slide plate open.

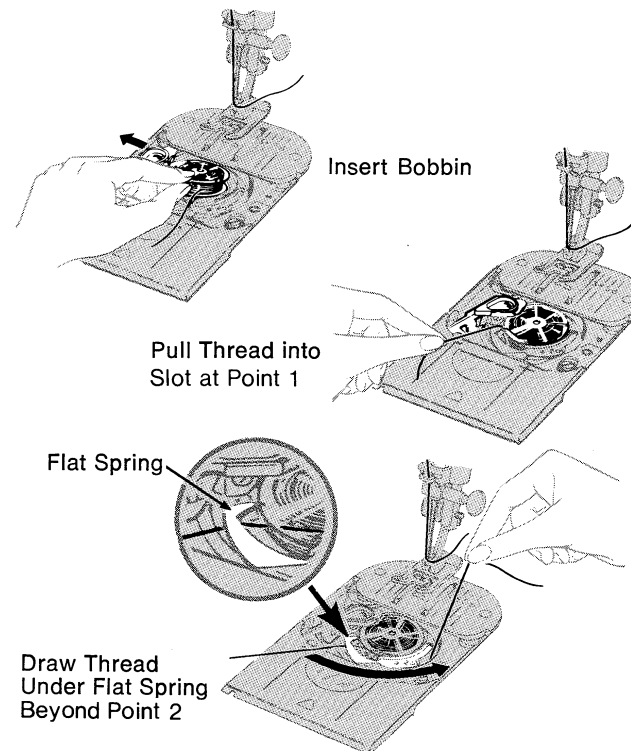
Raising the Bobbin Thread

1. Hold needle thread lightly with left hand and turn hand wheel slowly toward you so needle enters plate.
2. Continue until needle rises. Tighten hold on needle thread and bring up loop of bobbin thread.
3. Open loop with fingers and pull needle and bobbin threads under presser foot diagonally to the left. Close slide plate.

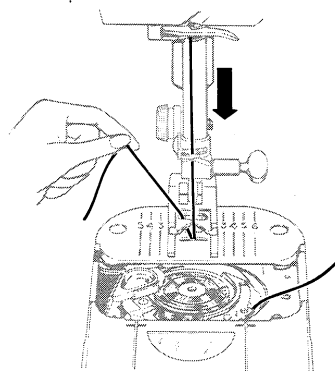
Removing Thread from Bobbin

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

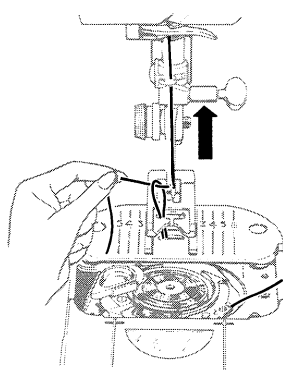
Replacing a Wound Bobbin



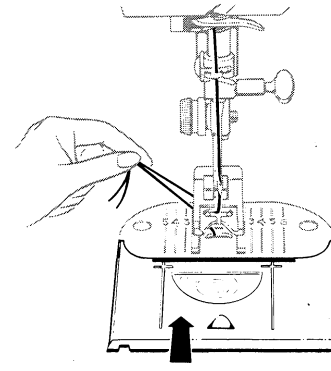
Raising the Bobbin Thread



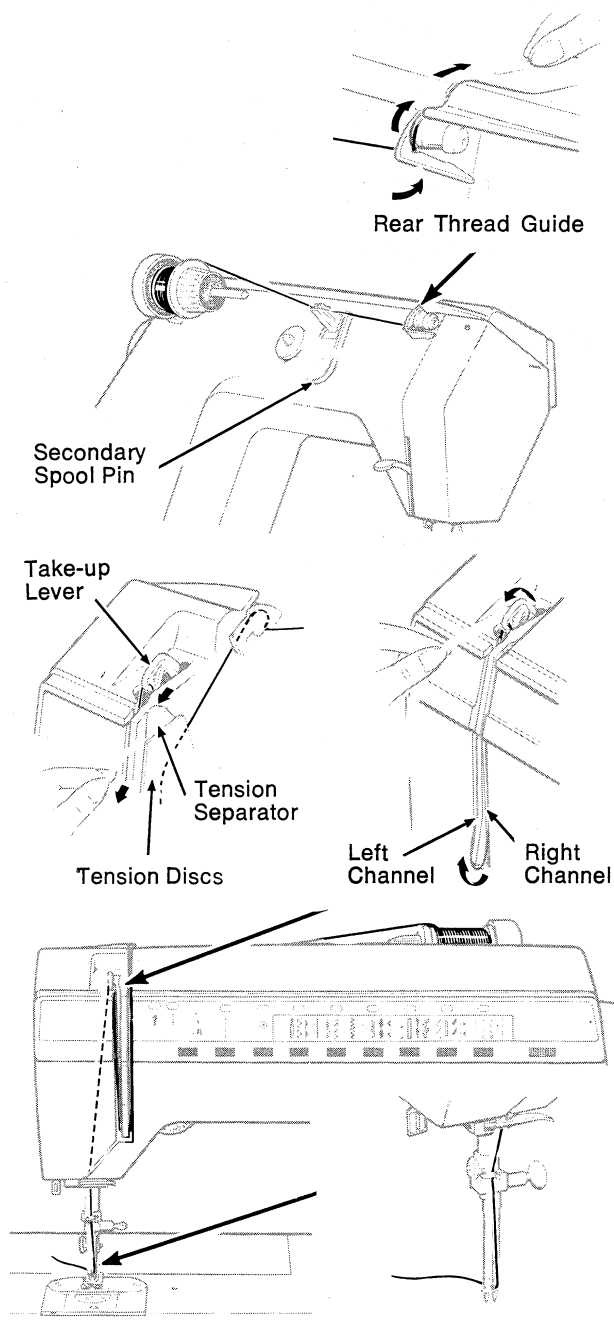
Step 1



Step 2





Step 3



THREADING FOR TWIN-NEEDLE STITCHING

The twin needle simultaneously produces two parallel, closely spaced lines of straight or zig-zag stitching. Effective for decoration, twin-needle stitching is not recommended for seams. Soft fabrics should be sewn with a firm fabric backing or paper backing which can be removed after stitching.

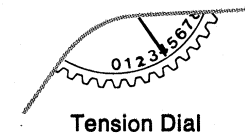
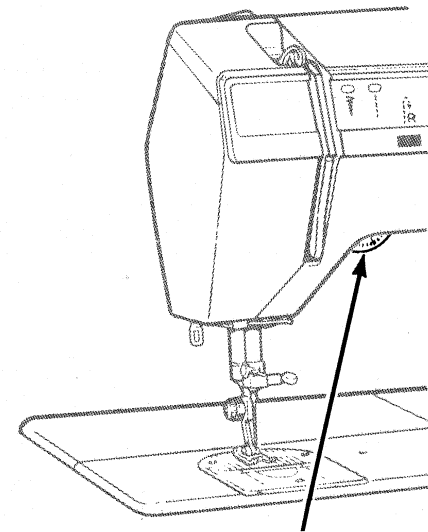
Thread machine with first thread in usual manner, making certain it passes between tension separator and right-hand tension disc. Wind bobbin with enough thread to complete stitching. (Since a bobbin cannot be filled after a twin-needle is inserted, it is wise to keep an extra wound bobbin at hand for replacement.) Unthread and remove needle. Attach secondary spool pin and insert the twin needle. Pass first thread through right eye of needle. Place second spool of thread on secondary spool pin and thread as before, except bypass snap-in thread guidepost and pass thread between tension separator and left-hand tension disc and through left eye of needle.

CAUTION: Always move the twin-needle switch, located on the individual preference panel, **to the right** () before doing twin-needle sewing. Unless the switch has been activated, needle breakage will result. When you have completed twin-needle sewing, return the switch **to the left** () position.

ADJUSTING THREAD TENSION

The tension dial controls needle-thread tension only. Bobbin-thread tension has been set at the factory. To increase needle-thread tension, turn the dial to a higher number. To decrease tension, turn the dial to a lower number. *Be certain not to accidentally touch pattern selection buttons when adjusting tension. However, if you do so, be certain to re-select desired pattern.*

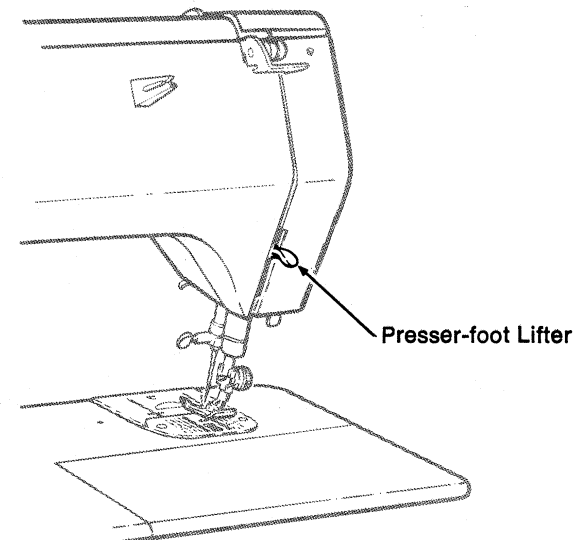
Correct tension is important because too much or too little will weaken your seams or mar the appearance of decorative work. To obtain the correct tension setting, make a test on a sample of your fabric. If the fabric puckers, decrease tension. If the stitches look loose, increase tension.



Tension Dial

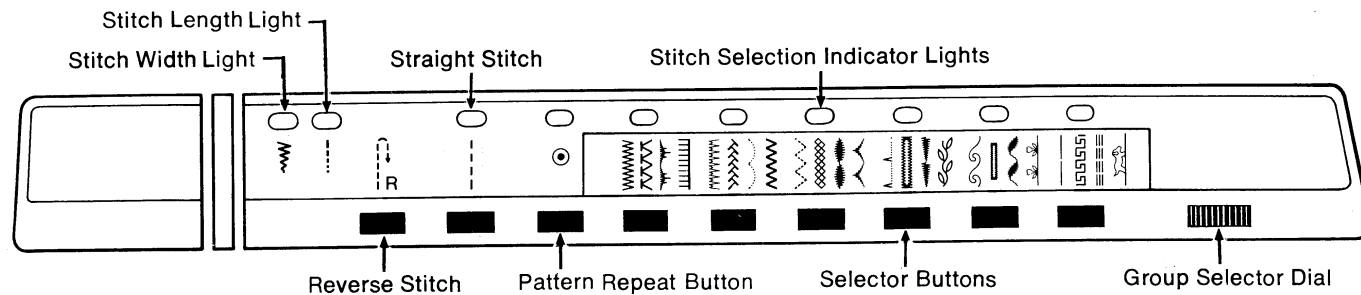
LIFTING THE PRESSER FOOT

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



Presser-foot Lifter

ELECTRONIC SEWING

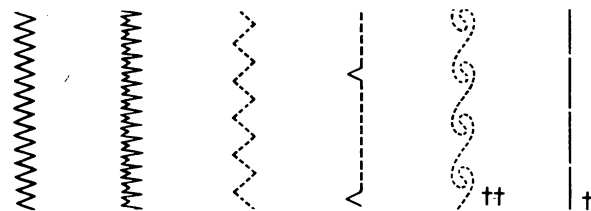


Selecting a Stitch

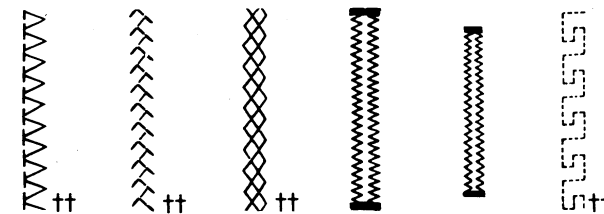
When you rotate the group selector dial, one of four different groups of patterns is available to you. From this group, you further choose the particular pattern you wish to sew.

Turn your sewing machine on. You will note a slight movement of the needle each time the power switch is activated.

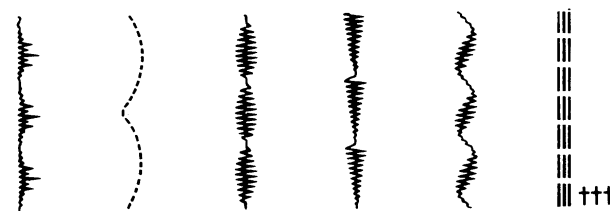
When you rotate the group selector dial as far to the right as it will go, the following patterns are available to you, and will appear in color on your panel.



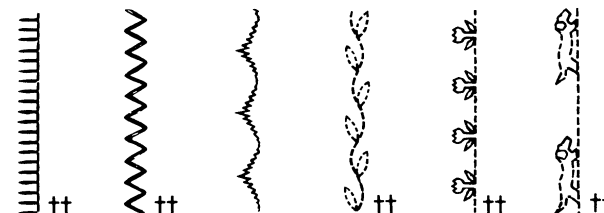
Next, as you rotate the group selector dial to the left, a second group of patterns is made available:



In the third position, these patterns are available:



And, in its leftmost position, the group selector dial makes these patterns available:



After rotating the group selector dial, press the button under the desired pattern. A red light will appear above the pattern selected. Your machine is now ready to sew the desired pattern. Stitch width and stitch length are automatically programmed, but can be changed to suit individual preferences or fabric requirements, as described on page 14. Follow the same procedure to automatically switch to another pattern.


Note: We recommend use of the **MIN** speed setting when you have selected Buttonholes, Basting Stitch, *Flexi-Stitch** patterns, or Maxi-Topstitch.

†Basting Stitch

††Flexi-Stitch Patterns

†††Maxi-Topstitch

Straight Stitching

To do straight stitching, simply press the button under the  symbol on the stitch panel. A red light will appear above the symbol, and your machine is programmed to produce a basic straight stitch, suitable for most straight-stitch requirements.


Straight-Stitch Plate and Foot

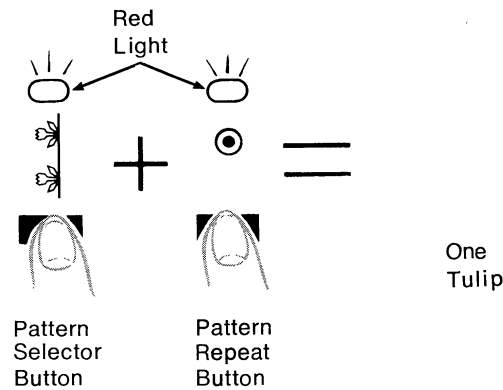
Best for all straight stitching. Be sure to use these accessories when your fabric requires close control. They are especially helpful for stitching delicate fabrics.

When you use the *straight-stitch plate*, you get this exclusive feature: If you press another button by mistake, your machine will still sew a straight stitch.

CAUTION: The straight stitch foot and zipper foot must only be used with the straight stitch plate. Needle breakage can occur if the straight stitch foot or zipper foot is used with any other plate.

Pattern Repeat Button

The special pattern repeat button on your machine lets you sew one unit of a pattern — such as one tulip, one dog, and so on. Simply select desired pattern (such as the tulip, shown here), then also press the pattern repeat button ( symbol). The red light will appear above the symbol. Press down on controller. Your machine will stitch one unit of the pattern each time you follow this procedure. You can also use the pattern repeat button to stitch a series of identical buttonholes, as described on page 16.



Single Unit Sewing

Starting to Sew

Position needle in fabric and lower foot. Start machine by pressing lightly on the speed controller.

Sewing in Reverse

The reverse symbol can be used in two ways: *instant reverse* and *continuous reverse*. Use *instant reverse* if you wish to reinforce the beginning or end of a seam, touch and hold the reverse button. Your machine will sew a straight stitch in reverse for as long as you hold the button, regardless of the stitch pattern you have been sewing. Use *continuous reverse* for those applications where backstitching is required, but fabric can best be guided and controlled with both hands. Press the reverse button in and down toward the machine bed. The machine will sew continuously in reverse until the reverse button is released. To release the reverse button, push it in an upward direction.

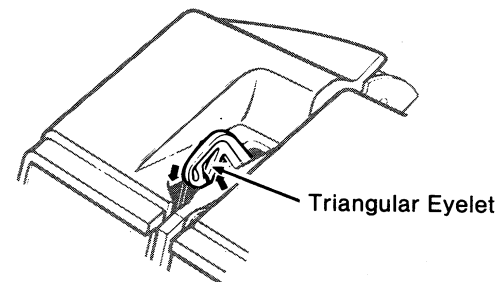
Removing Work from Machine

Raise needle and foot. Draw fabric back to the left. Cut threads on thread cutter at rear of presser bar, leaving four inches of thread.

Note: Be sure to raise needle out of fabric when machine is turned off.

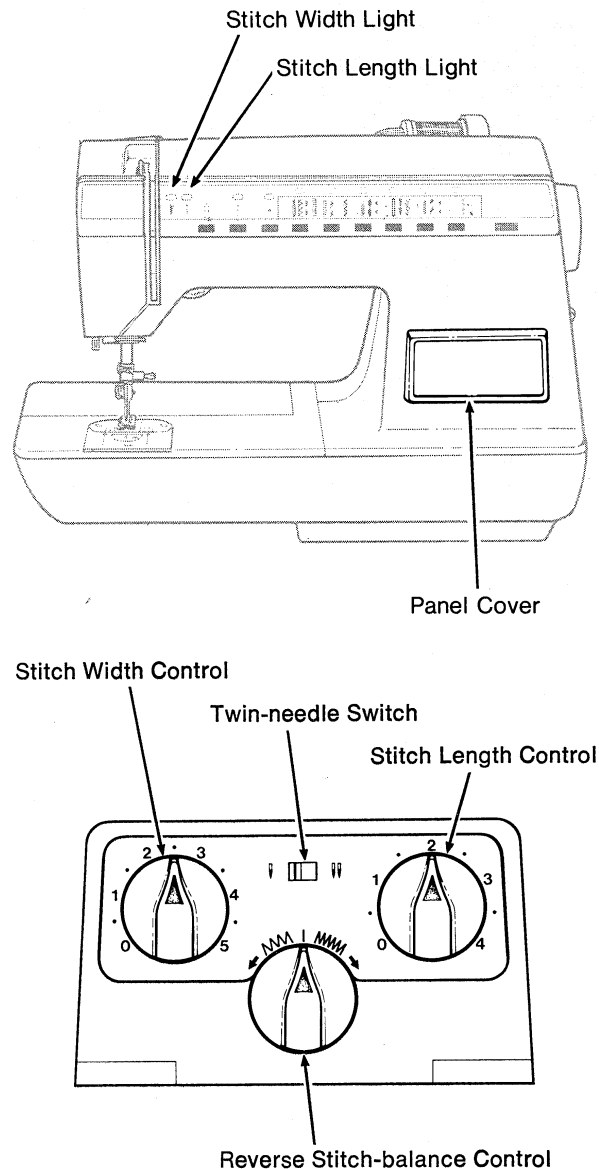
Chainstitching

Place bobbin-case insert and straight stitch plate in machine as instructed on page 5. Thread machine in regular manner, except pass thread through triangular eyelet in take-up lever. Set your machine for *programmed straight stitching only* — do not press any other button and do not adjust stitch width or stitch length.



Chainstitch Threading

Individual Preference Controls



INDIVIDUAL PREFERENCES

Your sewing machine will produce all of your stitching requirements at a programmed stitch width and a programmed stitch length. However, if you wish to accommodate different fabric characteristics or satisfy a personal preference, you can change the settings by opening the cover of the individual preference panel, then manually adjusting the controls located on the panel.

Stitch Width

Select desired pattern, as instructed. Lightly touch the stitch width pointer to activate the stitch width control, indicated by a red light on the stitch panel. Turn pointer until desired width is obtained. Your machine will now stitch at the preferred width.



Stitch Length

Select desired pattern. Lightly touch the stitch length pointer to activate the stitch length control, indicated by a red light on the stitch panel. Turn pointer until desired length is obtained. Your machine will now stitch at the preferred length.

Note: Both stitch width and stitch length controls may be used simultaneously. To cancel, press any button except those for reverse or pattern repeat sewing.

Reverse Stitch-balance

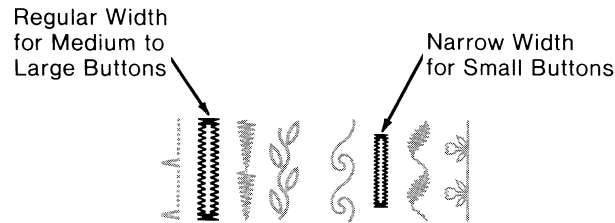
To change the appearance of a *Flexi-Stitch* pattern or buttonholes, adjust the reverse stitch-balance control. Before you move the pointer from its neutral position, make a test sample. If adjustment is required, stitch slowly and move the reverse stitch-balance pointer in either direction, as you sew,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

CAUTION: Always move the twin-needle switch, located on the individual preference panel, **to the right** ( symbol) before doing twin-needle sewing. Unless the switch has been activated, needle breakage will result. When you have completed twin-needle sewing, return the switch **to the left** ( symbol) position.

Note: If, when adjusting a control, you accidentally touch another control, re-select desired pattern, then readjust desired control. Close individual preference panel cover when you have attained desired stitch appearance.

BUTTONHOLES

Your machine offers you two different widths of bar-tack buttonholes made by a one-step method of stitching. Buttonholes can be made up to 1-3/8 inches long using the one-step buttonhole foot.



Bar-Tack Buttonholes

Preparation

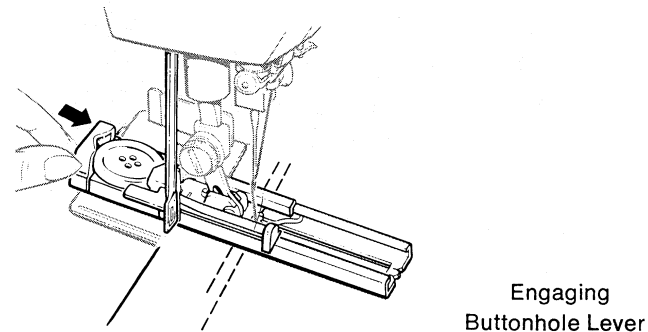
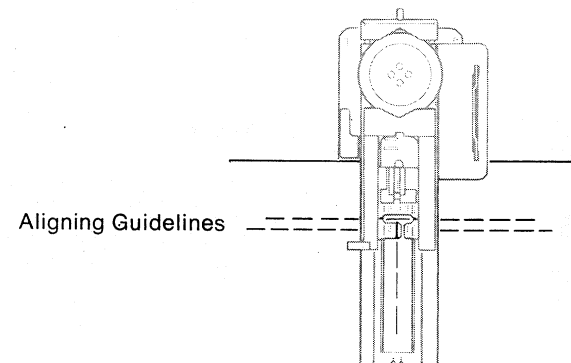
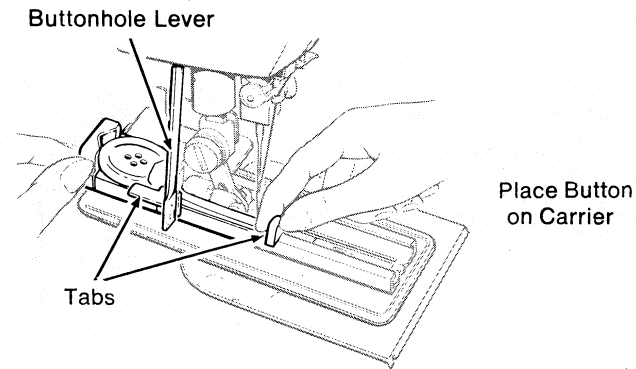
To determine which buttonhole — standard or shirt-type — best suits your garment and fabric, always make a test buttonhole on a sample of fabric, with interfacing, if being used.

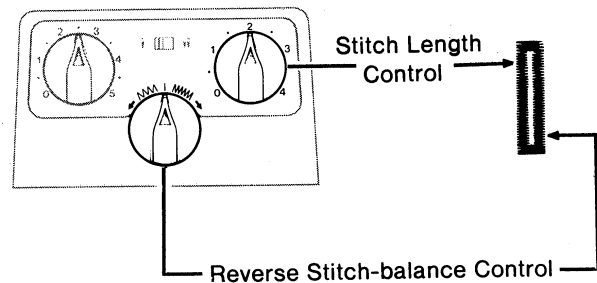
1. Mark start line of buttonhole on garment.
2. Attach zig-zag plate and buttonhole foot.
3. Put button on carrier and slide clamp back. Length of buttonhole is set by button-carrier clamp on foot.
4. *Pull down buttonhole lever*, making sure it is between tabs on foot.

Procedure

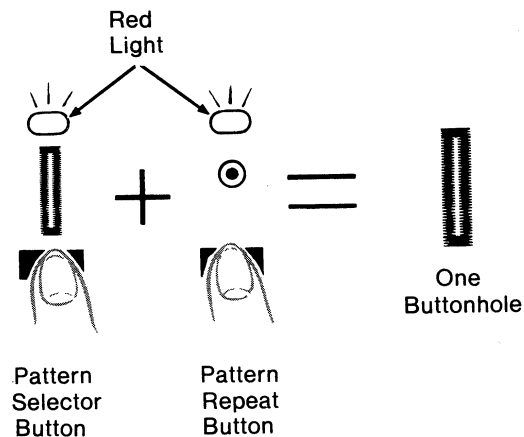
- Draw needle and bobbin threads between foot and underplate to back of machine.
- Place garment between foot and underplate. Align buttonhole start line on fabric with red guideline on foot. Lower foot.
- *Pull foot toward you*, assuring engagement of buttonhole lever.
- Press panel button under buttonhole symbol. Start machine. Machine will stop when buttonhole is completed. Remove work from machine, secure and clip thread ends.

One-step Buttonholing





Balancing the Density



Single Unit Sewing

BUTTONHOLING (Continued)

Balancing the Density

Make a test buttonhole on a sample of your fabric. As you proceed down the left side of the buttonhole, which is stitched first, you may adjust the density of the buttonhole by turning the *stitch length* pointer.

- Turning the stitch length pointer toward a higher number opens the stitching on the left side of the buttonhole.
- Turning the pointer toward a lower number closes the stitching.

As you proceed up the right side of the buttonhole, you may adjust the density of the buttonhole by turning the *reverse stitch-balance* pointer.

- Turning the reverse stitch-balance pointer to the right closes the stitching on the right side of the buttonhole.
- Turning pointer to the left opens the stitching.

Stitching a Series of Buttonholes

Once you have adjusted buttonhole density, or if the programmed density suits your purpose, you may stitch additional identical buttonholes. Close individual preference panel cover. Push pattern repeat button. Press down on controller. Your machine will stitch one identical buttonhole when you follow this procedure.

Note: Press pattern repeat button *only*. If you accidentally press buttonhole button, merely touch individual preference controls.

CORDED BUTTONHOLES

Corded or raised buttonholes are made by stitching over a filler cord. Embroidery or crochet threads make good filler cords, but double strands of sewing thread or a sew-off chain of needle and bobbin thread may also be used.

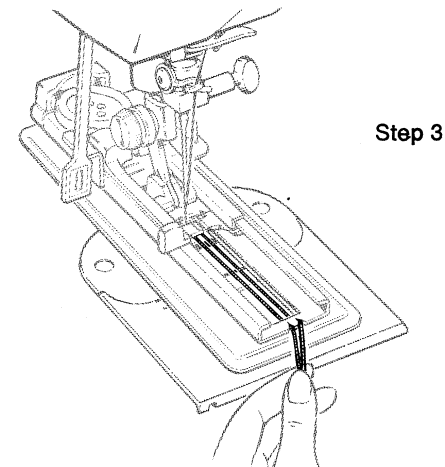
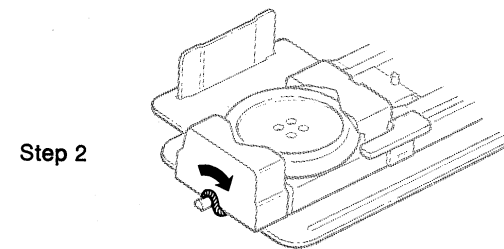
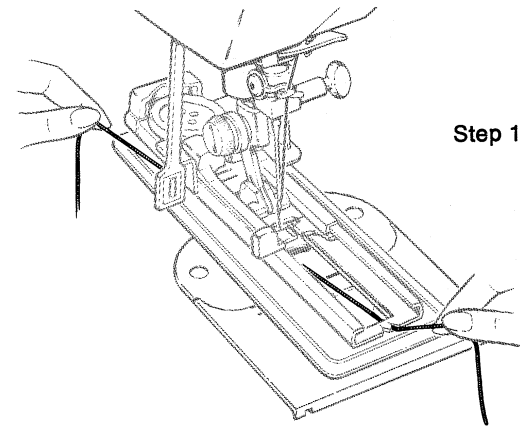
Inserting Cord in One-step Buttonhole Foot

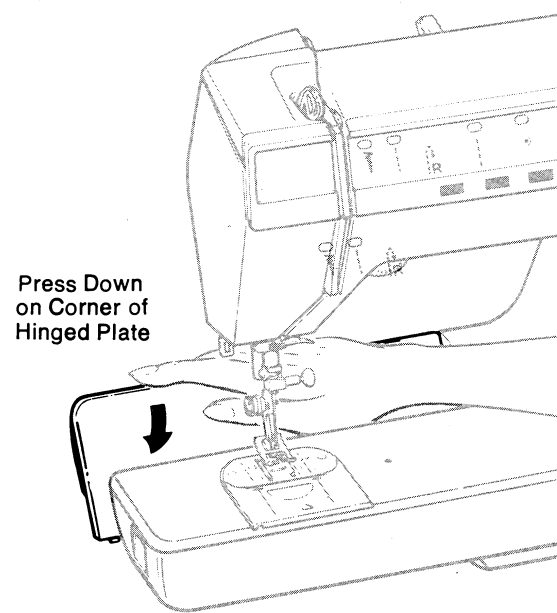
- Raise foot. Hold filler cord in both hands, and insert it between foot and underplate, from left side (the side opposite underplate tab). Holding one end of cord in right hand, with left hand lead cord back under foot and loop it up and over the cord spur from right to left.
- Bring cord forward, between foot and underplate. Hold cord ends in front of foot, as illustrated.

Procedure

- Insert cord in buttonhole foot and hold cord ends as shown and sew buttonhole in the usual way.
- When stitching is completed, release cord from foot and remove work by drawing it to the back of the machine.
- Draw the loop of filler cord into the buttonhole stitching by holding fabric at the starting end of the buttonhole with one hand and pulling ends of filler cord firmly with the other.
- Trim ends of filler cord.

Inserting Cord in One-step Buttonhole Foot

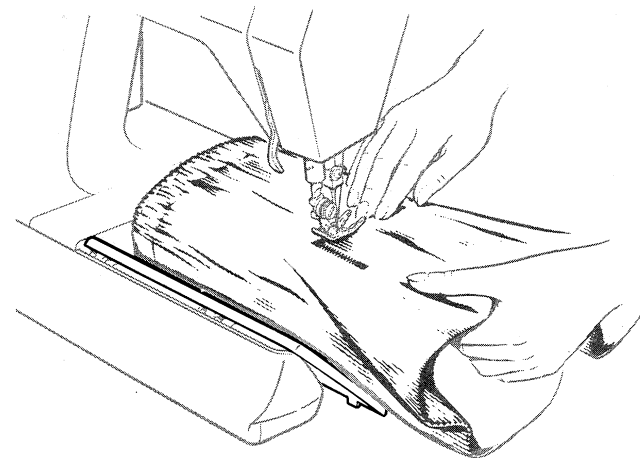
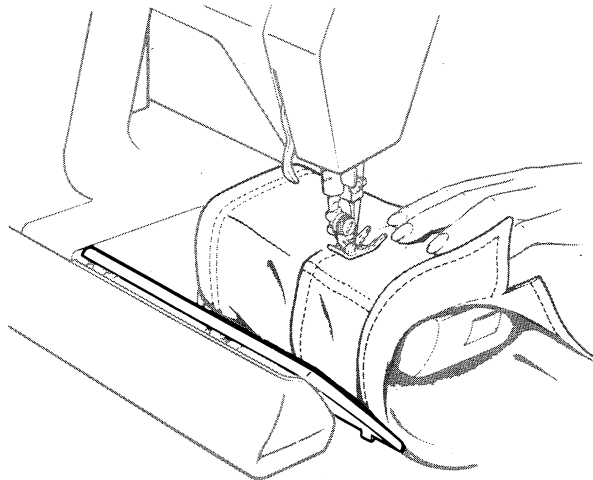




FREE-ARM SEWING

When sewing tubular and hard-to-reach garment areas, fabric handling is simplified when you convert your machine to free-arm sewing. To do this, simply press down on the corner of the hinged plate. To return to flat-surface sewing, raise hinged plate until it snaps into flat-surface position.

Free-arm Sewing



CLEANING THE MACHINE

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

With a soft cloth or lint brush, clean at points indicated by arrows.

Your machine requires no oiling under normal conditions. Your SINGER representative, or Approved Dealer, will examine the permanently lubricated parts whenever your sewing machine requires servicing.

NOTE: There are no user-serviceable parts inside your Electronic Sewing Machine. Therefore any unauthorized tampering inside the machine will void the guarantee.

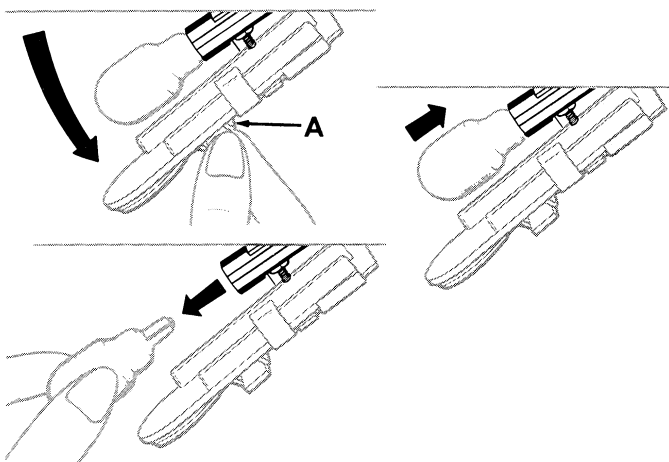
CHANGING THE LIGHT BULB

CAUTION: Before changing light bulb, disconnect power-line plug from electrical outlet.

This machine is designed to use a 12 volt, 12 watt bulb only.

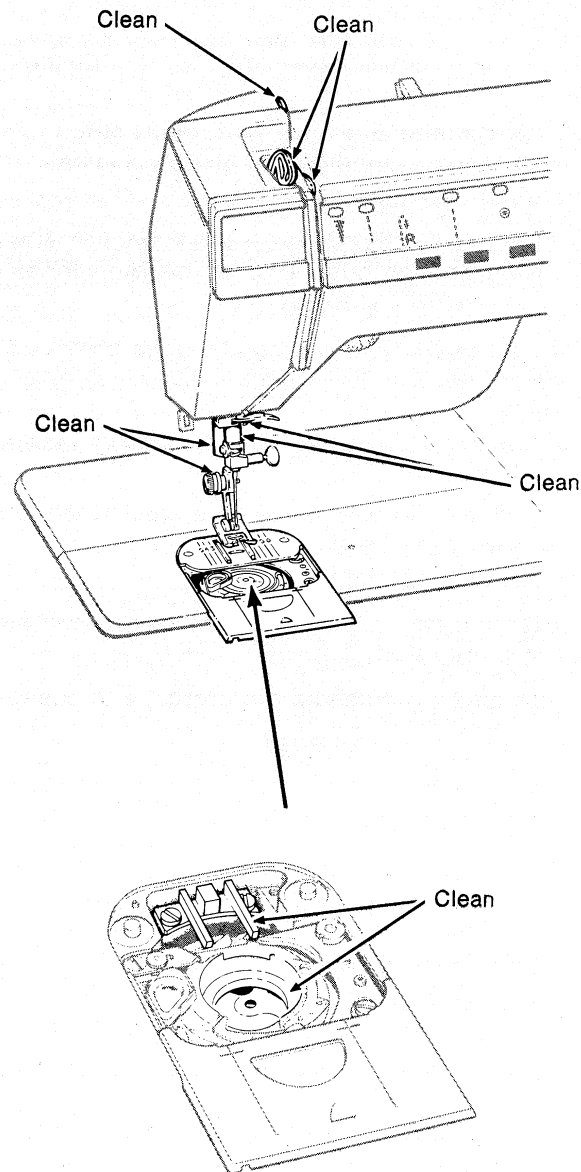
Removing Bulb. With thumb and index finger of right hand, push in and down on tab **A** of light lens and lower the light bracket. Do not attempt to unscrew the bulb. Pull bulb directly out of the socket to the left.

Replacing Bulb. While holding the top of bulb gently, press new bulb directly into socket. To replace lens, push in and up on tab **A** of light lens with thumb and index finger of right hand.



Changing the Light Bulb

Cleaning the Machine



PERFORMANCE CHECKLIST

Should you encounter a sewing problem, review the sewing operation you are performing. If the problem persists, the following hints should help you.

If the machine does not start: make sure . . .

- Machine is connected to electrical supply.
- Power and light switch is on.
- Bobbin has not been wound too full. (Do not wind beyond outer ring on bobbin.) If too full, remove excess thread.

If the sewing light is on and needle bar moves up and down, but the machine does not otherwise operate:

- Contact your nearest Singer Sewing Representative.

If the needle bar moves but the stitch is not formed: make sure . . .

- Needle is straight.
- Needle size and style are correct for the thread you are using.
- Machine and needle are correctly threaded.
- Bobbin contains thread.
- Bobbin-case area is free of lint and loose thread ends.

If fabric puckers: make sure . . .

- Needle-thread tension is not too tight.

If fabric does not move: make sure . . .

- Presser foot is down.
- All lint is removed from around the feed.
- Presser foot or accessory is correctly attached.

If, when returning to single-needle sewing from twin-needle sewing, your machine sews at a reduced stitch width: make sure . . .

- Twin-needle switch is all the way over to the left position.

If stitching is irregular, or needle thread breaks: make sure . . .

- Machine is correctly threaded.
- Thread is even and free of knots.
- Needle is straight and correct size for thread and fabric.
- Spool holder is pressed firmly against thread spool and thread unwinds smoothly from spool.
- Needle-thread tension is not too tight.
- Presser foot is raised for bobbin winding.
- Bobbin case is correctly threaded (when inserting a previously wound bobbin).
- Threads are correctly placed under presser foot when you start to sew.
- Bobbin-case area is free of lint and loose thread ends.
- Bobbin is not damaged.

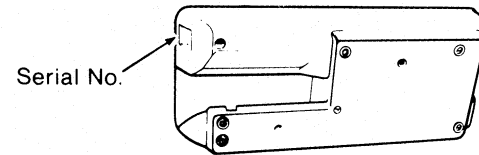
To prevent needle breakage: make sure . . .

- Twin-needle switch is activated when you do twin-needle sewing.
- Needle is not bent or burred, is the correct style for your machine model, and is the proper size for the thread you are using.
- Needle is fully inserted in needle clamp.
- Presser-foot shank is securely fastened to presser bar.
- Fabric being guided or supported behind the needle is not being pulled too hard.
- Machine is set for straight stitching when you use straight-stitch foot.

Dear Customer:

We recommend that for future reference you record the serial number of your Sewing Machine in the space provided.

Refer to illustration at right for location of serial number on your machine.



Serial No.....



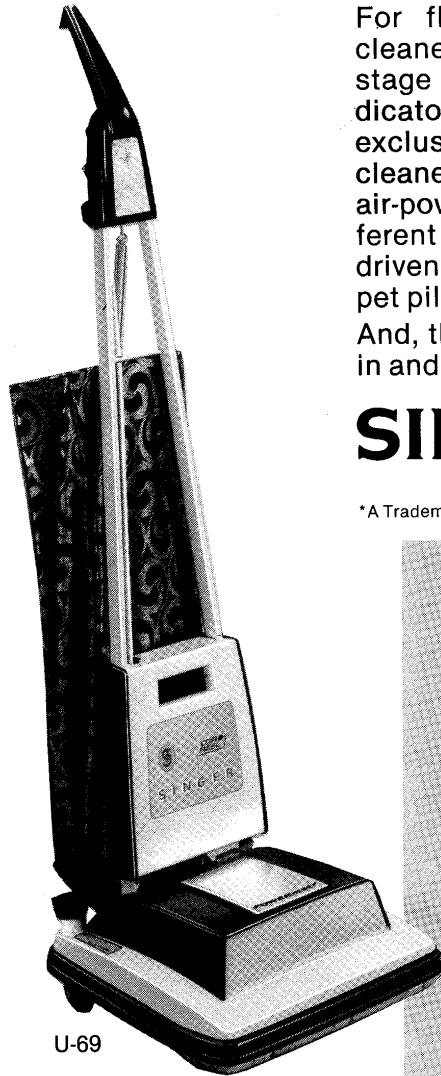
Here, there, everywhere... **SINGER**

SINGER...Makes great vacuum cleaners, too!

A good vacuum cleaner is like a good sewing machine. You use it day in, day out. It works hard. You expect years of dependable service.

You already know we make great sewing machines. But did you know we also make great vacuum cleaners? And we've been making them for over 46 years, with the same pride that goes into every Singer product.

For carpets, there's our Golden *Powermaster** upright Model U-69; it has our twin-fan suction system that distributes suction power evenly over the entire nozzle. (Fact: Only Singer makes a two fan system.) Plus one of the largest disposable dust bags in the industry. The high performance vibrator brush (approx. 4000 rpms) first shakes dirt free, then sweeps, then air-washes your carpet—that's triple action cleaning power!



U-69

For floors and above-the-floor jobs, we have powerful canister cleaners...like our *Golden Glide** canister Model C-17...which offers a two stage motor with 3.0 peak horsepower! Plus a pair of "pop-up" indicators. One tells you when your bag should be changed; the other (an exclusive to Singer) lets you know if you've accidentally clogged your cleaner with socks, matchbooks, etc...That's fail-safe cleaning! Plus an air-power control console that lets you adjust the suction power to 6 different cleaning jobs...including carpets. The C-17 has a separate motor-driven powerhead (for carpet cleaning) which adjusts to 4 different carpet pile heights!

And, there are other upright and canister models to choose from. Come in and see them today.

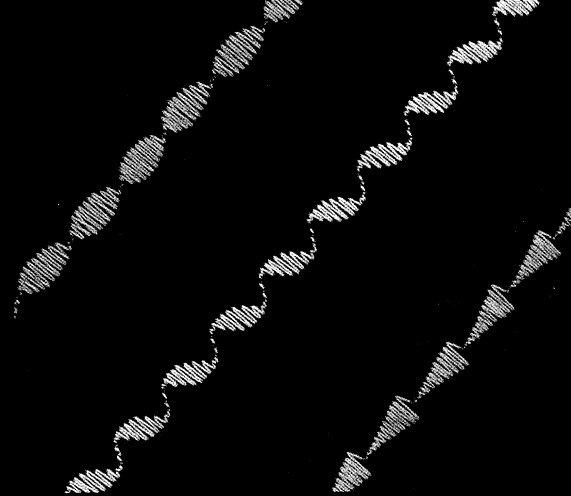
SINGER

The first name in sewing, the last word in cleaning.

*A Trademark of THE SINGER COMPANY



C-17



SINGER

Sewing Applications

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Your Sewing Centre

sewing area

Your new SINGER* sewing machine brings you into a world of pleasure and creativity: the world of sewing. Whether you are a beginner or a longtime sewer, you will experience the joy of creating something – such as a new dress, suit, or curtains – that is distinctly yours.

In order to truly enjoy sewing, and to best use your new sewing machine, you need a cheerful, comfortable and well-organized area for your sewing machine and sewing supplies. A sewing

room – with your machine in sewing position, ironing board up and work spread out – is the ideal answer; but you can make do with an available corner of space, also. And remember that a sewing machine is movable. If, for example, you will be doing your sewing in the evening, you may find a place in the family room where you can work while the rest of your family watches television. Open and airy laundry areas can make an excellent sewing studio, too. So you see, you have several options; let your creativity work for you!

Once you have found your sewing area, you will want to arrange your sewing equipment and tools in a pleasant and efficient manner. One of the best places for a sewing machine is in front of a window, which will provide you with natural daylight. You may mount your sewing machine in one of the cabinets especially designed for it, available at your local Singer Sewing Centre, or upon a desk or table. You should use a stool or straight chair without arms so that you may move your own arms and body freely as you go about sewing.

Pressing is essential to the art of sewing. Place your ironing board and other pressing equipment close to your machine. Make certain this area is well-lit.

Keep a wastebasket handy, for scraps and threads. It will keep your working area neat, and make cleaning up easy when you've finished sewing for the day.

You will also need a pattern layout and cutting area, which amounts to a flat, smooth surface. You may purchase a professional pattern cutting board, or make one out of a large sheet of hardboard supported by two card tables. A ping-pong table is ideal. Whatever you decide, locate your pattern layout and cutting surface such that you can walk around at least two of its sides. If you must use your dining-room table, be sure to protect it with heavy brown paper or a stiff table pad.

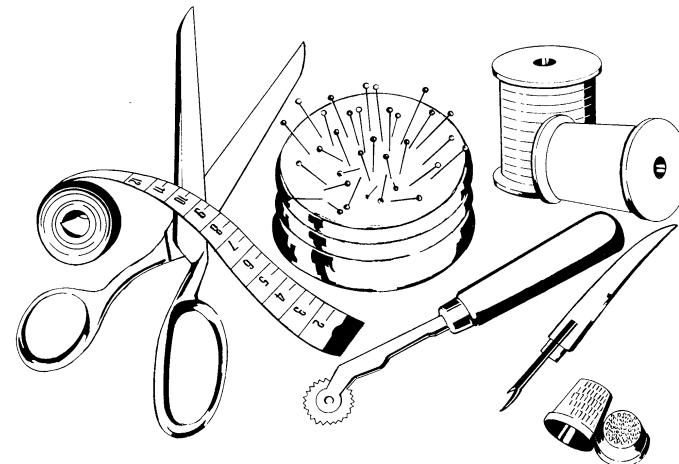
If you are sewing for yourself, you will need a full-length mirror, so that you may inspect the fit of your garments as you try them on during construction. A mirror on a wardrobe door suits this purpose perfectly.

Your storage area is best located near your sewing area. Precisely how much space you will require will be determined by the number of your sewing supplies and tools and the kind of sewing you do. Two or three drawers in a chest or shelves in a linen closet should be sufficient to hold your fabrics, interfacings, trimmings, patterns, etc. A sewing basket is the ideal place for smaller items such as thread, bobbins, needles, a thimble, scissors and so on.

If you have the room, a small bookcase for your sewing books, and a rack for your fashion magazines, adds a little extra convenience.

sewing tools

To do a truly professional sewing job, you need quality sewing tools and supplies, properly taken care of. Foremost among your sewing essentials is thread. It is advisable to have silk, mercerized and synthetic thread in an assortment of colours on hand. Also a large spool of white basting thread. A good assortment of hand-sewing and machine needles is highly important, as well. Handsewing needles are available in sizes from 3 to 10; your selection will depend upon the weight and character of your fabric. Machine needles are available in several styles and sizes from 9 to 18. Keep an assortment of needles, and, when sewing, select the style and size best suited to the weight and character of your fabric (see *Fabric, Thread and Needle Table* in this book). Remember that a machine needle should be changed after it has been used to stitch two or three garments, or if it becomes bent or damaged. Other essentials for good sewing include pins, a tape measure, a ruler, a thimble, scissors, shears, pressing equipment, extra bobbins, tweezers, a skirt marker, tailor's chalk or a marking pencil. If you are unfamiliar with any of these items, you will certainly come to know them as your sewing expertise increases. You will be learning, having fun and, most of all, achieving truly praiseworthy sewing results.



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 (15×1)	9 ■■
Lightweight – batiste, organdy, voile, taffeta, crepe, chiffon velvet, plastic film, satin, surah, peau de soie, shantung, brocade	(FINE) 100% polyester 50 mercerized cotton – silk	Style 2020 (15×1)	11
Medium Weight – gingham, seersucker, madras, percale, piqué, linen, chintz, faille, fine corduroy, velveteen, suitings, vinyl, terry cloth, challis, twill	100% polyester 50 mercerized cotton 60 cotton – silk	Style 2020 (15×1)	14
Medium Heavy – gabardine, tweed, sailcloth, duck, denim, coating, drapery fabrics, vinyl, deep-pile fabrics, corduroy, bonded fabric	100% polyester Heavy-duty mercerized cotton 40 to 60 cotton	Style 2020 (15×1)	16
Heavy – overcoatings, upholstery fabrics, canvas	Heavy-duty mercerized cotton 40 cotton	Style 2020 (15×1)	18
Knits, Woven Stretch and Elastic – double knits, bonded knits, spandex, nylon tricot, ciré tricot, jersey, panne velvet, stretch terry	100% polyester silk – 50 mercerized cotton	Style 2045 Ball Point (Yellow Band) Style 2021	14 9, 11, 14
Leather – suede, kidskin, calf, capeskin, buckskin, cabretta, patent, cobra, lined leathers, simulated leathers	100% polyester 50 mercerized cotton – silk	Style 2032 (15×2)	11 14 16
Vinyls (Knit Back) – suede, imitation reptile, crinkle patent, patent, embossed and printed vinyls	100% polyester 50 mercerized cotton – silk	Style 2045 Ball Point (Yellow Band)	14
Woven Fabrics (all Weights) – decorative straight-stitch topstitching	Buttonhole twist, fine to medium ■■■ Heavy-duty polyester ■■■	Style 2020 (15×1)	16 18
Light and Medium Weights (Woven and Knit) – decorative twin-needle stitching	100% polyester 50 mercerized cotton	Style 2025	14

- Does not apply to chainstitching
- Size 9 needle recommended for sewing only. For bobbin winding, use larger size needle.
- Use with mercerized cotton, silk or polyester thread in bobbin.

Tips on Straight Stitching

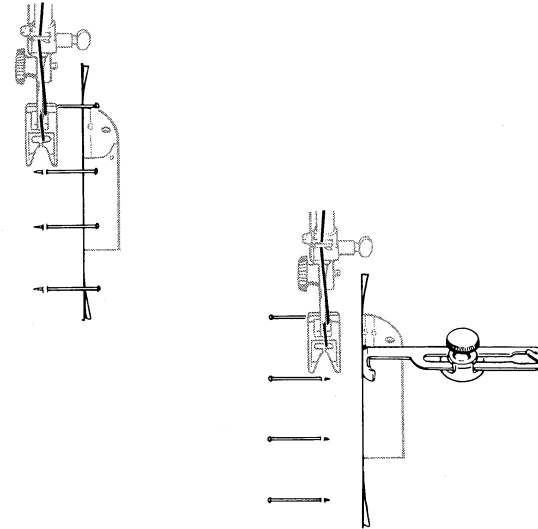
sewing a seam

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:

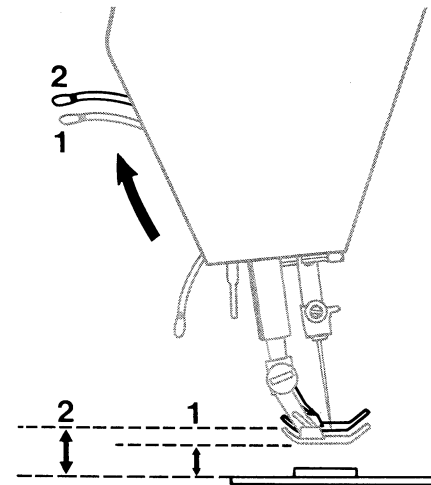
- They are at right angles to the presser foot and just nip into the fabric at the stitching line.
- They do not extend under both sides of the presser foot. *Never place pins on the underside of the fabric in contact with the feed.*

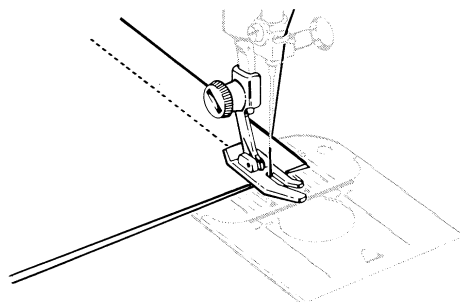
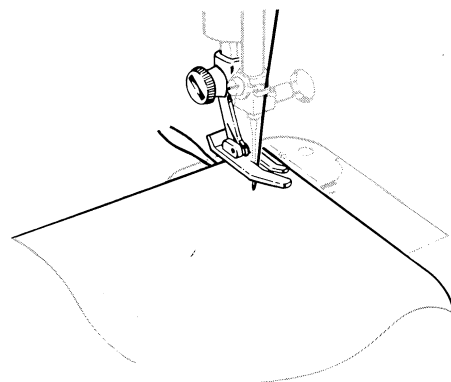
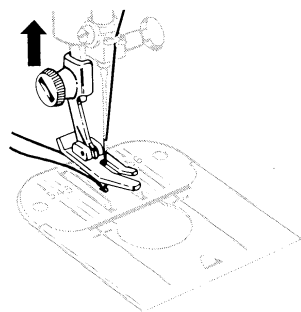
For information on speed basting by machine turn to page 12.



Placing Fabric

Most fabric can be placed under the presser foot by raising the presser-foot lifter to its up position **1**. When placing bulky fabrics, such as coating, knit or terry cloth, or several fabric layers, raise the presser-foot lifter to its high position **2** and make sure the 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.

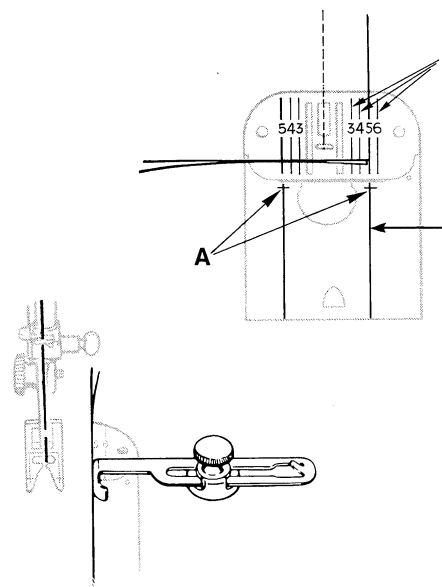
- Raise the take-up lever to its highest position by turning the hand wheel toward you. Raise presser foot.
- Draw 10 cm (four inches) of needle and bobbin threads under foot and place them diagonally to left.
- Hold thread ends and by turning the hand wheel toward you, position needle in fabric about 1½ cm (½ inch) from fabric edge.
- Lower the presser foot.
- Backstitch to edge of fabric.
- Sew in forward direction.

Keeping Seams Straight

To keep the seam straight, use one of the numbered guide-lines 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.

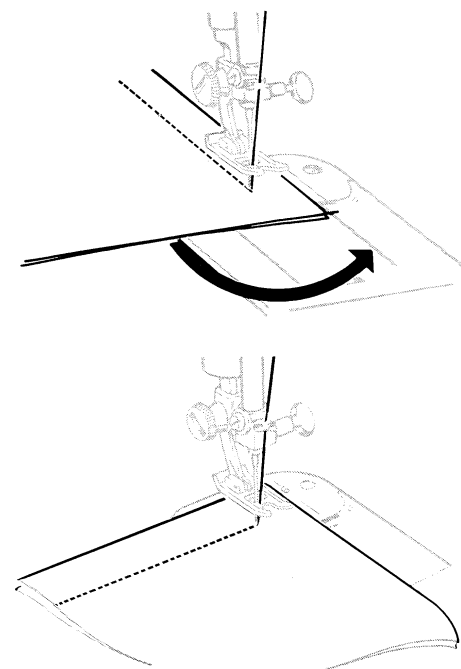
For extra help in keeping the seam straight, you may wish to use the seam guide. Because it allows you to guide stitches evenly between 3 mm ($\frac{1}{8}$ inch) and 32 mm ($1\frac{1}{4}$ inches) from the fabric edge, it is particularly useful for very narrow or very wide seams.



Turning Square Corners

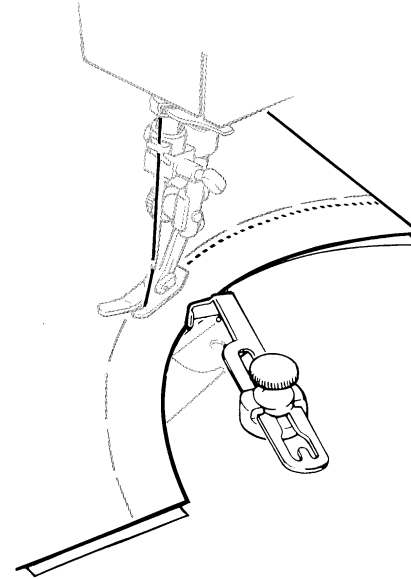
To turn a square corner 1,6 cm ($\frac{5}{8}$ inch) from the fabric edge, you need not measure or mark the seam. Simply use the crosslines **A** on the slide plate.

- 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 crosslines 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.



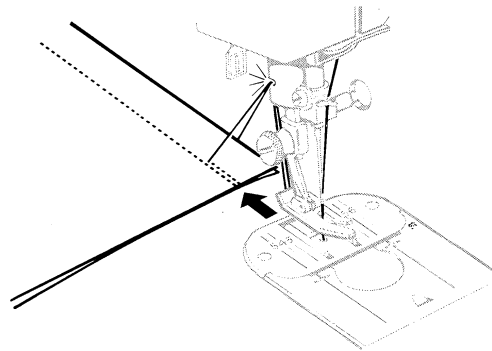
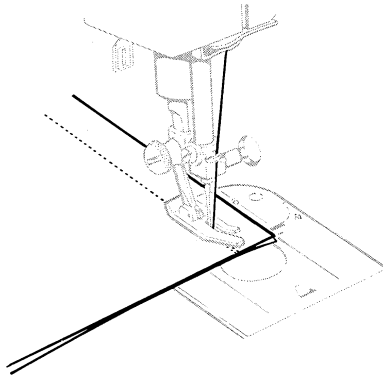
Curved Seams

1. Use a short stitch for elasticity and strength.
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. Backstitch approximately 1½ cm (½ inch) to reinforce end of seam.
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.



All About Zig-Zag Stitching

how stitches are produced

Your sewing machine can produce a variety of zig-zag stitch patterns, all of which fall into one of two broad categories. *Fashion* Stitch patterns are produced by the side-to-side

movement of the needle. *Flexi-Stitch* patterns are produced by both the side-to-side movement of the needle and the back-and-forth movement of the feed.

typical *Fashion* Stitch patterns



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



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.



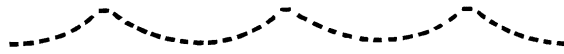
Blindstitch – Indispensable for finishing hems.



Arrowhead Stitch – Combines beauty and utility. Individual pattern units reinforce points of strain. Use them on pocket corners in place of bar tacks.



Bead Stitch – A decorative stitch for single-needle and twin-needle work.



Scallop Stitch – Makes perfectly formed, evenly spaced scallops for edgings and tucks.



Zig-Zag Point Stitch – Finishes and decorates in one operation. Makes shadow hems and attaches lace.



Elastic Stretch Stitch – Indispensable for plain and overedged seams in knit and stretch fabrics and for attaching elastic.

typical functional *Flexi-Stitch* patterns ▪



Fagotting Stitch – Extremely versatile. Use it for stretchable straight-stitch seams in knit and stretch fabrics and for fagotting, embroidering, and quilting.



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



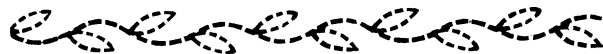
Overedge Stretch Stitch – Used for joining and overedging seams in knit and stretch fabrics in one operation.



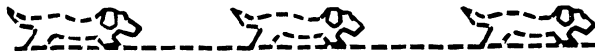
Ric-Rac Stitch – For heavy-duty, general-purpose stretch sewing. Also reversible topstitching.

▪ When sewing these patterns, use either the zig-zag foot or the special purpose foot.

typical decorative *Flexi-Stitch* patterns ■■



Leaf Stitch – For decorative stitching.



Dog Stitch – A novel design, especially appropriate for children's wear.



Surf Stitch – Attractive for borders and for smocking with elastic thread.



Paris Point Stitch – A traditional pattern used for hemstitching, drawn-thread work, picot-like edgings, and appliqué.



Tulip Stitch – Ideal trimming for collars and cuffs on little girls dresses.

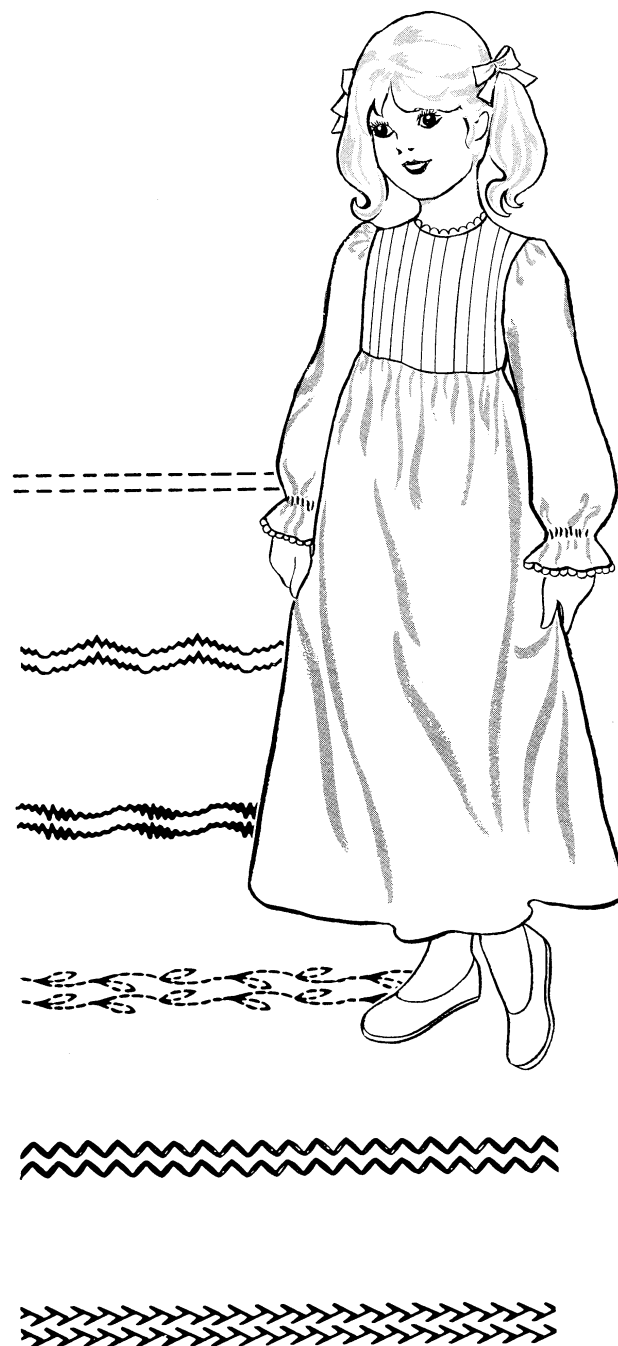
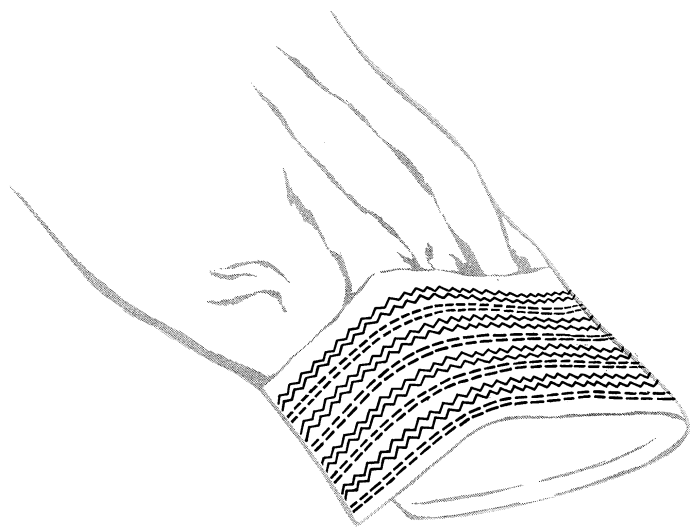


Greek Key Stitch – A traditional pattern, ideal for decorative borders, hems and edge finishes.

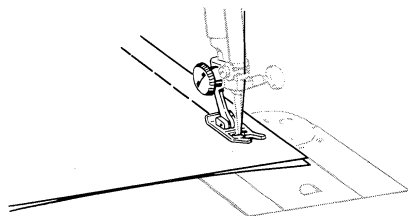
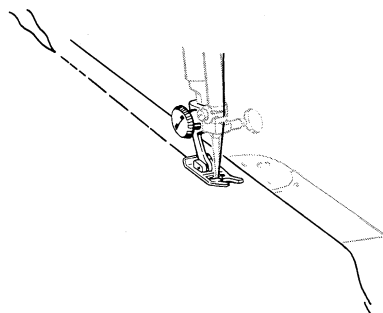
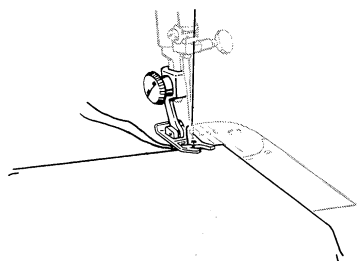
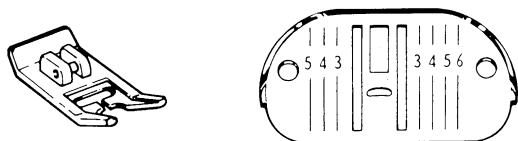
■■ When sewing these patterns, use the special purpose foot only.

twin-needle stitches

The twin-needle produces two parallel, closely spaced lines of decorative stitching simultaneously. You can stitch with either one or two colours of thread. Some of the attractive designs you can create are shown here. Use the special purpose presser foot when stitching all of these patterns, except the twin straight stitch. For the twin straight stitch, use the zig-zag presser foot. Use the zig-zag plate for all of these patterns. Refer to your user's guide for specific machine settings.



Temporary Stitching



speed basting

The basting stitch lets you produce long stitches in a variety of lengths. 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.

Set your machine for speed basting, as per instructions in user's guide. Adjust stitch length to suit application. Set speed in MIN range. Zig-zag plate and foot are recommended.

Note: The Even Feed Foot cannot be used for speed basting.

Stitch Length

The stitch-length control regulates the length of basting stitches, but because the interval at which the needle enters the fabric is changed when you machine baste, the length of the stitch is no longer the same as for regular stitching.

Very short stitches are recommended to fasten stitching starts and endings.

Thread Tension

Speed basting requires a light needle-thread tension. When tension is correctly adjusted, stitches up to 2½ cm (one inch) long should lie flat in firm fabrics. If stitches are more than one 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 colour to contrast with your fabric so that it can be seen easily.

Thread the machine in the usual way.

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 machine for basting at a short stitch length, and take a few stitches to position and secure basting start.

2. Adjust to the length of basting stitch desired (stitches less than 2½ cm (one inch) long are recommended for seam basting) and proceed. Stitch slowly, supporting the fabric at the front and back of the presser foot if stitches are more than 1½ cm (½ inch) long.

3. Take a few short stitches to secure end of basting.

chainstitching

Single-thread chainstitching looks like regular straight stitching on top but is a series of interlocking loops on the underside of the fabric. The stitches are produced by the needle thread alone so you do not need a bobbin thread or a bobbin. Because the stitches are formed by a single thread, the interlocked loops unravel easily, 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.

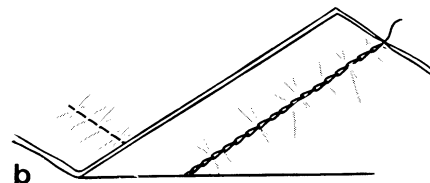
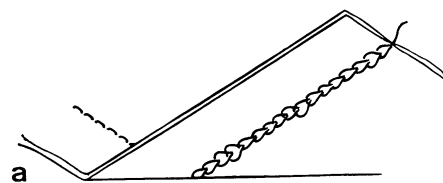
- Making stay chains (sometimes called French tacks) to anchor linings, or belt carriers to hold belts in place.
- Basting for trial fittings.

Set your machine for straight stitching. Use a medium stitch length. Thread and prepare machine as instructed in user's guide. Use zig-zag foot.

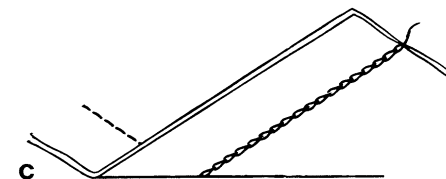
Adjusting Tension

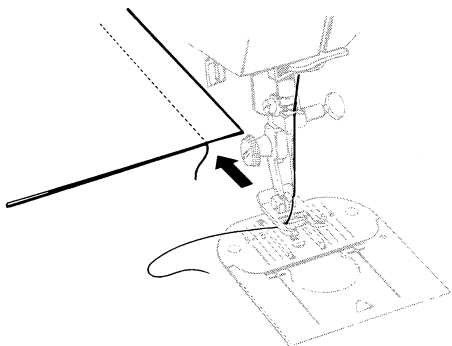
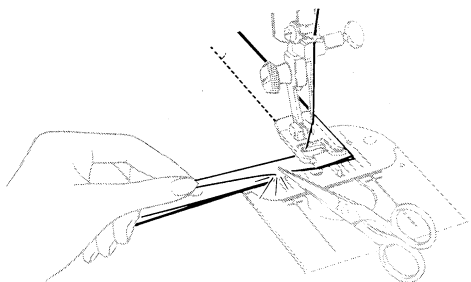
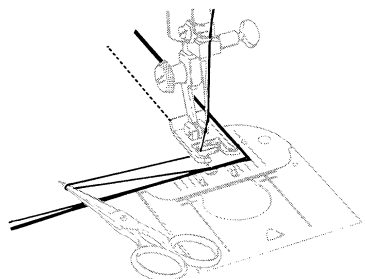
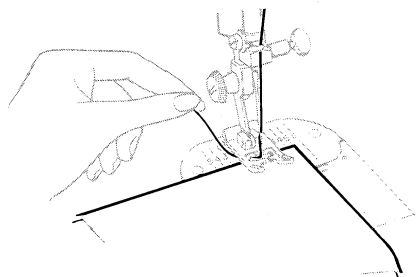
To find the correct tension setting for chainstitching, set the tension dial on 3 and make a test sample in your fabric. If the loops in the chain on the underside of the fabric are loose and irregular in size, increase tension. When the tension is correctly adjusted, the chain will be flat and smooth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

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



- a Too Little Tension
b Too Much Tension
c Correct Tension



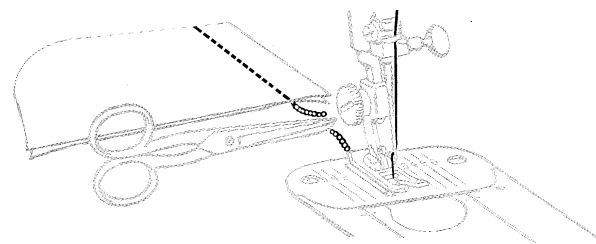


Sewing a Chainstitch Seam

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.*
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 2 cm (one 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.

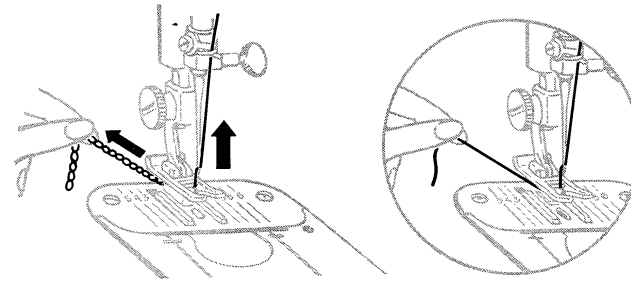
To end chainstitch seam without forming a temporary lock in the fabric continue stitching beyond edge of fabric, making a chain from 3 to 5 cm (1–2 inches) long. Raise needle and cut chain between fabric and foot.

Releasing the chain from the machine see next page.



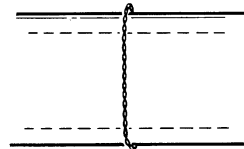
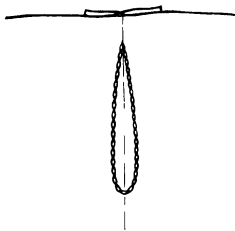
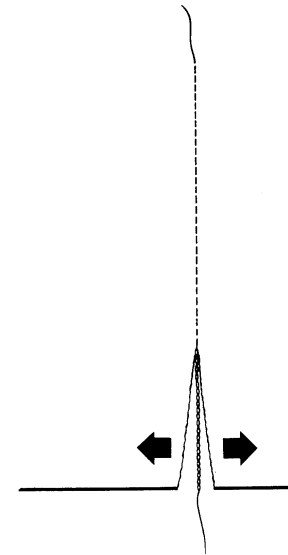
Releasing the Chain from the Machine

- Raise presser foot.
- Hold end of chain and turn hand wheel slowly towards you until needle is all the way down in the needle hole.
- Then turn hand wheel slowly away from you, pulling gently on chain, which will unravel as needle rises.



Making a Thread Chain

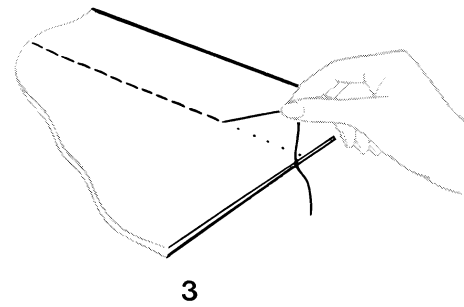
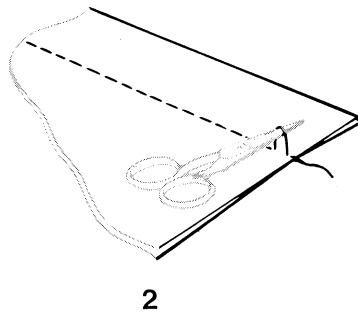
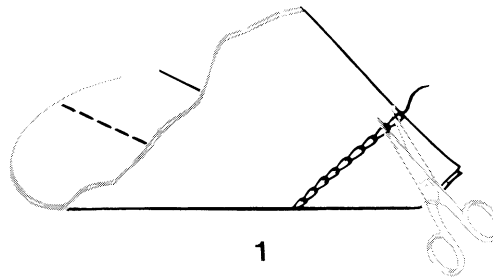
Stay chains, belt loops and chains for cording buttonholes, normally time-consuming hand-worked finishes, can be quickly chainstitched. To produce a chain, stitch on paper for desired length, remove work from machine and tear paper away from the stitching. Follow instructions on page 14 for starting and ending stitching.



Removing Stitching from Fabric

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

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



simulated tailor-tacking

This is a quick and easy method of transferring the seam lines, darts and construction details of a pattern onto two layers of fabric simultaneously.

It can be done either:

1. Through the pattern tissue or
2. On a given chalk or pencil line.

When using the pattern tissue it can only be used once, as it becomes perforated and the seam allowance sections etc. are detached when pattern is removed from fabric.

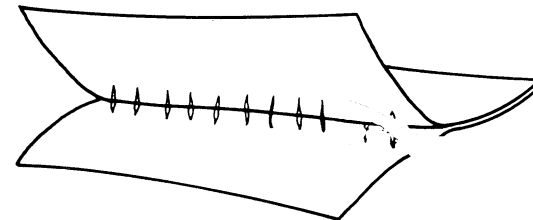
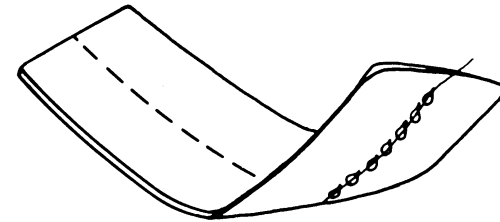
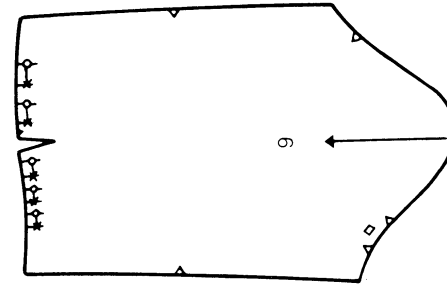
Use the zig-zag foot and plate. Insert a size 14 needle in the machine and raise the needle to its highest position. Thread the machine with No. 50 mercerized thread as far as to the take-up lever. Then pass the thread through the chainstitch thread guide (as described in the user's guide for chainstitching) and continue threading in the usual manner.

Set speed to MIN and machine for straight-stitching. Adjust stitch length control for maximum stitch length. Set thread tension to 0. Use minimum presser foot pressure only.

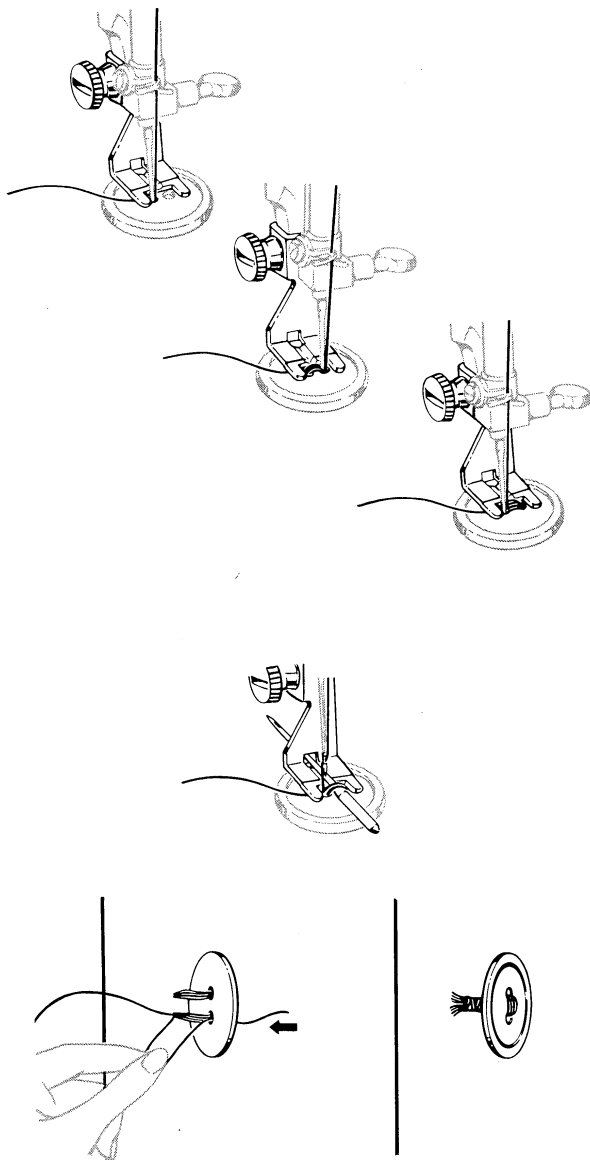
- Stitch slowly and guide your work carefully to prevent tissue "pushing" on the fabric – especially in curved sections, e. g. armholes and necklines.
- Remove paper pattern.
- Pull the two layers of material gently apart.
- Cut through the centre of the long loops of stitching.

Upon completion of tailor tacking *always* remember to release the thread from the chainstitch thread guide and reset for regular needle thread tension.

Important: Tailor-tacking must always be removed after fitting before final seam stitching is done.



Buttons and Buttonholes



buttons

Attach button foot and cover plate to machine. Turn machine on. Programme your machine for the *overedge stretch stitch* and set stitch width control on **4** for button sewing. Turn hand wheel toward you until needle moves to left side. Place garment and button under foot. Turn hand wheel again, and lower needle into left hole of button. Lower foot. Run machine slowly. Allow at least three groups of crossover stitches to enter the right hole of button, then finish sewing on left side, taking two or three stitches.

Forming a Thread Shank

Buttons sewn on coats and jackets should have a thread shank to make them stand away from the fabric. To form a thread shank, sew over the blade of a regular machine needle.

- Position button and lower button foot. Place needle in groove of foot so that point enters the hole in the foot. The farther in you push the needle, the longer the shank will be.
- After stitching, remove needle from groove. Remove work from under presser foot, cutting threads about 15 cm (six inches) from fabric. Pull needle-thread ends to back of button and form a firm shank between button and fabric by winding threads tightly around attaching stitches. Tie thread ends securely.

buttonholes

Buttonhole Length

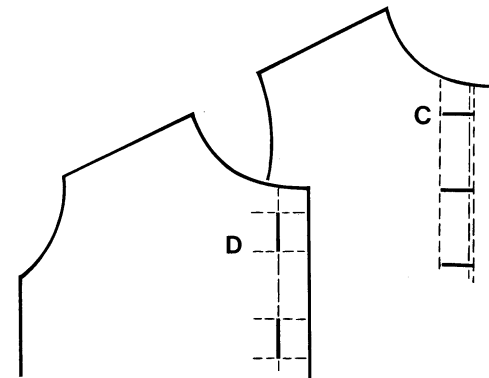
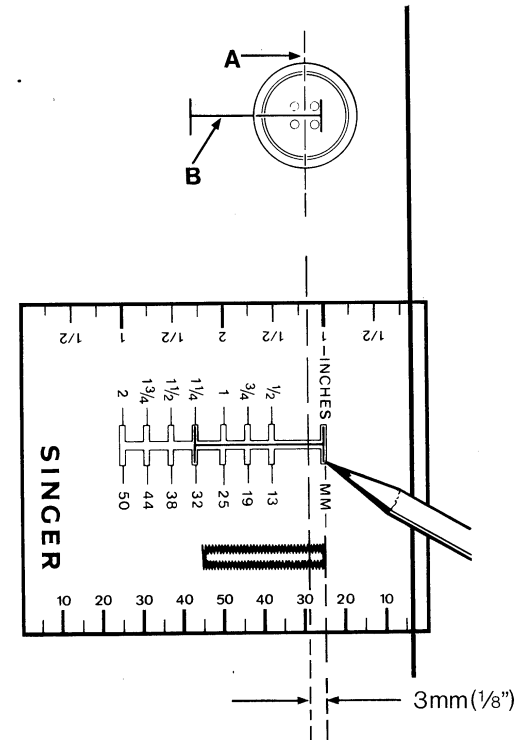
When you use the one-step method of stitching buttonholes, the buttonhole foot will gauge the buttonhole length for you.

When buttonhole length is not automatically gauged with the buttonhole foot, it may be estimated by measuring the width plus the thickness of the button. To make sure the measurement is correct, and for buttons of irregular shape, cut a slit in a scrap of fabric approximately the width of the button you intend to use and increase length of opening until button slips through easily.

Buttonhole Position

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

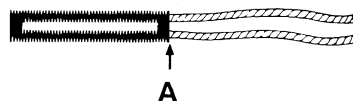
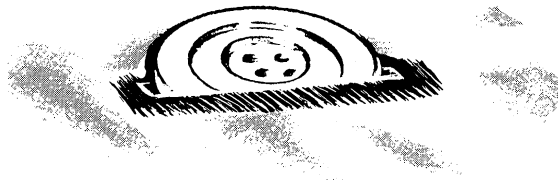
1. Mark the centre line **A** of the garment. This guideline can be made by hand basting or machine speed basting. The space from the centre line to the finished edge of the garment must be at least equal to three-quarters the diameter of the button. With this spacing, the button will not extend beyond the edge when the garment is buttoned. Make sure that the centre line marking follows a lengthwise fabric thread.
 2. Mark a position guideline **B** for each buttonhole. Smooth fabrics may be marked lightly with a sharp pencil. Where pencil marking is unsuitable (textured fabrics, for example), basting should be used.
- **Horizontal** buttonholes **C** are placed to extend 3 mm ($\frac{1}{8}$ inch) beyond the centre line of the garment, as illustrated, so that the buttons will be in the centre of the figure when the garment is fastened. Horizontal buttonhole guidelines should follow a crosswise fabric thread and be longer than the finished length of the buttonhole. Mark ends of each buttonhole vertically.
 - **Vertical** buttonholes **D** are placed so that the centre line of the garment is in the centre of the buttonhole, as illustrated. Mark the ends of each buttonhole horizontally across the centre line basting and use the centre line marking as the buttonhole guide when stitching.



Buttonhole Interfacing

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

When planning your garment, remember that buttonholes are stitched through three thicknesses of fabric (garment, interfacing and facing) after the facing has been attached.



Test Sample

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

Stitching Buttonhole

See user's guide.

Cutting Button Opening

Before cutting button opening, place a pin across the cutting space at each end of the buttonhole to protect the stitching. Using a seam ripper or a pair of small scissors, insert blade in centre of cutting space and cut from this point in either direction. Slip button through opening of test buttonhole to check length.

Corded Buttonholes

Corded or raised buttonholes are made by stitching over a filler cord. Embroidery or crochet threads make good filler cords, but double strands of sewing thread may also be used.

Procedure

- Insert cord in buttonhole foot and sew buttonhole as instructed in user's guide.
- When stitching is completed, release cord from foot and remove work by drawing it to the back of the machine.
- Draw the loop of filler cord into the buttonhole stitching by holding fabric at the starting end of the buttonhole with one hand and pulling ends of filler cord firmly with the other.
- Trim ends of filler cord, illustration **A**. Cut button opening.

Sewing the Professional Way

construction details

Zippers

In the Notions section of your Singer Sewing Centre, you will find several kinds of zippers, one of which will be just right for whatever you wish to sew. How the zip is inserted depends on the type of garment and location of zipper. By using the zipper foot, you will find it easy to form an even line of stitching close to the teeth of the zipper.

Set machine for straight stitch. Adjust stitch length to suit fabric. Use straight-stitch plate and zipper foot.

Attaching the Zipper Foot

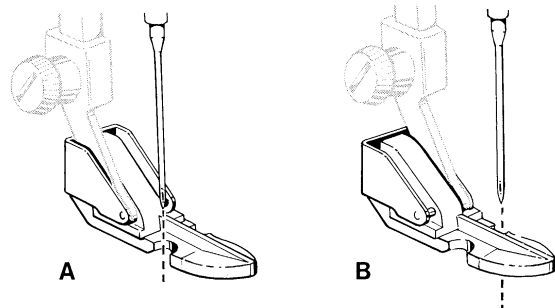
When the zipper is to the left of the needle:

- Attach left side of zipper foot to shank (needle will enter left notch in foot) – see illustration **A**.

When the zipper is to the right of the needle:

- Attach right side of zipper foot to shank (needle will enter right notch in foot) – see illustration **B**.

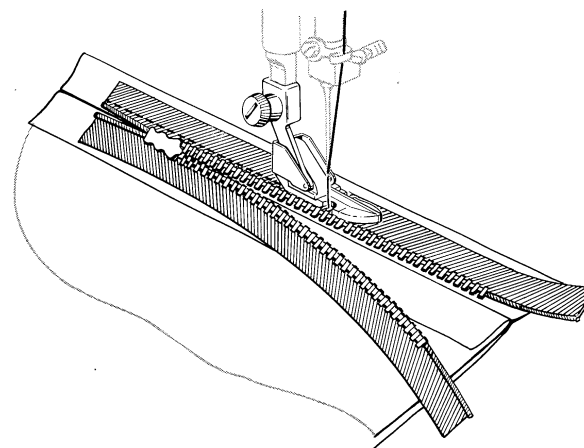
Snap the zipper foot onto the shank as instructed in user's guide.

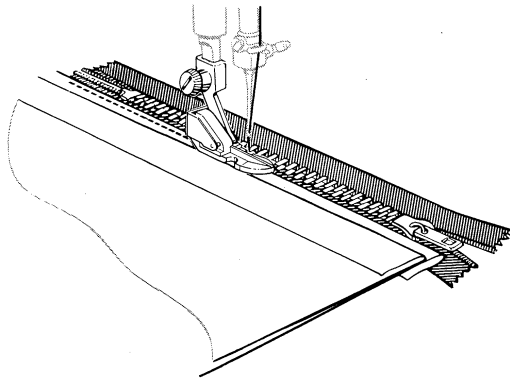


Zipper inserted under left Lapped Seam

1. Machine-baste the seamline the exact length of the garment opening and press the seam open.
2. Attach the zipper foot to the right of the needle (illustration **A**).
3. Open the zipper.
4. Flatten out the back seam allowance and place the zipper face down on it, as illustrated, with the edge of the zipper teeth following the seam line.
5. Stitch the zipper tape onto the seam allowance.

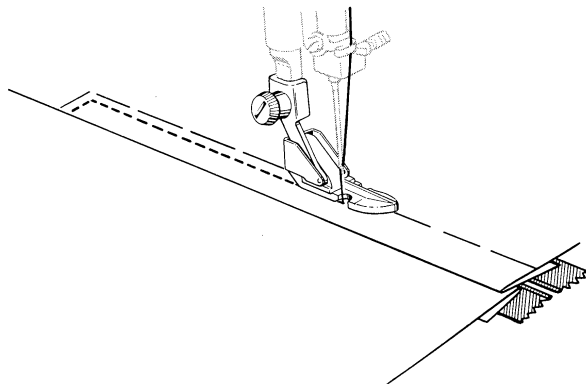
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6. Adjust the foot to the left of the needle (illustration **B** on page 21.)
7. Close the zipper and turn it face up.
8. Smooth back the seam allowance at the edge of the zipper.
9. Top stitch to the tape close to the folded edge.

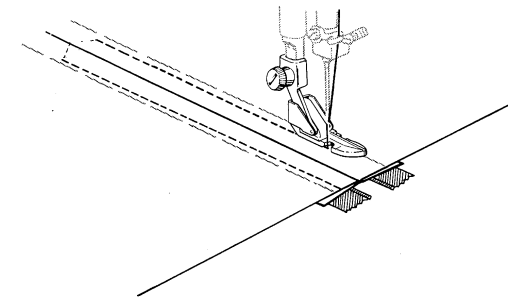
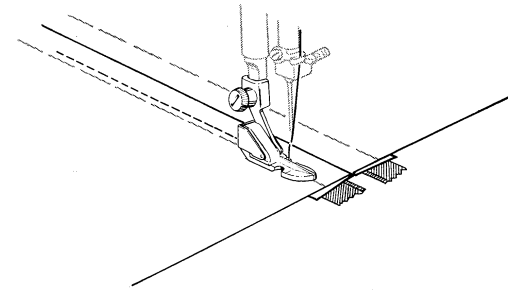
10. Spread garment flat and turn zipper face down over front seam allowance.
11. Hand-baste zipper to garment from wrong side, through zipper tape, seam allowance, and front of garment.



12. Turn garment right side out.
13. Adjust zipper foot to right side of needle and stitch across the lower end of the zipper and up to the waistline, using the basting stitches as a guide.
14. Remove hand and machine bastings. Press.

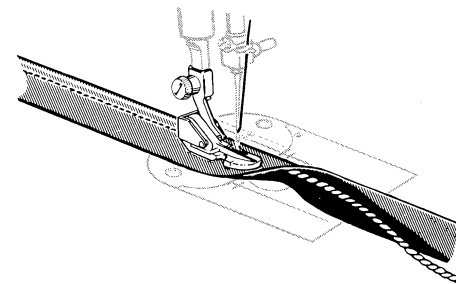
Zipper inserted centred under Lapped Seam

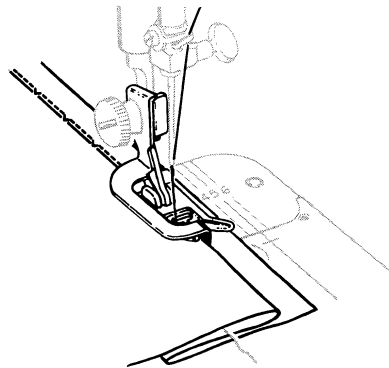
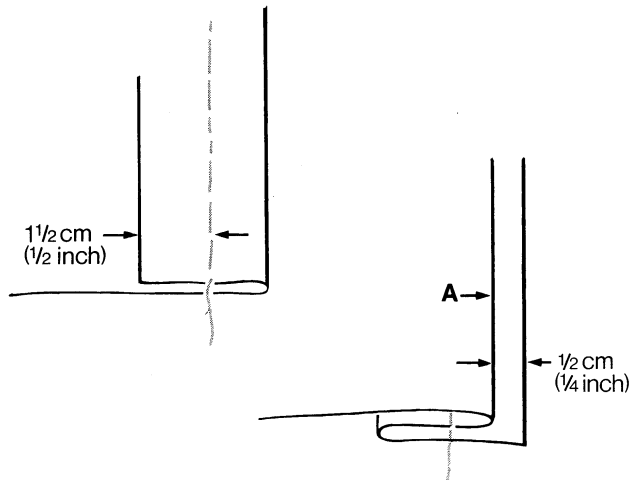
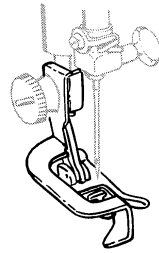
1. Machine-baste the seamline the exact length of the garment opening and press the seam open.
2. Close zipper and hand-baste it below the seam at both sides.
3. Adjust the zipper foot to the left of the needle.
4. First stitch left side from the bottom to the top.
5. Attach the zipper foot to the right of the needle.
6. Begin stitching at the start of the left seam. First stitch bar across zipper and then continue to sew the right side of the zipper.
7. Remove basting and press.



Corded Seams

The corded seam is a professional treatment for slipcovers, children's clothes, blouses, and lingerie. To make a corded seam, make the welting first as illustrated (or buy it ready-made at a notions counter), then stitch it into the seam. For both steps, use the zipper foot to place the stitching close to the cord.





Blindstitch Hems

Blindstitching takes a little practice, so make a test sample first.

Set machine for blindstitch. If necessary adjust stitch length and stitch width to suit fabric. Use zig-zag plate and zig-zag foot. Attach blindstitch hem guide.

Raise take-up lever to its highest position.

1. Raise presser foot, loosen presser foot screw, and slip blindstitch hem guide between screw and shank of zig-zag foot. Make sure underside of guide clears slide plate and front of foot. Tighten presser foot screw.
2. Turn up hem in width desired. Apply appropriate finish to hem edge and press. (You may want to baste the turned hem to hold it in place. If so, be sure to place basting at least 1 1/2 cm (1/2 inch) *below* top edge of hem.)
3. Fold the hem back against right side of garment, creating a soft fold **A** about 1/2 cm (1/4 inch) from top edge of hem on wrong side of work. Press lightly.
4. Position hem under foot with soft fold resting against wall of guide. Make sure flange of guide is between the soft fold and top of hem.
5. Lower the foot and stitch so that the straight stitches fall on the hem edge and sideward stitches pierce the soft fold. While stitching, guide hem edge in a straight line and feed soft fold evenly against wall of hem guide.
6. Raise take-up lever to its highest position. Raise presser foot and remove work (by drawing it to the back).

Darts

Darts can be made in the usual way on your sewing machine. That is, you begin stitching at the wide end of the dart, stitch to the point, and then fasten the two thread ends.

However, you can avoid the problem of fastening the thread ends by making a "continuous-thread" dart and stitching in the opposite direction. This method is particularly useful for darts in sheer fabrics, where transparency requires a neat, clean finish. It is also useful for darts made on the right side of a garment as a style detail.

Regular Darts (Illustration A)

Set machine for straight stitch. Adjust stitch length to suit fabric. Use straight stitch plate and straight stitch foot.

1. Stitch from the seam edge, tapering gradually to the point.
2. Stitch beyond the fabric to form a thread chain 1½ cm (½ inch) to 2 cm (¾ inch) long.
3. Clip thread ends about 5 cm (2 inches) from dart point and tie the ends into a single knot close to the stitching.

Continuous-thread Darts (Illustration B)

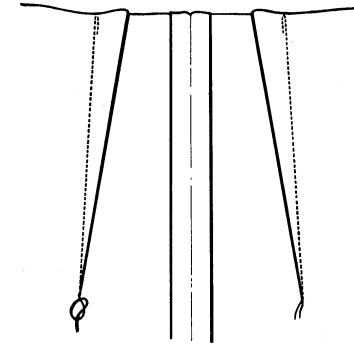
1. Set the machine as for regular darts.
2. To wind an empty bobbin with enough thread for a single thread dart up to 20 cm (8 inches) long, turn hand wheel over once by hand and remove thread end. Make four additional turns of the hand wheel.
3. Close slide plate, and position the needle in the very edge of the fold, at the point of basted or pinned dart. Lower presser foot.
4. Stitch carefully, making the first three or four stitches in the fold of the fabric, then sew towards the wide end of the dart.
5. Reinforce wide end of dart with reverse stitching and as work is removed from machine, bobbin will be completely emptied, ready for rewinding for next dart.

Darts in Interfacing (Illustration C)

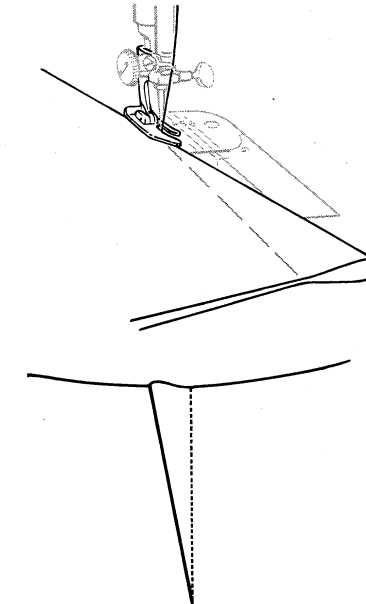
With zig-zag stitching, interfacings can be shaped without bulk.

1. Cut out the dart on the stitching line.
2. Bring raw edges together and pin over a muslin stay.
3. Stitch, reinforcing both ends with reverse stitching.

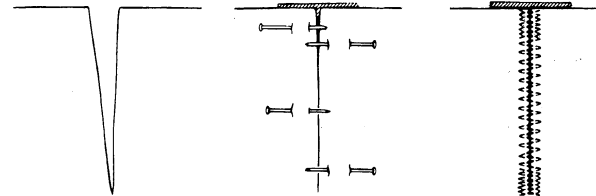
A



B



C













sewing knit and stretch fabric

When you sew stretch fabrics, double knits, tricot, jersey and elastic, choose one of the stitch patterns that build stretch into the seam. A wide variety of stitches are available. See

table below. *Remember to use a ball-point (yellow band) needle in the machine when you attach elastic or sew knit or stretch fabric.*

Stretch Stitch Chart

Pattern		Where to Use
	Maxi-Stretch Stitch ■■	Heavy-duty construction seams – Seam reinforcement – Ski-suit and snow-suit construction – Jeans – Crotch seams.
	Overedge Stretch Stitch ■	Overedge seams that stretch – Crotch seams – Waistband and seam finishes in shorts and slacks – Ski-suit, snow-suit and swimsuit construction.
	Honeycomb Stitch ■	Attaching elastic and stretch lace – Lingerie and girdle repair – Swimsuit construction – Edge finishes for seams, hems and facings.
	Multi-Stitch Zig-Zag	Attaching elastic and stretch lace – Lingerie and swimsuit construction – Girdle seams – Seam finishes – Casings and waistband finishes.
	Plain Zig-Zag	General-purpose stretch sewing – Lingerie seams – Attaching stay tape – Seam finishing – Edge finishing – Attaching stretch lace.
	Ric-Rac Stitch ■	Heavy-duty, general-purpose stretch sewing – Reversible topstitching.
	Blindstitch	Blindstitch hemming – Overcast seam finishing – Shell hems in lingerie.
	Fagotting Stitch ■	Swimsuit seams – Attaching stretch lace – Lingerie and girdle seams.
	Chainstitch	Flexible basting – Hem-tape application – Double-stitched seams in delicate knits.
	Elastic Stretch Stitch	Plain and overedged seams that s-t-r-e-t-c-h – Construction seams in ribbed stretch fabric.

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

■■ This stitch cannot be used with the Even Feed Foot.

Starting to Sew Using a *Flexi-Stitch* Pattern (Illustration A)

To start sewing with a *Flexi-Stitch* pattern, draw needle and bobbin threads under foot to back of machine. Hold thread ends and position needle in fabric by turning the hand wheel toward you. Lower presser foot and hold thread ends at back of foot as you start to stitch. This will prevent the threads being drawn down into the needle hole. The *Flexi-Stitch* pattern itself will reinforce the ends of your seam.

Guiding and Supporting Fabric

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

Some fabrics, however, require support while being stitched.

- For nylon tricot and similar synthetic knits, apply *gentle* tension by holding seam at the front and back of the presser foot as you sew. (Illustration B).

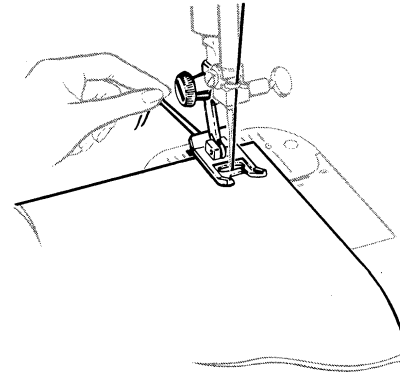
Adjusting Pressure when Sewing Knit and Stretch Fabric

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

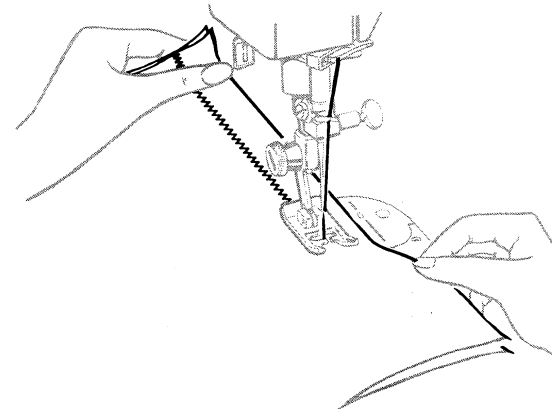
- For thick, soft or very stretchy knits, decrease pressure by turning dial from normal towards darning setting.
- For nylon tricot, ciré and similar hard surface synthetic knits, increase pressure by turning dial from normal towards maximum.

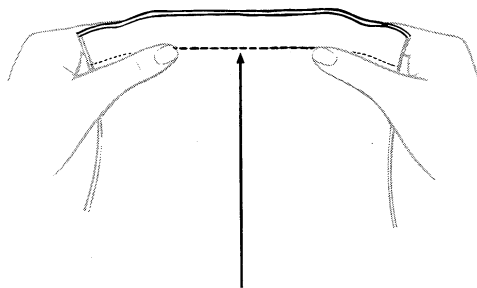
A normal pressure setting is usually best for all types (and weights) of knit fabrics when the Even Feed Foot is used.

A



B





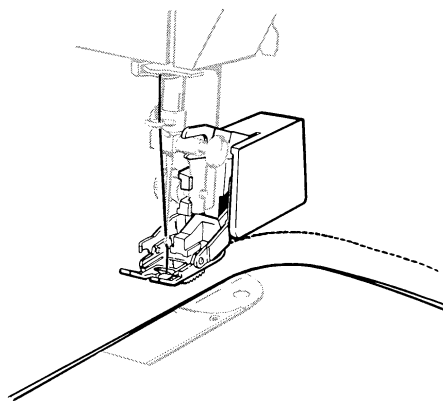
Plain Stretch Seams

For plain seams that *s-t-r-e-t-c-h*, you have a choice of stretch stitches, the plain zig-zag stitch and the elastic stretch stitch. Equally useful for closed or pressed-open seam construction, these stitches provide flexibility and will not break thread under stress when used in knit, stretch, and elasticated fabric. Use them for construction seams and seam areas that are subject to an unusual amount of strain.

Set machine for plain zig-zag or elastic stretch stitch. Adjust stitch length to suit fabric. Stitch width must be *very narrow*. Use zig-zag plate and either zig-zag foot or Even Feed Foot.

Preparation

Make a test sample to determine best stitch length and width and to adjust thread tension. Be sure to insert a ball-point (yellow band) needle in machine if you are stitching a knit, stretch or elastic fabric.



Procedure

1. Draw needle and bobbin threads under foot to back of machine. Hold thread ends and position needle in fabric by turning the hand wheel toward you.
2. Lower the presser foot and start machine, holding the thread ends as the first few stitches are made.
3. Guide fabric lightly as you sew.
4. Press seam open after stitching as when using a straight stitch.

Maxi-Stretch Stitch Seam

When you use the maxi-stretch stitch for a seam, you can adjust the length of the stitch to suit the weight and elasticity of your fabric. Because it can be made in various lengths, the maxi-stretch stitch is particularly useful for seaming extra-heavy and extra-bulky fabric and is easier to rip out than most stretch stitches.

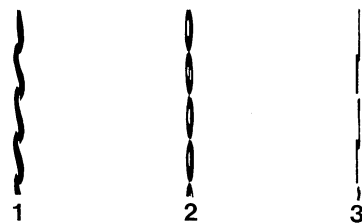
Set machine for maxi-stretch stitch. Adjust stitch length to suit fabric. Set speed in MIN range. Use the zig-zag foot and plate *only* – do *not* use the Even Feed Foot.

Preparation

Make a test sample first to determine the best stitch length, pressure and tension settings for your fabric. Be sure to use a ball-point (yellow band) needle if you are stitching a knit or stretch fabric.

Adjusting Stitch Length

Maxi-stretch stitch length is adjusted in the same way as regular straight stitch length. Longer stitches are most appropriate in firm woven and bonded fabrics, heavy double knits and sweater knits; shorter stitches are best for medium-weight knits and woven stretch fabric. For maximum stretch with strength, use the shortest stitch compatible with fabric weight.



Adjusting Stitch Balance

- 1 Incorrect
- 2 Correct
- 3 Incorrect

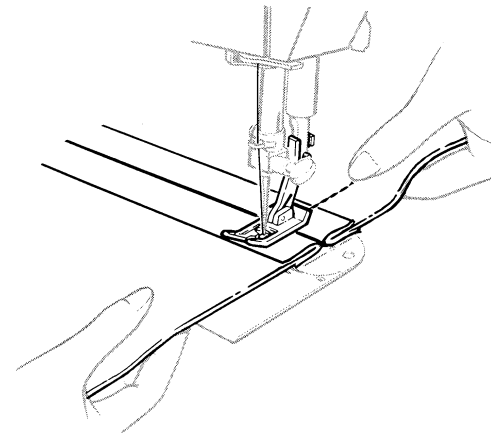
Adjusting Stitch Balance

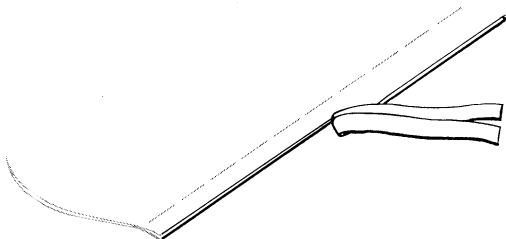
For maximum strength and good appearance, forward and reverse stitches that make up the maxi-stretch stitch should be balanced and of equal length. See user's guide for instructions.

Procedure

1. Pin or baste seam.
2. Draw needle and bobbin threads under foot to back of machine. Hold thread ends and by turning the hand wheel towards you, position needle in fabric $\frac{1}{2}$ cm ($\frac{1}{4}$ inch) in from starting edge.
3. Lower presser foot and start machine, holding thread ends at back of foot as first few stitches are made.
4. Guide fabric lightly, letting the machine make the back-and-forth stitches that give s-t-r-e-t-c-h to the seam.

When stitching across folds and seam joinings, apply tension by holding seam at the front and back of the presser foot, as shown, to assist feeding. This type of support is essential for heavy or dense fabrics.

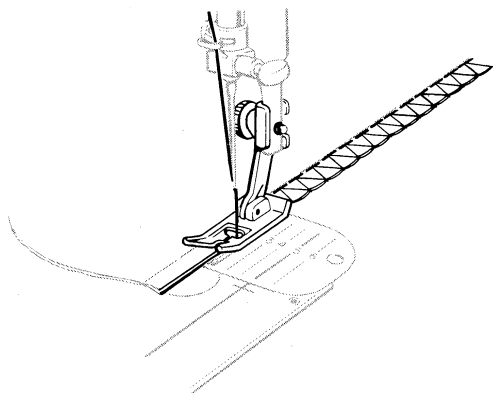




Overedged Stretch Seams

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

Set machine for overedge stretch stitch. Adjust stitch length to suit fabric. Equalize stitch balance. Use zig-zag plate and zig-zag foot.



Procedure

1. Make a test sample before beginning garment construction to test machine settings. (See user's guide for stitch adjustments). Be sure to duplicate the cut of the garment seam in your test, and use a ball-point (yellow band) needle if you are sewing a synthetic knit fabric.
2. Cut and fit the garment in the regular way, using a 1 ½ cm (5/8 inch) seam allowance. Baste seam line.
3. Trim seam edge evenly to ½ cm (¼ inch) from seam-line basting.
4. Place trimmed seam under the foot so that the straight stitches fall on the basted seam line and zig-zag stitches fall over the seam edge.

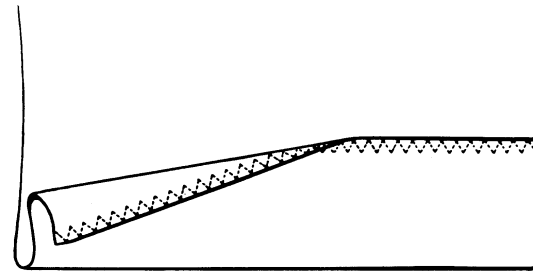
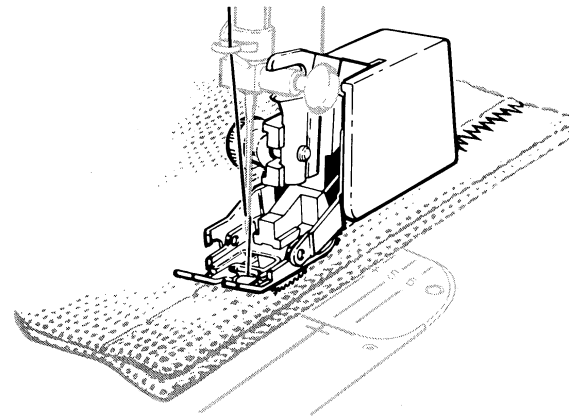
Mock Overedging

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

Set machine for honeycomb stitch, elastic stretch stitch or overedge stretch stitch. If necessary adjust stitch length to suit fabric. Set speed in MIN range. Use zig-zag plate and either zig-zag foot or Even Feed Foot.

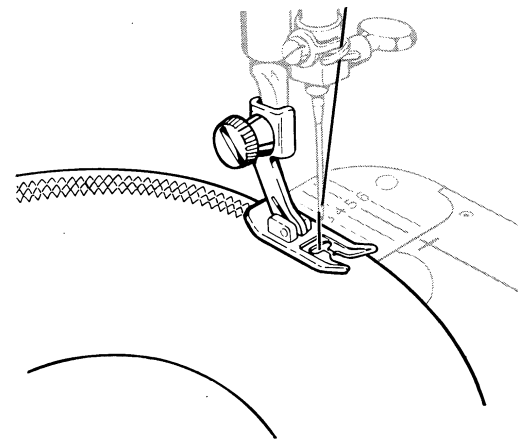
Procedure

1. Make a test sample to check machine adjustments, including pressure setting, before beginning garment construction.
2. Cut and fit the garment, allowing for a 1½ cm (5⁄8 inch) seam allowance. Baste seam line.
3. Place seam under the presser foot so that the stitches on the left side of the pattern penetrate the basted seam line.
4. Press flat after stitching and trim away fabric to produce a narrow seam. When the seam supports the garment, omit the trimming step. Press turnings open in the usual way.



Finishes for Hems and Facings

Hems and facing edges in knit and stretch fabrics will be less apt to press through and mark when given a flat edge finish. Edge finishing with the multi-stitch zig-zag stitch, honeycomb stitch or elastic stretch stitch eliminates the bulk of turned-in fabric edges and retains fabric flexibility. Make a test sample to determine the best stitch for your fabric. Place stitching about ½ cm (1⁄8 inch) from hem or facing edge. Press after stitching and trim away excess fabric close to the stitching line.



handling special fabrics

Many fabrics, because of their construction or finish, demand special attention in sewing. Techniques used in stitching and handling, and choice of machine accessories, will vary with the fabric. Let the table below guide your selection. Refer to

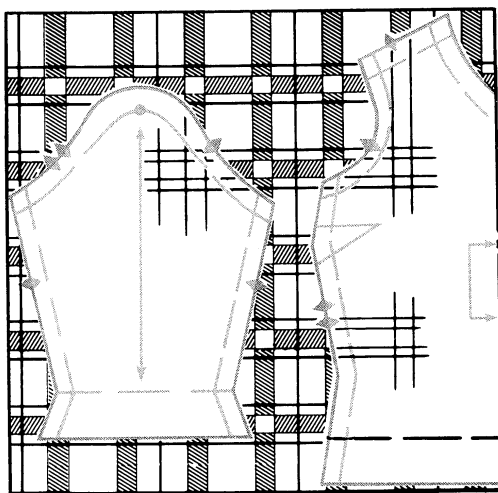
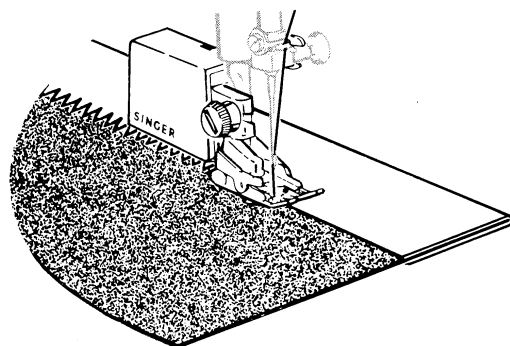
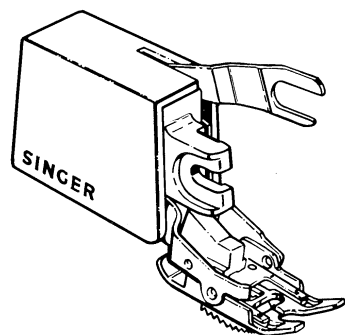
page 34 for specific instructions on how to use the Even Feed Foot and page 26 for instructions on sewing knit and stretch fabrics. Thread usage information is tabulated on page 4.

Fabric-Handling Table

Fabric	Special Handling	Stitch Length-Type	Needle Style-Size	Machine Accessories
Vinyl – leatherlook 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	Even Feed Foot Zig-Zag Plate
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 panné velvet	Even Feed Foot (Zig-Zag Foot for overcasting) Zig-Zag Plate
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	Even Feed Foot Zig-Zag Plate
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	Size 2020 Size 11 or 14	Straight-Stitch Foot Straight-Stitch Plate
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 4	Even Feed Foot Zig-Zag Plate

Fabric-Handling Table

Fabric	Special Handling	Stitch Length-Type	Needle Style-Size	Machine Accessories
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. See page 27. – Increase presser-foot pressure.	Medium Straight Stitch Medium to Short Narrow Zig-Zag or Narrow Overedge	Style 2045 Size 14 only Style 2021 Size 9, 11, 14	Straight-Stitch Foot and Straight-Stitch Plate (for straight stitching) Zig-Zag Foot and Zig-Zag Plate (for zig-zag stitching)
Blanket Binding – satin face	Hand-baste binding to blanket (pin marks show) – Mitre corners.	Long Straight Stitch Medium to Long Zig-Zag Stitch or Decorative Stitch	Style 2020 Size 11 or 14	Even Feed Foot Zig-Zag Plate
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. See page 27.	Medium to Short Straight Stitch	Style 2020 Size 9 or 11	Straight-Stitch Foot Straight-Stitch Plate
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	Zipper Foot Straight-Stitch Plate
Bonded or Laminated Fabric	Use welt, flat-felled, or double-top-stitched 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	Even Feed Foot Zig-Zag Plate
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	Even Feed Foot Zig-Zag Plate



The Even Feed Foot

The Even Feed Foot improves the feeding of fabrics that tend to stick, stretch, or slip while being sewn. The foot feeds top and bottom fabric layers together so that seams start even, feed evenly, and end even. At the same time, its hold-and-lift action makes it ideal for stay stitching and for topstitching.

Use It When Stitching

- Knits, stretch fabrics, synthetics
- Shiny fabrics – vinyls, patents, satins
- Plaids, stripes, patterns
- Bonded fabrics
- Pile fabrics – velvets, fake furs, brushed fabrics
- Leather and leather-look fabrics
- Jeans, welt and slot seams
- Belts, waistbands, patch pockets and pleats
- Blanket binding

Do Not Use It When:

- Speed Basting
- Stitching with maxi-stretch stitch

Preparing Fabric

The Even Feed Foot will not correct inaccuracies in weaving and cutting, so make sure the grain (of woven fabric) or rib (of knits) is true when you cut your garment. If you are sewing a stripe, plaid, or print, cut fabric pieces to match exactly *at the seam line*. Line up fabric edges (and first stripe) carefully at seam starts and secure with a pin placed at right angle to the seam line.

Most short seams need not be basted. But for seams in plaids and for long or shaped seams, basting or pinning is advisable.

Sewing a Seam

Set machine for straight stitch, plain zig-zag or elastic stretch stitch – do not use speed basting or maxi-stretch stitch. If required adjust stitch width and stitch length to suit application and fabric. Set speed in MIN range. Use zig-zag plate *only*, and Even Feed Foot.

Procedure

- Attach the Even Feed Foot and set machine for stitch desired.
- Line up fabric edges carefully at seam start and secure with a pin.
- Draw needle and bobbin threads under foot to back of machine.
- Raise presser-foot lifter to its high position and place work so that needle hole in foot is about 1/2 cm (1/4 inch) in from starting edge of fabric.
- Position needle in fabric with a light touch on the speed controller.

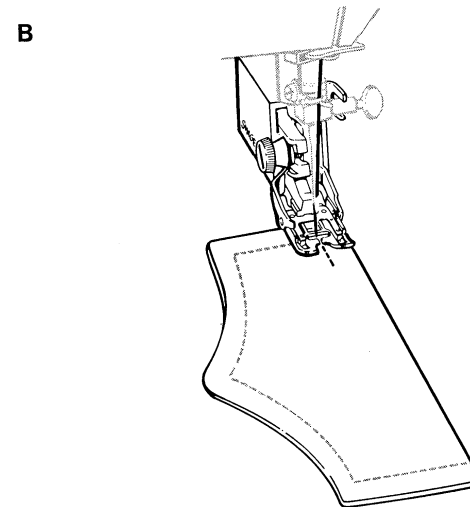
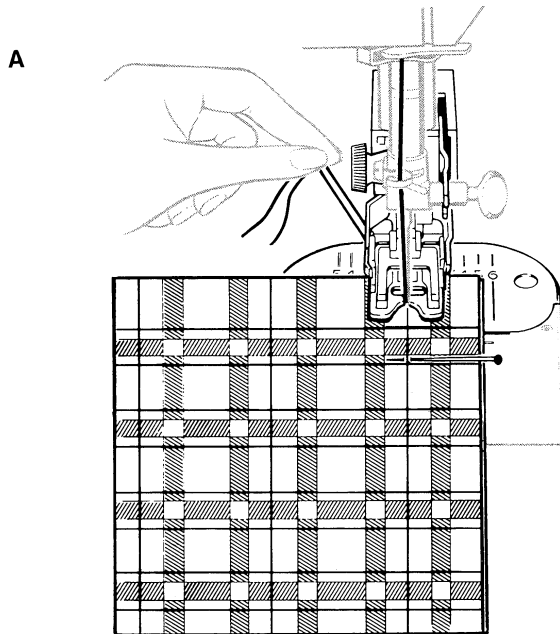
- Lower foot firmly.
- Hold ends of needle and bobbin thread at back of foot when you start to stitch (see illustration **A**).
- After just a few stitches, release thread ends and remove pin used to secure fabric. Guide fabric lightly under foot. *Do not over-handle.*

For a reinforced sewing start, place work so that needle hole in foot is approximately 1 1/2 cm (1/2 inch) in from starting edge of fabric; hold thread ends, stitch in reverse to edge of fabric. Then stitch forward (See illustration **B**.)

Where pattern matching has to be perfect, use a slightly *shorter* stitch length than usual for the fabric.

Topstitching

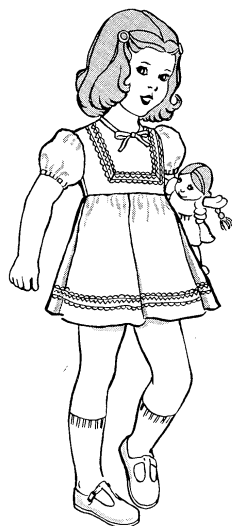
When topstitching smooth, shiny fabrics such as vinyl patent, or textured fabrics such as imitation reptile, suede or leather, use a slightly *longer* stitch length than usual.



decorative touches

Satin Stitching

Satin stitching, a series of closely spaced zig-zag stitches that form a smooth, satin-like surface, is useful for both practical and decorative work. Zig-zag *Fashion* Stitch patterns, such as the bead, ribbon and icicle, can be sewn at satin-stitch length.



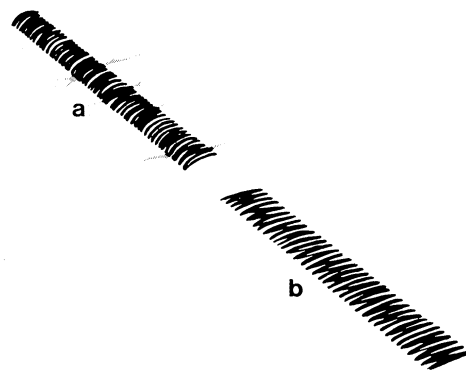
Set your machine for desired zig-zag *Fashion* Stitch. Adjust stitch length for satin-stitching (see below); stitch width in narrow to medium range. Use zig-zag plate and special purpose foot.

Adjusting Stitch Length

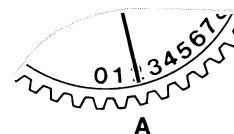
1. Set machine for a medium length stitch.
2. Run machine at slow speed.
3. Gradually adjust stitch length until stitches are closely spaced and form a smooth surface.

Adjusting Needle Thread Tension

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



- a** Incorrect
b Correct



Appliqué

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

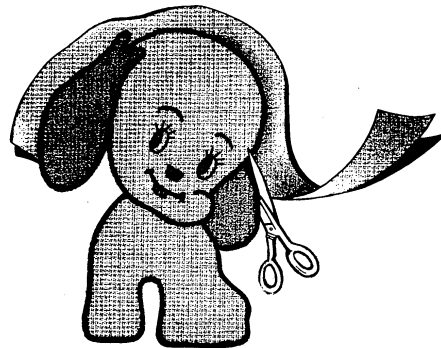
A closely spaced zig-zag stitch is most commonly used in appliqué work, but decorative stitch patterns may also be used effectively. Although you may vary stitch width to accommodate fabric weave or texture, never allow the stitch to be too wide.

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

Preparation

- Baste appliqué to fabric.
- Outline appliqué with short straight stitching.
- Remove basting and press.
- Attach special-purpose foot and zig-zag plate.

1



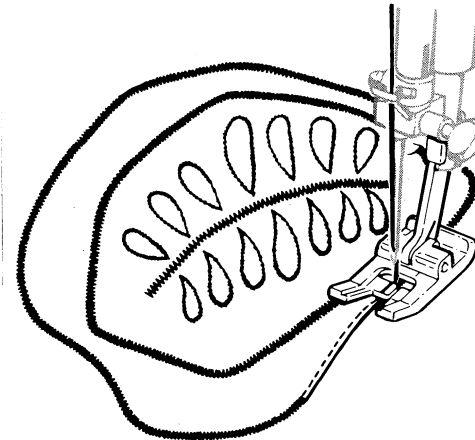
Method 1 – Trimming after Stitching

1. Set machine for closely-spaced zig-zag stitching at desired width.
2. Outline the entire design with stitching.
3. Cut away the fabric on the outer edges of the stitching with embroidery scissors.

Method 2 – Stitching after Trimming

1. Trim outside fabric edges close to straight-stitch outline of design.
2. Set machine for closely-spaced zig-zag stitching at desired width.
3. Overedge the design with appliqué stitching. This step will produce a smooth, lustrous finish.

2



Free-Motion Embroidery

In free-motion embroidery, you control the direction and speed of fabric movement by means of an embroidery hoop. Stitch length is determined by the speed at which the hoop is moved and zig-zag stitch width is varied by the direction of hoop movement.

Set machine for plain zig-zag or straight stitch. Set speed in MIN range. Use cover plate and darning and embroidery foot.

1. Trace or transfer design outline to right side of fabric and centre in embroidery hoop. Make sure fabric is taut.
2. Attach cover plate. Attach embroidery foot with arm **A** above needle clamp screw **B**.
3. Raise presser foot lifter to its high position, place hoop under needle and *lower foot*.
4. Hold needle thread loosely with left hand, turn hand wheel over, and draw bobbin thread up through fabric.
5. Lower needle into fabric, hold thread ends and start stitching. After two or three stitches, cut thread ends.
6. Run machine at an even rate of speed, following or filling in design outline as appropriate. Move hoop rapidly to increase stitch length and change the direction of hoop movement to shade zig-zag stitch width from wide to narrow.

If you have gained sufficient experience you may perform this work without the embroidery foot. In this case remove

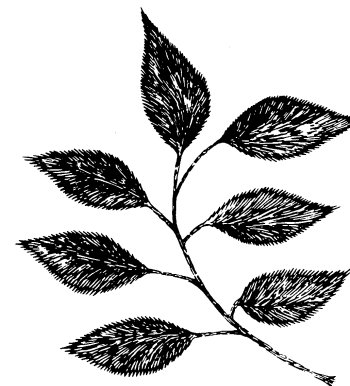
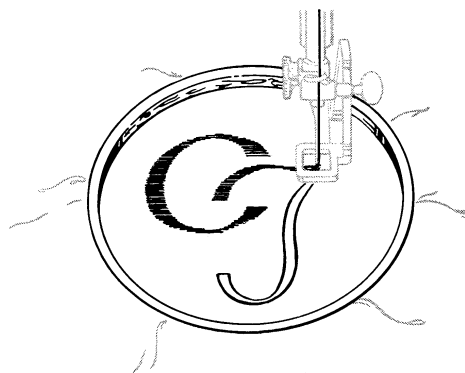
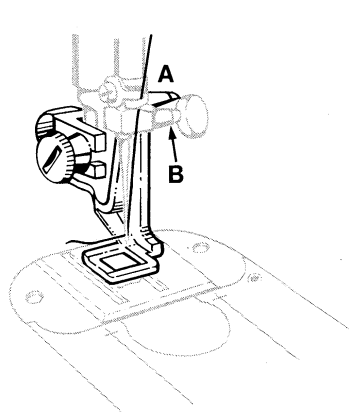
presser foot and attach cover plate. Raise presser foot lifter to its high position, place hoop under needle and lower presser foot bar to engage thread tension. Then follow the directions above.

Hesitation Embroidery

Hesitation embroidery is free-motion embroidery done at machine settings used for speed basting (except stitch length). The time lapse that occurs between needle penetrations permits unhurried hoop movement (appreciated by the beginner). It also permits unusually long stitches, as well as short ones for unique decorative effects.

Set machine for basting stitch. Set speed in MIN range. Use cover plate and *remove presser foot*.

1. Trace or transfer design outline to fabric and centre in embroidery hoop. Designs and motifs with shaggy outlines and textured surfaces are usually best.
2. Attach cover plate and set machine for speed basting.
3. Position hoop under needle, lower presser bar to engage thread tension, and raise bobbin thread.
4. Move hoop back and forth, filling design with long and short stitches as in regular free-motion embroidery.



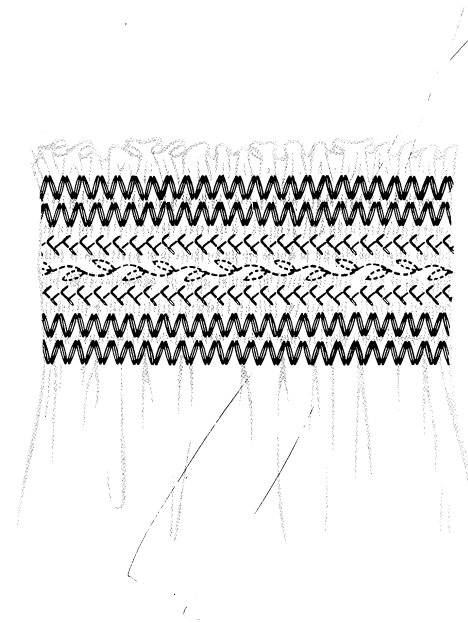
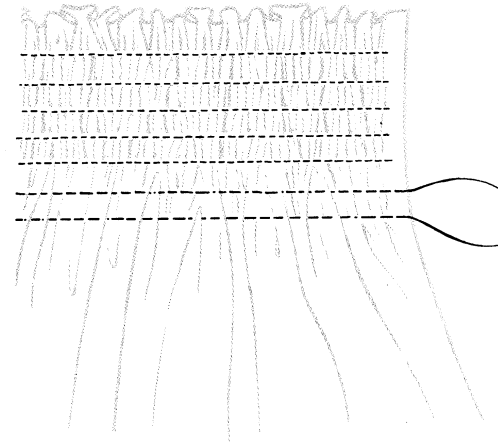
Smocking

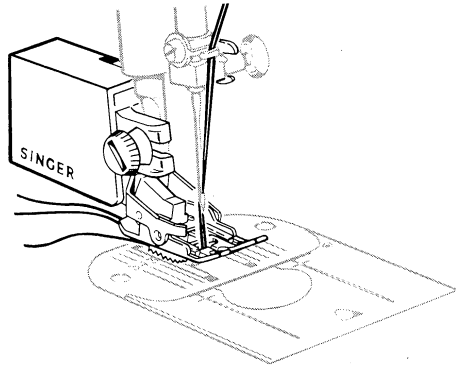
Smocking is particularly effective when used for yoke sections and bands on dresses. *Flexi Stitch* patterns offer the appearance of the typical manual needle work and can be obtained quickly and easily on your machine.

Always make a test sample to check stitch settings, using the same fabric and considering the amount of gathering you plan for your garment.

1. Space rows of gathering, using straight stitching with long stitch length and low needle thread tension evenly on the crosswise grain of the fabric using matching thread.
2. Adjust gathers evenly for the amount of fullness desired.
3. Stitch over rows of gathering with decorative stitching.

Create your own design or adapt the one illustrated. Use thread that contrasts with or matches your fabric depending on the effect desired.





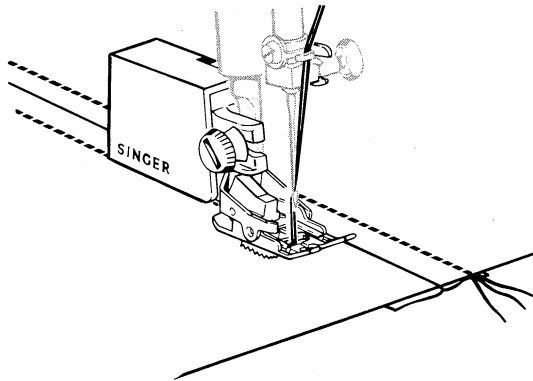
Topstitching

A practical, simple way to accent the lines of a dress or coat is to place one or more rows of stitching along collars, lapels, facing edges, hems, pockets, seams, etc. For a tailored look, use lines of regular straight stitching; sew them with fine to medium buttonhole twist (or double strands of regular thread) for added emphasis. The Even Feed Foot will help you place stitching evenly and accurately. To keep stitching at an even distance from the fabric edge, use the seam guide.

Two-thread Topstitching

Bold, well-defined topstitching is produced by using two strands of regular thread in the needle instead of a single strand. Ideal for summer knits, linens, cottons, denims and vinyls, two-thread topstitching is economical and particularly appropriate for use when a non-lustrous, washable finish is required.

- Select a size 16, Style 2020 needle for woven fabric and use a size 14, Style 2045 (yellow band) needle for knits.
- Set the machine for straight stitching.
- Attach secondary spool pin.
- Using the two threads, thread the machine in the regular way for single-needle stitching. For best results, use size 50 mercerized cotton thread.
- Pass threads together into the threading points above the needle.
- Cut thread ends diagonally and draw *both* through the eye of the needle.
- Make a stitching test to determine the best stitch length and needle-thread tension. A long stitch is usually best.
- Sew at moderate speed.



keeping up appearances

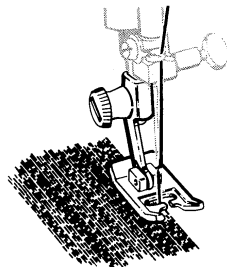
Darning

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 and the darning and embroidery foot.

Without Embroidery Hoop

Set machine for straight stitch. Set foot pressure for darning. Use zig-zag plate and foot.

1. Set machine for straight stitching.
2. If area to be darned is open, baste an underlay in place.
3. 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.
4. 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.

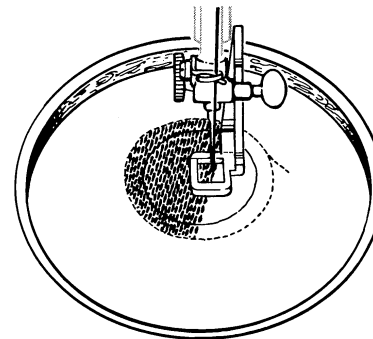


With Embroidery Hoop and Darning Foot

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

Set machine for straight stitch. Use cover plate and darning foot. Set foot pressure for normal sewing.

1. Attach cover plate and foot. To attach the foot see page 38.
2. Trim ragged edges from area to be darned and centre worn section in embroidery hoop.
3. Set machine for straight stitching.
4. Position work under needle and *lower the foot*.
5. 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. Snip off after a few stitches.
6. Outline area to be darned with running stitches for reinforcement.
7. Stitch across opening, moving hoop back and forth under needle. Keep lines of stitching closely spaced and even in length.
8. When opening is filled, cover area with crosswise lines of stitching.



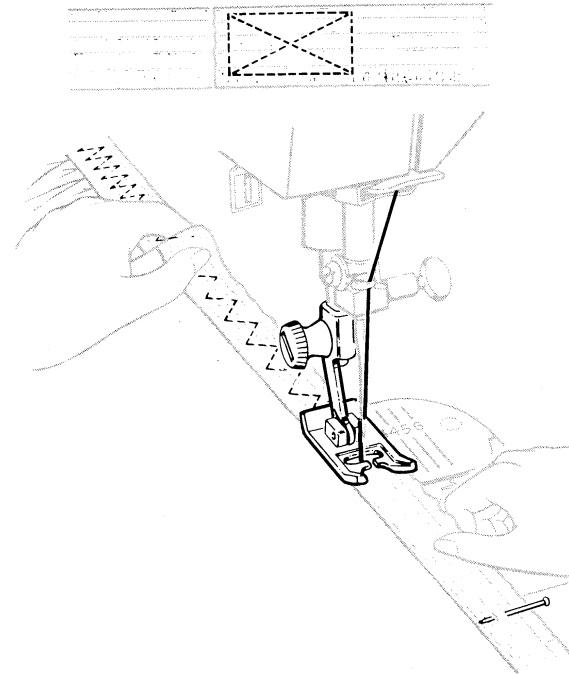
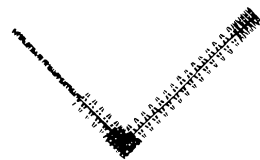
Mending and Repairs

Many stitch patterns are just as useful for mending as they are for creative sewing. The plain zig-zag, multi-stitch zig-zag, honeycomb stitch, elastic stretch stitch and fagotting stitch each form a firm, flexible bond that is ideal for repairing tears and replacing elastic. The maxi-stretch stitch, elastic stretch stitch and plain zig-zag provide for the repair and reinforcement of pressed-open seams. Bar tacks to reinforce points of strain are made with the plain zig-zag stitch or the arrow-head stitch.

Mending a Tear

Set machine for multi-stitch zig-zag, plain zig-zag or honeycomb. If desired adjust stitch length to suit fabric; stitch width should be wide. Use zig-zag plate and foot. Be sure to use a ball-point (yellow band) needle in the machine when you attach elastic or sew a synthetic knit or stretch fabric.

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



Replacing Lingerie Elastic

When replacing waistline elastic in lingerie, use the same accessories as for mending a tear.

1. Fit elastic for desired snugness at waistline, allowing 2½ cm (one inch) for joining. Lap ends and stitch together as shown above.
2. Divide elastic band into four equal segments and mark with pins. Do the same to the garment. Then pin together at corresponding points, pinning elastic over right side of fabric, top edges even.
3. Set machine for plain zig-zag, multi-stitch zig-zag, elastic stretch stitch, honeycomb or fagotting stitch.
4. Take a few stitches to anchor elastic to fabric. Then hold elastic and garment edge taut as you stitch so that it will remain stretchable after stitching is completed.

Free Arm Sewing

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

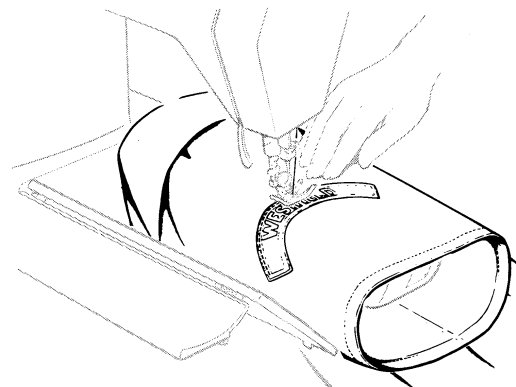
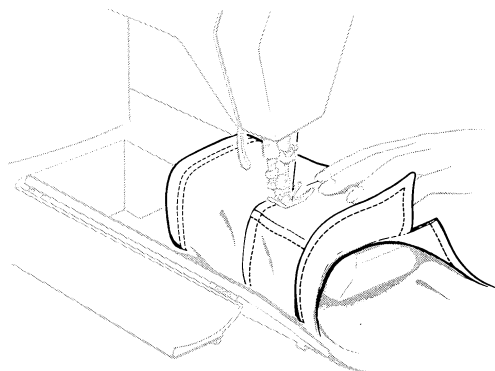
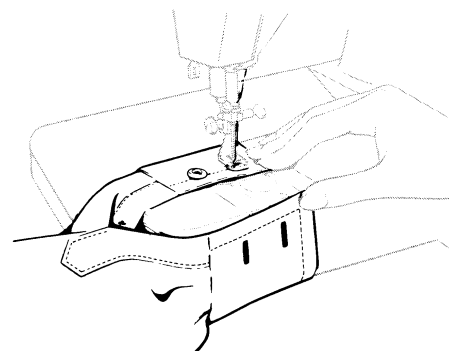
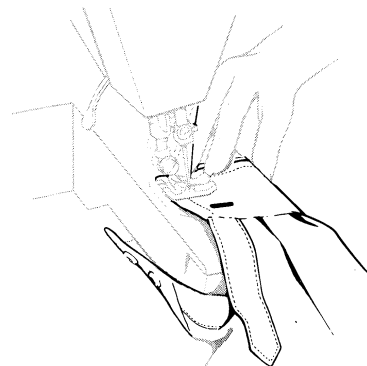
Buttonholes and Buttons

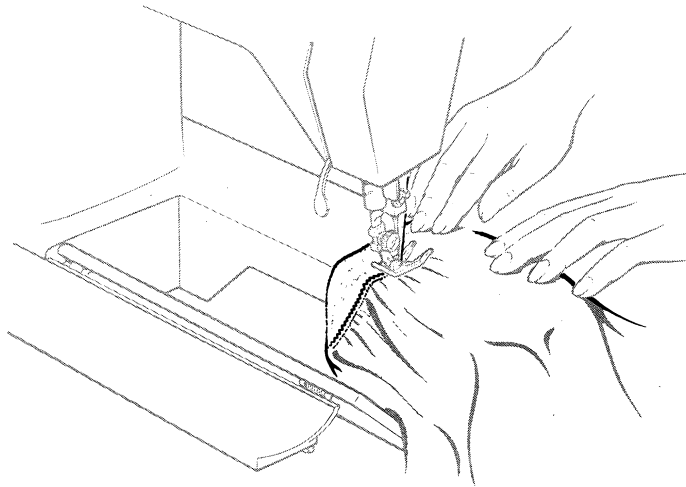
Stitching buttonholes or sewing buttons on a cuff or neckband is no longer a task when the free-arm surface is used. Cuffs slip around the sewing surface without being pulled out of shape, so you can see and handle the stitching area easily. For buttonholing, follow the instructions for two-step buttonholes in user's guide.

Sleeves

Free-arm sewing takes the difficulty out of topstitching a sleeve. The armhole rotates smoothly under the needle so that you can place stitching accurately. The extra control afforded by the free arm is especially helpful for topstitching flat-fell seams.

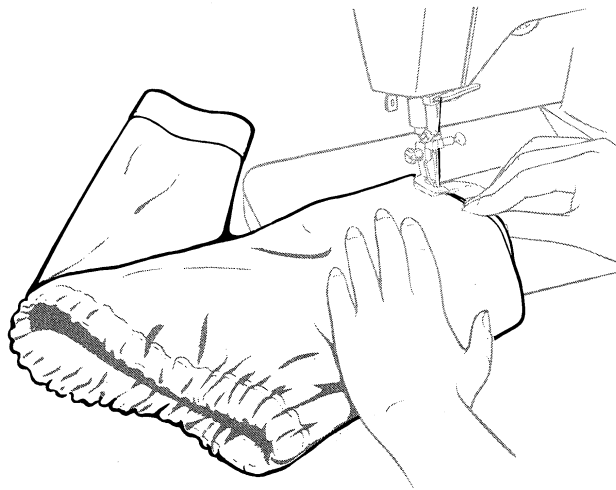
Badges, emblems and insignia of all sizes and shapes can be quickly attached to shirts and uniforms by slipping sleeve or hard-to-reach area over the sewing surface.





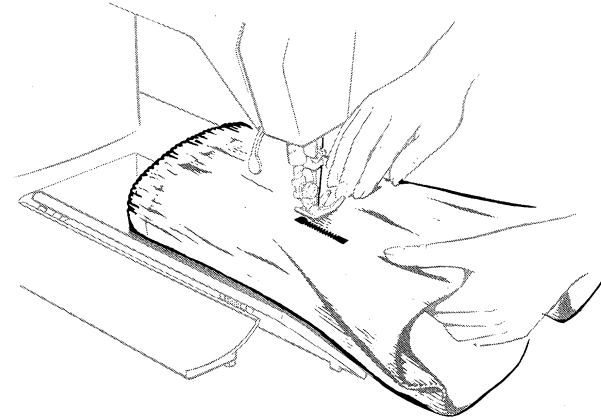
Edge Finishes

The free-arm surface makes it easy to finish sleeves, pant legs and waistlines. These circular garment areas rotate smoothly around the sewing surface, giving you full visibility and control as you blindstitch hems, attach elastic, or top-stitch cuffs.



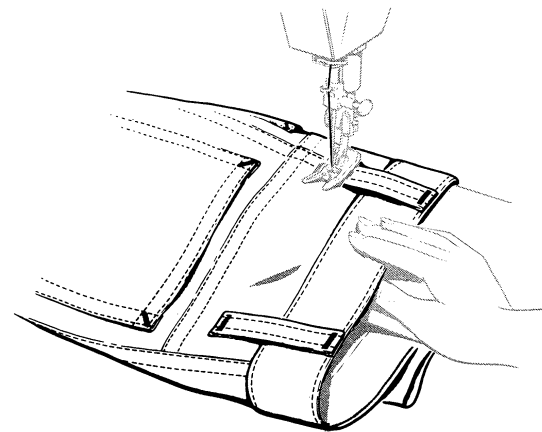
Darning and Mending

Knees, elbows and other areas of wear in children's clothes such as sweaters, jackets and shorts become readily accessible for darning, mending or patching when the free-arm surface is used. The sewing surface fits inside the enclosed sleeve and leg areas, making it unnecessary to open seams or roll the garment. For darning, follow the instructions on page 41 and refer to page 42 for mending information.

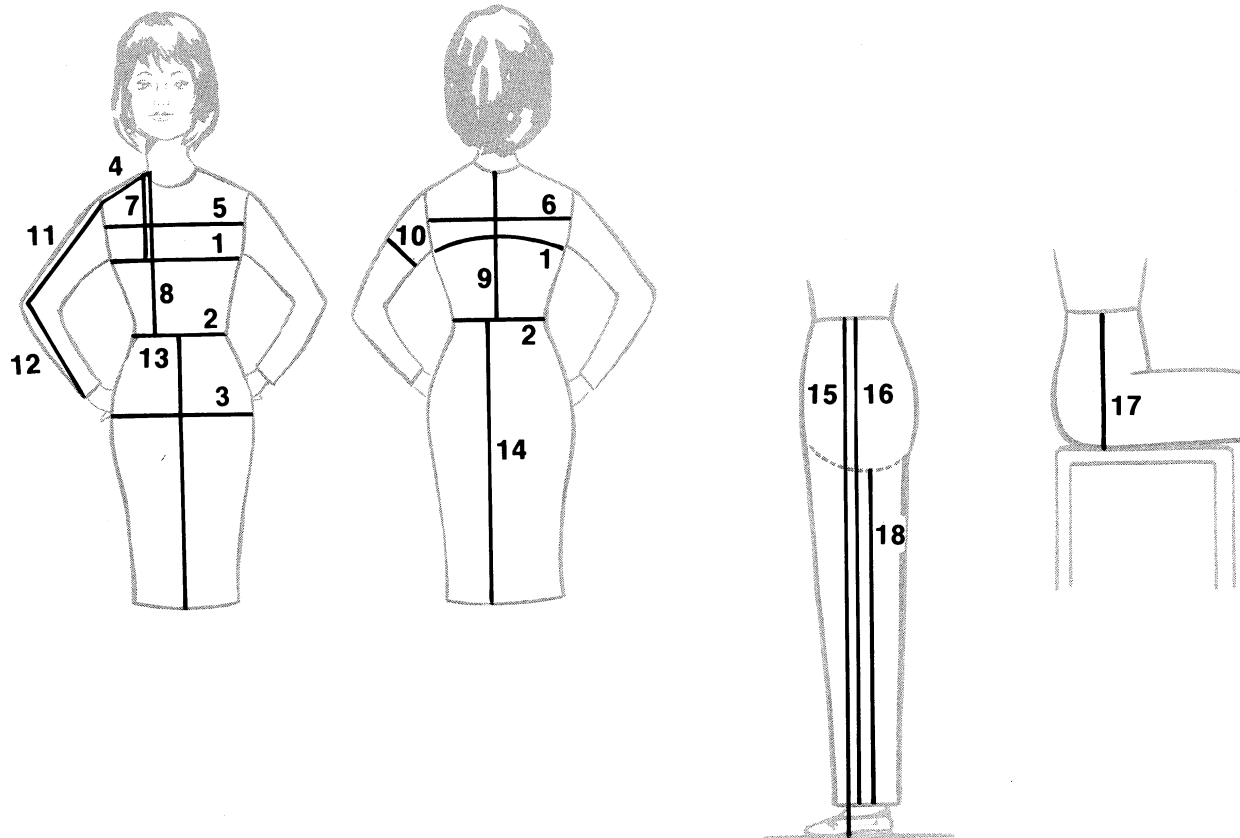


Bar Tacks

Bar tacks reinforce areas of strain and can be applied to ready-made garments, as well as to those sewn at home. Use the free-arm surface to avoid fabric bulk around the needle when you apply this detail to pockets, plackets, and waistlines.



personal measurement chart



This chart will enable you to keep a record of your family's measurements. You will need the assistance of someone to help you to take the measurements carefully with an accurate tape measure.

The figures in these illustrations show where the tape measure should be placed when taking each measurement.

	cm/inches	cm/inches	cm/inches	cm/inches
1. Bust – Fullest part – slightly higher in back				
2. Waist – Around natural waist line				
3. Hip –cm/inches below natural waist line (fullest part)				
4. Shoulder – From base of neck to top of arm				
5. Front Bodice Width – From arm hole to arm hole 13 cm (5 inches) down from centre shoulder				
6. Back Bodice Width – From arm hole to arm hole 10 cm (4 inches) down from centre shoulder				
7. Shoulder to Bust – From neck base at shoulder to point of bust				
8. Front Waist Length – From neck base at shoulder over fullest part of bust to waist line				
9. Back Waist Length – From the prominent bone at base of neck to natural waist line				
10. Sleeve Width – Around arm at upper edge of underarm seam				
11. Sleeve Length – Shoulder to elbow				
12. Sleeve Elbow to Wrist				
13. Front Skirt Length – Down centre from waist line to hem				
14. Back Skirt Length – Down centre from waist line to hem				
Trouser Measurement Chart				
15. Full Length – Waist to floor at side seam				
16. Pant Length – Waist to ankle				
17. Crotch Depth (seated) – Waist to chair at side seam				
18. Crotch Seam (standing) – Crotch depth 17 to be deducted from pant length 16				

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