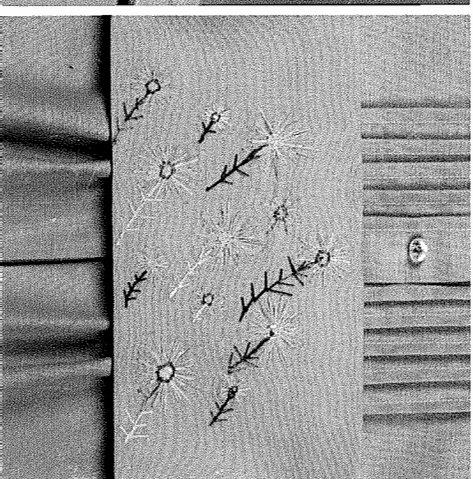
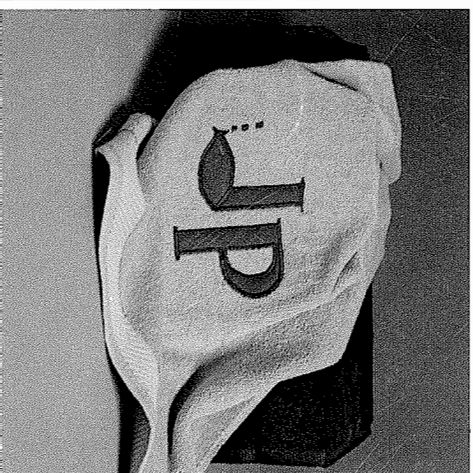
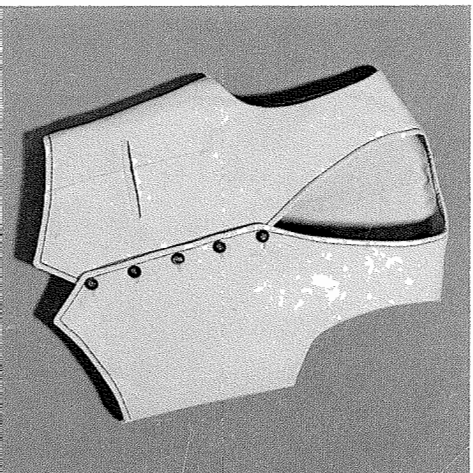
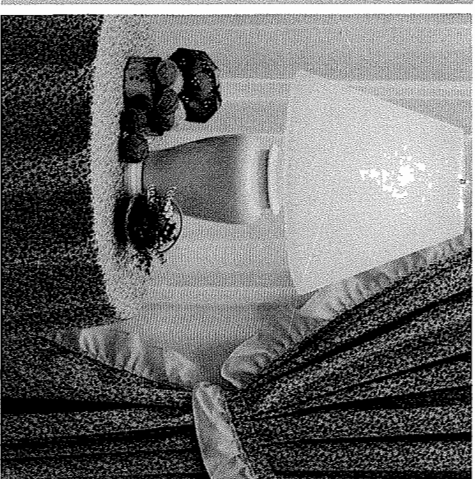
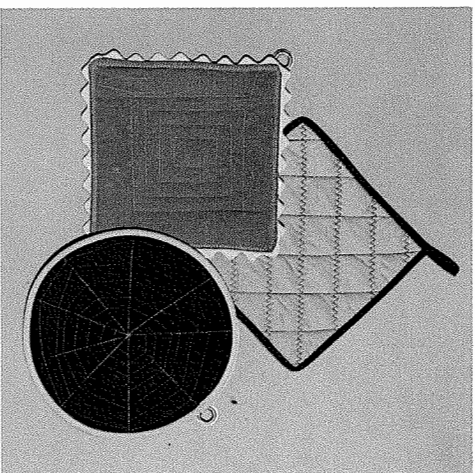


Futura

1050

SINGER



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Chapter 1: Getting to Know Your Machine

Congratulations . . .

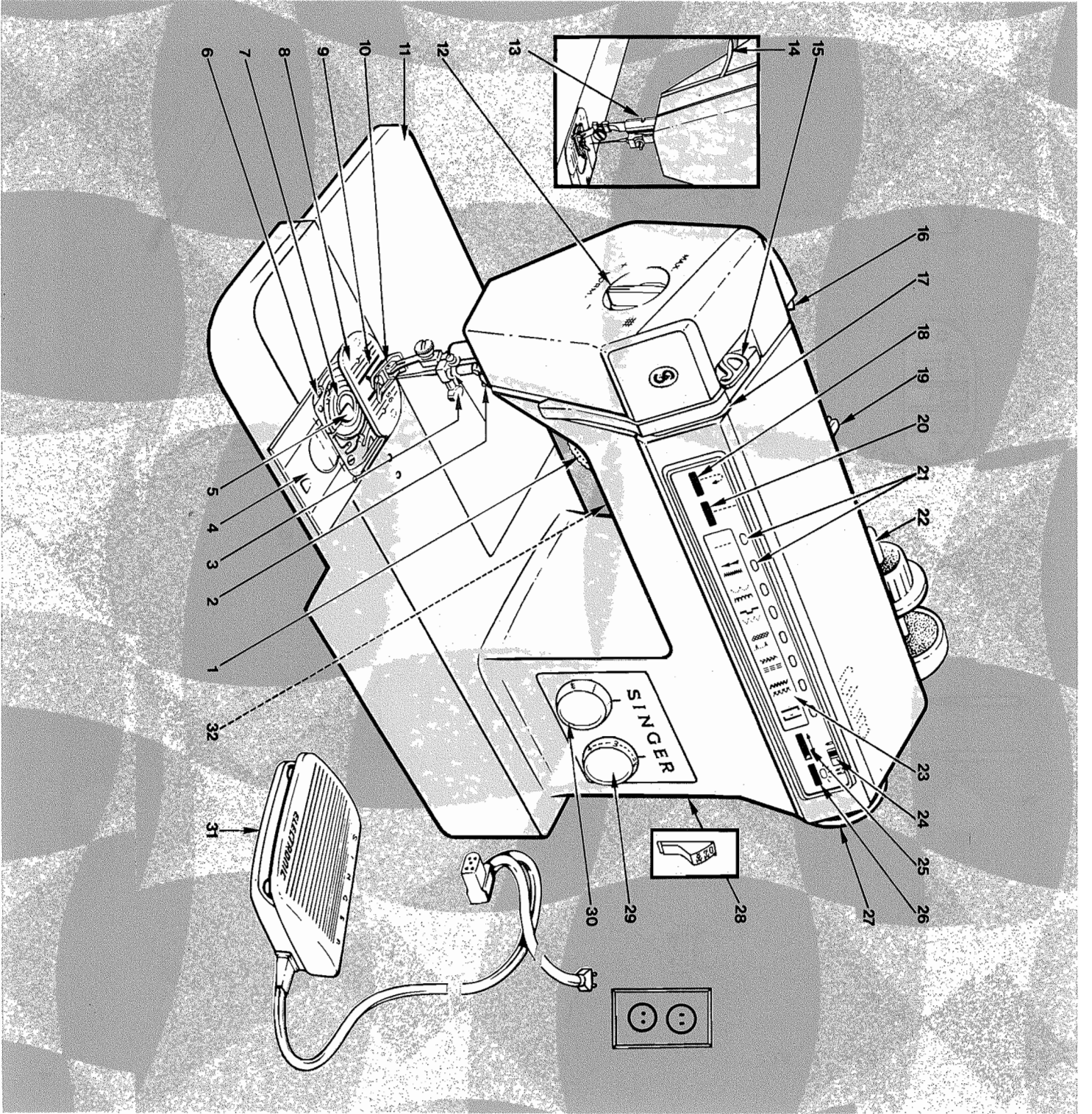
You are about to sew on the new advanced electronic model 1050 sewing machine. This **Futura*** sewing machine features numerous technological breakthroughs as a result of years of SINGER research.

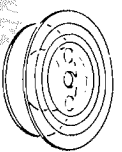
We suggest you take time to read through this operator's guide, as you sit at your new machine. You will discover how simple it is to do the sewing operation you desire on the **Futura*** 1050.

principal parts

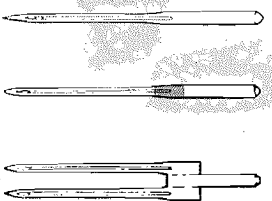
- 1 Upper Thread Tension Dial
- 2 Thread Guides
- 3 Needle Clamp
- 4 See-through Slide Plate
- 5 Bobbin Latch
- 6 Bobbin Winding Push-button
- 7 Transparent Bobbin
- 8 General Purpose Needle Plate
- 9 Soft-touch Fabric Feed
- 10 General Purpose Presser Foot
- 11 *Flip & Sew** Panel
- 12 Pressure Dial
- 13 Thread Cutter
- 14 Presser Foot Lifter
- 15 Take-up Lever
- 16 Rear Thread Guide
- 17 Tension Separator
- 18 Reverse Stitch Button
- 19 Snap-in Thread Guide
- 20 Straight Stitch Button
- 21 Stitch Selection Indicator Lights
- 22 Friction-free Spool Holder
- 23 Stitch Panel
- 24 Twin Needle Safety Switch
- 25 Pattern Group Selector
- 26 Pattern Selector Button
- 27 Hand Wheel
- 28 Power and Light Switch
- 29 Stitch Length Dial
- 30 Stitch Width Dial
- 31 Electronic Speed Controller
- 32 Sewing Light

To ensure that you are always provided with the most modern sewing capabilities THE SINGER COMPANY reserves the right to change the appearance, design or accessories of this sewing machine when considered necessary.

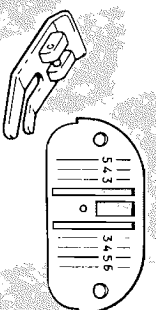




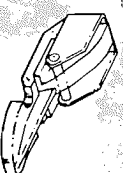
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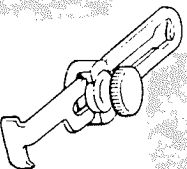
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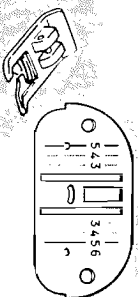
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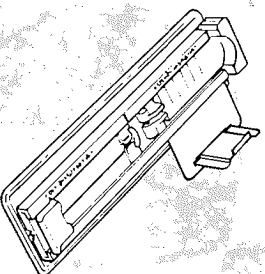
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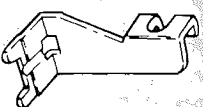
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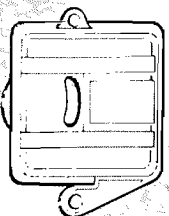
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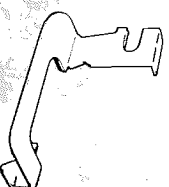
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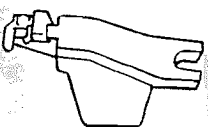
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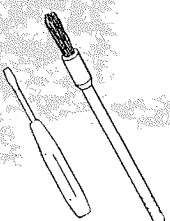
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14



15



16



17

4

accessories

The accessories provided with your sewing machine are designed to help you do many kinds of sewing easily.

1. **Transparent Bobbins** (No. 506 417)

2. **Needles**

- Style 2020 for general sewing.
- Style 2045 for sewing knits, stretch fabrics and elastic.
- Style 2025 for twin-needle decorative stitching on woven and knit fabrics.

3. **Straight Stitch Foot and Straight Stitch Needle Plate.**

Use these when your fabric or sewing procedure requires close control.

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

4. **Zipper Foot** for inserting zippers and stitching corded seams.

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

6. **General Purpose Foot and General Purpose Needle Plate** are on your machine when delivered. Use them for alternating between straight and zig-zag stitching as well as utility zig-zag sewing. They can also be used for straight stitching on firm fabrics.

7. **Two-step Buttonhole Measuring Foot** allows you to stitch buttonholes for flat buttons up to 3.5 cm (1 $\frac{3}{8}$ inches) in diameter. It also allows you to determine correct buttonhole length by using gauge lines on foot.

8. **Button Foot** holds most buttons securely for stitching.

9. **Special Purpose Foot.** Use this for all kinds of decorative stitching.

10. **Snap-on Feed Cover** for button sewing, free-motion work and darning.

11. **Blindstitch Hem Guide.** Use this with the general purpose foot to position the hem for blindstitch hemming.

12. **Detachable Spool Pin** for decorative twin-needle stitching.

13. **Large Spool Holder** on your machine when delivered. For use with medium and large spools of thread.

14. **Small Spool Holder** for use with small diameter tubes of thread.

15. **Needle Threader**

16. **Lint Brush** for cleaning your sewing machine.

17. **Screwdriver** for regulating lower thread tension.

To increase the versatility of your machine, additional accessories can be purchased at your Singer store.

Chapter 2: Getting Ready to Sew

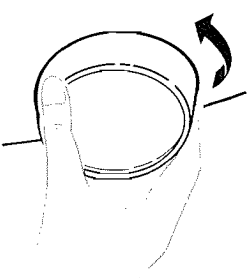
choosing and changing accessories

Changing Presser Feet

Snap-on Presser Feet

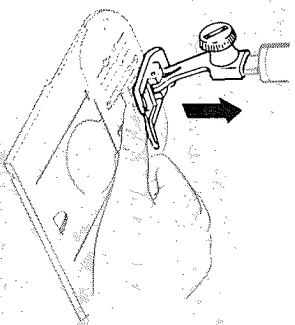
Most of the presser feet furnished with your machine snap on and off a common shank.

- Raise needle and take-up lever to highest position by turning the hand wheel toward you.
- Raise presser foot.

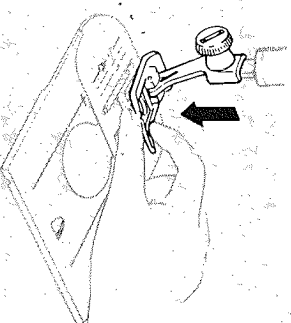


Caution: Disconnect the power line plug from the socket outlet when changing needles, feet or needle plates or when leaving the machine unattended. This eliminates the possibility of starting the machine by accidentally pressing the speed controller.

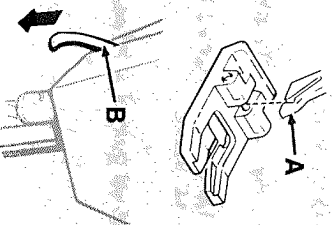
To Remove Foot



1a. Press toe of presser foot upward as far as it will go.

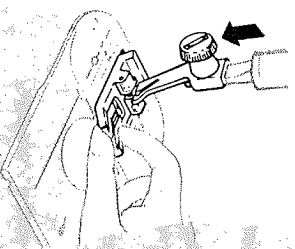


1b. Then snap down to remove.



2. Centre the new presser foot under the shank **A**.

Lower the presser foot lifter **B** so that the shank fits over the presser foot pin.



3. Press presser foot screw down *firmly* until foot snaps into place.

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

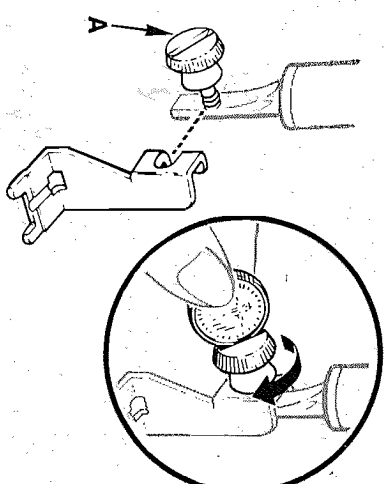
One-piece Presser Foot (Button Foot)

- Raise needle and take-up lever to highest position by turning the hand wheel toward you.
- Raise presser foot.
- Loosen presser foot screw **A** and remove the foot, guiding it to the right.

To Replace One-piece Feet

- Hook one-piece foot around the presser bar and tighten presser-foot screw.

Note: Insert the edge of a coin in the slot of the presser-foot screw to loosen it and to tighten it securely.



Changing Needle Plates

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

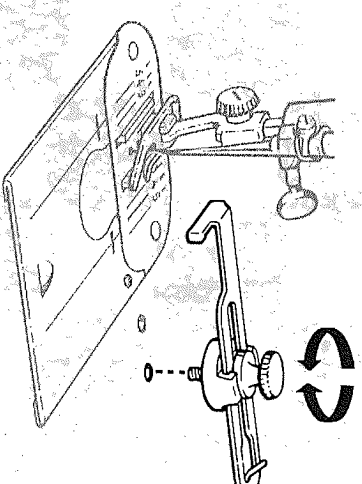
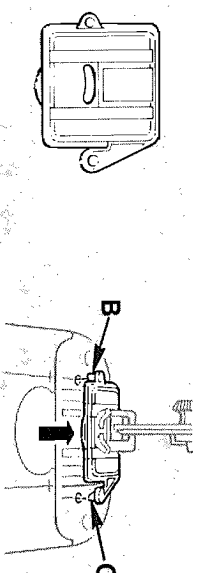
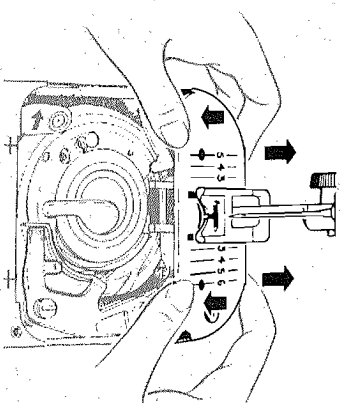
- Raise needle and take-up lever to highest position by turning the hand wheel toward you.
- Raise presser foot.
- Open slide plate. Press down on front edge of needle plate and lift up and out.
- Position new plate over pins and release. Plate is drawn into position by magnets.
- Close slide plate.

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

Attaching Snap-on Feed Cover

- Raise needle and take-up lever to highest position by turning hand wheel toward you.
- Raise presser foot.
- Slide snap-on feed cover away from you, as illustrated over needle plate until points **B** and **C** are positioned directly over holes in needle plate. Then snap down.

To remove, open slide plate then simply lift up front edge of feed cover.



Attaching the Seam Guide

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

choosing needles

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

The needles you use should be straight to ensure perfect stitch formation. The needle should also be fine enough to prevent the fabric from being marred with large punctures, yet heavy enough to pierce the fabric without being bent or deflected.

Remember too, that the eye of the needle must be large enough for the thread to pass through freely; too fine a needle will cause the thread to fray. See Fabric, Thread and Needle Table, page 12.

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

For best results when sewing on knits, woven stretch fabrics, bonded vinyls, and elastic use Style 2045 ball point Yellow Band® needle, available in sizes 11, 14, and 16.

For decorative stitching on light and mediumweight woven and knit fabrics, use the twin-needle, Style 2025.

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



2020



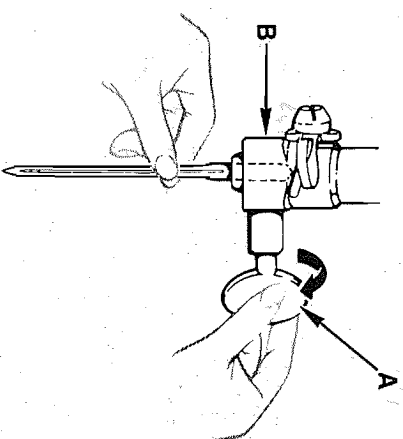
2045



2025



2032



Changing the Needle

Caution: Disconnect the power line plug from the socket outlet before changing needles.

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

Needle-Fabric Combinations

Be sure to check the Fabric, Thread and Needle Table on page 12 before you begin to sew. The importance of selecting the correct size, as well as the correct type needle for the fabric and thread you are using, cannot be emphasized too greatly.

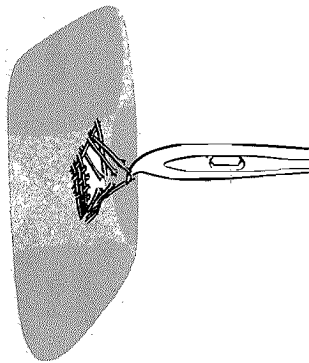
Correct needle selection is closely related to stitch quality and appearance. Damaged fabric is almost always caused by a needle that is bent, burred, or that is an inappropriate style for the fabric and thread you are using.

The three types of needles most commonly used by sewers are the regular, ball point, and wedge. To obtain good results, the correct size and type of needle for the fabric and thread you are using, must be chosen.

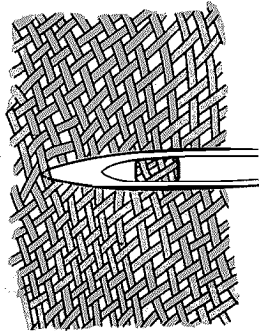
The regular needle, Style 2020, which is called a set-point type needle, is for stitching woven fabrics such as denim, gabardine, and drapery coating.

Ball point needles, Style 2045, are appropriate for stitching most knits, lingerie, lace, mesh, stretch fabrics, and elastic materials. The special rounded tip of the ball point needle ensures gentle separation of the fabric yarns.

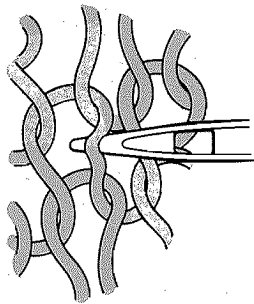
The wedge needle, Style 2032, is the best for stitching leather, vinyl, and dense materials. It is designed to cut through with a minimum of friction and also shape the punctures to ensure a desired appearance.



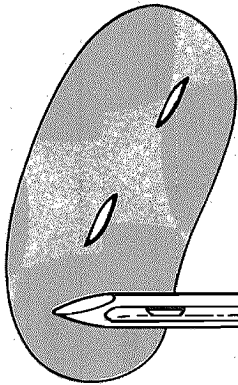
2020



2045



2032



Fabric Weight Table

There are thousands of fabrics around the world, each manufactured with a specific fibre and weight. The fabrics below have been classified according to weight to give a small sample of what is available for purchase.
Refer to this table to determine the weight and type of fabric you

Fibre and Construction	Filmy	Sheer	Light
Silk (Woven)	Chiffon, Organza, Tulle	Net, Lace, Nylon	Velvet, Crepe de Chine, Shantung, Faille
(Knit)			Jersey
Rayon (Woven)	Tulle	Net, Lace	Velvet, Taffeta, Satin
(Knit)			Ciré
Cotton (Woven)	Voile, Tulle	Net, Lace	Challis, Organdy, Muslin, Batiste, Dimity, Lawn, Percale, Eyelet, Gingham, Piqué, Poplin
(Knit)			Jersey
Wool (Woven)			Cashmere, Flannel, Mohair, Felt, Crepe
(Knit)			Jersey
Synthetic (Woven)	Chiffon, Organza, Tulle	Net, Lace, Nylon, Crepe de Chine	Crepe, Velvet, Taffeta, Satin
(Knit)			Raschel, Single Knit, Sweater Knit, Bonded Knit, Tricot, Ciré
Synthetic Blends (Woven)		Voile	Broadcloth, Batiste, Eyelet, Gingham, Poplin
(Knit)			Single Knit
Leather			Kidskin, Patent, Chamois, Imitation-Leathers & Suedes, Leather, Suede
Plastic		Plastic Film	Plastic Film
Vinyls			

will be using in order to select the correct needle and thread combination.

For correct needle and thread combination for your fabric, refer to the Fabric, Thread and Needle Table on the following page.

Medium	Heavy	Very Heavy
Velvet, Crepe de Chine, Shantung, Suiting, Brocade		
Velvet, Taffeta, Satin, Crepe	Brocade, Taffeta, Satin, Crepe	
Velveteen, Corduroy, Velvet, Fleece, Velour, Terry, Chintz Stretch Velours ■, Stretch Terry ■ ■ Usually contain some synthetic fibers also.	Corduroy, Denim, Ticking, Canvas, Linen, Drapery Fabric, Burlap	Denim, Duck, Canvas, Sailcloth, Upholstery Fabric
Suiting, Flannel, Gabardine, Felt, Serge, Mohair	Suiting, Tweed, Duffel	Coating, Blanketing
Jersey		
Velvet, Crepe, Taffeta, Satin, Gabardine		
Jacquard, Double Knit, Sweater Knit, Bonded Knit, Tricot, Spandex, Stretch Terry, Stretch Velour, Deep Pile, Fake Furs	Double Knit, Helanca, Fake Furs	
Linen Type, Poplin, Corduroy, Gabardine	Denim, Gabardine, Drapery Fabric	
Terry Knit	Double Knit	
Patent, Imitation-Leathers & Suedes, Leather, Suede, Reptile	Buckskin, Calfskin, Suede, Reptile	Upholstery Leather
Bonded Vinyl (Knit Back), Patent, Embossed, Printed	Upholstery Vinyl	Upholstery Vinyl

Fabric, Thread and Needle Table

Choosing the correct needle and thread for your fabric is of utmost importance. Correct choice will make the difference in the wear and appearance of your new garment. The Fabric Weight Table on the previous page.; and the Fabric, Thread and Needle Table below are practical guides to needle and thread selection. Refer to them before starting a sewing project. Be sure to use the same size and type of thread in both needle and bobbin.

Type of Fabric	Filmy		Sheer		Light	
	Threads	Needles	Threads	Needles	Threads	Needles
Silk	Fine Silk Fine Mercerized	2020-9 ■	Fine Silk Fine Mercerized	2020-9 ■	Fine Silk Fine Mercerized	2020-11
Rayon	Fine Silk Fine Mercerized	2020-9 ■	Fine Silk Fine Mercerized	2020-9 ■	Fine Silk Fine Mercerized	2020-11
Cotton	Fine Cotton Fine Mercerized	2020-9 ■	Fine Cotton Fine Mercerized	2020-9 ■	Medium Cotton Medium Mercerized	2020-11
Wool			Fine Silk Fine Mercerized	2020-11	Fine Silk Fine Mercerized	2020-11
Synthetic	Fine Synthetic	2020-9 ■	Fine Synthetic	2020-9 ■	Fine Synthetic	2045-11
Synthetic Blends	Fine Synthetic	2020-9 ■	Fine Synthetic	2020-9 ■	Fine Synthetic	2045-11
Leather					Medium Mercerized Medium Synthetic	2032-11
Plastic					Fine Mercerized Fine Synthetic	2020-11
Vinyls					Fine Mercerized Fine Synthetic	2020-11

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

To select the correct needle and thread for your fabric, first refer to the Fabric Weight Table to determine the weight and type of the material you are using.

Next refer to the Fabric, Thread and Needle Table.

Find the fabric you are using in Type of Fabric column at left. (Silk, rayon, etc.) Then locate the fabric weight column (filmy, sheer, etc.) for your fabric at top of table. Read across from

Type of Fabric column to correct weight of fabric column. There, the correct thread and needle choice for your fabric will be found.

Example: If you are sewing a medium weight wool, find wool in Type of Fabric column. Read across to Medium (weight) column and you will see that a medium silk or mercerized thread and a size 2020-14 needle are to be used.

Medium		Heavy		Very Heavy	
Threads	Needles	Threads	Needles	Threads	Needles
Medium Silk Medium Mercerized	2020-11	Heavy Silk Heavy Mercerized	2020-14	Heavy Silk	2020-14
Medium Synthetic Medium Mercerized	2020-11	Heavy Synthetic Heavy Mercerized	2020-14	Heavy Synthetic Heavy Mercerized	2020-14
Medium Cotton Medium Mercerized	2020-14	Heavy Cotton Heavy Mercerized	2020-16	Heavy Cotton Heavy Mercerized	2020-18
Medium Silk Medium Mercerized	2020-14	Heavy Mercerized	2020-16	Heavy Mercerized	2020-16
Medium Synthetic	2045-14	Heavy Synthetic	2045-16	Heavy Synthetic	2045-16 or 2020-18
Medium Synthetic	2045-14	Heavy Synthetic	2045-16	Heavy Synthetic	2045-16 or 2020-18
Medium Mercerized Medium Synthetic	2032-14	Heavy Mercerized Heavy Synthetic	2032-16	Heavy Mercerized Heavy Synthetic	2032-18
Medium Mercerized Medium Synthetic	2020-11	Medium Mercerized Medium Synthetic	2020-14	Heavy Mercerized Heavy Synthetic	2020-16
Medium Mercerized Medium Synthetic	2020-11	Medium Mercerized Medium Synthetic	2020-14	Heavy Mercerized Heavy Synthetic	2020-16

operating machine

Connecting Machine

Before plugging in your machine, be sure that the voltage and number of cycles indicated at the electrical nameplate **A** on the right end of the machine, conform to your electrical power supply.

- Push the machine plug **B** into the machine socket **C**.
- Connect the power-line plug **D** to your electrical outlet.

Important: Machines for Great Britain and some other countries having similar wiring standards are shipped from the factory without a plug for connection to the mains. The wires in this mains lead are coloured in accordance with the following code:

Blue – Neutral (N)

Brown – Live (L)

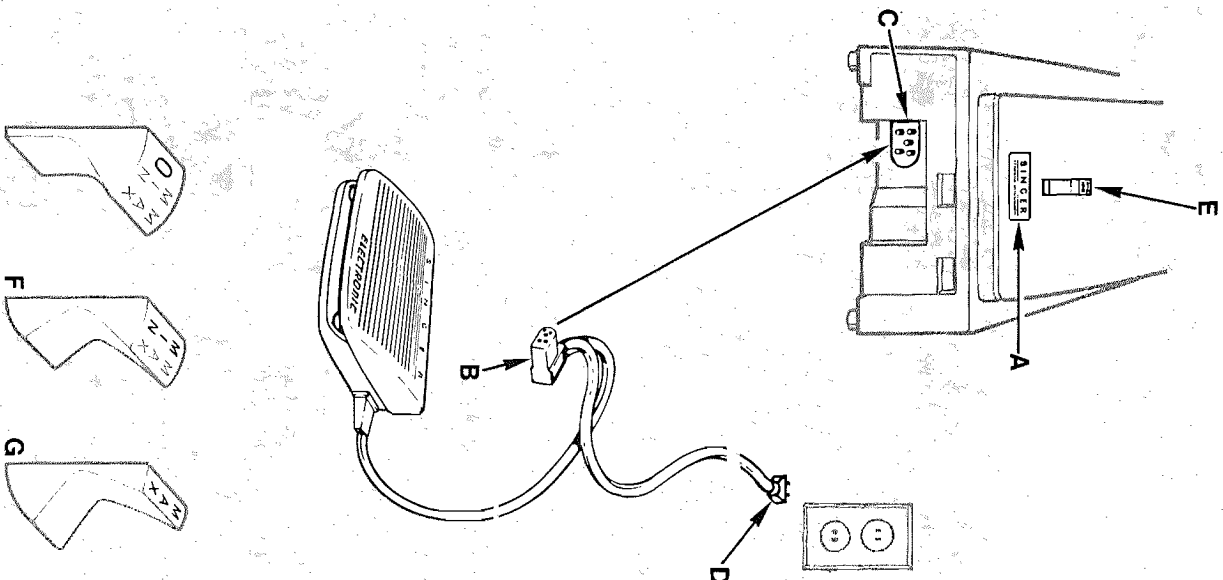
Note: As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

Connect brown wire to terminal marked L or coloured red.
Connect blue wire to terminal marked N or coloured black.
When using a BS 1363 (British Standard) fused plug a 3 Amp. fuse must be fitted. If the terminals of the plug are unmarked consult a qualified electrician before use.

To turn on the machine and set speed range, push the power and light switch **E** to desired speed. This will also turn on the sewing light.

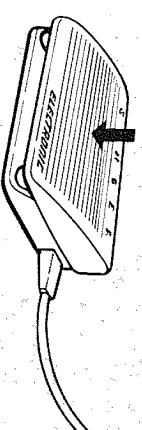
- The **MIN** setting **F** (switch pressed in halfway) allows for maximum control. Use this setting for special jobs where intricate construction details require close control.
- The **MAX** setting **G** (switch pressed in all the way) allows for full speed capacity of the machine. It is best for long, straight seams, easy-to-handle fabrics, and general sewing where a variety of speeds are needed.

Caution: Disconnect the power line plug from the socket outlet when changing needles, feet or needle plates or when leaving the machine unattended. This eliminates the possibility of starting the machine by accidentally pressing the speed controller.



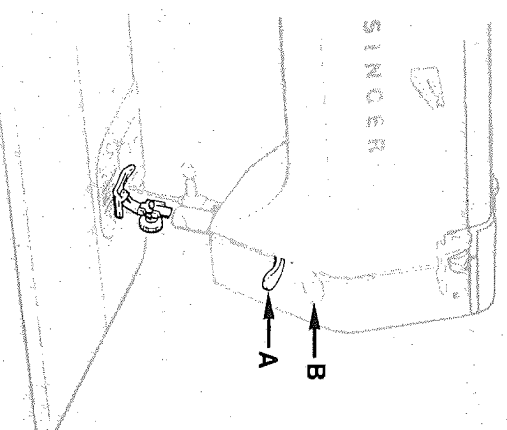
To run the machine, press the foot operated speed controller. The speed controller has an electronic circuit which provides constant speed when sewing on fabrics of varying density in either speed range. You may also set your own speed for sewing on delicate, light or heavy fabric. The *harder* you press, the *faster* the machine will sew within the selected speed range. The *lighter* you press, the *slower* the machine will sew within the selected speed range.

Note: Your machine has a built-in fuse which protects its electronic brain. If the machine does not operate (stitch selector lights do not light up) after making electrical connections and turning on switch, the fuse may need to be replaced. Contact your local Singer Sewing Centre for additional information.



Lifting the Presser Foot

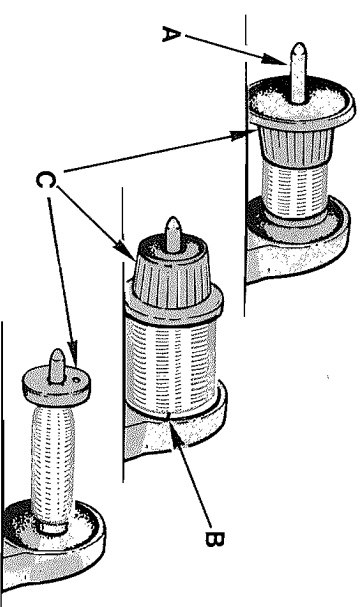
The presser-foot lifter **A** allows you to raise and lower the presser foot. Extra-high lift position **B** permits easy placement of bulky fabrics. Make sure the lifter is all the way down before starting to sew.



threading the machine

Preparation

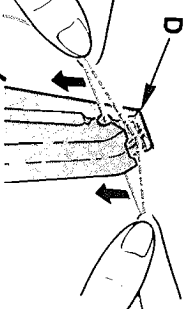
- Place spool of thread on horizontal spool pin **A**. If spool being used has a thread retaining slit **B**, it should be placed against the spool cushion to the right.
- Select correct spool holder according to type and diameter of spool being used. The diameter of the end of the spool holder should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



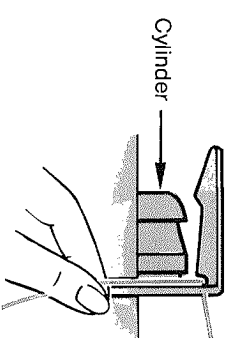
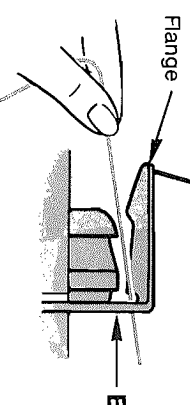
- Raise the needle and take-up lever to highest position by turning the hand wheel *toward you*.
- **Raise the presser foot**, to release thread tension.

Step 1

- Snap thread into thread guide post **D**.



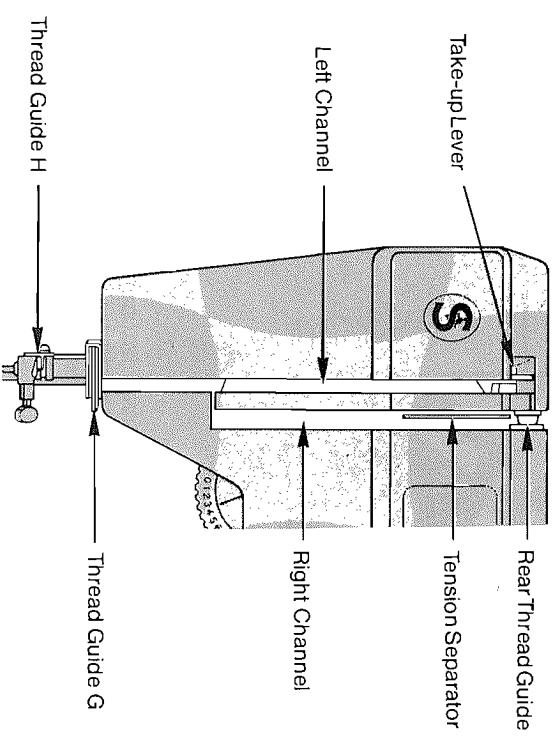
Top View of Machine



Step 2

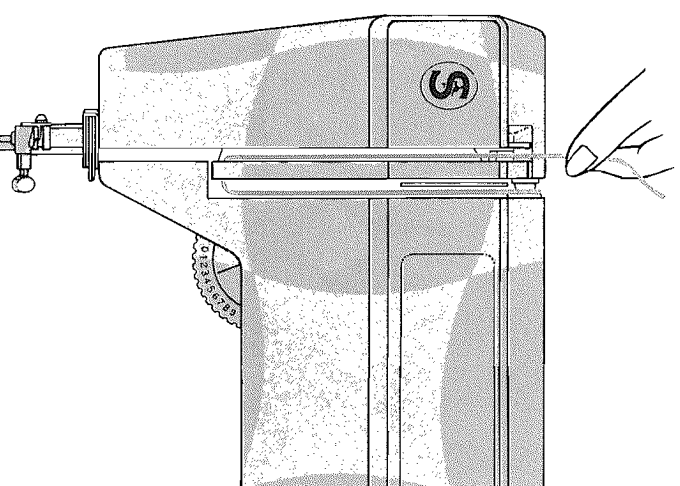
- Thread the rear thread guide **E**. Pass thread under flange, then over to the far right end of cylinder.

Principal Threading Parts

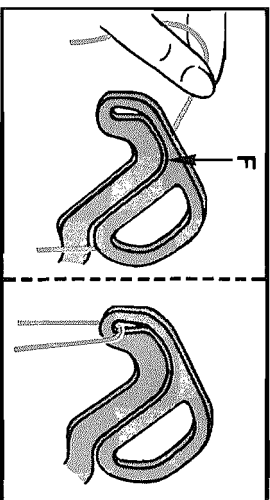


Step 3

- Draw thread *firmly* into tension disc on right of tension separator.
- Draw thread **down right** channel and **up left** channel toward the take-up lever.

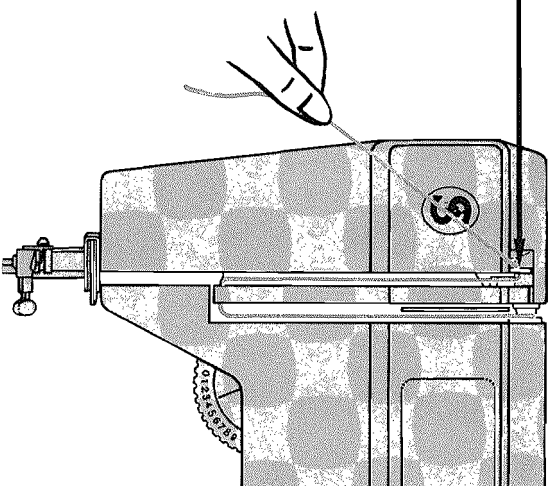


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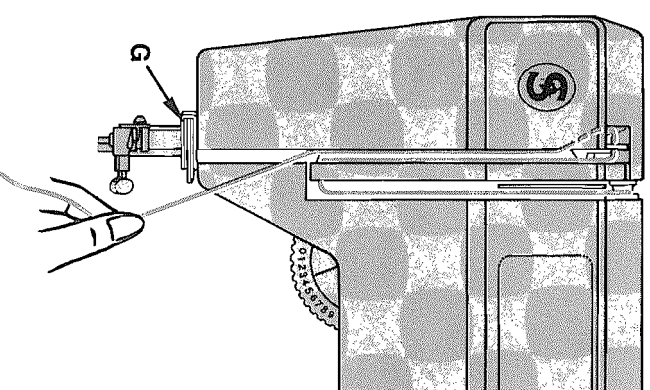
Step 4

- Thread take-up lever by guiding thread to back of lever and around to your left. Bring thread through slit **F** by pulling it toward you and into eyelet.



Step 5

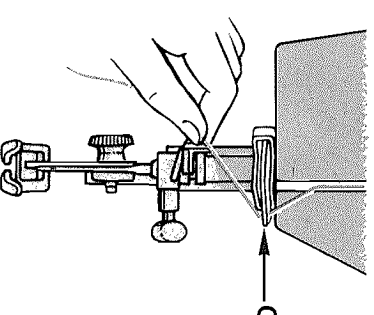
- Follow thread back down through left channel and then toward thread guide **G**.



Continued Next Page

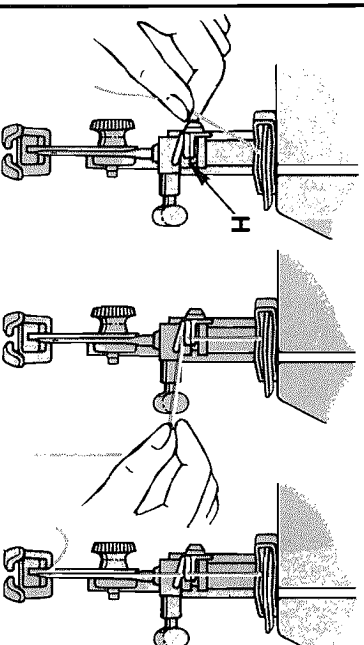
Step 6

Lead thread into thread guide **G** by drawing thread lightly to the left until it **completely** slips into the left channel.



Step 7

- Then draw thread through guide **H** from the rear of guide to the right.



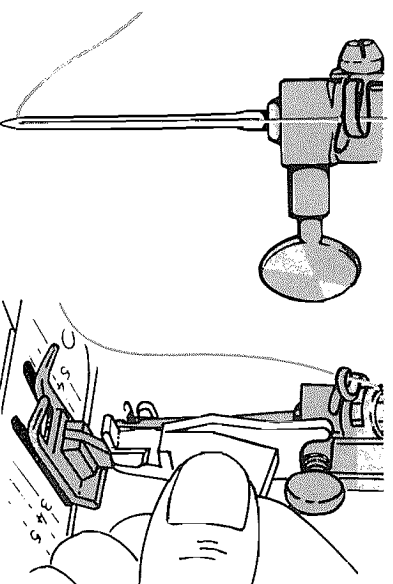
Step 8

Drawing 10 cm (4 inches) of thread down toward needle, lower presser foot and thread needle **front to back**.

Using the Needle Threader

Lower the presser foot.

Position the needle threader as illustrated, with the top of the needle threader resting against the needle clamp which correctly aligns the needle threader hook to the needle eye. Pass the hook through the needle eye, guide thread into the hook and draw the hook and thread through the needle eye.



the bobbin

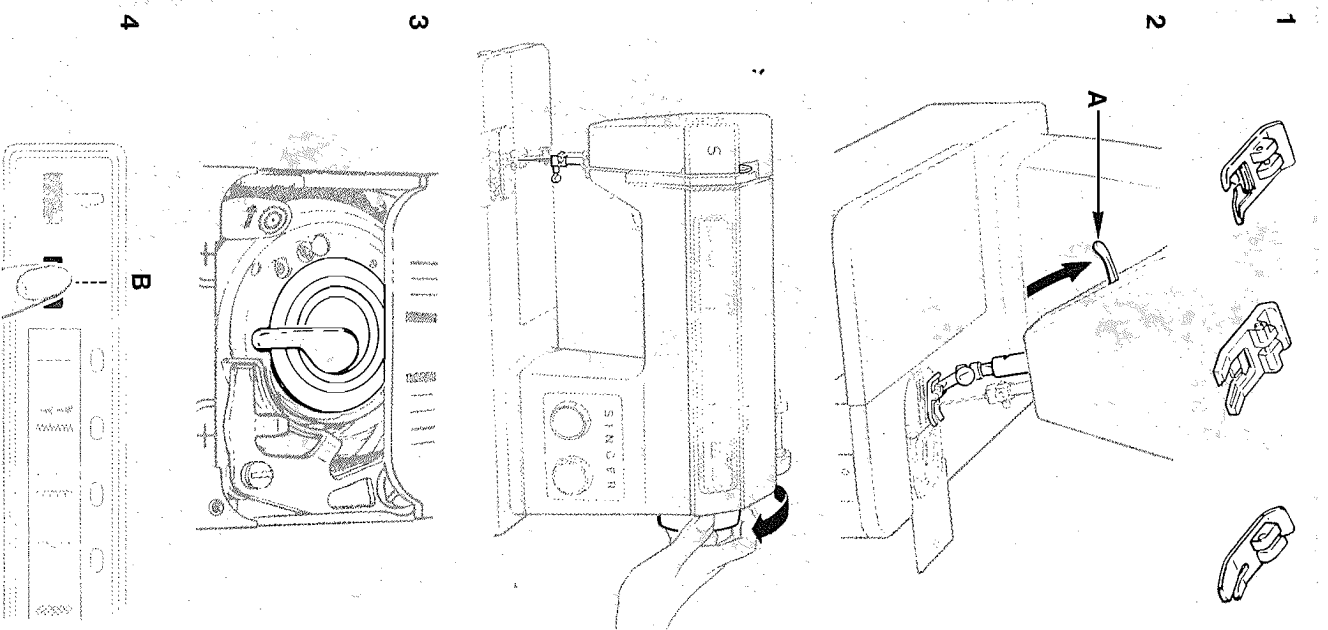
Winding the bobbin

The push-button bobbin will make your sewing go faster than ever before – whether you are using a lot of one kind of thread or small quantities of different threads.

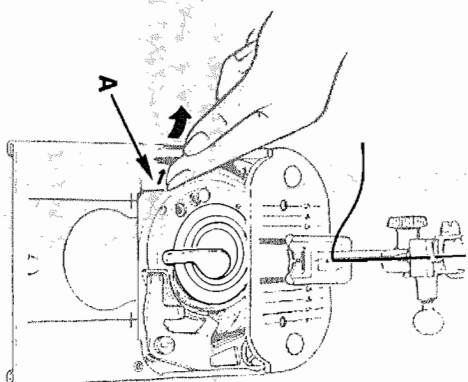
You will find a bobbin in place under the slide plate of your machine. To open slide plate, simply pull it gently toward you. If the bobbin runs out of thread while you are sewing, you can rewind it without removing it from the machine. The window in the slide plate lets you see lower thread supply at a glance, to help avoid running out of thread in the middle of a seam.

Preparation Steps

1. Use general purpose, special purpose, or straight stitch presser foot.
2. Raise presser foot by raising presser foot lifter **A** to release tension on thread, and raise the needle and take-up lever to highest position by turning hand wheel toward you. (Make sure your needle is larger than a size 9.)
3. Open slide plate and make sure bobbin is empty. For removal of bobbin and thread, see pages 22 and 23.
4. Set machine for straight stitching by pressing button **B** under stitch symbol on stitch panel. For additional information on pattern selection, see page 24.

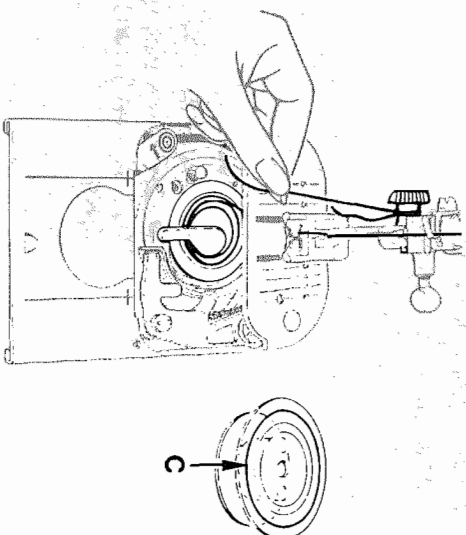


Winding Steps

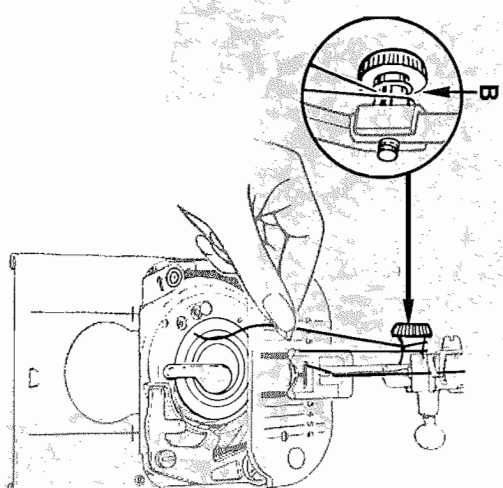


We recommend the use of a moderate speed when winding a bobbin.

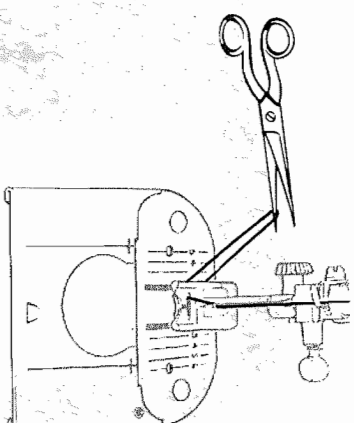
1. Move bobbin winding button **A** to extreme left.



3. Pull thread end away after a few coils have been wound.
 - Watch the bobbin as it fills. Do not allow thread to wind beyond the outside **FULL** ring **C**.

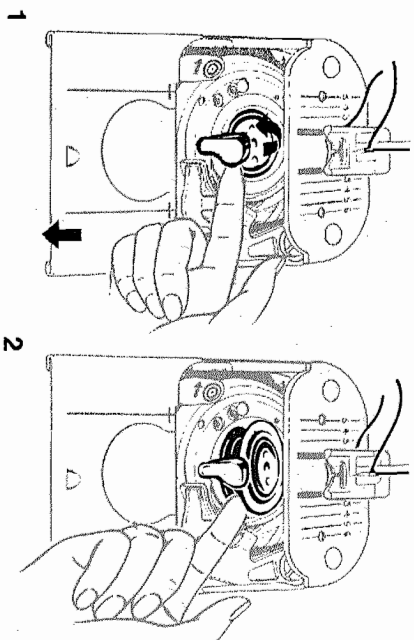


2. Draw upper thread *away from you* between toes of presser foot under *left side of presser foot*, then up from the front and around presser foot screw **B**. Hold end of thread **firmly**. Start machine, run at moderate speed.



4. Close slide plate to release bobbin winding button to sewing position.

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



Removing and Changing the Bobbin

There is a full bobbin in the machine and you wish to change it:

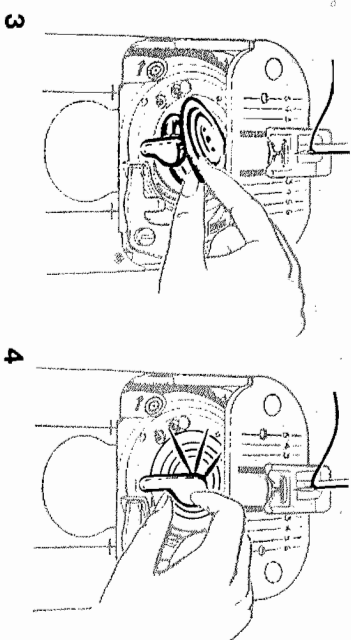
1. Raise needle and take-up lever to highest position by turning hand wheel *toward you*. Open slide plate. Raise bobbin latch by inserting finger under end of latch at centre of bobbin.

2. Insert finger under rim of bobbin immediately to right of latch and remove bobbin.

3. Check empty bobbin first to ensure that both halves are *tightened securely* as described on page 23, Removing Thread from Bobbin. With latch raised, slide bobbin with circle side up into bobbin case.

4. Snap latch down to secure bobbin.

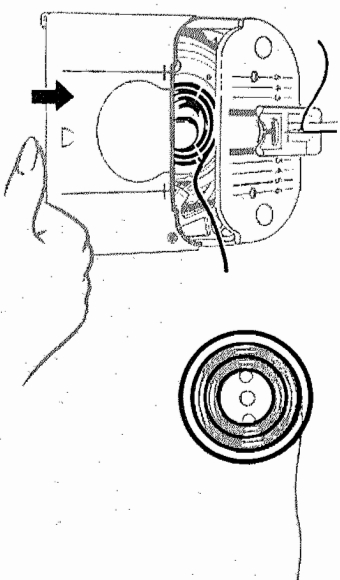
- Wind the bobbin. See page 21.



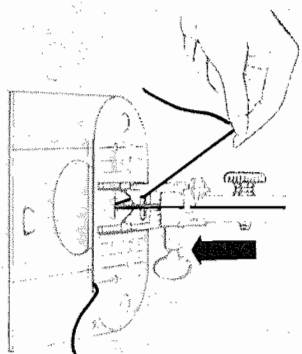
Using Previously Wound Bobbin

A full bobbin is inserted in the same manner as an empty one.

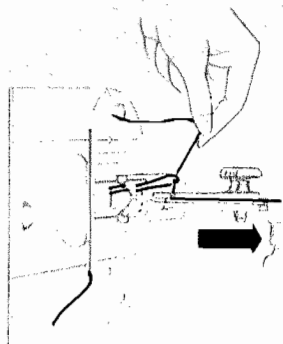
5. Place bobbin into case with at least 10cm (4 inches) of thread leading off to right side of latch. Allow the thread to lay in the slot in the slide plate when closed.



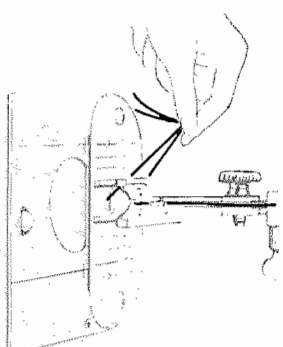
Raising the Lower Thread



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

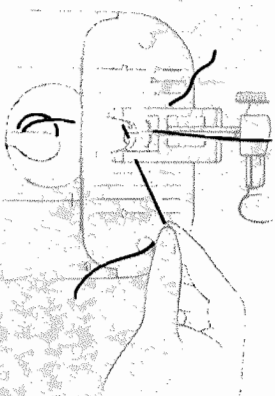


2. Continue turning hand wheel and holding upper thread until needle rises. Tighten your hold on the upper thread and bring up lower thread in a loop.

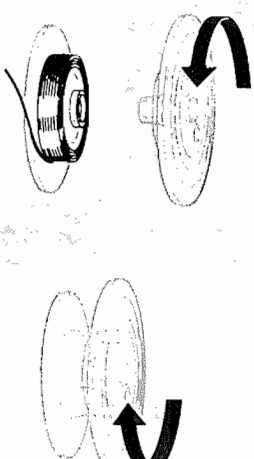


3. Open the loop with your fingers, draw approximately 10 cm (4 inches) of both upper and lower threads under the presser foot and place them diagonally to left.

Removing Thread from Bobbin



1. If there is not much thread left on the bobbin in the machine, simply pull the thread end through the needle plate until bobbin is empty.



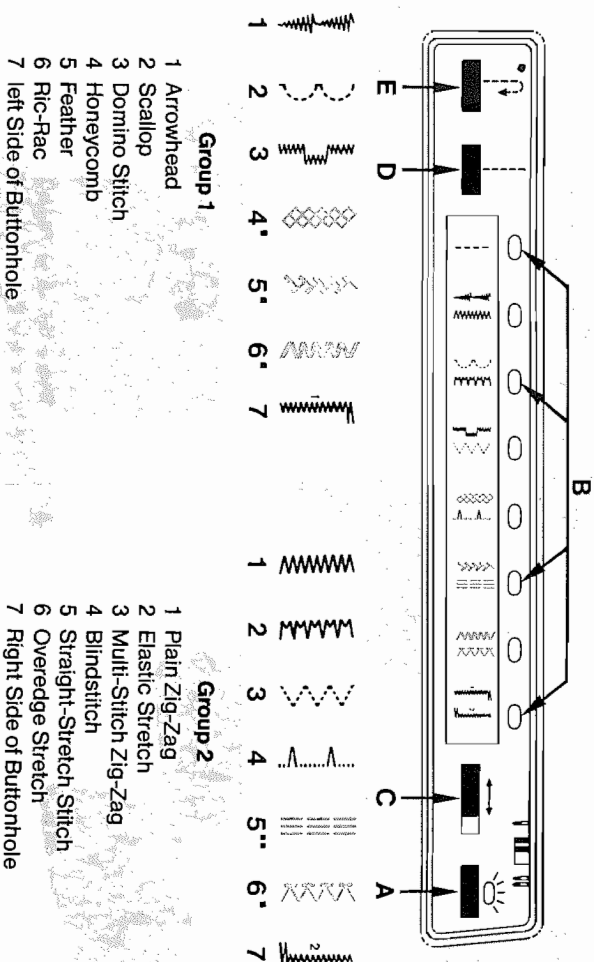
2. If there is a lot of thread on the bobbin, remove bobbin, unscrew the two halves of the bobbin and remove all the thread. Then tighten bobbin halves securely.

Chapter 3: Electronic Sewing

selecting a stitch

- Turn machine on.
(Note movement of needle each time power switch is turned on.)
- When machine is turned on, it will automatically be programmed to produce a straight stitch as indicated by the red light which will appear above the straight-stitch symbol.
- To select a particular stitch pattern, press pattern selector button **A** until the red light **B** appears above the pair of stitches in which desired stitch is contained.
Each press of the button advances the indicator light one pair of patterns to the right.
- If necessary, slide pattern group selector **C** to position desired stitch under light. Machine is ready to sew desired pattern when red light appears above it.
- The two red patterns at the end of the panel represent the buttonhole. For additional information on buttonhole, see page 66.
- Press straight-stitch selector button **D** if you want to return to straight stitching after pattern stitching.
- For reverse stitching, press and hold in reverse stitch selector button **E** while sewing.

Note: The machine will only reverse in straight stitch.



Chapter 4: Straight Stitching

preparation

Select straight stitch.

A red light will be seen above the stitch symbol to indicate that the machine is ready to produce a straight stitch.

Straight stitch needle plate and foot are best for all straight stitching. The straight stitch foot allows you to control the fabric easily when stitching around a curve or close to the fabric edge. The design of the foot helps prevent skipped stitches.

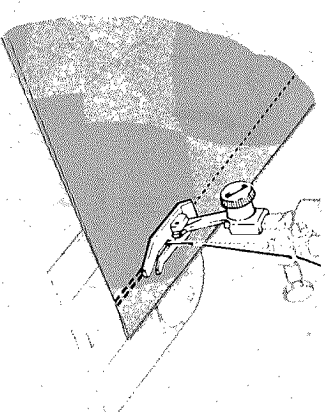
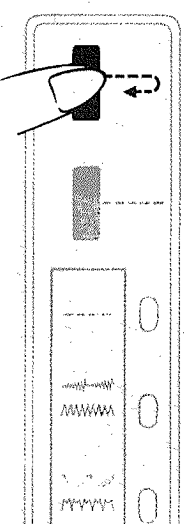
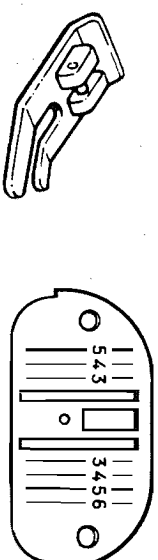
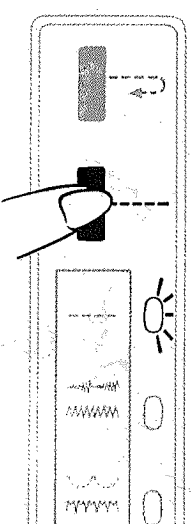
The straight stitch foot is to be used only with the straight stitch needle plate. When you use the straight stitch needle plate your machine will only sew a straight stitch even if you touch another pattern symbol by mistake.

Always change back to the appropriate needle plate and presser foot when doing sewing other than straight stitching.

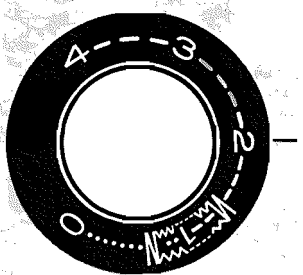
Use of Reverse Stitch

If you wish to reinforce the beginning or end of a seam, keep finger on the reverse stitch button.

Machine will only sew a straight stitch in reverse for as long as you keep your finger on the button.



adjusting machine to your fabric



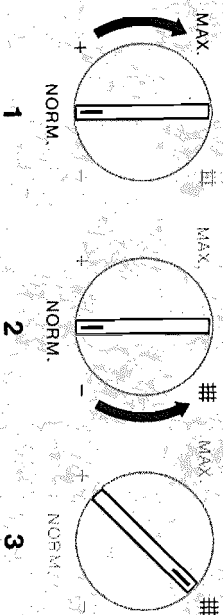
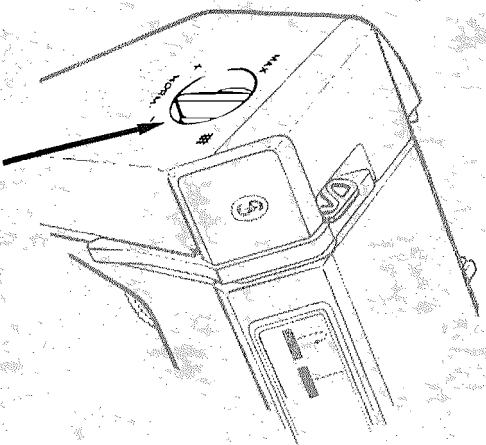
Adjusting Stitch Length *

Before starting to sew, adjust the stitch length of your pattern on a scrap of fabric.

Turning the stitch length control toward **4** increases the length of your stitch, and turning the control toward **0** decreases the length. Turn the control until desired length is obtained.

Note: When sewing *Flexi-Stitch* patterns, adjust stitch length control within yellow *Flexi-Stitch* area ---. *Flexi-Stitch* patterns are illustrated on page 24.

■ For information concerning appropriate stitch length see chart on opposite page.



Regulating Presser Foot Pressure

Correct pressure is important to feed fabrics smoothly and evenly. The **NORM.** (normal) setting is an all-purpose setting that can be used for sewing a wide variety of fabrics of different weight and texture. Alternative settings **+** and **-** above and below **NORM.** (normal) are also provided.

Lower presser foot before setting pressure.

1. To increase pressure, turn dial from **NORM.** toward **MAX.**
2. To decrease pressure, turn dial from **NORM.** toward **MIN.**
3. For darning, set dial on **MIN.**

Choosing the correct stitch length is of utmost importance. The correct choice will make the difference in the wear and appearance of your new garment. The table below is a practical guide to stitch length selection. Refer to it before starting a sewing project. Remember to make a test sample on a scrap piece of the fabric you will be using.

Stitch Length Guidance Table

Part of Article or Garment	Weight of Fabrics					
	Filmy	Sheer	Light	Medium	Heavy	Very Heavy
Straight Main Seams	1.5 - 2	1.5 - 2	2 - 2.5	2 - 2.5	2.5	2.5 - 3
Curved Main Seams	1.5 - 2	1.5 - 2	1.5 - 2	2 - 2.5	2 - 2.5	2.5
Neckline " & Armholes	1.5 - 2	1.5 - 2	1.5 - 2	2 - 2.5	2 - 2.5	2 - 2.5
Stay Stitching "	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	2 - 2.5	2 - 2.5
Gathering	3 - 4	3 - 4	3 - 4	4	4	4
Zippers "	1.5 - 2	1.5 - 2	2 - 2.5	2 - 2.5	2.5	2.5
Top Stitching "	3	3	3 - 4	3 - 4	4	4
Stress Areas or Seams	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2	1.5 - 2

■ Slow to moderate speed.

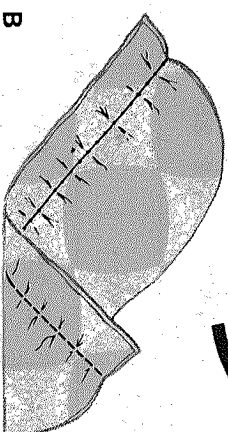
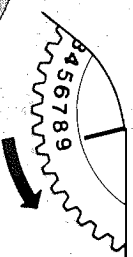
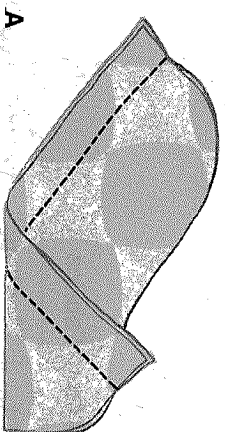
Stress Areas in Knit or Stretch Fabrics

Contrary to common belief it is not always necessary to use a s-t-r-e-t-c-h stitch on all seams in garments made from these fabrics. Always consider the "stress" areas, for example; armholes, crotch seams, also how much the garment will be required to "give" and where. Use a stretch stitch where needed. Moreover, always ascertain that the fit of the garment is correct before sewing any seam with a s-t-r-e-t-c-h stitch. Ripping out a s-t-r-e-t-c-h stitch is difficult and may damage fabric. For sewing on stretch fabrics, see pages 45 and 61.

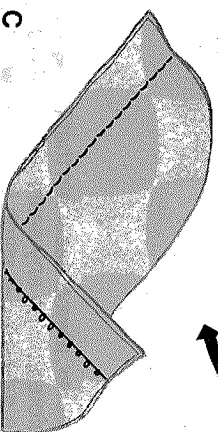
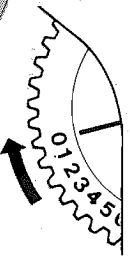
Upper Thread Tension

Having selected the correct needle and thread combination for the fabric being used, it may be necessary to adjust the tension of the sewing machine to ensure a well balanced stitch. A well balanced stitch is produced when the upper and lower threads appear the same on the fabric. illustration A.

Your machine has an adjustable upper tension control system. This control exerts tension on the upper and lower thread as they pass through the machine to form a stitch.



- **Too much tension** will produce a tight stitch which will cause puckered seams, illustration B.
To decrease tension, turn dial to a lower number.



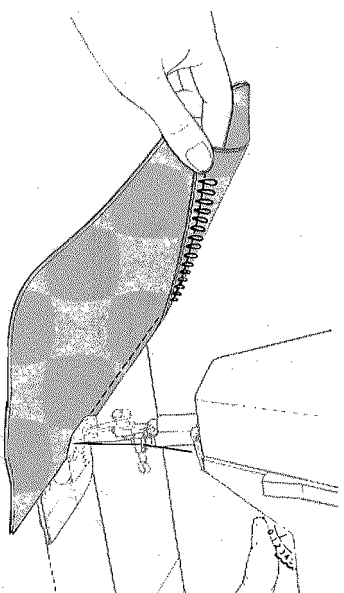
- **Too little tension** will produce a loose stitch, illustration C.
To increase tension, turn dial to a higher number.
When an even amount of tension is exerted on both threads, a smooth even stitch known as a balanced stitch, is produced.

Tension Test

To help understand the effect of tension on fabric and thread, try this simple test:

- Take two pieces of a medium weight woven fabric in a solid light colour about 15 cm (six inches) long.
- Place a 2020 size 14 needle in the machine.
- Thread the top of your machine with a polyester or mercerized dark colour thread and use a lighter colour thread of the same fibre and size in the bobbin.
- Select straight stitch.
- Seam the two pieces of fabric together starting with the upper tension control at 0. Then as you sew, slowly turn the tension control from 0 through 9.
- Sew another row turning the dial back to 0. You should have a balanced stitch on each row mid-way between the start and finish in each case.
- The different coloured threads will help you to see the effect that the tension has on the upper and lower threads.

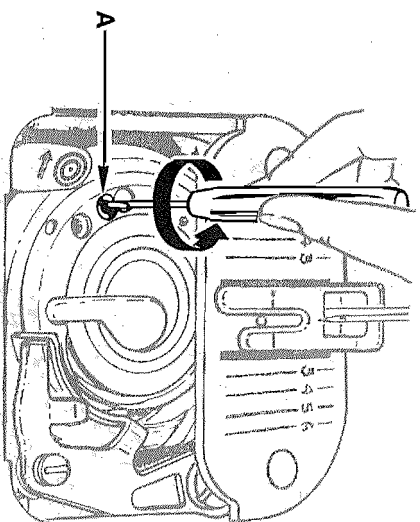
Now that you have observed the effects of tension, we suggest that you perform a similar test on a scrap of the fabric you plan to use, being sure to duplicate the number of thicknesses of your garment.



Lower Thread Tension

The lower thread tension has been set at the factory for most types of stitching. However, for **fine** fabrics, we recommend reducing lower thread tension by turning screw **A** counter-clockwise as far as possible, using the small screwdriver from accessories.

When stitching is completed, be sure to turn screw **A** clockwise back to its position for regular sewing.



sewing a seam

Preparation

- Stitch: straight stitch
- Stitch length: to suit application or fabric
- Straight stitch needle plate
- Straight stitch foot

Thread machine in the usual way.

Placing Fabric Under Foot

Most fabrics can be placed under the foot by raising the presser foot lifter **A** to its normal up position 1, where it locks. When using bulky fabric, multiple fabric layers, or an embroidery hoop, raise the presser foot lifter to the high rise position 2, thus increasing the space between foot and needle plate. Hold presser foot lifter in position while placing fabric under the presser foot.

- Lower presser foot lifter all the way down and start to sew.

Sewing with a Newly Wound Bobbin

When starting to stitch at the fabric edge:

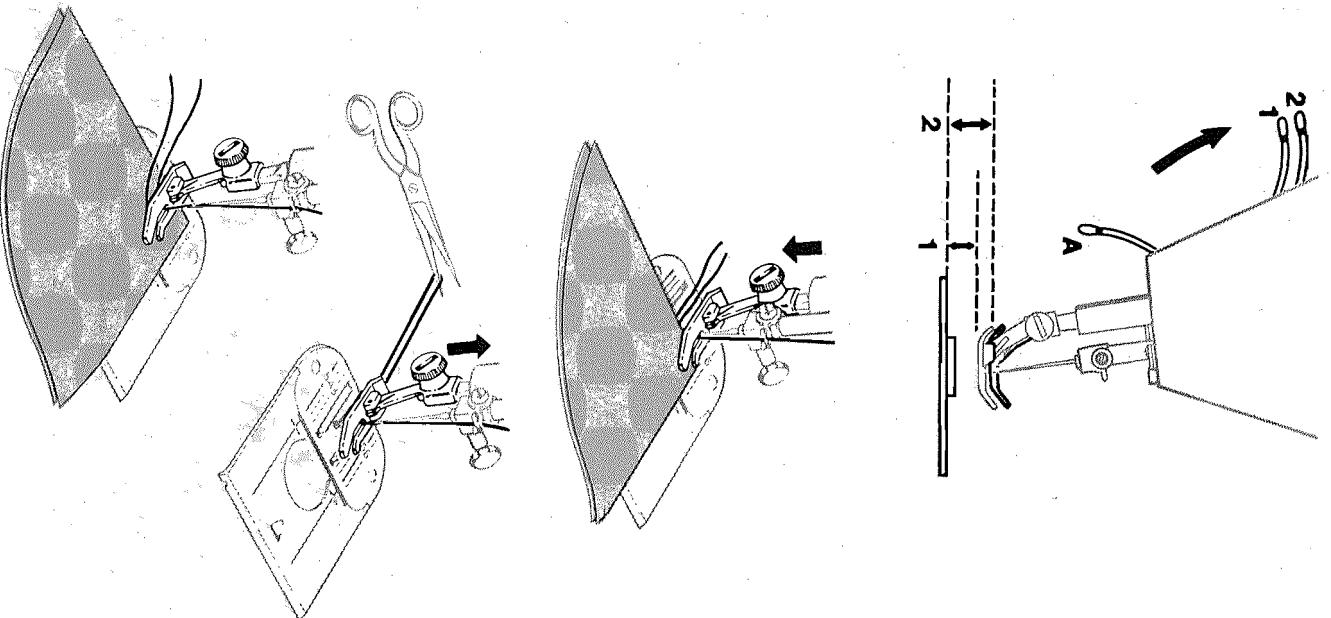
- Position needle in very edge of fabric, by turning the hand wheel *toward you*.
- Lower the presser foot and stitch. Thread will lock over fabric edge.

OR

When starting to stitch away from fabric edge:

- Leave presser foot in its upper position.
- Pull thread back under presser foot and cut.
- Position needle in from fabric edge, then lower the presser foot and stitch.

Backstitch to lock stitching by pressing the reverse button while sewing. Only a few stitches are needed to lock stitching line in place. Do *not* go over edge of fabric.



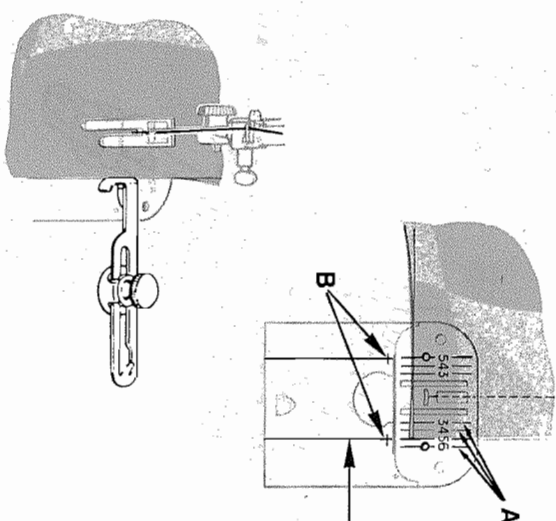
Keeping Seams Straight

To keep the seam straight, use one of the numbered guidelines **A** on the needle plate. Line 5, the most commonly used, is extended on the slide plate for your convenience.

The crosslines **B** 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.

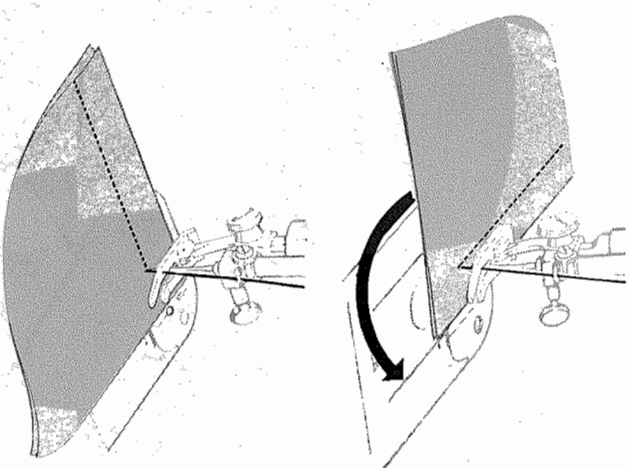
To attach seam guide to machine, refer to page 7.

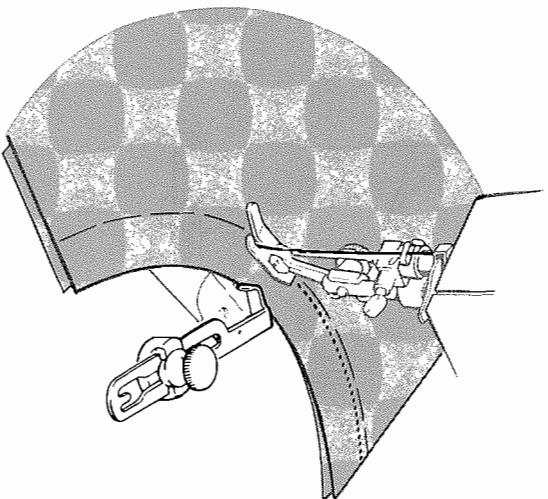


Turning Square Corners

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 presserfoot *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.



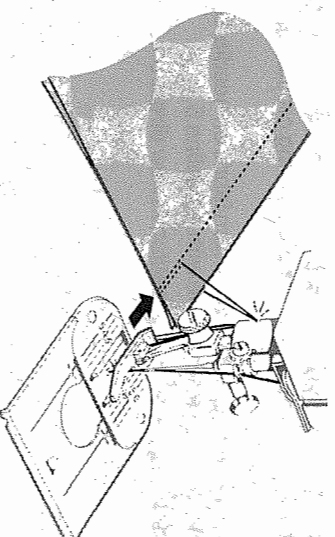
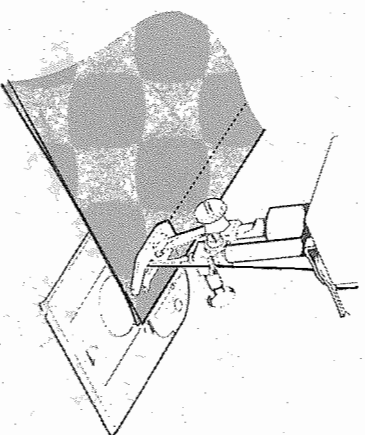
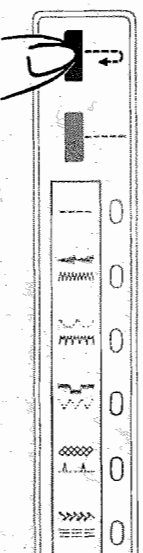


Curved Seams

- Use a short stitch for elasticity and strength. For example, if the stitch length control on your machine is set on **2** for straight seams, adjust the control between **1.5** to **2** to stitch curved seams in the same fabric.
- 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

- Stitch to the edge of the fabric. (Do not sew beyond edge of fabric)
- Press reverse stitch button and hold in place. Backstitch approximately 1.5 cm (1/2 inch) to reinforce end of seam. Release reverse stitch button.
- Raise needle and take-up lever to highest position by turning hand wheel *toward you* and raise presser foot. Remove the fabric by drawing it to the back and left.
- Cut threads on thread cutter at rear of presser bar.



applications

Darning

Without Embroidery Hoop

- Stitch: straight stitch |
- Stitch length: between 1 and 1.5
- General purpose needle plate
- Special purpose foot or general purpose foot
- Pressure setting: ##

- Select straight stitch.
- If area to be darned is open, baste an underlay in place.
- 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*.
- 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.

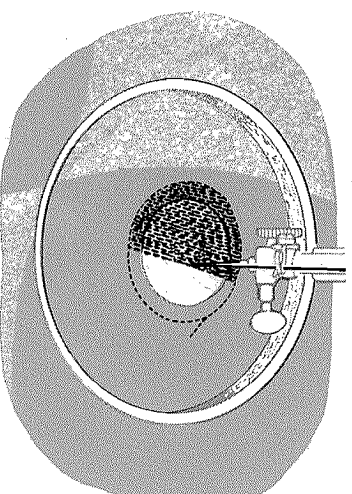


With Embroidery Hoop

- Stitch: straight stitch |
- Stitch length: 0
- Snap-on feed cover (To attach feed cover see page 7)
- No presser foot or shank
- Embroidery hoop

For best results, *Flip & Sew* panel should be up when darning with embroidery hoop.

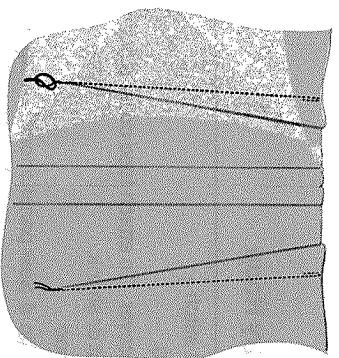
- Trim ragged edges from area to be darned and centre worn section in embroidery hoop.
- Select straight stitch.
- Position work in hoop and place hoop under presser bar, *then lower the presser bar to engage tension*.
- Hold upper thread loosely with left hand, turn hand wheel *toward you*, and draw lower thread up through fabric. Hold both thread ends and lower needle into fabric.
- Snip off thread ends after a few stitches.
- Outline area to be darned with running stitches for reinforcement as illustrated.
- Stitch across opening, moving hoop back and forth under foot. Keep lines of stitching closely spaced and even in length.
- When opening is filled, cover area with crosswise lines of stitching.



Darts

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

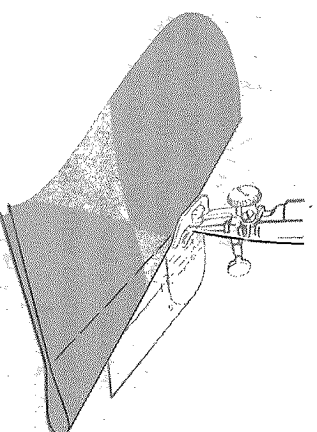
However, you can avoid the problem of fastening the thread ends by making a "continuous-thread" dart and stitching in the opposite direction. This method is particularly useful for darts in sheer fabrics, where transparency requires a neat, clean finish. It is also useful for darts made on the right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



A

Regular Darts (Illustration A)

- Stitch: straight stitch
- Stitch length: to suit fabric
- Straight stitch needle plate
- Straight stitch foot

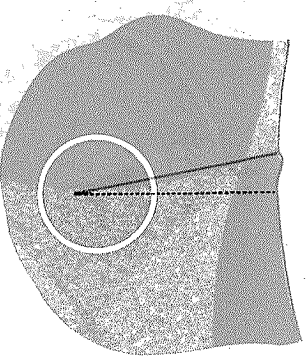


B

- Stitch from the seam edge, tapering gradually to the point.
- Stitch beyond the fabric to form a thread chain 1.5 cm ($\frac{1}{2}$ inch) to 2 cm ($\frac{3}{4}$ inch) long.
- 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)

- Set the machine as for regular darts.
- 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 cut off thread end. Make four additional turns of the hand wheel.
- 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.
- Stitch carefully, making the first three or four stitches in the fold of the fabric, then sew towards the wide end of the dart.
- 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.



Quilting

Quilting is the art of stitching two or more thicknesses of fabric together in a planned design. A padding is stitched to the underside of the fabric to produce a soft, puffed effect that is becoming to some wearing apparel and to many fabric furnishings.

- Stitch: straight stitch
- Stitch length: to suit application or fabric
- Straight stitch needle plate
- Straight stitch foot

Note: For best results use the quilting foot available for separate purchase at your local Singer store.

Preparing the Fabric

Baste a light padding of cotton flannel, synthetic quilt batting,

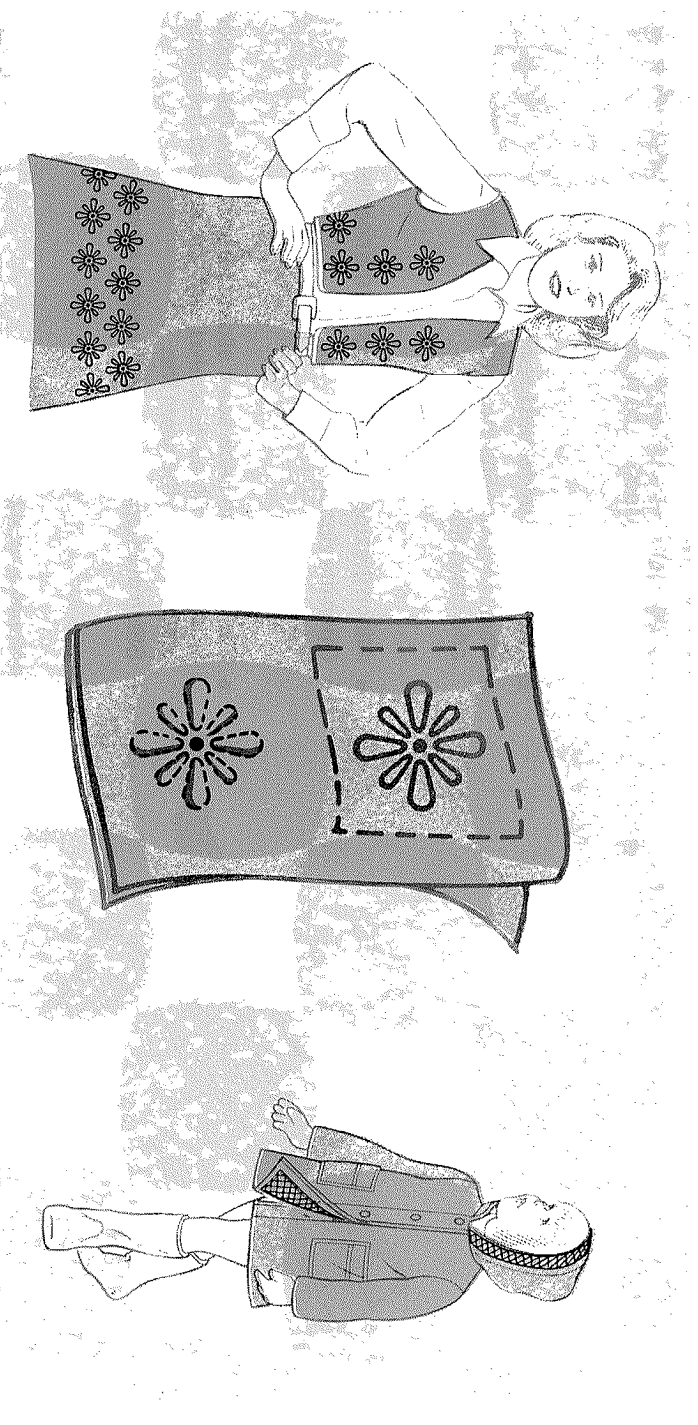
sheet wadding, or a lightweight wool interlining to the underside of the fabric. When using sheet wadding, first back it with voile, batiste, or net to preserve the sheet wadding through wear. Baste the layers of fabric and padding together on the lengthwise and crosswise grains.

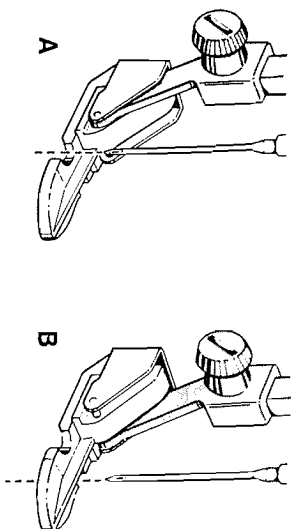
Basic Procedure

- Select straight stitch.
- Draw both threads under the foot and diagonally across feed to left.
- Position the needle, lower the foot and start stitching.

Note: If you are quilting a very large piece, work from the centre of the fabric to the edges. Guide the fabric with both hands.

If the fabric has a floral or scroll design, the pattern in the fabric can be your quilting design. Stitch it from the top side.





Zipper Insertion

How the zipper is inserted will depend on the type of the garment and the location of the zipper. With the adjustable zipper foot, you will find it easy to sew an even line of stitching close to the zipper. For inserting zipper foot on machine, see page 6.

- Stitch: straight stitch
- Stitch length: to suit fabric
- Straight stitch needle plate **only**
- Zipper foot

The zipper foot can be used either to the left or right of the needle – depending on where the bulk of the garment is placed.

Attaching the Zipper Foot

When the zipper is to the left of the needle:

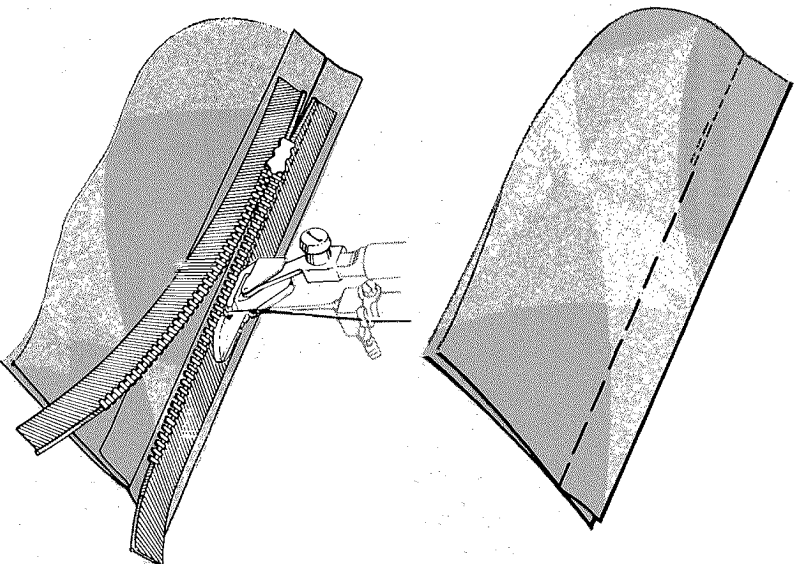
- Attach left side of zipper foot to shank (needle will enter left notch in foot) – see illustration **A**.

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**.

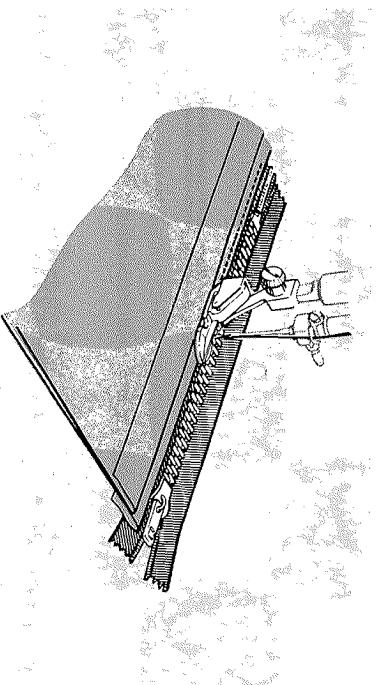
Zipper inserted under left Lapped Seam

- Baste the seam line the exact length of the garment opening and press the seam open.
- Attach the zipper foot to the right of the needle (illustration **A**).
- Open the zipper.
- 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.
- Stitch the zipper tape onto the seam allowance.

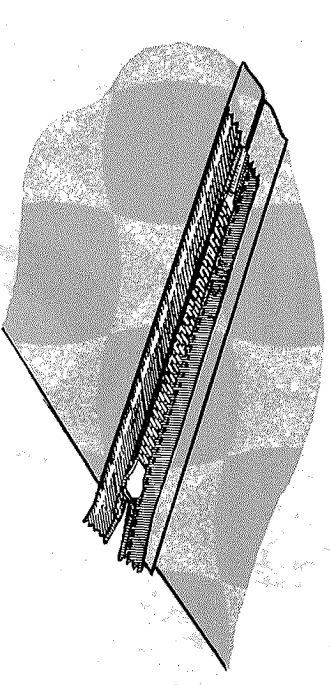


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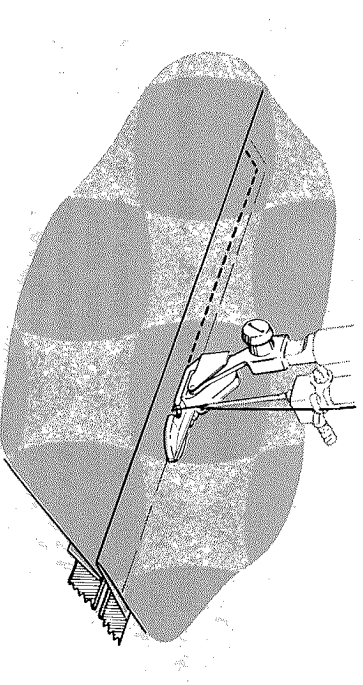
- Adjust the foot to the left of the needle (illustration **B** on page 36).
- Close the zipper and turn it face up.
- Smooth back the seam allowance at the edge of the zipper.
- Top stitch to the tape close to the folded edge.

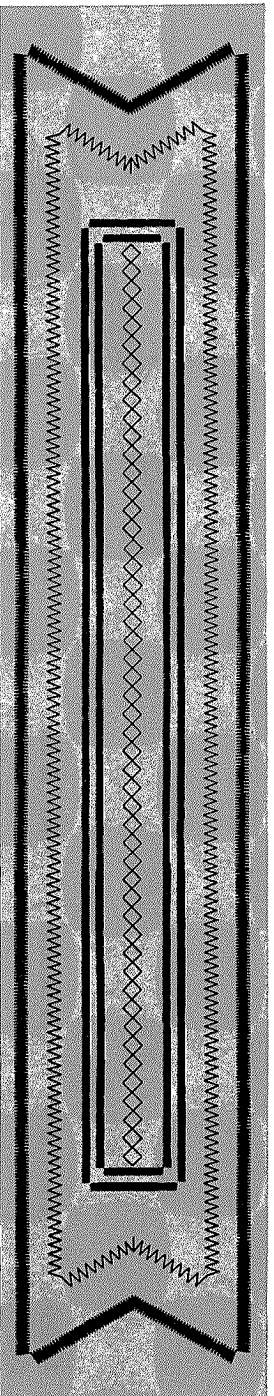


- Spread garment flat and turn zipper face down over front seam allowance.
- Hand baste zipper to garment from wrong side, through zipper tape, seam allowance, and front of garment.




- Turn garment right side out.
- 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.
- Remove basting. Press.

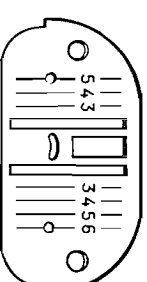
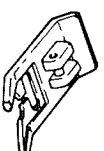
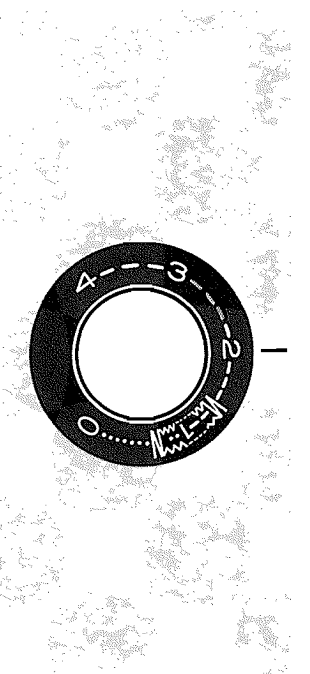
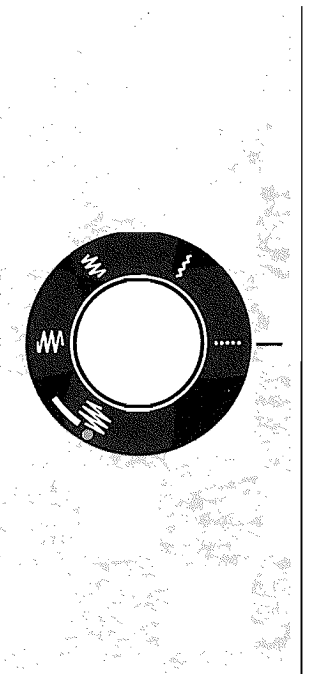




Chapter 5: Basic Zig-Zag Stitching

Zig-Zag Stitching

- Stitch: zig-zag 
- Stitch width: to suit application or fabric
- Stitch length: to suit application or fabric
- General purpose needle plate
- General purpose foot



Adjusting Stitch Width

Before starting to sew, adjust the stitch width of your pattern on a scrap of fabric.

Turning the stitch width control toward the largest zig-zag symbol increases the width of your stitch, and turning the control toward the straight stitch symbol decreases the width. Turn the control until the desired width is obtained.

Note: When sewing *Flexi-Stitch* patterns, set stitch width control on yellow *Flexi-Stitch* dot ●.

Adjusting Stitch Length

Before starting to sew, adjust the stitch length of your pattern on a scrap of fabric.

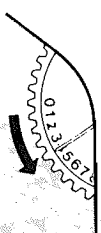
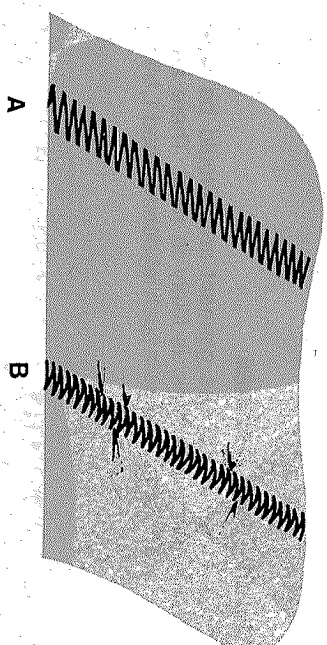
Turning the stitch length control toward 4 increases the length of your stitch, and turning the control toward 0 decreases the length. Turn the control until desired length is obtained.

Note: When sewing *Flexi-Stitch* patterns, adjust stitch length control within yellow *Flexi-Stitch* area ---.

Adjusting Upper Thread Tension

Zig-Zag stitching usually requires less upper thread tension than straight stitching. Be sure your machine is threaded correctly and make a test sample with the fabric and thread you plan to use so that you can adjust tension to suit the stitch pattern you have chosen. The stitches should lie flat against the fabric without causing the fabric to pucker, illustration **A**.

If the stitches are not flat and the fabric is puckered, illustration **B**, lower the upper thread tension by turning the dial to a lower number.



Lower Thread Tension

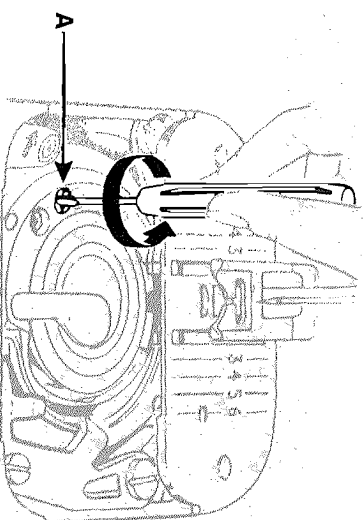
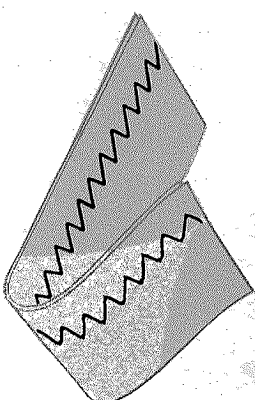
Lower thread tension has been set at the factory for most types of stitching.

Adjusting Lower Thread Tension for Balanced Open Zig-Zag Stitching

A balanced open zig-zag stitch where both lower and upper threads lock at the corner of each stitch in the fabric as shown, can be achieved by turning screw **A** to the left (counterclockwise) as far as it will go, using the small screwdriver in your accessory box.

- Set upper thread tension dial on 1.
- Using two layers of scrap fabric, sew slowly stitch by stitch, gradually rotating tension dial to higher number until the upper and lower threads lock at the corner of each stitch and the stitch formation is the same on both sides of the fabric.

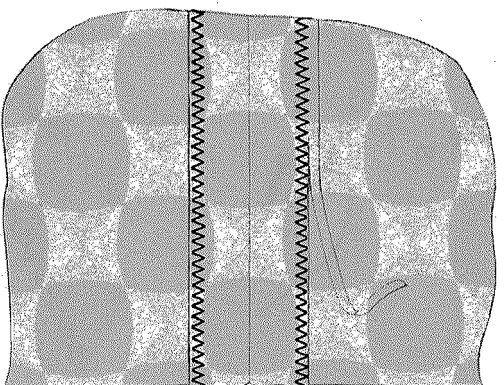
When stitching is completed, return screw **A** to position for regular sewing by turning to right (clockwise) as far as it will go.



applications



Zig-Zag Seam Finishes

Seam edges support the garment and should be given a durable finish if the fabric is likely to ravel. There are two methods of finishing seams in such fabrics: method 1, trimming





after stitching seam edge, or method 2, overedging. Make a test sample first to determine which method best suits your fabric.

Method 1 – Trimmed Seam Finish

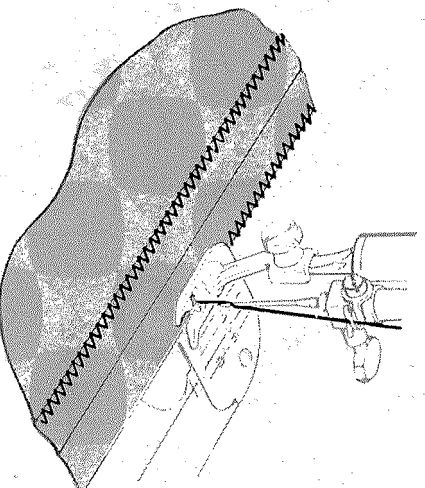
- Stitch: zig-zag  or multi-stitch zig-zag 
- Stitch width: to suit application or fabric
- Stitch length: to suit application or fabric
- General purpose needle plate
- General purpose foot

- Select appropriate stitch pattern.
- Adjust stitch width and length if necessary.
- Place stitching near the edge of the seam allowance.
- Trim seam edges evenly, as illustrated, after stitching is completed.

Method 2 – Overedged Seam Finish

- Stitch: zig-zag  or multi-stitch zig-zag 
- Stitch width: to suit application or fabric
- Stitch length: to suit application or fabric
- General purpose needle plate
- General purpose foot

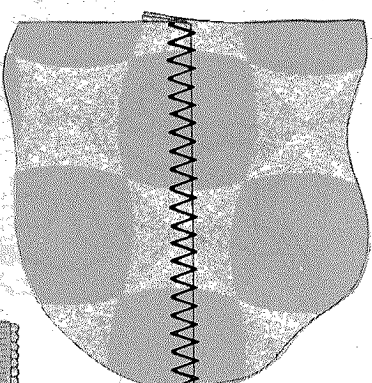
- Trim seam edges evenly.
- Adjust stitch length and width if necessary.
- Place stitching over the trimmed edge of the seam allowance as illustrated.



Lingerie Seams

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

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



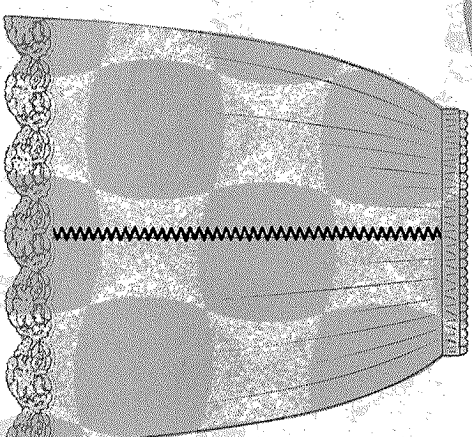
Satin Stitching

Satin stitching, a series of closely spaced zig-zag stitches that form a smooth, satin-like surface, illustration **A**, is useful for both practical and decorative work. Stitch patterns can be sewn at satin-stitch length.

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

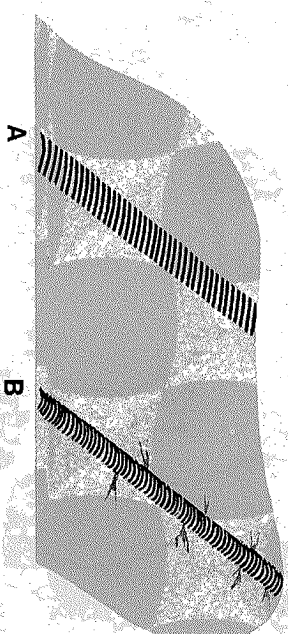
Adjusting Stitch Length

- Set machine for a medium length stitch.
- Run machine at slow speed.
- Gradually adjust stitch length from **1** toward **0** until stitches are closely spaced and form a smooth surface.

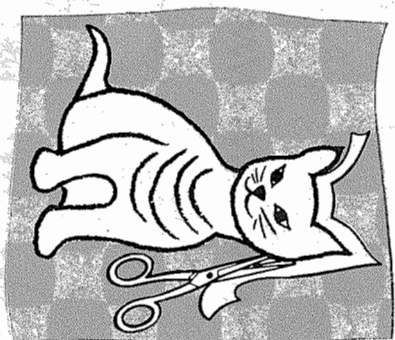
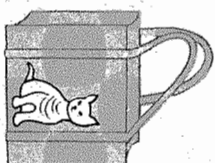


Adjusting Upper Thread Tension

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, illustration **B**, or the lower thread is pulled to the fabric surface, lower the upper thread tension by turning the dial to a lower number.



1



Appliqué

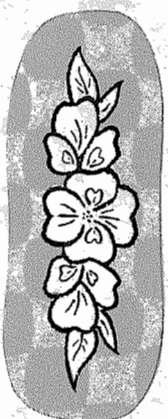
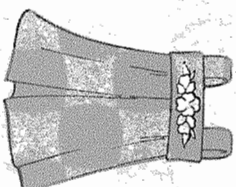
The stitch most commonly used in appliqué is a plain zig-zag, closely spaced to form a satin stitch. The width of this stitch can be varied to accommodate fabrics of different weaves and textures. Other stitch patterns can also be used.

Preparation

Make a test sample to decide which of the following methods is the most appropriate for your fabric and design. Mark design on piece of fabric to be appliquéd. Cut out design leaving about 2 cm ($\frac{3}{4}$ inch) margin all around.

Position the design.
Baste it to the fabric.

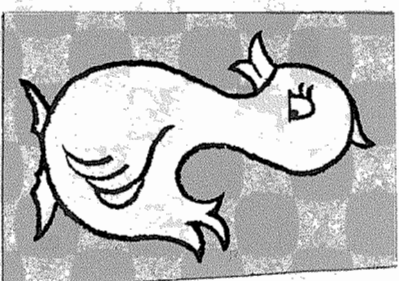
2



Method 1

- Set pattern selector and stitch width dial for desired appliqué stitch. Adjust stitch length to fine setting, between 1 and 0.
- Follow the outer edge of the design with a decorative stitch.
- Trim away the excess fabric on the outer edges of the stitching.

3



Method 2

- Select straight stitch.
- Outline the entire design with a short stitch.
- Trim raw edges to the stitching and remove basting.
- Select stitch pattern and stitch width desired, and set stitch length on a satin stitch setting for a closely spaced stitch, between 1 and 0.
- Stitch, following the straight stitch outline. This method will produce a smooth overedged finish, with no raw edges to be trimmed after stitching.

Method 3


- Purchased motifs can be appliquéd quickly and easily by using either a straight or decorative stitch.

Free-Motion Embroidery

In free-motion embroidery, you sew without a presser foot and control fabric movement by means of an embroidery hoop. Either a straight or a plain zig-zag stitch can be used. Because you can move the hoop in any direction – forward or backward, from side to side, or even diagonally – free-motion stitching is extremely useful for embroidery designs. The hoop should be one designed for machine use.

You can vary the length of stitches simply by moving the hoop faster or slower under the needle. The faster you move the hoop, the longer the stitches will be. You can also vary the width of zig-zag stitches from wide to narrow by controlling the angle at which the hoop is placed and moved under the needle.

Flower Embroidery

- Stitch: zig-zag 
- Stitch width: to suit application or fabric
- Snap-on feed cover (To attach feed cover see page 7)
- No presser foot or shank

Preparation

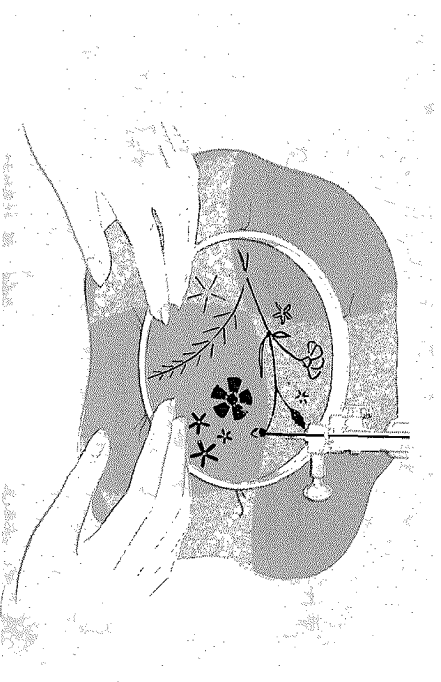
Trace design on right side of fabric. Prepare the area to be embroidered using an underlay if the fabric is soft. Place the work in an embroidery hoop approximately 18 cm (7 inches) in diameter. If the design to be embroidered covers a large area, it will be necessary to reposition the work in the hoop as each section is completed.

Procedure

- Position work under needle and *lower presser bar to engage tension.*
- Hold upper thread loosely and turn hand wheel *toward you* to bring lower thread up through fabric. Hold both thread ends and lower needle into fabric.

- Stitch, outlining or filling in design with zig-zag stitches. For a smooth, satiny surface, place parallel stitches close together, moving hoop slowly and steadily. For an irregular texture, move the hoop more rapidly, allowing some stitches to overlap.

A series of bar-tacks can be used to form spray-like leaves or flowers. This technique adds variety and lightness to many designs. Leaves and petals formed in this way may carry the thread from one bar tack to the next. This carrying thread eliminates tying of the thread ends.



Chapter 6: Machine Stitch Patterns

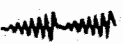
how stitches are produced

In addition to the straight stitch, your machine can produce a variety of stitch patterns. *Fashion** Stitch patterns (*write* on panel) are produced by the side-to-side movement of the

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

Stitch Pattern Chart

Pattern group selector moved to right



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



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



Domino Stitch – An interesting pattern for decorative stitching.



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



Featherstitch – Extremely versatile. Use it for tagging, embroidering, quilting and lattice seams.



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

Pattern group selector moved to left



Plain Zig-Zag Stitch – Used for general-purpose stretch sewing, bar tacks, finishing seams, embroidery and applique.



Elastic Stretch (or "M") Stitch – Ideal for plain and overedged seams in knit and stretch fabrics, stretch garment repair and for attaching elastic.



Multi-stitch Zig-Zag – Lets you mend, join and reinforce without bulk. Ideal for bar tacking.



Blindstitch – For finishing hems and making ladder seams.



Straight Stretch Stitch – Ideal for plain seams that stretch and for repairing and reinforcing seams.



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

adjusting stitches for stretch fabrics

Guiding and Supporting Fabric

Most fabrics of stretch or knit construction need only to be guided in front of the presser foot when you use one of the stretch stitches. Some fabrics – nylon tricot and elasticized fabrics, for example – do require support while being stitched.

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

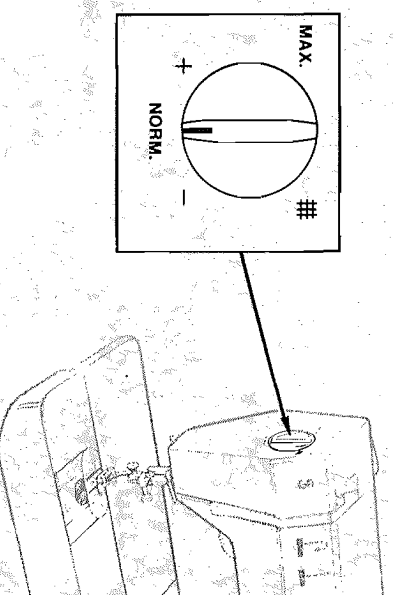
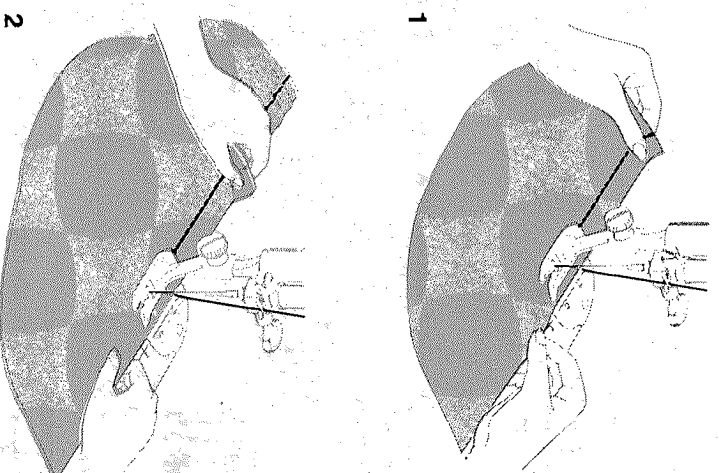
2. For elasticized fabric, stretch lace, and knits with an unusual amount of elasticity, apply *firm* tension in front and back of the presser foot to stretch the seam as the stitches are being placed.

Caution: Do not pull the fabric while you are stitching as this may deflect the needle, causing it to break.

Adjusting Pressure when Sewing Knit and Stretch Fabric

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

- For thick, soft or very stretchy knits, decrease pressure by turning dial from **NORM.** (normal) toward **#** (darn).
- For nylon tricot, cre and similar hard surface synthetic knits, increase pressure by turning dial from **NORM.** (normal) toward **MAX.** (maximum).



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.

Fabric Handling Table

Fabric	Special Handling
Vinyl – leather-look, patent, suede, reptile	Use transparent tape as a substitute for pins or basting – Topstitch to hold seams and edges flat – Avoid worked (machine) buttonholes. Use bound buttonholes.
Pile – velvet, velveteen, corduroy	Stitch in direction of nap – Use plain seams – Zig-Zag or bind seam edges to prevent fraying – Press over a self-fabric cloth.
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
Permanent Press – percale, broadcloth, shirting	Control seam tension manually by holding fabric taut as it passes under the presser foot. Sew at moderate speed.
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 45 to increase presser-foot pressure.
Blanket Binding – satin face	Hand-baste binding to blanket (pin marks show) – Miter corners.
Soft Sheer – chiffon, voile, China silk	Use French seams, double stitched – Hold ends of upper and lower thread when you begin to stitch – Support fabric while stitching.
Napped Fabric – cashmere, mohair, camel hair	Cut with nap running down – Sew in direction of nap – Topstitch to hold seams and edges flat.

Stitch Length-Type	Needle Style-Size	Machine Accessories
Long Straight Stitch	Style 2020 Size 14 or 16 for woven backing. Style 2045 Size 14 or 16 for knit backing	General Purpose Foot ■ General Purpose Needle Plate
Medium Straight Stitch for seams Medium Zig-Zag or Honeycomb Stitch for overcasting	Style 2020 Size 14. Style 2045 Size 14 or 16 for panne velvet	General Purpose Foot ■ (General Purpose Foot <i>only</i> for overcasting) General Purpose Needle Plate
Long Straight Stitch for plain seams Medium to Short Zig-Zag Stitch for overedged seams	Style 2020 Size 16	General Purpose Foot ■ General Purpose Needle Plate
Medium Straight Stitch	Style 2020 Size 11 or 14	Straight Stitch Foot and Needle Plate
Medium Straight Stitch Medium to Short Narrow Zig-Zag or Narrow Overedge	Style 2045 Size 11 or 14	Straight Stitch Foot and Needle Plate (for straight stitching). General Purpose Foot and Needle Plate (for zig-zag stitching).
Long Straight Stitch Medium to Long Zig-Zag Stitch or Decorative Stitch	Style 2020 Size 11 or 14	General Purpose Foot ■ General Purpose Needle Plate
Medium to Short Straight Stitch	Style 2020 Size 9 or 11	Straight Stitch Foot and Needle Plate
Medium to Long Straight Stitch	Style 2020 Size 11 or 14	General Purpose Foot ■ General Purpose Needle Plate

■ For best results when sewing this fabric, we recommend use of the Even Feed Foot, available at your Singer Sewing Centre.

stitch centring

- **Stitch:** stitch desired
- **Stitch width:** to suit application or fabric
- **Stitch length:** to suit application or fabric
- General purpose needle plate
- Special purpose foot
- **Speed range:** MIN.

When sewing, it is important to correctly guide the stitches on your fabric to achieve centred stitching. A line of stitching is centred when it lies evenly on an imaginary line on the fabric. To clearly see what stitch centring is, and to practice even stitch guidance and machine control, try the test below.

Use a light colour upper and lower thread for this test. This will demonstrate to you how a correctly centred line of stitching lies on a given line.

- **Attach special purpose foot.**
Notice that foot is clear plastic for better visibility and has vertical black line in the centre to guide stitch placement on fabric.
- **Select straight stitch.**

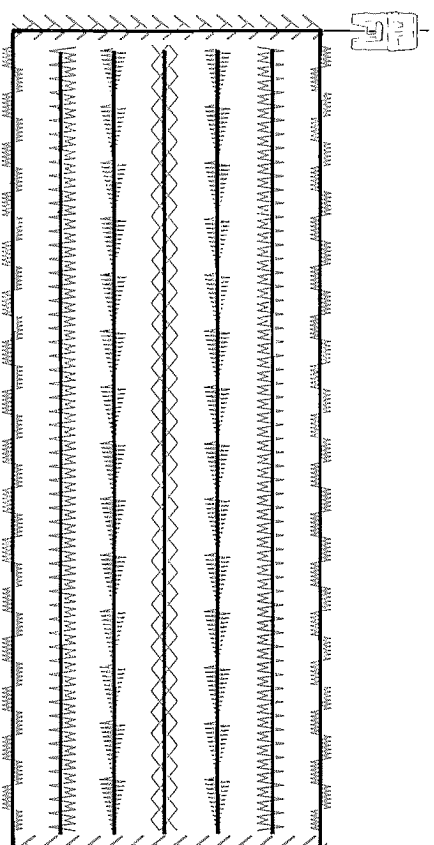
- Draw a vertical line on a sheet of paper or use graph paper, if available.
- Place paper under presser foot with drawn line centred under black vertical guideline of special purpose foot.
- Lower needle by turning hand wheel toward you, and position it on drawn line of paper.
- Lower presser foot.
- Carefully sew along the drawn line on the paper, using black vertical guideline of foot to guide stitching. Do not watch needle.
- After you have sewn along the drawn line, carefully remove paper from under presser foot.

If you have correctly guided the paper while sewing, the stitched line will be centred. Notice that the stitching lies evenly on the drawn line.

Try a paper sampler using a variety of stitches to practice stitch centring.

To assure centred stitching on the fabrics you sew, use a guideline marked with tailor's chalk.

Centred Stitching on Sampler



stitch usage: functional and decorative

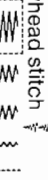
Many stitches on your new machine have both functional and decorative applications. The following pages include examples to illustrate the versatility of these stitches. Though many stitches can perform in a given application, to avoid repetition

only one stitch has been used in each example. We, therefore, hope that the examples provided will help you to use your own creative talents.

Arrowhead Stitch

The arrowhead stitch provides a decorative and secure finish on fashion seams or darts that end on the outside of a garment, at the top of pleats, and at the ends of pockets in tailored clothes. Individual pattern units reinforce points of strain. Use the arrowhead stitch on pocket corners in place of bar tacks or in a border design for an effective decorative touch.

Arrowhead Stitch Finish

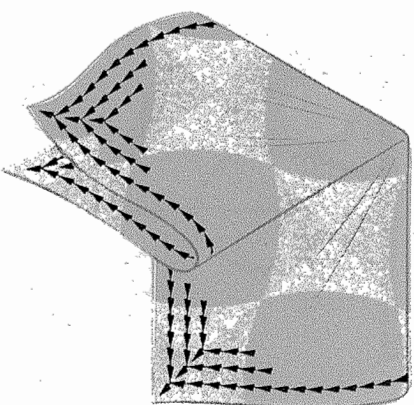
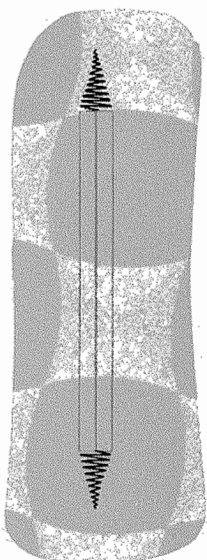
- Stitch: arrowhead stitch
- Stitch with: 
- Stitch length: 0-1 to suit application or fabric
- General purpose needle plate
- Special purpose foot

- Set machine according to the code above.

To Find Beginning Of Pattern Unit

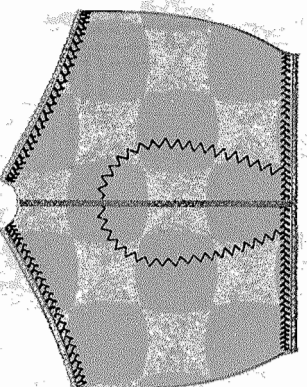
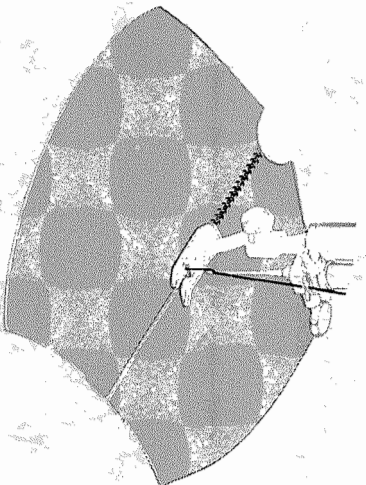
- On a scrap of fabric, stitch until you come to the end of a complete pattern unit. Now you are ready to start stitching at the beginning of the next unit.
- Raise presser foot and remove scrap.
- Position motif or design under needle, lower presser foot, and stitch.

To create effective border designs, as illustrated, stitch arrowheads from the middle of each side and work out in both directions toward the corners.






Featherstitch

The featherstitch is an extremely versatile stitch. Use it for fagoting, embroidering and quilting. There are numerous applications for the featherstitch. Two of them have been provided below.







Fagoting

- Stitch: featherstitch 
- Stitch width:  
- Stitch length: 2 – 2.5
- General purpose needle plate
- General purpose foot or special purpose foot

The art of joining two pieces of fabric with an open, lacy decorative stitch is called fagoting. You can create this attractive trimming with the featherstitch. Use it for decorative stretch seams in bathing suits or for joining together narrow strips of fabric to make an entire garment section.

- Turn under (and hem by hand slipstitching) the raw edges of the fabric strips or seams to be joined. Press flat or you may zig-zag raw edges.
- Baste two fabric edges to be joined on to tissue paper leaving approximately 3 mm ($\frac{1}{8}$ inch) gap between the two edges. Stitch, guiding two fabric edges under the centre of presser foot. Allow the needle to alternately make a stitch in each fabric strip and two stitches in the centre of the opening. The tissue paper should be gently pulled off when fagoting is completed.

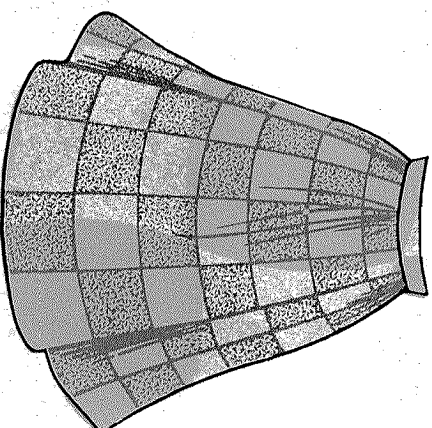
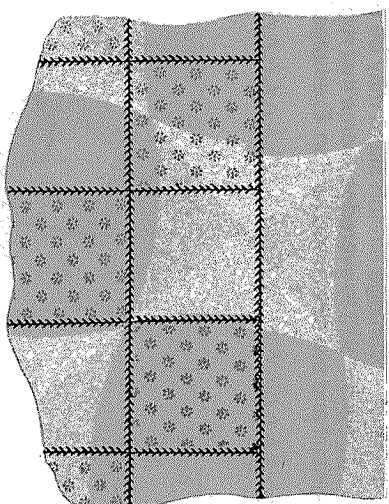
Patchwork Quilting

- Stitch: featherstitch 
- Stitch width:  
- Stitch length: 2 – 2.5 
- General purpose needle plate
- General purpose foot or special purpose foot

Patchwork for quilts and wearing apparel, formerly put together with hand stitching, can be quickly pieced and decorated at the same time by using the featherstitch. Joinings are both flexible and durable when this method is used.

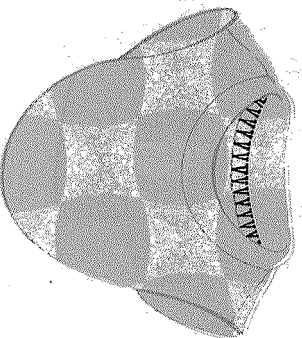
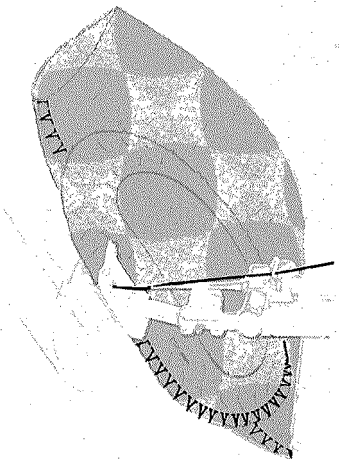
Procedure:

- Cut a fabric underlay to size. Baste a light layer of padding to underlay if a quilted effect is desired.
- Prepare patches, turning under 6 mm ($\frac{1}{4}$ inch) seam allowance. On non-woven fabric this step is not necessary.
- Baste patches to underlay in arrangement desired, butting all edges.
- Stitch in lengthwise and crosswise rows, allowing stitches to straddle patches.







Overedge Stretch Stitch

Although the overedge stretch stitch may be used creatively, it is primarily applied in finishing seams, hems, and facing edges. Use it to overedge seams that require stretch such as crotch seams. It is particularly helpful in ski suit, snowsuit and swimsuit construction. Examples of how to use the overedge stretch stitch follow.



Overedged Seams

- Stitch: overedge stretch stitch 
- Stitch width:   
- Stitch length: 2 - 2.5
- General purpose needle plate
- General purpose foot

Method 1

Make a test sample to determine the suitability of an overedge seam finish for your garment. Duplicate the grain or direction of knit of your garment seam. Adjust thread tension to suit fabric. Use an appropriate *Yellow Band* needle in the machine for a synthetic knit. (See Fabric, Thread and Needle Table on page 12.)

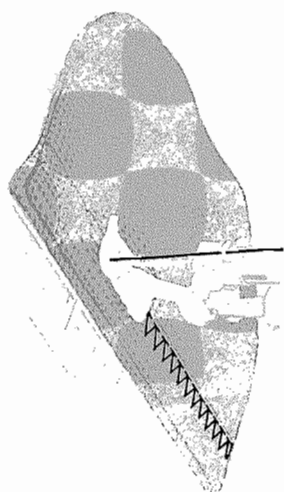
- Baste the garment together on the seam line allowing for 1.5 cm ($\frac{5}{8}$ inch) seam allowance and fit in the usual way.
- After making any necessary adjustments, trim seam edge evenly to a scant 5 mm ($\frac{1}{4}$ inch) from seam line basting.
- Place trimmed seam under the foot so that the straight stitches fall on the basted seam line and zig-zag stitches fall over the seam edge.

Mock Overedge



This finish is appropriate for bulky knits, fine tricots and fabrics that curl or fray.

Method 2

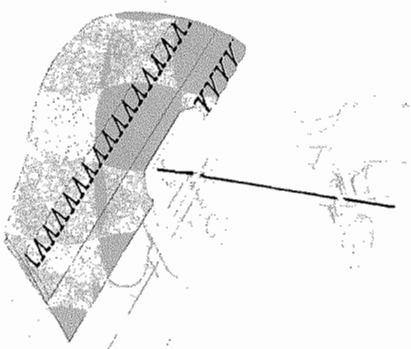
- Make a test sample.
- Baste the garment together on the seam line and fit in the usual way.
- After making any necessary adjustments, suggested in Method 1, place seam under presser foot. Stitch so that the stitches on the left side of the pattern penetrate the basted seam line.
- Press after stitching and trim away excess fabric to produce a narrow seam edge. When the seam supports the garment, omit the trimming step and press seam open in the usual way.



Overedged Seam Finish

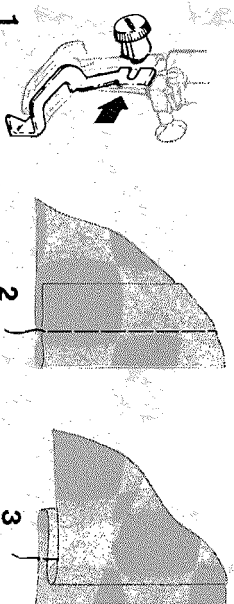
- Stitch: overedge stretch stitch 
- Stitch width: 
- Stitch length: 2 – 2.5
- General purpose needle plate
- General purpose foot

- Trim seam edges evenly.
- Place stitching over the trimmed edge of the seam allowance as illustrated.



Blindstitch

The blindstitch has many practical and functional uses. Its most common use provides a durable hem finish. The ladder seam, as described on the next page, is one creative application of the blindstitch. However, the creative ways one might apply this stitch are unending.



Blindstitch Hems


Blindstitching provides a durable hem finish that is almost invisible. It is best suited to straight or slightly curved hems. Taped, bound, or turned hem edges can also be blindstitched with equal ease.

- Stitch: blindstitch
- Stitch width: to suit application or fabric
- Stitch length: 1 – 2
- General purpose needle plate
- General purpose foot
- Blindstitch hem guide

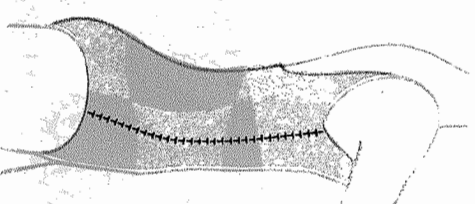
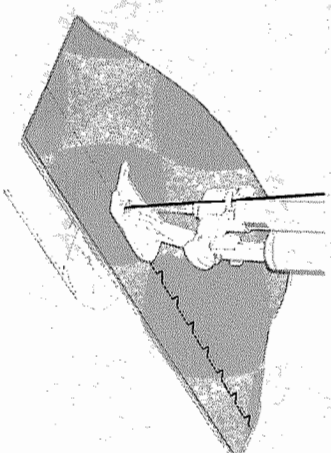
1. Raise presser foot, loosen screw, and slip blindstitch hem guide from the front between screw and shank of foot. Make sure underside of the guide clears the slide plate and front of foot. Tighten screw with coin.
2. Prepare hem in the usual way. It is advisable to baste the hem. Place the basting at least 1.3 cm (½ inch) below the edge of hem allowance to avoid catching the flange of guide as you stitch.
3. With the wrong side of work uppermost, turn the hem under, creating a soft fold from the top edge of hem.
4. Position hem under the foot with the soft fold resting against the wall of guide. Make sure the flange of the guide is between soft fold and top of hem, as shown.
5. Lower presser foot. Stitch so that the straight stitches fall on the hem allowance and zig-zag stitches pierce the soft fold of work. Adjust stitch width if necessary. While stitching, guide hem edge in a straight line and feed soft fold evenly against wall of the guide.

Ladder Seam

The blindstitch ladder seam is particularly appropriate for knit and stretch fabrics. It is ideal for stretchable construction seams, and edge finishes for necklines, pockets and collars in sportswear and swimsuits.

- Stitch: blindstitch 
- Stitch width:  \approx $\frac{1}{8}$ "}
- Stitch length: 1.5 – 2.5
- General purpose needle plate
- General purpose foot or special purpose foot

- Make a test sample to adjust stitch width and length and needle thread tension to suit the fabric. Needle thread tension should be lighter than normal.
- Cut and fit garment, allowing for 1.5 cm ($\frac{5}{8}$ inch) seam allowance. Baste seam line.
- Place fabric under presser foot so that the straight stitches fall on the seam line basting and the points toward the centre of the garment.
- After stitching, open seam by pulling fabric back on opposite sides of the seam to produce ladder effect. Press seam allowance after opening.







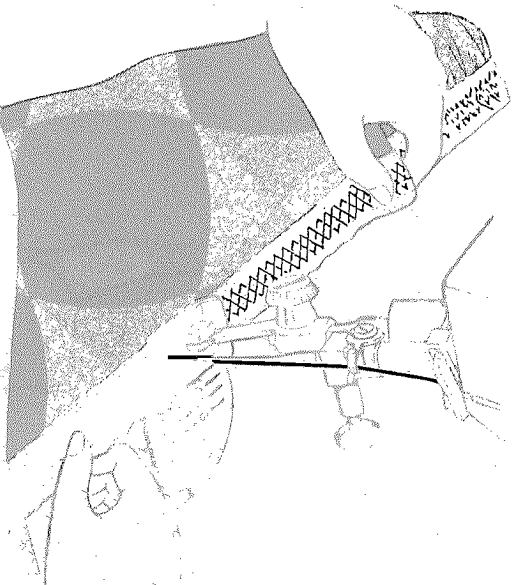
Honeycomb Stitch

The honeycomb stitch is ideal for smocking and it is useful for mending, overcasting and attaching elastic, stretch lace and blanket binding. Use this versatile stitch to create decorative designs on fabrics that stretch.



Replacing Lingerie Elastic

- Stitch: honeycomb stitch 
- Stitch width:   
- Stitch length: 2 – 2.5
- General purpose needle plate
- General purpose foot or special purpose foot




- Fit elastic for desired snugness at waistline, allowing 2.5 cm (one inch) for joining. Lap ends to form a band and stitch together as shown using a ball point needle.
 - 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.
 - Sew a few straight stitches to anchor elastic to fabric.
 - Select honeycomb. Plain zig-zag, elastic stretch stitch, or featherstitch are also effective for replacing lingerie elastic.
 - Then hold elastic and garment edge taut as you stitch so that it will remain stretchable after stitching is completed.
- Caution:** Do not pull the fabric while you are stitching as this may deflect the needle, causing it to break.

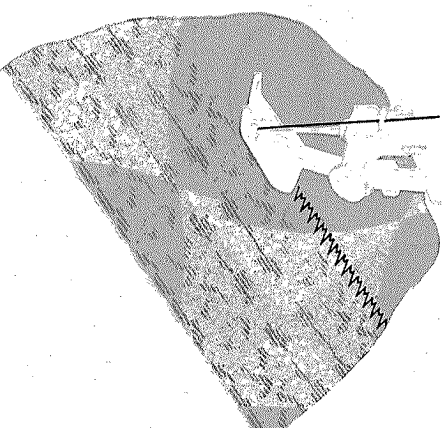
Elastic Stretch (or "M") Stitch

The elastic stretch stitch or "M" stitch is an attractive stitch which may effectively be used in functional and decorative stitching. It is an indispensable stitch for stretch garment repair and may be used for plain and over-edged seams in knit and stretch fabrics. The "M" stitch lends itself to many creative uses.

Stretch Garment Repair

- Stitch: "M" stitch 
- Stitch width: to suit application or fabric
- Stitch length: **0.5 – 1.5**
- General purpose needle plate
- General purpose foot or special purpose foot

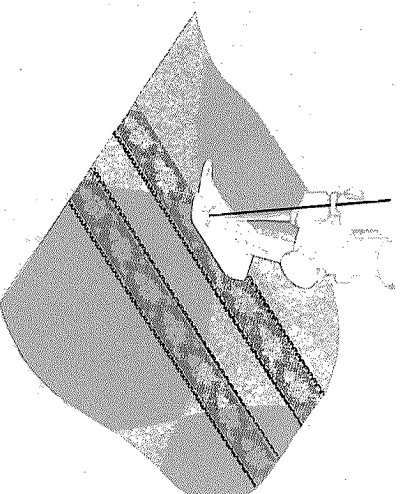
Seams in stretch garments retain their elasticity when stitched with the "M" stitch. This stitch pattern builds stretch into the seam as it is being sewn and is equally suitable when used to topstitch as shown, or to overedge. Make a test sample to check stitch width and length settings.



Lace Insertion

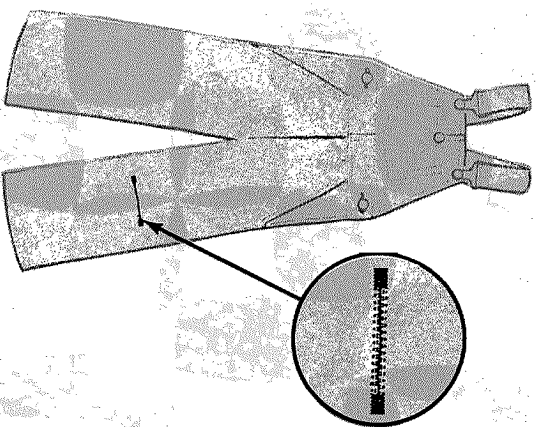
Fine lace insertion and edging add a feminine touch to blouses, dresses and children's wear. Such trimming can be made decorative and durable when applied with the "M" stitch.

- Mark position of lace and baste in position.
- Stitch, guiding work under needle so that the top of the stitches fall along the edge of the lace as illustrated.
- Trim fabric away under lace insertion after stitching both edges.

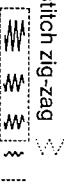


Multi-Stitch Zig-Zag

The multi-stitch zig-zag is an extremely versatile stitch. Use it to mend, join, or reinforce without bulk. With this stitch you may attach elastic and stretch lace, construct lingerie and swimsuits, and finish seams. There are many other useful applications for the multi-stitch zig-zag.



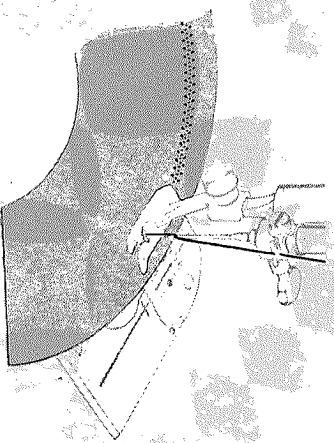
Mending a Tear

- Stitch: multi-stitch zig-zag
- Stitch width: 
- Stitch length: 0 - 1
- General purpose needle plate
- General purpose foot or special purpose foot

- Trim ragged edges.
- Place underlay on the wrong side of tear for reinforcement. Do not baste or pin the underlay, since you will be bringing the edges together in the next step.
- Stitch on the right side, bringing the edges of the tear together. Shorten stitch length at ends and corners to give extra strength.
- Trim underlay.



Finishes for Hems and Facings

- Hem and facing edges in knit and stretch fabrics will be less apt to press through and mark when given a flat edge-finish. Edge finishing with the multi-stitch zig-zag eliminates the bulk of turned-in edges and retains fabric flexibility.
- Make a test sample to check thread tension and stitch length if you are using the multi-stitch zig-zag.
 - Place stitching about 1.3 cm (1/2 inch) from hem or facing edge. Avoid stretching edge while sewing.
 - Press after stitching and trim away excess fabric close to the stitching line.



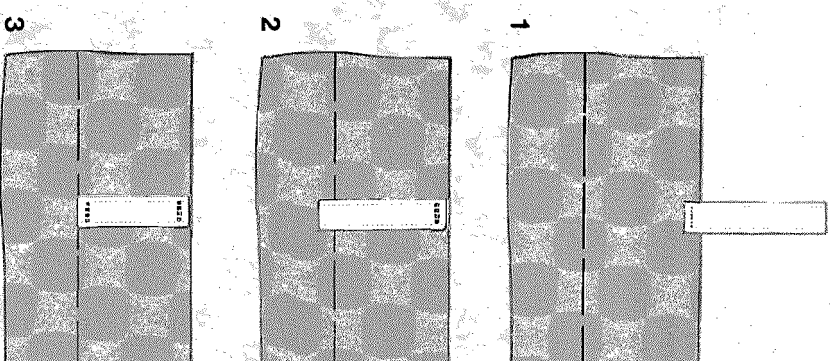
Multi-Stitch Zig-Zag Bar Tacks

With the multi-stitch zig-zag you can make strong bar tacks. Multi-stitch zig-zag bar tacks are effective for tacking belt loops on heavy fabrics such as denim. Be sure to check the Fabric, Thread and Needle Table on page 12 for correct thread and needle selection with your choice of fabric.

- Stitch: multi-stitch zig-zag 
- Stitch width:  3 mm
- Stitch length: 0
- Snap-on feed cover (To attach feed cover see page 7)
- General purpose foot or special purpose foot

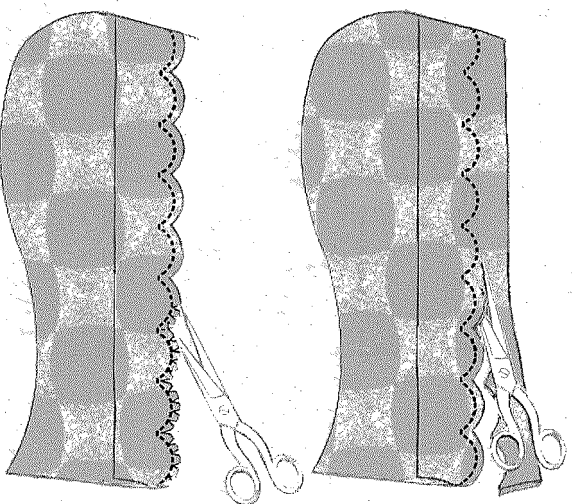
We recommend making a test sample first using scraps of the material you will be sewing the bar tacks on, duplicating all thicknesses.

1. Mark position for the finished end of belt loop on the fabric.
 - Place belt loop, wrong side up, straight stitch with cut end 3 mm ($\frac{1}{8}$ inch) from edge of garment; do not stitch beyond edges of the belt loop. Trim the end close to the stitching and press.
2. Fold belt loop back on the stitching line and press.
 - Program your machine according to the code above.
 - Stitch 3 mm ($\frac{1}{8}$ inch) from the fold using the multi-stitch zig-zag.
3. Fold over loose end and bar tack.



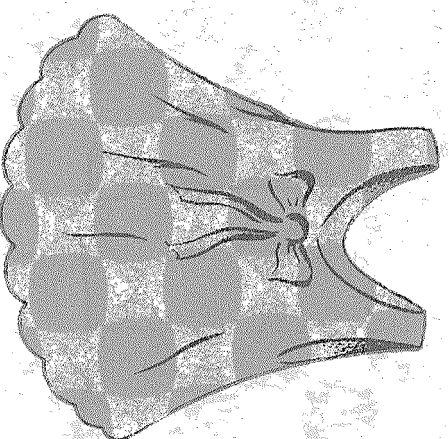
Scallop Stitch

Scalloping adds interest to blouses, dresses, lingerie, and children's clothes. Scallops will be perfect in form and evenly spaced when you use the scallop stitch. This stitch is formed with one straight stitch between each scallop to prevent pucker between scallops on a seam. The decorative uses of this stitch are numerous. Use your imagination to create new uses for this stitch.



Scalloping

- Stitch: scallop
 - Stitch width: to suit application or fabric
 - Stitch length: to suit application or fabric
 - General purpose needle plate
 - Special purpose foot
-
- Place right sides of fabric together. Shaped or bias edges should be interfaced. Stitch scallops.
 - After stitching, trim seam allowance to 3 mm ($\frac{1}{8}$ inch) or less.
 - Clip points down to flat stitch of scallops with scissors and, if necessary to make points lie flat, notch curves.
 - Turn to the right side and gently push scallops out. Press flat.



Straight Stretch Stitch

The straight stretch stitch is an invaluable stitch most commonly used for sewing seams on fabrics with elasticity. The straight stretch stitch is particularly useful for seaming extra-heavy and extra-bulky fabric.

Straight Stretch Stitch Seam

- Stitch: straight stretch stitch
- Stitch length: 2 – 2.5
- General purpose needle plate
- Special purpose foot

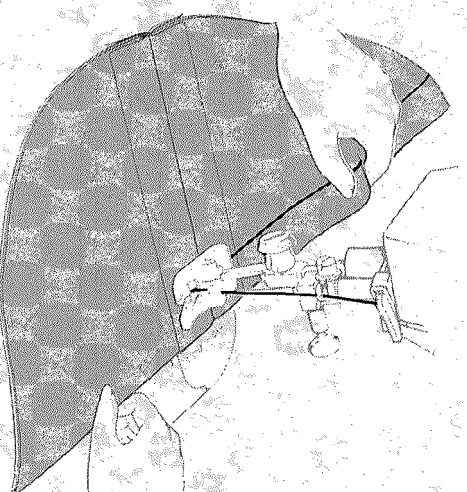
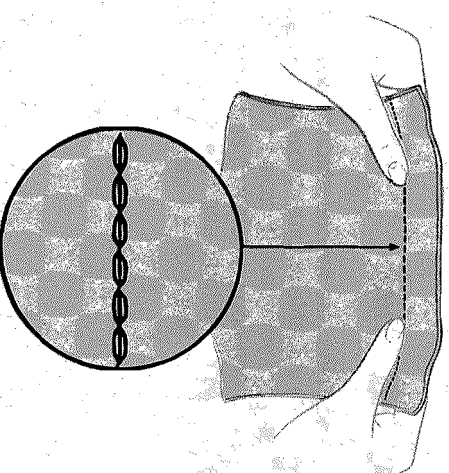
Make a test sample first to determine the best pressure and tension settings for your fabric. To be sure that you are using the correct needle and thread combination for your fabric, see the Fabric, Thread and Needle Table on page 12.

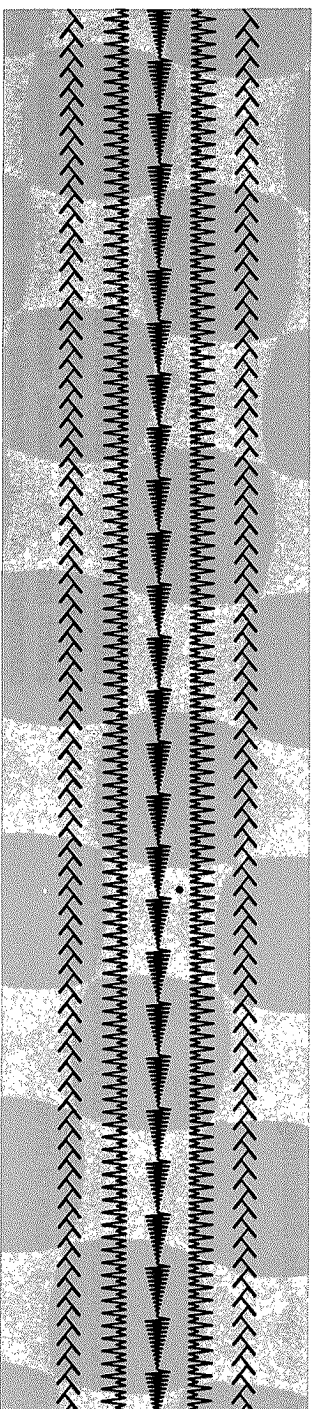
Procedure

- Pin or baste seam.
- Draw upper and lower threads under foot to back of machine. Hold thread ends and by turning the hand wheel toward you, position needle in fabric a scant 6 mm ($\frac{1}{4}$ inch) in from starting edge.
- Lower presser foot and start machine, holding thread ends at back of foot as first few stitches are made.
- Guide fabric lightly, letting the machine make the back-and-forth stitches that give stretch to the seam.

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

Caution: Do not pull fabric while you apply gentle or firm tension, as this may deflect needle, causing it to break.





Smocking

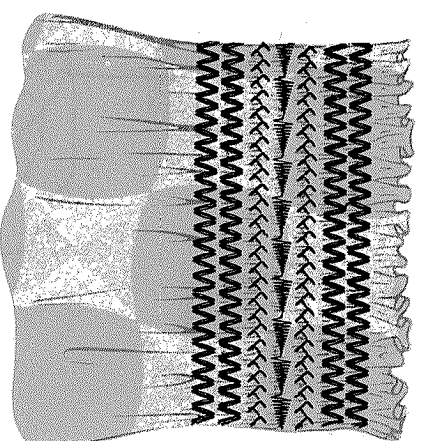
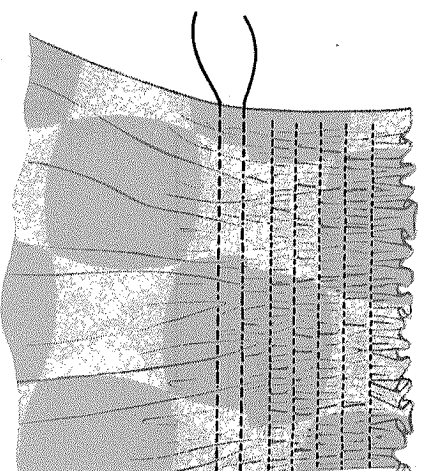
Smocking is a youthful decorative detail that is particularly charming when used for a yoke, insert or band on baby clothes, little girls' dresses, or lingerie.

When worked by hand, smocking is a time-consuming process. However, the heavy-stitched look, typical of hand work, can be accomplished quickly and easily with your machine when you use decorative patterns.

Procedure:

A test sample is always advisable to check stitch settings. Be sure to use the same fabric and degree of fullness you plan for garment.



- Set tension dial between **0** and **1**.
- Space rows of straight stitching with stitch length on **4** (maximum length), 6 mm ($\frac{1}{4}$ inch) apart, on the crosswise fabric grain.
- Pull up evenly, gathering for the amount of fullness desired. Secure thread ends by tying knots close to the fabric to prevent gathers from pulling out of position.
- Baste section to be smocked to underlay.
- Stitch over and between rows of gathering with decorative stitching. Create your own design or adapt the ones illustrated. Use thread that contrasts with or matches your fabric, depending on the effect desired.



Twin-Needle Stitching

The twin-needle simultaneously produces two parallel, closely spaced lines of decorative stitching. You can stitch with either one or two colours of thread.

- Stitch: stitch desired
- Stitch length: to suit application or fabric
- Stitch width: to suit application or fabric
- General purpose foot
- General purpose needle plate

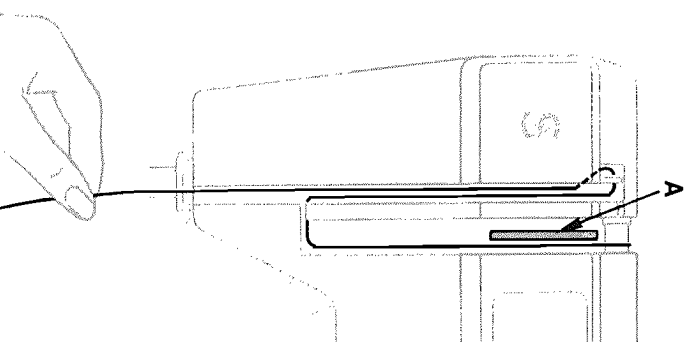
Caution: Always move the twin-needle switch to the right () before stitching with the twin-needle. Unless this switch has been activated, needle breakage will result. Upon completion of your twin-needle sewing, return switch to its left position () symbol).



Step 1

Thread machine with first thread in usual manner, making certain it passes into tension disc on **right** of tension separator **A**.

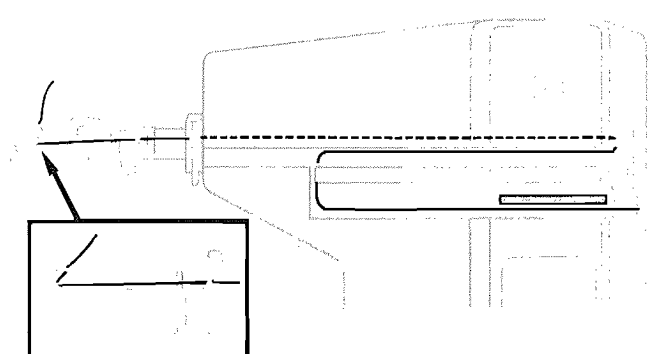
- Since a bobbin cannot be filled after a twin-needle is inserted, it is wise to keep an extra wound bobbin on hand for replacement.

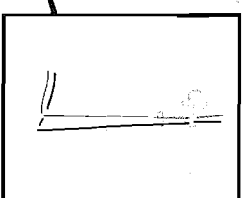
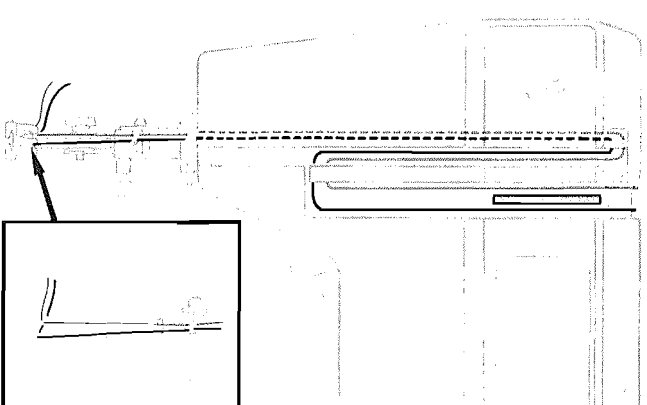
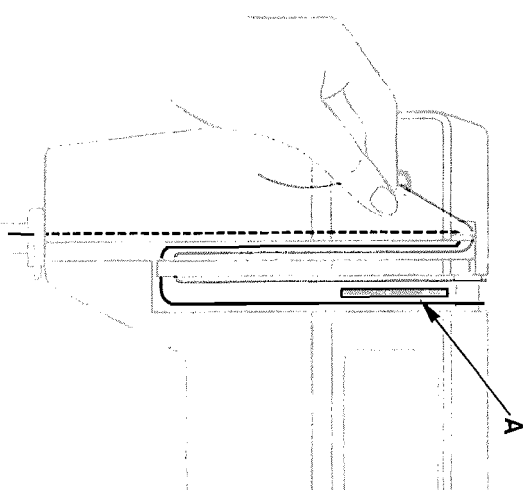
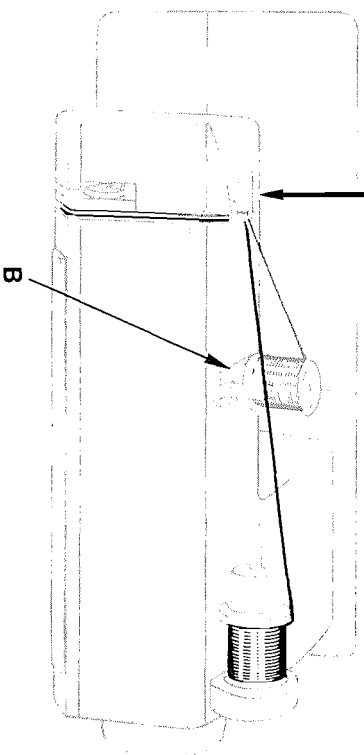
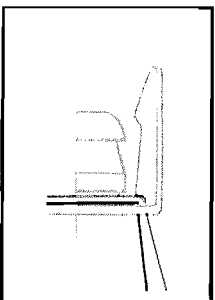


Step 2

Unthread needle and remove it from machine.

- Insert twin-needle.
- Pass first thread through right eye of needle.
- Move twin-needle switch to the **right**.





Step 3 Attach detachable spool pin **B** to thread guide-post.

- Place second spool of thread on detachable spool pin and thread as before, except by-pass snap-in thread guidepost and pass thread into tension disc on **left** of tension separator **A** and through left eye of needle.

Chapter 7: Buttonholes and Buttons

1

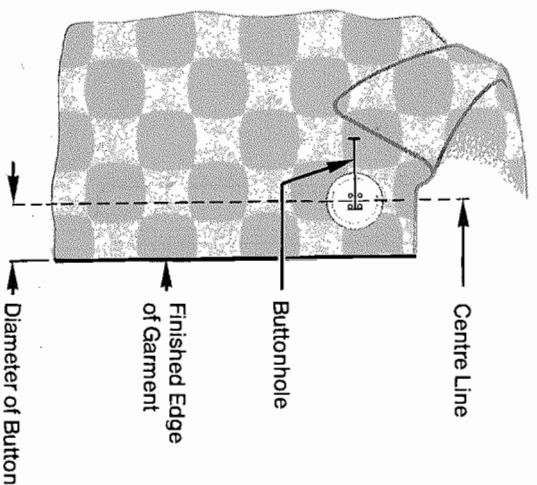
buttonholes

Your new machine comes complete with a built-in two step buttonhole system. Before sewing on your garment always make a test buttonhole duplicating the number of thicknesses of fabric and interfacing if appropriate.

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 fabric.

1. Mark the centre line of the garment using hand basting, or using tailor's chalk.
- Be sure that the space from the centre line to the finished edge of the garment is at least equal to threequarters 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 length-wise fabric thread.



2. Mark a position guideline for each buttonhole.

Horizontal buttonholes A are placed to extend 3 mm ($\frac{1}{8}$ inch) beyond the centre line **B** of the garment, as shown, 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.

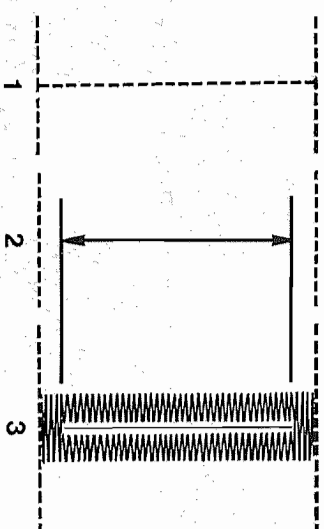
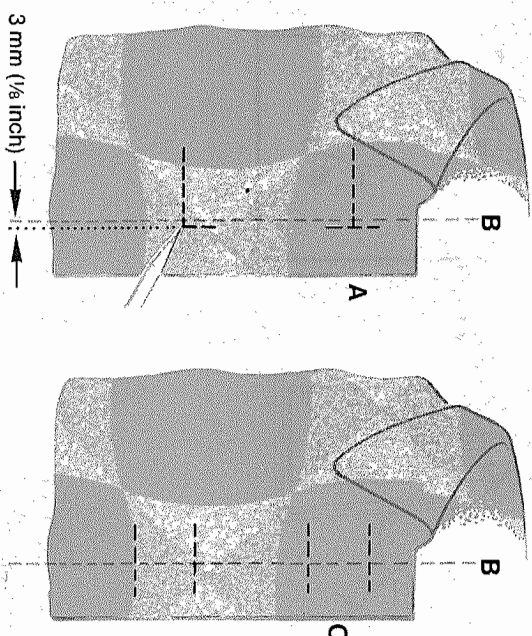
- Mark the horizontal buttonhole guideline for each buttonhole. It should be longer than the finished length of the buttonhole.
- Mark the starting point for each buttonhole 3 mm ($\frac{1}{8}$ inch) beyond the centre line (see Illustration).

Vertical buttonholes C are placed so that the centre line **B** of the garment is in the centre of the buttonhole, as shown.

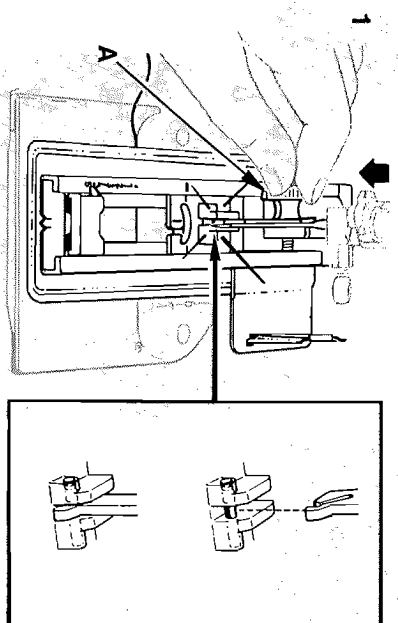
- Mark the ends of each buttonhole horizontally across the centre line basing and use the centre line marking as the buttonhole guide when stitching.

Buttonhole Length

- The buttonhole length should be just long enough to allow the button to slip through the opening without stretching it.
- A. When you use the two-step method of stitching buttonholes, the buttonhole foot will gauge the buttonhole length for you on most buttons.
- B. When button is of an unusual shape or thickness, buttonhole length is not automatically gauged with the buttonhole foot. It is then necessary to adjust the buttonhole foot. For additional information on adjustment of buttonhole foot refer to page 68.
- To make sure the measurement is correct, cut a slit in a scrap of fabric equal to the diameter of the button you intend to use.
- Increase length of opening until button slips through easily. This test is particularly advisable for buttons of unusual shape or thickness.



- 1 Marking Lines
- 2 Length of Cutting Space
- 3 Bar Tacks and Side Stitching



Two Step Buttonholing

Make a test buttonhole on a sample of your fabric, with interfacing if being used, before working on your garment.

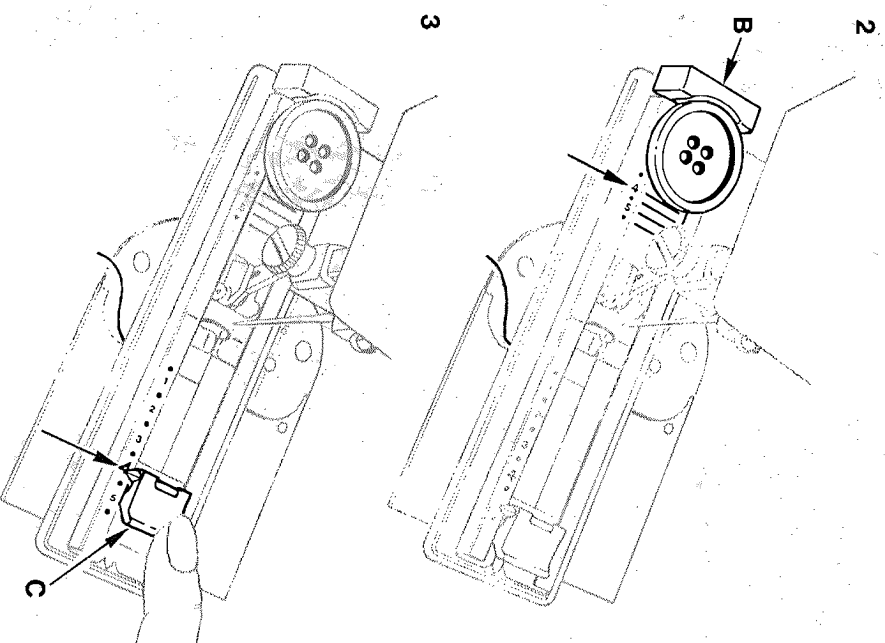
- Stitch: buttonhole 1 2
- Stitch width: red buttonhole area
- Stitch length: within red buttonhole area
- Two-step buttonhole measuring foot
- General purpose needle plate

- Raise presser foot lifter.
- Remove presser foot.

1. Attach two-step buttonhole measuring foot by placing buttonhole foot on right side of needle, then guiding it to the left. Centre the foot under the shank and lower the presser foot lifter so that the shank fits over the presser foot pin.

Press presser foot screw **A** down **firmly** until foot snaps into place.

2. Determine setting for length of button on buttonhole foot, by first placing button in carrier **B**, and observing the line on which the longest part of the button falls.

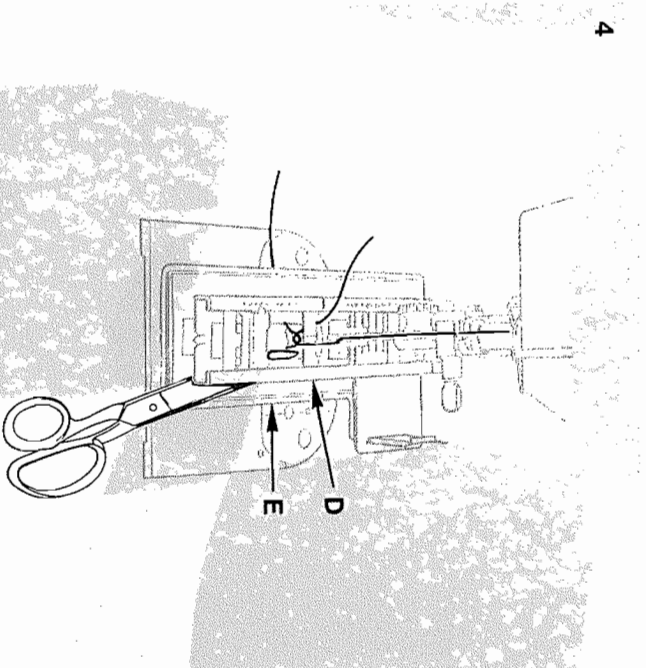


3. With index finger press down on point **C** and slide pointer to the corresponding number observed on button carrier. Remove button from carrier.

Note: When button is of an unusual shape or thickness, buttonhole length is not automatically gauged with the buttonhole foot. Estimate the additional thickness of the button and slide pointer accordingly to a higher number. Make a test buttonhole to check setting.

- Switch machine on **MIN**.

4. Raise presser foot lifter. Hold upper thread lightly with left hand and turn wheel slowly *toward you* until needle enters the plate. **Be careful that you do not run the machine during this procedure.** Continue turning hand wheel and holding upper thread until needle rises. Tighten your hold on upper thread and bring up lower thread in a loop. Release upper thread. Slide scissors **between foot D and underplate E** and draw both upper and lower threads diagonally toward the back of the foot, leaving approximately 10 cm (4 inches) of thread.



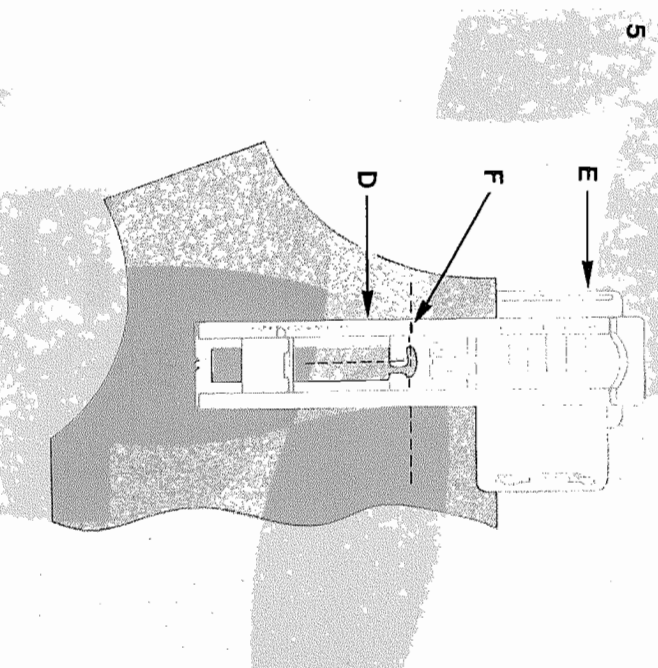
5. Place fabric **between** foot D and underplate E.


To bring the foot in sewing position pull foot from back of button carrier gently toward you, making sure guideline F is aligned with horizontal red guideline on buttonhole foot.

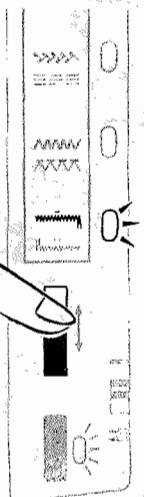
With the foot in this position align buttonhole start line on fabric with horizontal red guideline on foot. Then align centre line of buttonhole marked on fabric with vertical guideline of buttonhole foot.

Check again that the guideline F is aligned with the red guideline on foot, as illustrated.

Lower buttonhole foot.



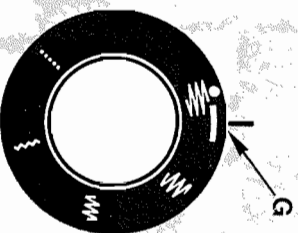
6. Select left side of buttonhole . To do this, slide pattern group selector to right, then push pattern selector button until light appears over the symbol.



7

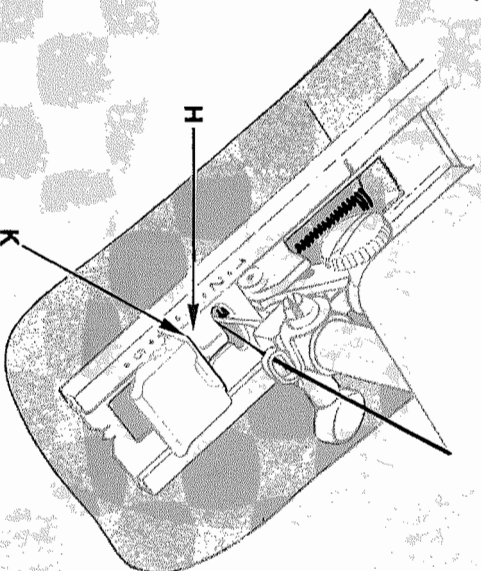
7. Set stitch width control within the red buttonhole area **G**.

Start machine. Adjust the stitch width control within red buttonhole area in order to obtain the desired width of starting bar tack.




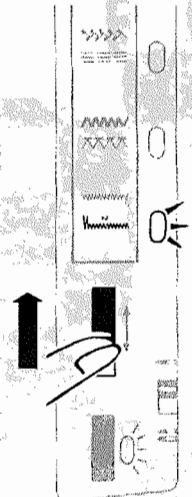
8

8. Complete left side of buttonhole. Stop machine when **H** is aligned with **K** on buttonhole foot and the needle enters the left side of side stitching. See illustration.

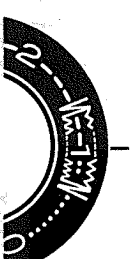


9

9. Select right side of buttonhole  by sliding pattern selector button to the left. (This side must always be stitched last.)

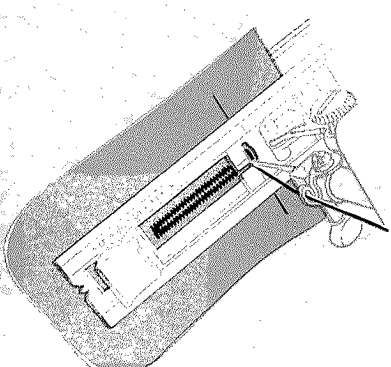


10. Set the stitch length control within red buttonhole area. Start machine and if needed, adjust stitch appearance of this side of buttonhole to match left side within the red buttonhole area of stitch length control. Turn dial to the right to open stitches or left to close up the stitches.



10

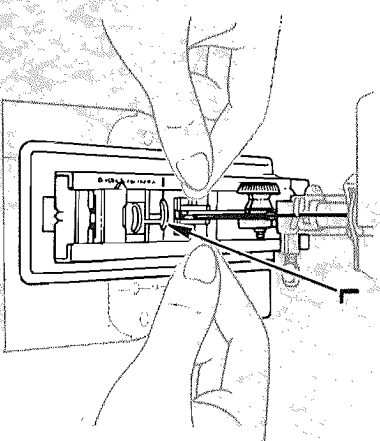
11. Stop sewing when stitching reaches the starting bar tack.
- Remove work from machine, secure and clip thread ends.



11

- Switch machine off.

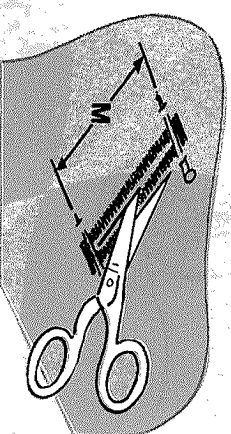
12. Remove two-step measuring foot by snapping down L.

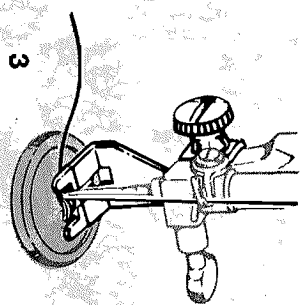
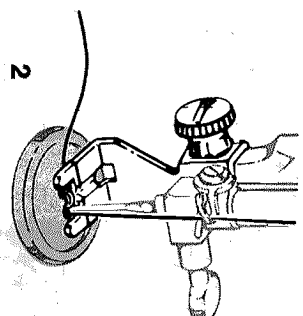
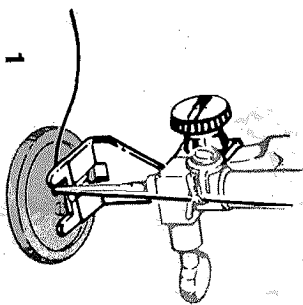


12

Cutting Button Opening

- Place a pin across the cutting space at each end of the buttonhole to protect bar tacks.
- Use a pair of small, sharp scissors to cut the button opening **M**.
- Insert blade in centre of the buttonhole cutting space and cut from this point in both directions.





buttons

- Stitch: overedge stretch stitch Σ
- Stitch width: to suit button
- Stitch length: digitally fine tuned at 0
- Button foot
- Snap-on feed cover (To attach feed cover see page 7)

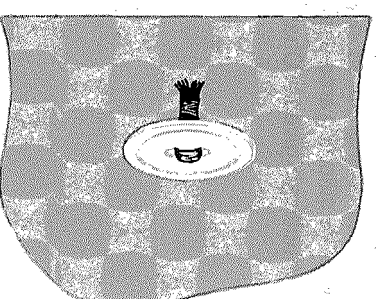
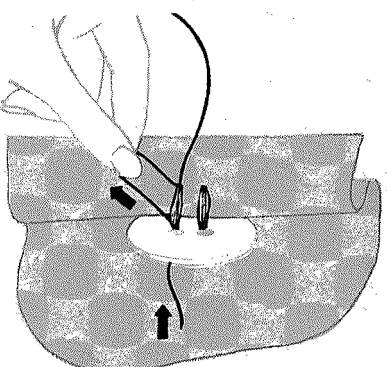
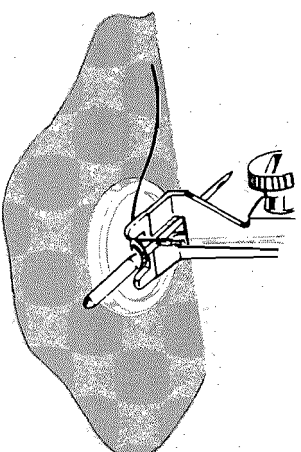
Attaching a Button

- Attach button foot and snap-on feed cover to machine and turn on machine.
 - Select overedge stretch stitch.
 - Turn hand wheel *toward you* until needle moves to left side.
 - Place garment under foot, then position button on garment.
1. Turn hand wheel again to lower needle into left hole of button, and lower button foot.
 2. Turn hand wheel again carefully until needle is just above right hole. Adjust stitch width, if required, so that needle will enter right hole of button. Refer to page 38 for information on stitch width.
 3. Run machine slowly. Allow at least three groups of cross-over stitches to enter right hole of button. Finish sewing on left side, taking two or three tying stitches.
- Remove work from machine leaving 10 cm (4 inches) of thread. Pull thread ends through to inside of garment, and knot them close to fabric to form a secure finish.

Forming a Thread Shank

Buttons sewn on coats and jackets should have a thread shank to make them stand away from the fabric. A thread shank is formed by sewing over the blade of a regular machine needle.

- Position needle, garment and button as described on previous page.
- Place needle in groove of foot so that point enters hole in foot first, as shown. The further in you push needle, the longer the shank will be.
- Follow procedure on previous page for button sewing.
- After stitching, remove needle from groove of button foot, remove work from machine, and cut threads about 15 cm (6 inches) from fabric.
- Pull upper thread ends to back of button. Form a firm shank between button and fabric by winding threads tightly around attaching stitches, and tie thread ends securely.

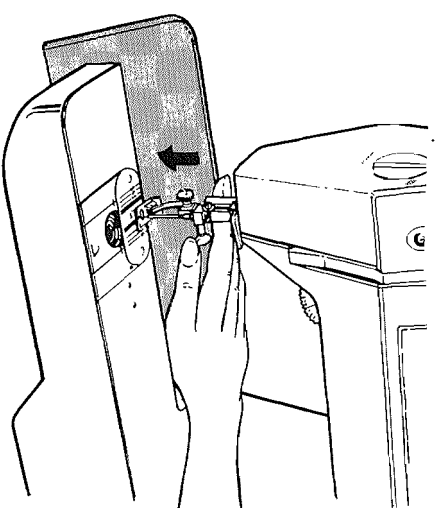


Chapter 8: Free-Arm Sewing

Fabric handling, when sewing tubular and hard to reach garment areas, is simplified when you convert your sewing machine to free-arm sewing. Some of the sewing jobs for which you will find the free arm particularly useful are shown on this and the following pages. You will discover many more for yourself.

preparation

To convert to free-arm sewing, simply press down on corner of *Flip & Sew* panel on sewing machine with heel of right hand.

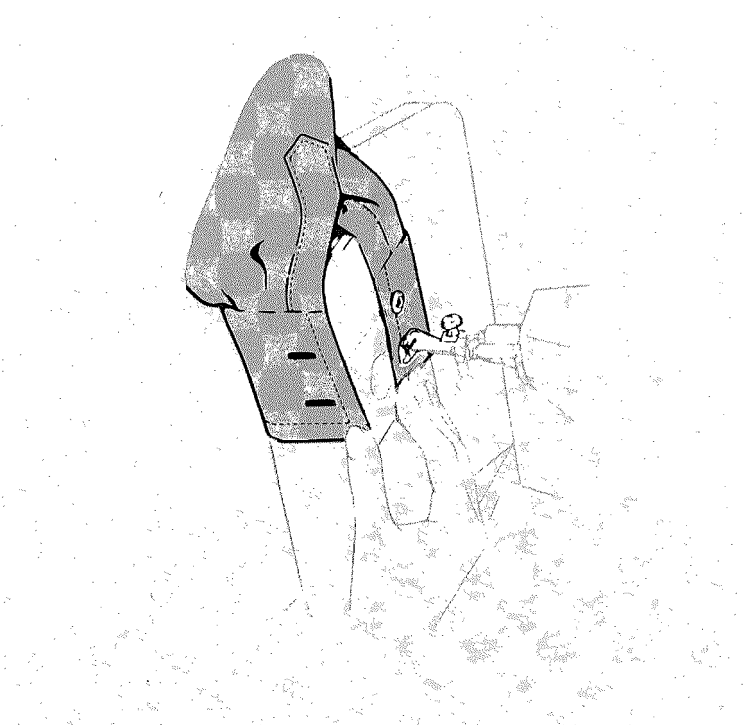


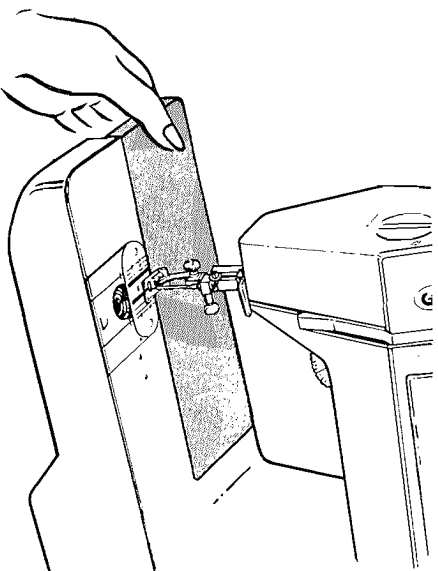
applications

Buttons

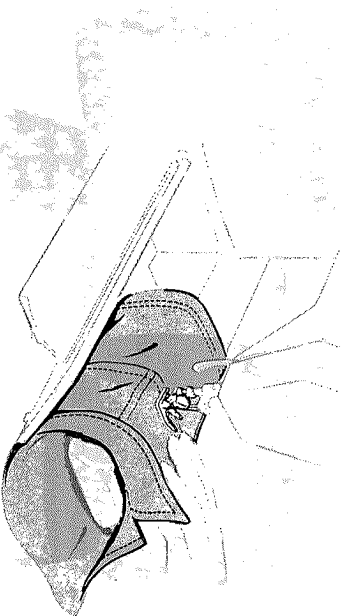
Sewing buttons on a cuff or neckband is no longer a task when the freearm surface is used. Cuffs slip around the sewing surface without being pulled out of shape, so you can see and handle the stitching area easily.

Button-sewing instruction is given in Chapter 7, page 72.





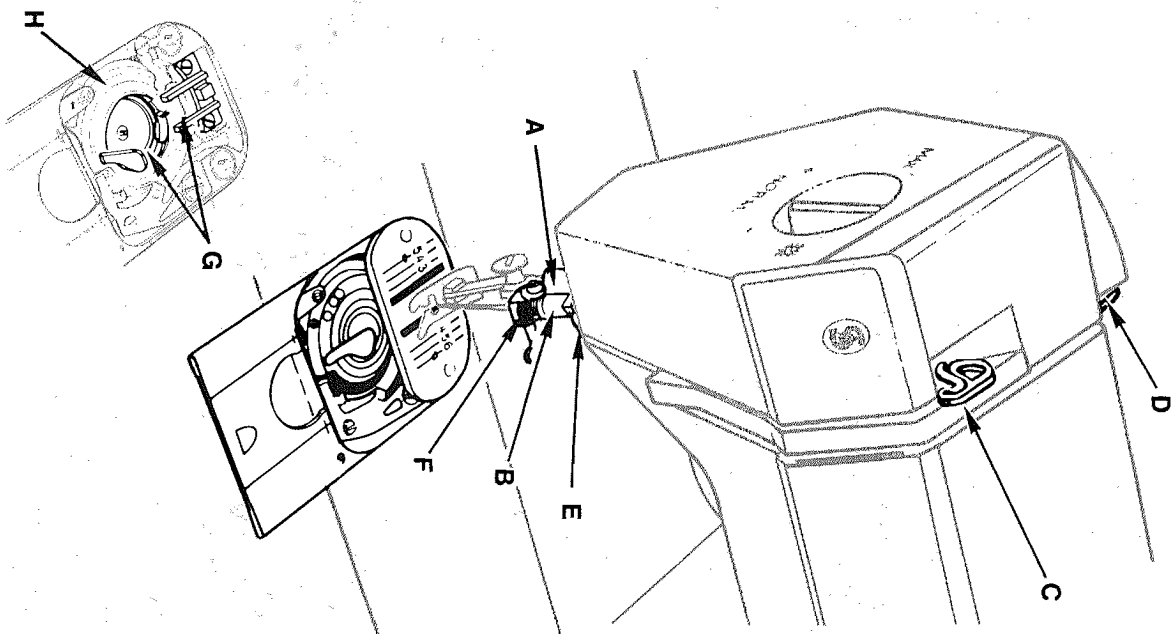
To raise *Flip & Sew* panel, place hand under panel and lift up until it locks into place. A click will be heard when panel is locked in position.



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.

Chapter 9: Caring for Your Machine



cleaning the machine

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

Caution: Before cleaning your machine, disconnect the power line plug from the socket outlet.

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

- Presser bar **A**, and needle bar **B**.
- Take-up lever **C** and thread guides **D**, **E** and **F**.
- Remove needle plate as instructed on page 7 and, using a brush, clean the rotating hook area **G** under the needle plate and slide plate.
- Remove bobbin case **H** if there is a lot of lint in the area, for cleaning. See page 77 for instructions.
- Machine surface (if necessary, dampen the cloth and use a mild soap).

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

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.

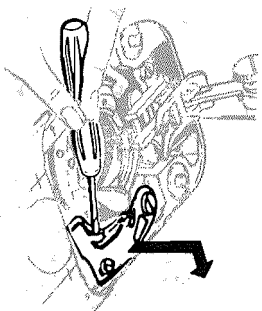
Removing the Bobbin Case

Caution: Before removing the bobbin case disconnect the power line plug from the socket outlet.

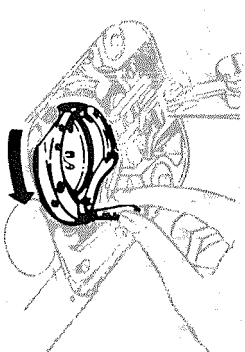
Make sure needle is at its highest position.

- Open slide plate and remove needle plate (see page 7 for instructions).
- Remove bobbin. Keep bobbin push button in sewing position.
- 1. To unlock bobbin case, lift position bracket with the small screwdriver and slide to right.
- 2. To remove bobbin case, hold latch, twist to right and lift out.

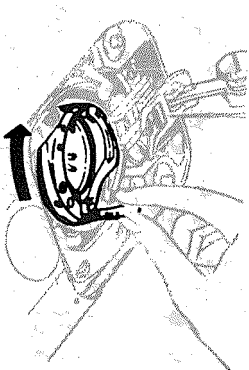
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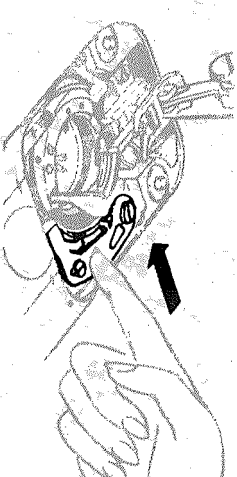
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4



Replacing the Bobbin Case

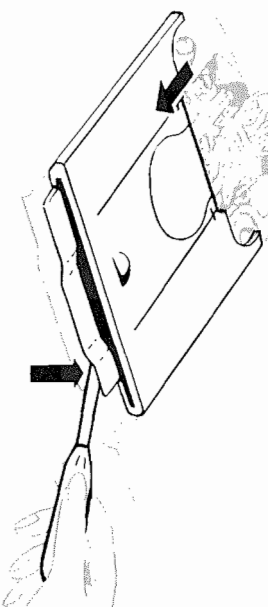
Make sure needle is at its highest position.

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

Replacing the Slide Plate

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

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



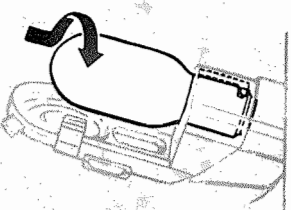
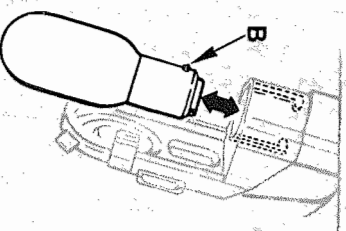
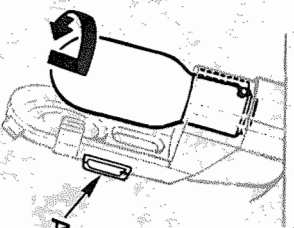
Changing the Light Bulb

Caution: Before changing light bulb make sure you have disconnected the power line plug from the socket outlet.

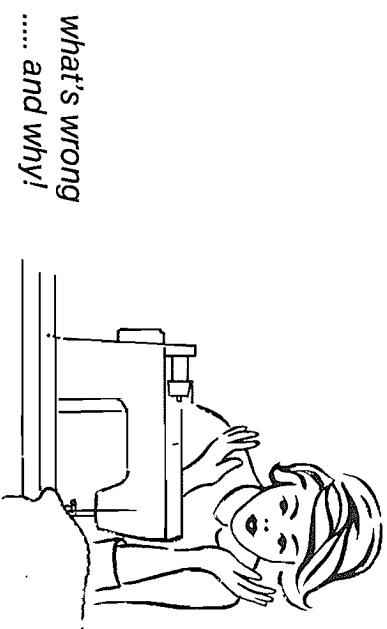
Caution: This machine is designed to use a 20 watt maximum light bulb.

Removing Bulb. With thumb 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. Press it up into the socket and at the same time turn bulb over in direction shown to unlock the bulb pin **B**.

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



Chapter 10: Performance Checklist



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

Machine does not Sew

Needle does not move.

Make sure . . .

- Power and light switch is on.
- Machine is connected to electrical supply. (Turn to page 14 for additional information.)

Needle moves but stitch is not formed.

Make sure . . .

- Needle is straight and sharp.
- Needle style is correct for machine.
- Needle size is correct for thread being used.
- Needle is fully inserted into needle-clamp.
- Machine is correctly threaded (See page 16). (Turn to page 8 for additional information.)
- Bobbin contains thread.
- Bobbin push-button is in SEW position.

- Bobbin case area is free of lint and loose threads. (See page 76.)

(Turn to page 20 for additional information.)

- Built-in fuse does not need to be replaced (See page 15).

Needle and/or thread breaks.

Make sure . . .

- Needle is straight and sharp, correct style for machine, and correct size for thread being used.
- Needle is fully inserted into needle-clamp. (Turn to page 8 for additional information.)
- Presser foot or accessory is securely fastened to presser bar. (See page 6.)
- Fabric is not being pulled to one side as work is removed from machine.
- Fabric being guided or supported behind the needle is not being pulled too hard or too fast.
- (Turn to page 45 for additional information.)
- When doing twin-needle sewing, twin-needle switch is activated. (See page 64.)

Bobbin Winding Difficulties

Upper thread breaks while winding bobbin.

Make sure . . .

- Presser foot is raised.
- Thread is unwinding freely from spool.
- Thread spool is inserted correctly on spool holder.
- Thread is not pulled too tightly when starting to wind bobbin.
- Machine is correctly threaded. (See page 16.)
(Turn to page 20 for additional information.)

Thread does not wind onto bobbin.

Make sure . . .

- Bobbin push-button is in winding position.
- Thread passes under toe of presser foot before being held securely on presser foot screw.
- Thread end is held securely at start of wind.
- Bobbin halves are securely tightened. (See page 23.)
(Turn to page 20 for additional information on bobbin winding.)

Bobbin displaced during winding.

Make sure . . .

- Bobbin is being wound at a moderate speed.
- Bobbin is properly seated and secured by the latch in the bobbin case.

Thread breaks when sewing starts after winding bobbin.

Make sure . . .

- Bobbin has not been wound beyond the **FULL** ring. Turn hand wheel away from operator to free over wound bobbin.
- Bobbin case area is free of lint and loose threads. (See page 76.)
(Turn to page 21 for bobbin information.)

Thread Breaks While Sewing

Upper thread breaks.

Make sure . . .

- Machine is properly threaded.
- Thread spool is inserted correctly on spool holder.
- Thread is unwinding freely from spool.
- Thread spool is secured by correct holder.
- Thread is even and free from knots.
(Turn to page 16 for additional information.)
- Needle is correct size for thread.
- Needle is straight and sharp.
(Turn to pages 9 and 12 for additional information.)

- Upper thread tension is not too tight. (See page 28.)
- Bobbin is correctly inserted in machine. (See page 22.)
- Bobbin rim is free of nicks.
- Needle plate hole and presser foot are undamaged.
- Threads are correctly placed under presser foot when starting to sew. (See page 21.)
- Presser foot is securely fastened to presser bar.
(See page 7.)

Lower thread breaks.

Make sure . . .

- Bobbin has been correctly wound.
- Bobbin case area is free of lint and loose threads.
(See page 76.)
- Bobbin has been correctly inserted into bobbin case.
- Bobbin has not been wound too full.
(Turn to page 21 for additional information.)

Stitching Difficulties

Skipped stitches.

Make sure ...

- Needle is straight and sharp.
- Needle is correct style for machine and size of thread. (See page 12.)
- Machine is properly threaded. (See page 16 for instructions.)
- Fabric is held down firmly (particularly when doing free-motion darning and embroidery).
- Correct presser foot and needle plate are being used.

Loose stitches on underside of fabric.

Make sure ...

- Needle is straight and sharp.
- Needle is correct style for machine and size for thread. (See page 12.)
- Sufficient tension is being exerted on upper thread. (See page 28.)
- Bobbin case area is free of lint and loose threads. (See page 76.)
- Bobbin has not been wound beyond the **FULL** ring.
- Presser bar has been lowered (particularly when sewing dense fabric or doing free-motion darning and embroidery).

Loose irregular straight stitches.

Make sure ...

- Upper thread has sufficient tension. (See page 28.)
- Needle plate and presser foot are correct for fabric being sewn.

Fabric does not lie flat after stitching.

Make sure ...

- Upper thread tension is light enough. (See page 28.)
- There is sufficient presser foot pressure to hold fabric. (See page 26.)
- Stitch length is short enough for fabric. (See page 26.)
- Correct presser foot is being used.
- Machine is correctly threaded. (See page 16 for instructions.)

Feeding Difficulties

Fabric does not move properly under presser foot.

Make sure ...

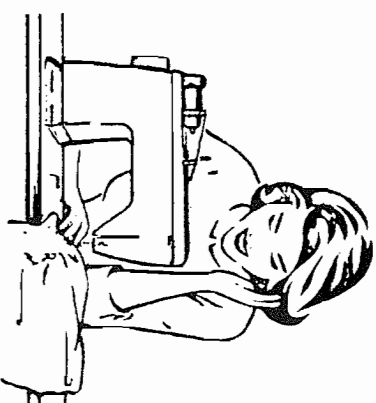
- Machine is threaded correctly.
- Presser foot pressure is correct for fabric being stitched. (See page 26.)
- Presser foot or accessory is correctly attached to machine. (See page 7.)
- Line of stitching is started in from fabric edge.
- Stitch length selector is set correctly.
- Bobbin case area is free from lint and loose thread ends. (See page 76.)
- Lint has not accumulated around feed.

Sluggish or Noisy Machine

Hand wheel difficult to turn over manually or increase in operating noise level.

Make sure ...

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



your personal measurements

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

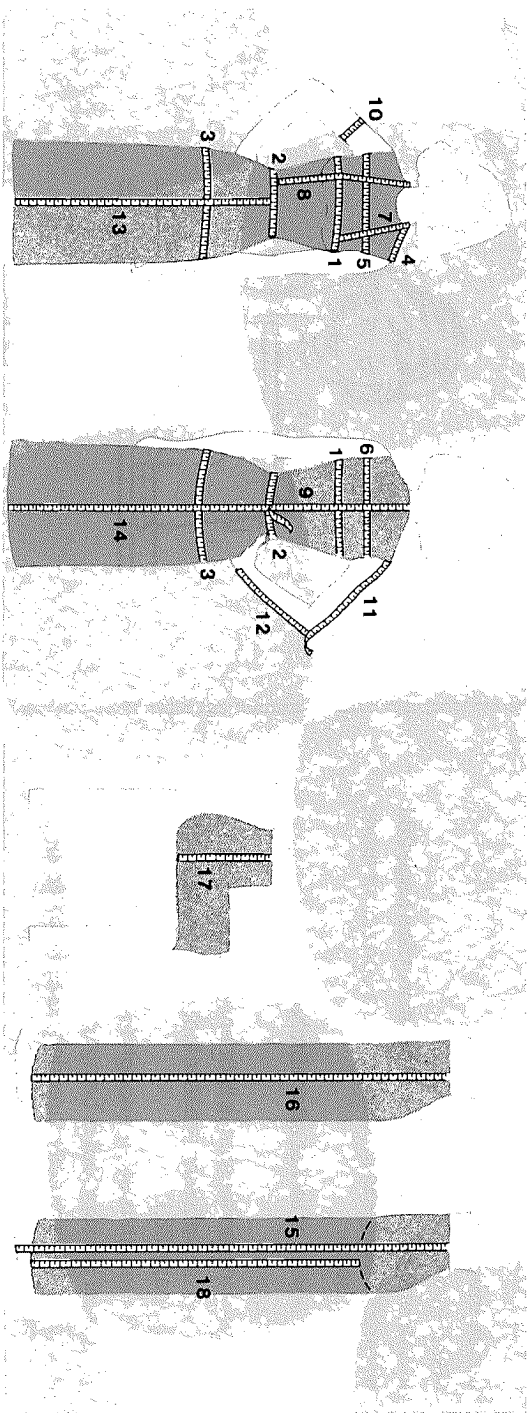
The illustrations show where tape measure should be placed when taking each measurement. As a starting point, use a ribbon firmly but comfortably tied at the waist before taking measurements.

cm (inches)

1. Bust – Fulllest part – slightly higher in back	_____
2. Waist – Around natural waistline	_____
3. Hip – cm (inches) below natural waistline (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 waistline	_____
9. Back Waist Length – From the prominent bone at base of neck to natural waistline	_____
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 waistline to hem	_____
14. Back Skirt Length – Down centre from waistline to hem	_____

Pants 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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