

INSTRUCTION MANUAL



IMPORTANT SAFETY INSTRUCTIONS

Your Elna model 6005 Heirloom Edition sewing machine is designed and constructed for HOUSEHOLD use only. Read all instructions before using this sewing machine.

DANGER - To reduce the risk of electrical shock:

1. Your sewing machine should never be left unattended when plugged in. Always unplug the machine from the electrical outlet immediately after using and before cleaning.
2. Always unplug before replacing light bulb. Replace bulb with same type rated 13.2 Volts DC, 3 watts.
3. Do not reach for the machine if it has fallen into water. Unplug immediately.
4. Do not place or store machine where it can fall or be pulled into a tub or sink. Do not place it in or drop it into water or other liquid.

WARNING - To reduce the risk of burns, fire, electrical shock or injury:

1. Do not allow the machine to be used as a toy. Supervision is necessary when this machine is used by or near children.
2. Use this machine only for its intended use as described in this manual. Use only attachments recommended by the manufacturer as described in this manual.
3. Never operate this machine if it has a damaged cord or plug, is not working properly, has been dropped or damaged, or dropped into water. Return the machine to the nearest authorized dealer or service center for examination, repair, electrical or mechanical adjustment.

4. This machine is equipped with a special connection cord which, if damaged, must be replaced by an identical cord. This can be obtained from your dealer.
5. Never operate the machine with any air opening blocked. Keep ventilation openings of the sewing machine and foot control free from accumulation of lint, dust and fibers.
6. Never drop or insert any object into any opening.
7. Do not use outdoors.
8. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
9. To disconnect, turn machine off, then remove plug from outlet.
10. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
11. Keep fingers away from all moving parts. Special care should be used around the sewing machine needle.
12. Always use the proper needle plate. The wrong plate can cause the needle to break.
13. Do not use bent needles.
14. Do not pull or push fabric while stitching. This may deflect the needle causing it to break.
15. Switch off the machine when making any adjustment in the needle area, such as threading needle, changing needle, threading bobbin, changing presser foot, etc.
16. Always unplug the sewing machine from the electrical outlet when removing covers, lubricating or when making any other servicing adjustments mentioned in the instruction manual.

SAVE THESE INSTRUCTIONS

IMPORTANT

Be sure to keep machine away from static electricity, heat sources, humidity and direct sunlight. When using your sewing machine the first few times, place waste fabric under the presser foot and run the machine without thread for a few minutes. Wipe away excess oil.

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TROUBLESHOOTING

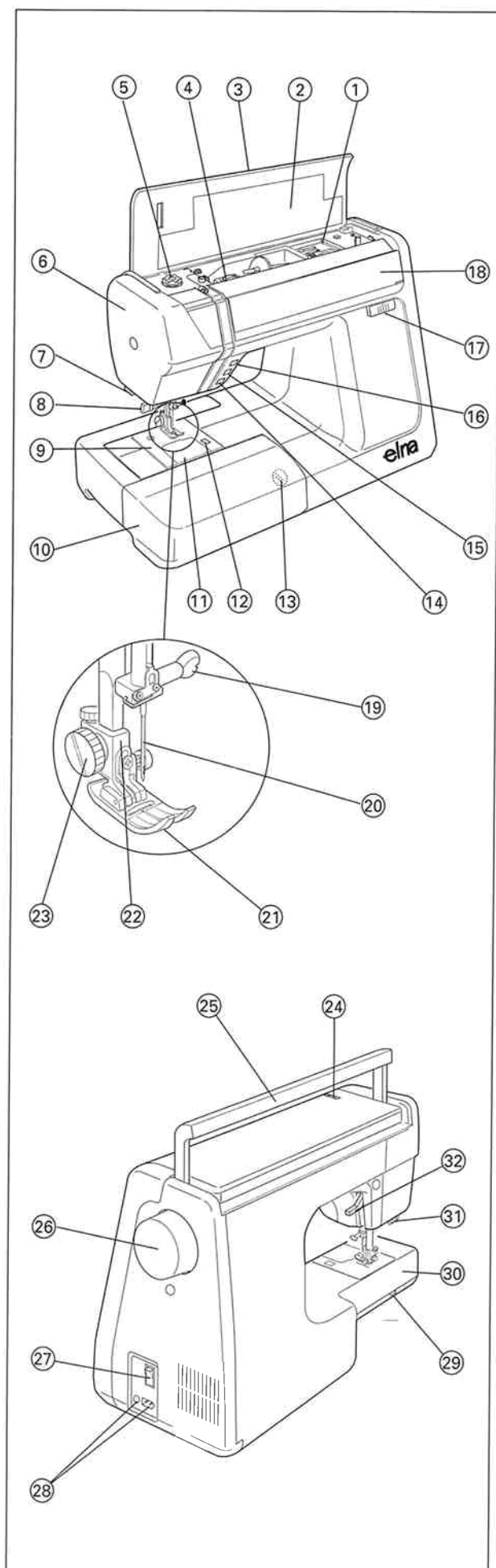
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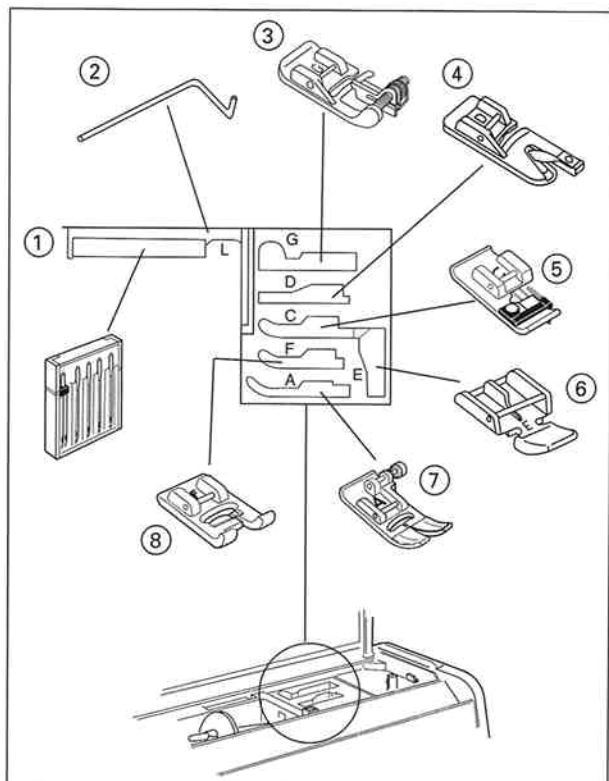
SECTION I

Machine Parts and Functions

Names of Parts

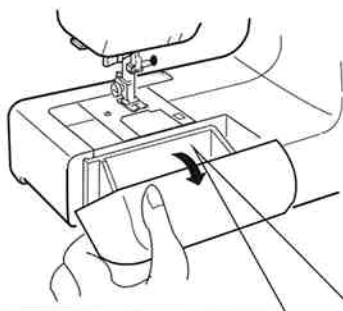
1. Foot compartment
2. Stitch charts (Mode 1, Mode 2)
3. Top cover
4. Thread tension dial
5. Foot pressure dial
6. Face plate
7. Thread cutter
8. Needle threader
9. Needle plate
10. Extension table (Accessory storage box)
11. Bobbin cover plate
12. Bobbin cover plate release button
13. Fine adjustment dial
14. Reverse key 
15. Auto-lock key 
16. Up/Down needle key 
17. Speed control lever
18. Front cover (open cover for Direct Mode and Mode 3 stitch charts)
19. Needle clamp screw
20. Needle
21. Presser foot
22. Shank
23. Thumbscrew
24. Thread take-up lever
25. Carrying handle
26. Flywheel
27. Power switch
28. Machine sockets
29. Feed dog lever
30. Free arm
31. Buttonhole lever
32. Presser foot lever





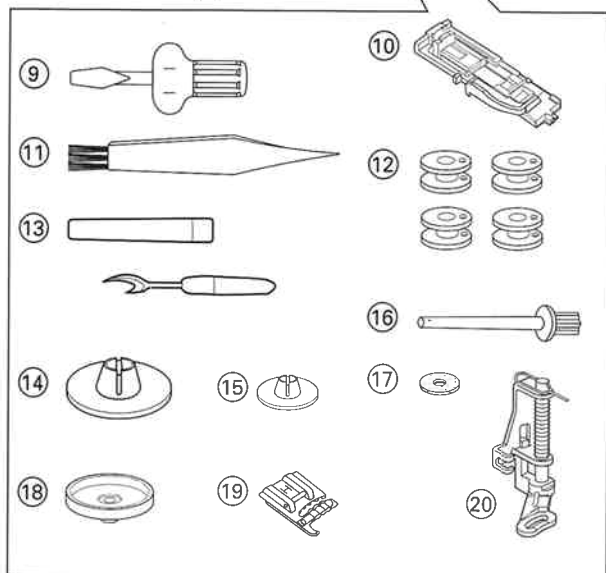
Standard Accessories Foot Compartment

1. Set of needles
2. Quilt guide
3. G: Blind hem foot
4. D: Hemmer foot
5. C: Overlock foot
6. E: Zipper foot
7. A: Metal foot
8. F: Satin stitch foot



Extension Table (Accessory Storage Box)

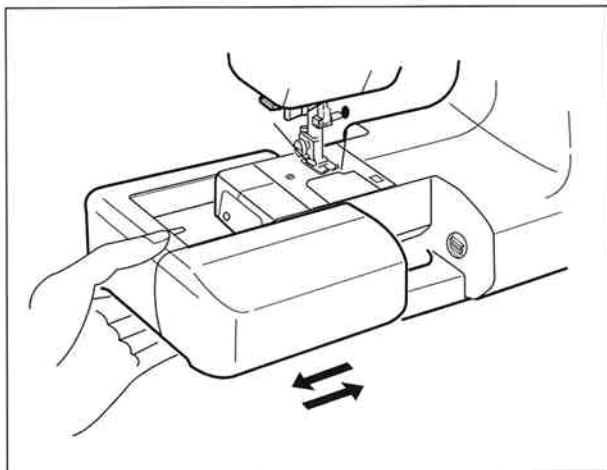
Many sewing accessories are stored in the extension table. Pull lid towards you to open the storage box.



9. Screwdriver
10. R: Automatic buttonhole foot
11. Lint brush
12. Bobbins
13. Seam ripper
14. Large spool holder
15. Small spool holder
16. Additional spool pin
17. Spool pin felt
18. Spool stand
19. H: Cording foot
20. P: Darning foot



21. Foot control
22. Power supply cord
23. Carrying case



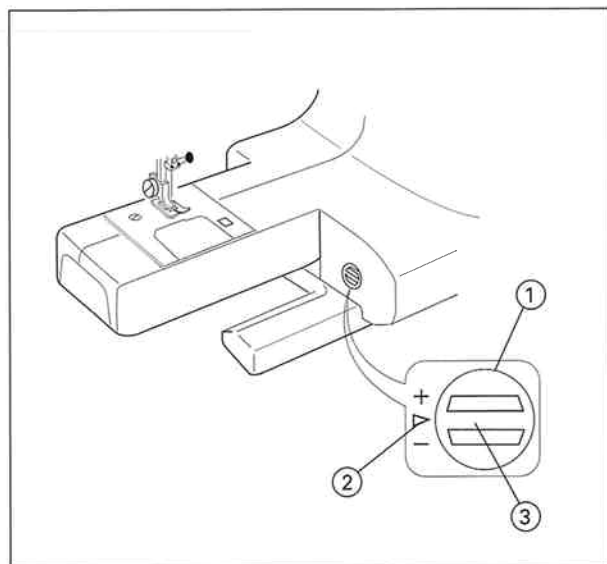
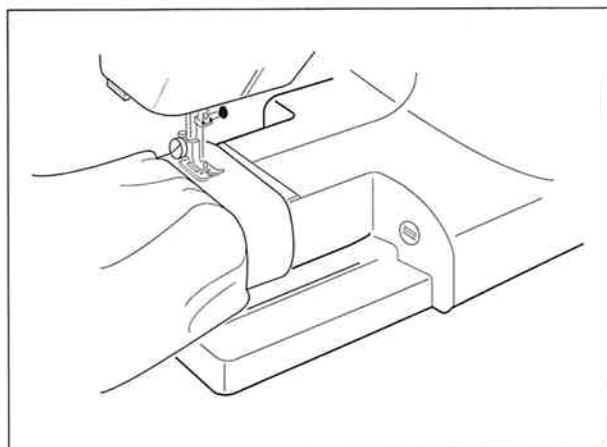
Extension Table and Free Arm

Pull the extension table away from the machine to expose the free arm.

Advantages of free arm sewing:

- For stitching sleeves, waistbands, pant legs or any circular garment area.
- For darning socks or mending knees, elbows or worn areas on children's clothing.

Attach the extension table for a large sewing surface.



Using the Fine Adjustment Dial

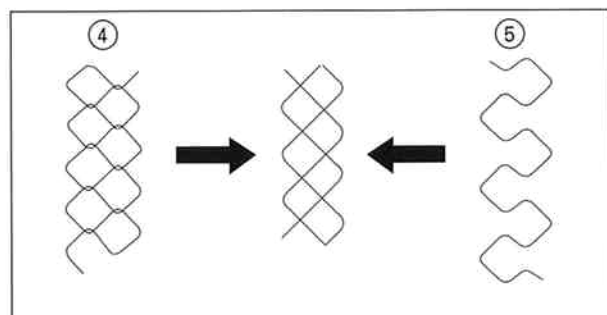
Choice of fabrics and threads may affect the stitch formation when sewing decorative stitches, letters or numbers. The fine adjustment dial may be used to either lengthen or shorten the stitch.

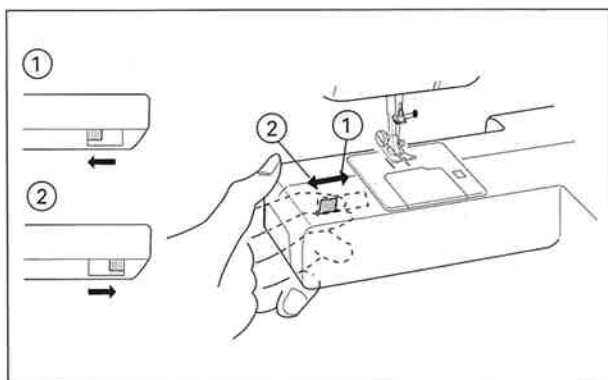
- ① Fine adjustment dial
- ② Standard mark
- ③ Setting mark

To fine tune the stitch, use a screwdriver to move the setting mark.

If stitches are too short ④, correct by turning the dial in the direction of "+" .

If stitches are too long ⑤, correct by turning the dial in the direction of "-".

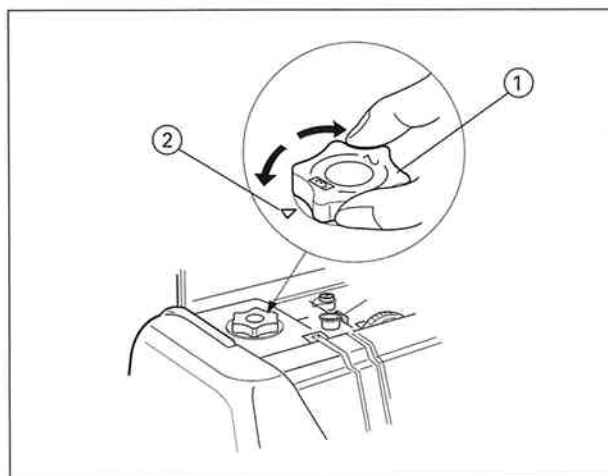




How to Drop the Feed Dog

The feed dog drops out of position for special sewing techniques: basting, free motion embroidery, button sewing, etc.

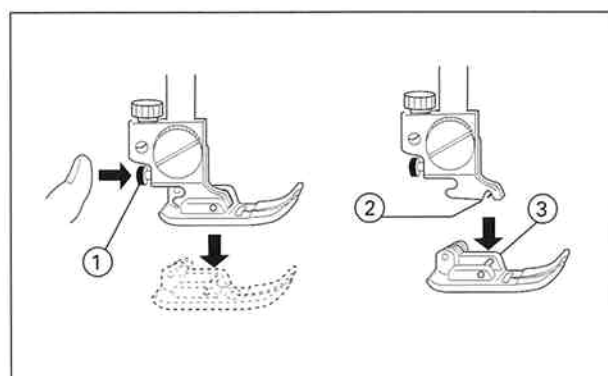
The feed dog must always be up for normal sewing. Locate the feed dog lever on the back of the free arm. Slide the lever either to the right (down) ① or to the left (up) ②. To bring up the feed dog, hand turn the flywheel after sliding lever left.



Foot Pressure Dial

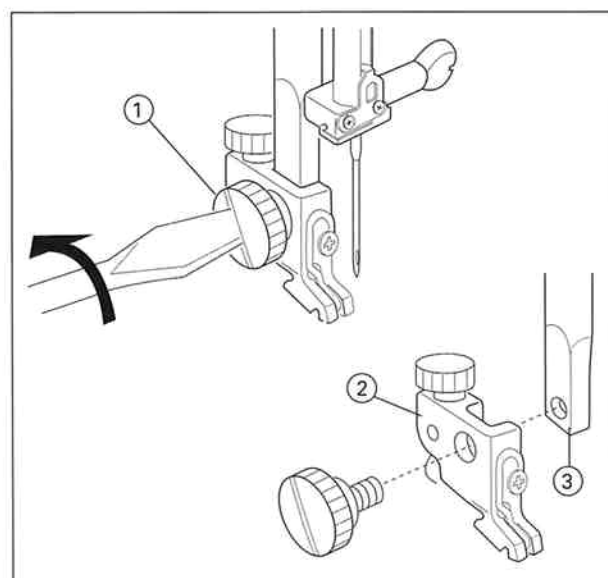
The foot pressure dial ① should have the setting mark ② at "3" for regular sewing. Reduce the pressure to "2" for applique, cutwork, drawn work, basting and embroidery.

Velours and knits with a lot of stretch may require the setting to be lower than "2".



Attaching and Removing Presser Feet

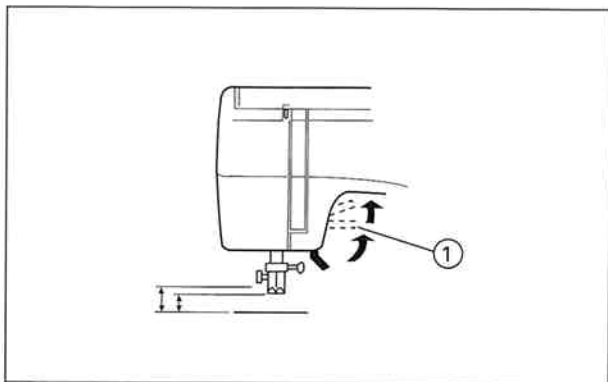
Press the red button ① on back of the shank. The presser foot will drop off. Place the selected presser foot so the pin ③ on the foot lies just under the groove ② of the shank. Lower the presser bar to attach the foot.



Attaching and Removing the Shank

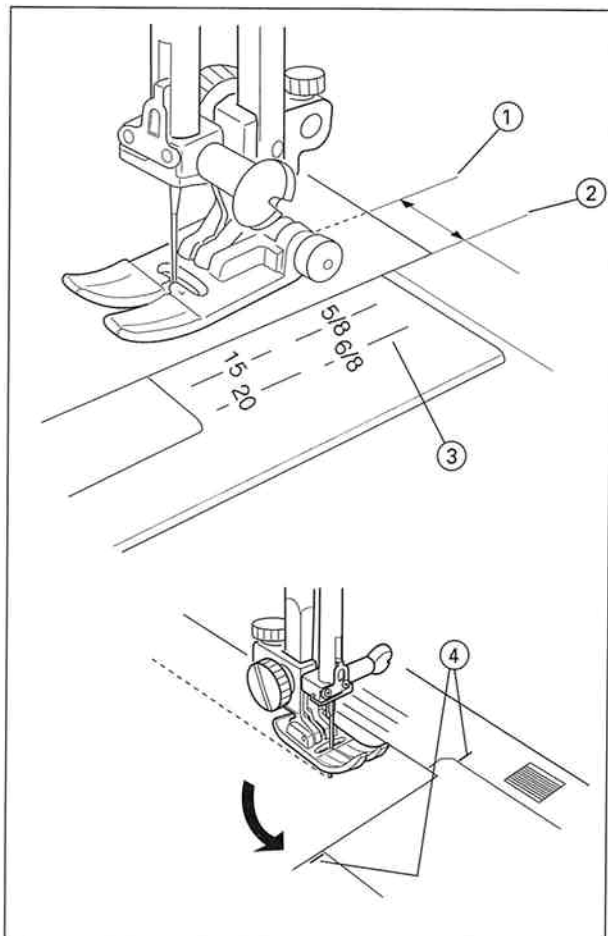
The shank is removed by turning the thumbscrew ① counterclockwise with the screwdriver.

When attaching, match the hole in the shank ② with the hole in the presser bar ③. Put thumbscrew into hole. Tighten thumbscrew by turning it clockwise.



Additional Presser Foot Clearance

You can raise the presser foot about 6.5 mm (1/4") higher than the normal up position for easy removal of the presser foot or to help you place heavy fabrics under the presser foot. Pull up the presser foot lever ① beyond the normal up position.



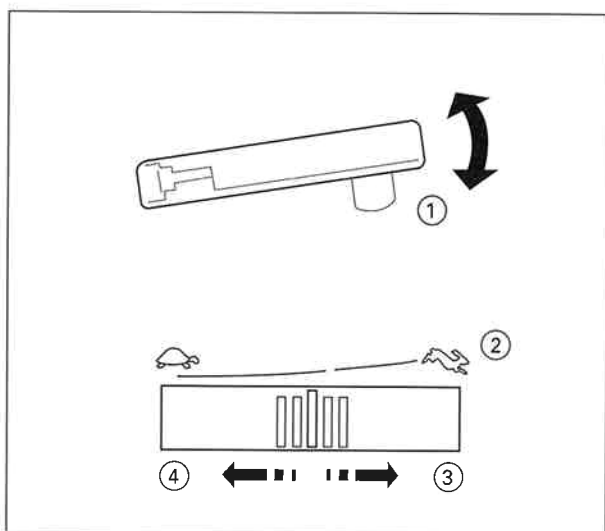
Seam Allowance Lines

The lines on the needle plate and bobbin cover plate help you measure seam width.

- The number indicates the distance between the center needle position 3.5 and the seam allowance line.

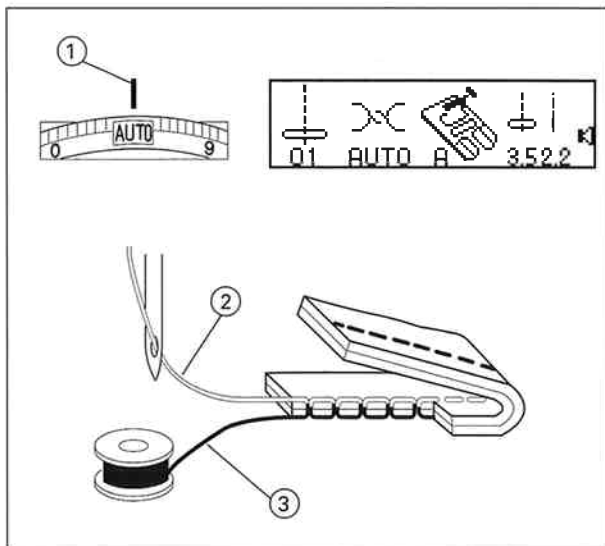
	Millimeters		Inches		
Lines on needle plate	15	20	(1/2") 4/8"	5/8"	(3/4") 6/8"

- ① Center needle position
- ② Edge of fabric
- ③ Needle plate guidelines
- ④ 90° pivot angle guideline for 5/8"



Controlling Sewing Speed

Sewing speed can be varied with the foot control ①. The harder you press on the foot control, the faster the machine runs. The maximum sewing speed can be varied by sliding the speed control lever ②. For a faster speed ③, slide it to the right; for a slower speed ④, slide it to the left.



Adjusting the Needle Thread Tension

Choosing the Correct Tension - Straight Stitch

The ideal straight stitch will have threads locked between the two layers of fabric, as shown left (magnified to show detail). Needle thread tension is normally set on "AUTO" ①.

If you look at the needle thread ② (top thread) and bobbin thread ③ (bottom thread), you will notice that there are no gaps. Each stitch is smooth and even.

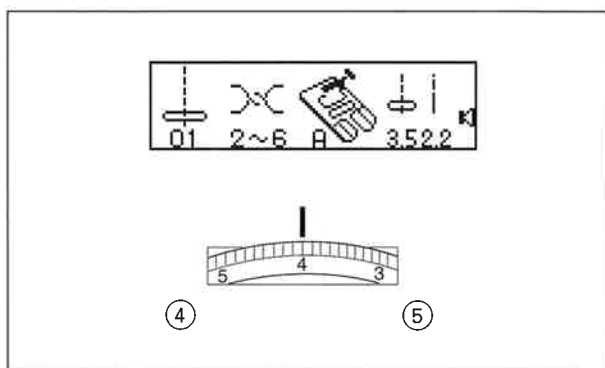
Occasionally the needle thread tension needs to be adjusted manually.

Examples:

- stiffness and thickness of fabric
- number of fabric layers
- type of stitch

Move the needle thread tension dial off "AUTO" and the computer display screen indicates the manual setting.

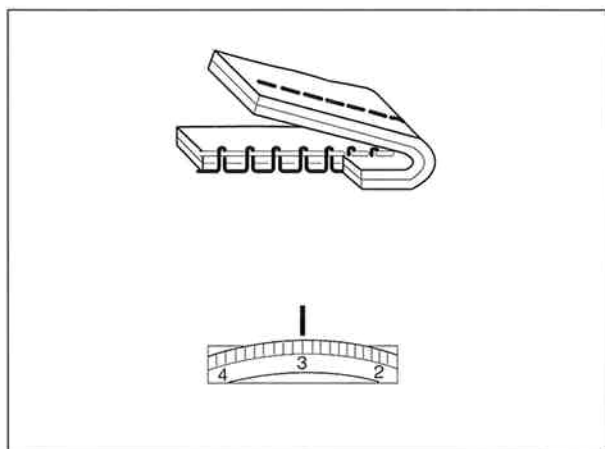
When adjusting needle thread tension, the higher numbers tighten ④, the lower numbers loosen ⑤.



• Tension is too tight

The bobbin thread shows through on the topside of the fabric and it will feel bumpy.

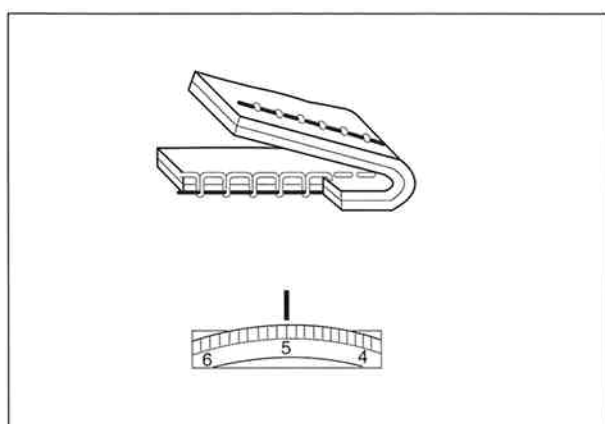
Turn the dial to the left (lower numbers) to loosen the needle thread tension.



• Tension is too loose

The needle thread shows through on the underside of the fabric and it will feel bumpy.

Turn the dial to the right (higher numbers) to tighten the needle thread tension.



WEIGHT	FABRIC	NEEDLE TYPE	NEEDLE SIZE
Very Light	Chiffon, Fine Lace, Organdy	Universal Ball Point	9 (65) 9 (65)
Light	Batiste, Lawn, Crepe de Chine, Challis, Handkerchief Linen, Crepe, Taffeta, Satin	Stretch Universal	11 (75) 11 (75) 12 (80)
	Single Knits, Jersey, Swimwear, Tricot	Stretch Ball Point	11 (75) 11 (75)
	Leather, Suede	Leather	11 (75)
Medium	Flannel, Velour, Velvet, Velveteen, Corduroy, Linen, Gabardine, Wool, Terry, Burlap	Universal	14 (90)
	Double Knits, Stretch Velour, Stretch Terry, Sweater Knits	Ball Point	14 (90)
	Leather, Vinyl, Suede	Leather	14 (90)
Heavy	Denim, Sailcloth, Ticking	Denim	16 (100)
	Coating, Polar Fleece, Drapery and Upholstery Fabrics	Universal	16 (100)
	Leather, Suede	Leather	16 (100)
Very Heavy	Canvas, Duck, Upholstery Fabrics	Universal	18 (110)
	Topstitching for Special Finish	Topstitching	11 (75) 14 (90)

SECTION II

Getting Ready to Sew

Selecting the Correct Needle and Thread

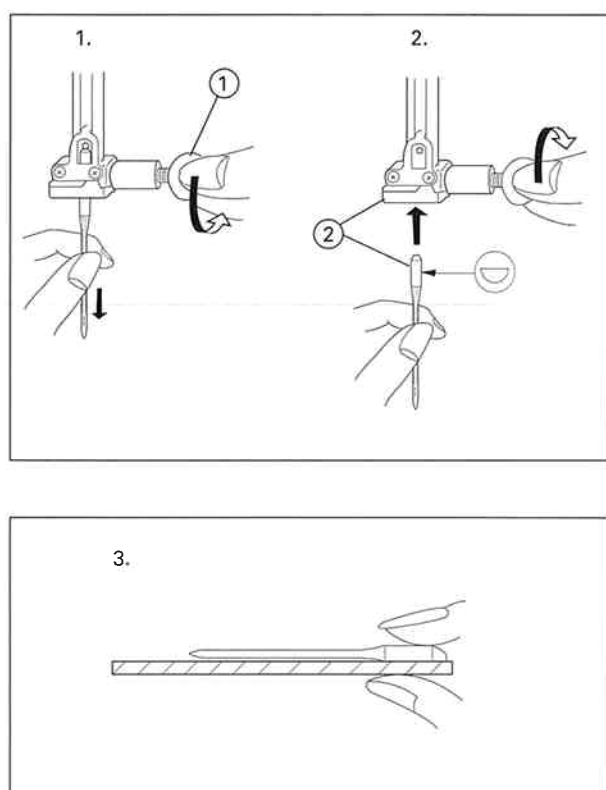
There are many kinds of fabrics, threads and needles. It is important to use the correct ones together.

Always purchase good quality thread. It should be strong, smooth and even in thickness. Use the same thread for needle and bobbin. Always test thread and needle size on a scrap piece of fabric.


In general, fine threads and needles are used for sewing lightweight fabrics and heavier threads and larger needles are used for sewing heavyweight fabrics. There are many specialty needles available from your sewing machine dealer.

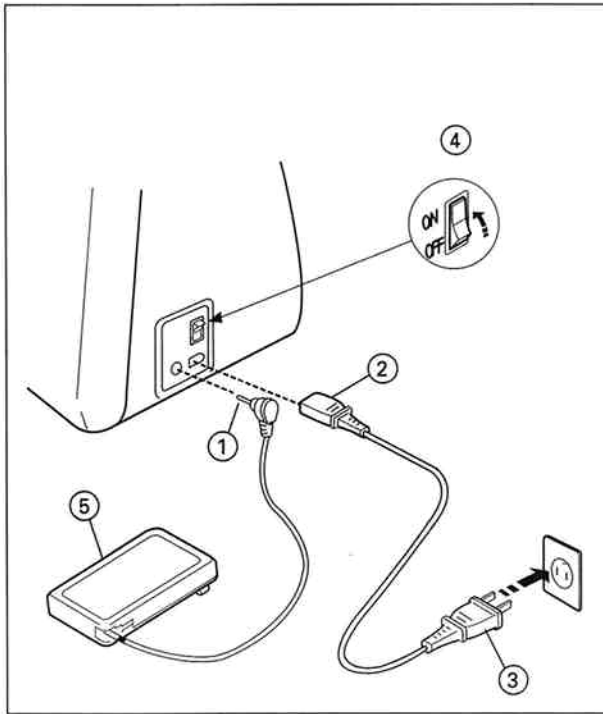
A denim needle with a sharp tip is used to sew heavy fabrics such as denim and canvas. For topstitching, a special topstitching needle with a larger eye must be used for heavier weight thread. Leather needles punch small holes in leather and suede allowing the thread to follow through the hole. When sewing stretch, very fine or synthetic fabrics, use a stretch needle. The stretch needle prevents skipped stitches.

Check your needles frequently for rough or blunt tips. Snags and runs in knits, fine silks and silk-like fabrics are permanent and are often caused by damaged needles.



Changing Needles

1. Raise the needle by pressing the  needle key. Lower the presser foot. Turn off the power switch. Loosen the needle clamp screw ① by turning it counter-clockwise.
2. Remove the needle from the clamp. Insert the new needle into needle clamp ② with flat side to the back. When inserting the needle into the clamp, push it up as far as it will go and tighten the clamp screw firmly.
3. To determine if the needle is defective, place the flat side of the needle on something flat (a needle plate, glass, etc.). The gap between the needle and flat surface should be consistent. Never use a bent or blunt needle. It may cause skipped stitches or thread breakage. Defective needles can ruin fabric. Always purchase good quality needles. Change needles often.



Connecting Machine to Power Supply

Before connecting the power cord, make sure the voltage and frequency shown on the machine are identical to your electrical power.

To connect the foot control ⑤, turn off the power switch ④. Insert the foot control plug ① and machine plug ② into the machine and the power supply plug ③ into the wall.

For Your Safety

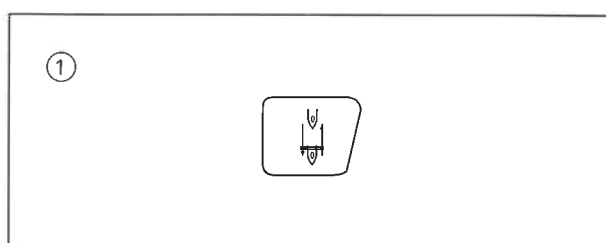
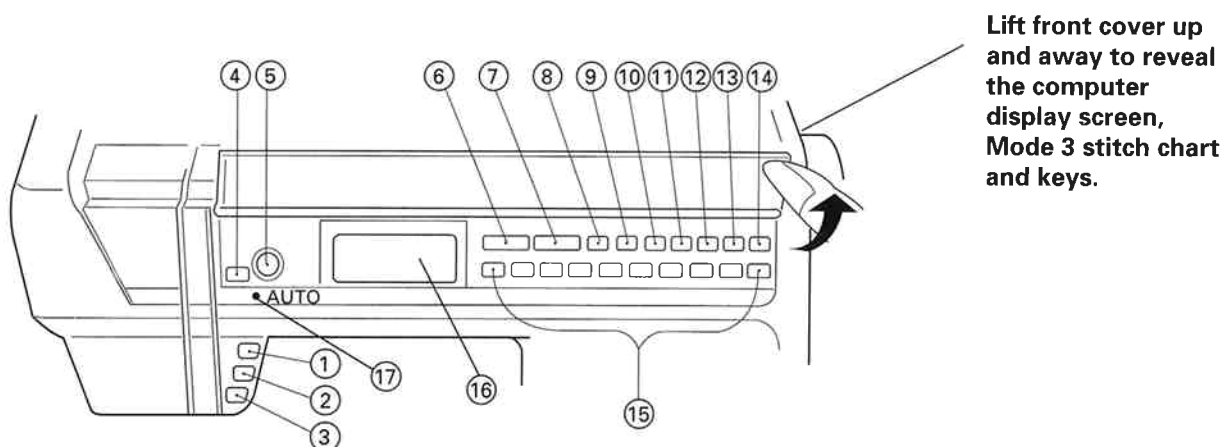
1. While in operation, always keep your eye on the sewing area and do not touch any moving parts such as the thread take-up lever, flywheel or needle.
2. Always turn off the power switch and unplug from the power supply:
 - when leaving the machine unattended
 - when attaching or removing parts
 - when cleaning the machine.
3. Do not place anything on the foot control.

Operating Instructions

Your machine may come equipped with a polarized plug (one prong wider than the other). A polarized plug reduces the risk of electrical shock. This plug is intended to fit into a polarized outlet. If the plug does not fit fully into the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not modify the plug in any way.

Main Function of Keys

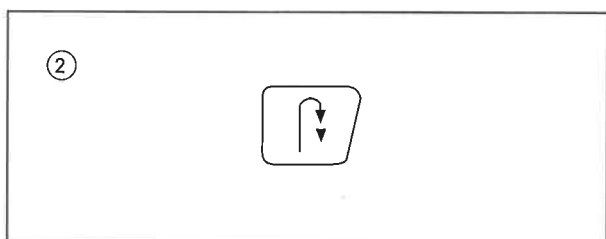
(Keys are located underneath front cover.)



1. Up/Down Needle Key

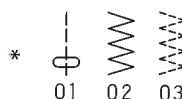
If the needle is up when you press this key, the needle will go down to its lowest position. The needle will continue to stop in the down position.

If the needle is down when you press this key, the needle will go to its highest position. The needle will continue to stop in the up position.

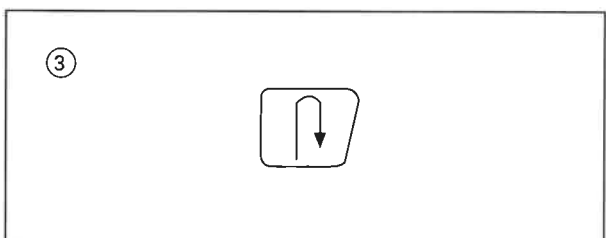


2. Auto-Lock Key

Press this key while sewing a straight stitch, zigzag stitch or 3 step zigzag stitch*, and the machine will sew a few stitches in place and stop automatically.

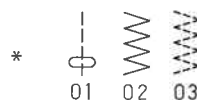


Press this key while sewing utility or decorative stitches and the machine will complete the stitch, lockstitch and stop.

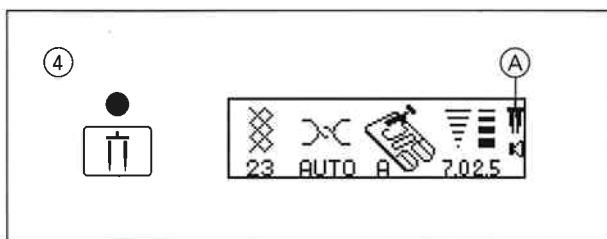


3. Reverse Key

If you are sewing a straight stitch, zigzag stitch or 3 step zigzag stitch*, press and hold the key. The machine will sew in reverse until you release the key.

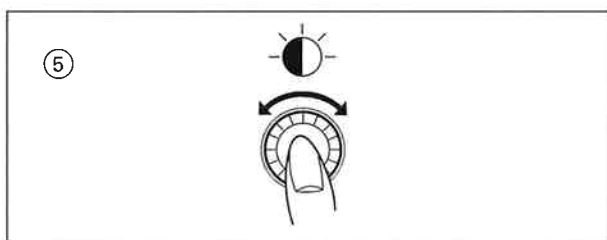


If you are sewing utility or decorative stitches, the machine will immediately stop and sew a locking stitch when you press this key.

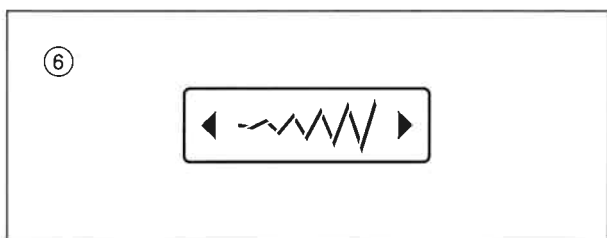


4. **Twin Needle Key** See page 52.
Press this key to reduce the width of an individual stitch or an entire memorized sequence. The twin needle symbol (A) is shown in the computer display screen when it is activated. Press the key again to cancel twin needle function.

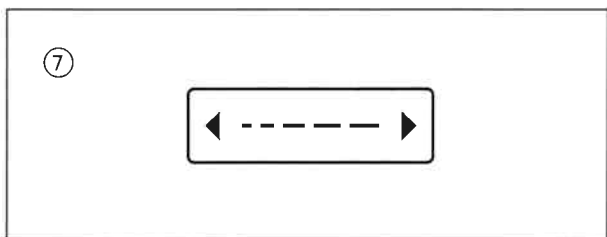
Press **VISUAL** key and **A** key after memorizing a sequence of stitches in Modes 1, 2 or 3, and it is possible to change the stitch width or length of individual stitches. See page 64.



5. **Computer Display Screen Brightness Control**
Computer display screen lightens or darkens for visibility.

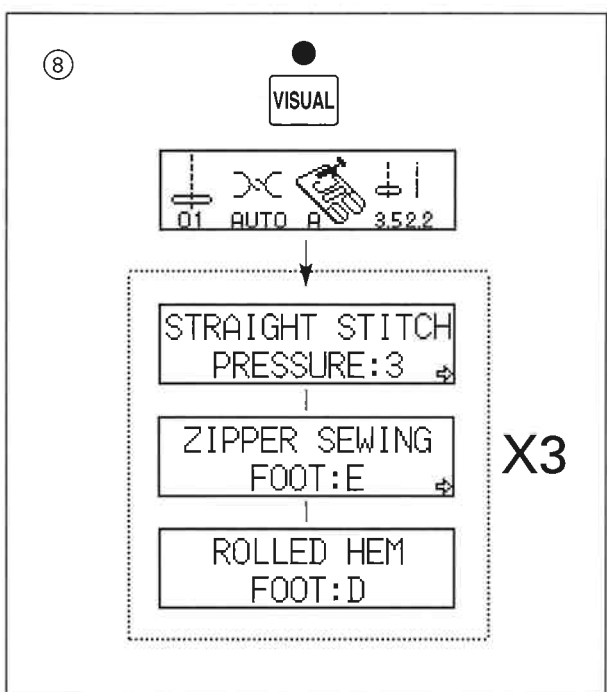


6. **Stitch Width Key**
Stitch width is shown on the computer display screen.
To decrease the stitch width, press the ◀ key.
To increase the stitch width, press the ▶ key.



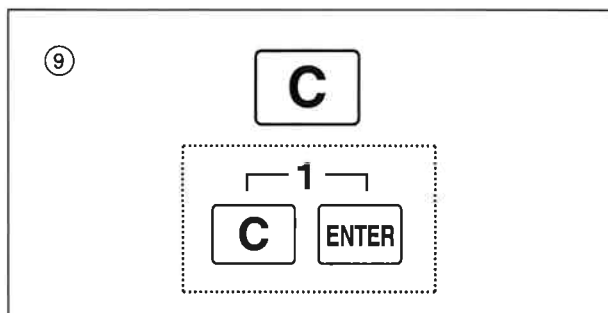
7. **Stitch Length Key**
Stitch length is shown on the computer display screen.
To decrease the stitch length, press the ◀ key.
To increase the stitch length, press the ▶ key.

NOTE: Fine fabrics should have a stitch length between 1.5 and 2.5. Medium fabrics should have stitch length between 2.0 and 3.0. Heavier fabrics should have length between 3.0 and 4.0.



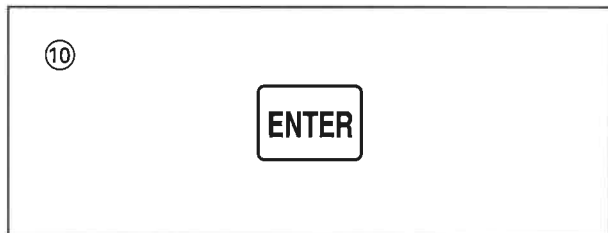
8. **Visual Key**
Press this key after selecting a stitch. The stitch name, foot pressure dial setting and any other recommended feet will be displayed. Press this key again or begin sewing to return to original display.

Press the **VISUAL** key to check and edit the sequence of memorized stitches. The light will appear. Press the key again when editing is complete. The light will disappear. See pages 62-64.



9. Clear Key

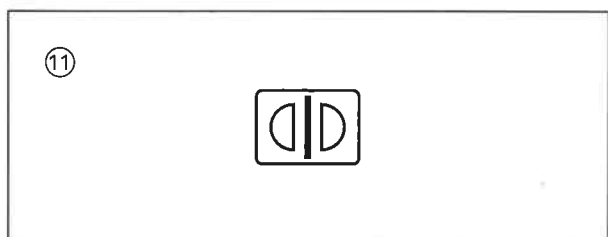
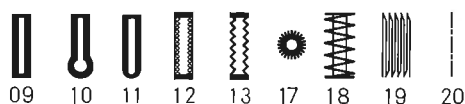
When this key is pressed, the memorized stitches will be cleared one by one. When the **C** key and **ENTER** key are pressed simultaneously, the entire memorized sequence is cleared.



10. Enter Key

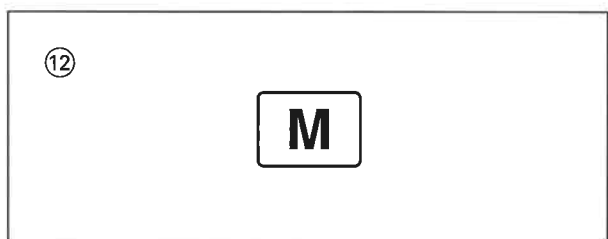
When this key is pressed after selecting a stitch, the stitch will be memorized. When the key is pressed after selecting another stitch, that stitch will be memorized after the previously memorized stitch. The memory will program up to 50 stitches in each mode, including the locking stitch at the end. See pages 54-59. Modes 1, 2 and 3.

These stitches cannot be memorized.



11. Mirror Image Key

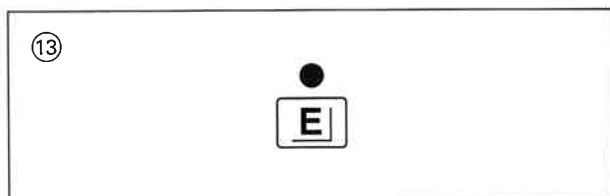
When this key is pressed after selecting a stitch in Mode 1, the stitch will be in mirror image and memorized. When this key is pressed after selecting a letter or number in Mode 2 or Mode 3, the stitch size will be reduced to two thirds and memorized. See pages 56-59.



12. Memory Store/Recall Key

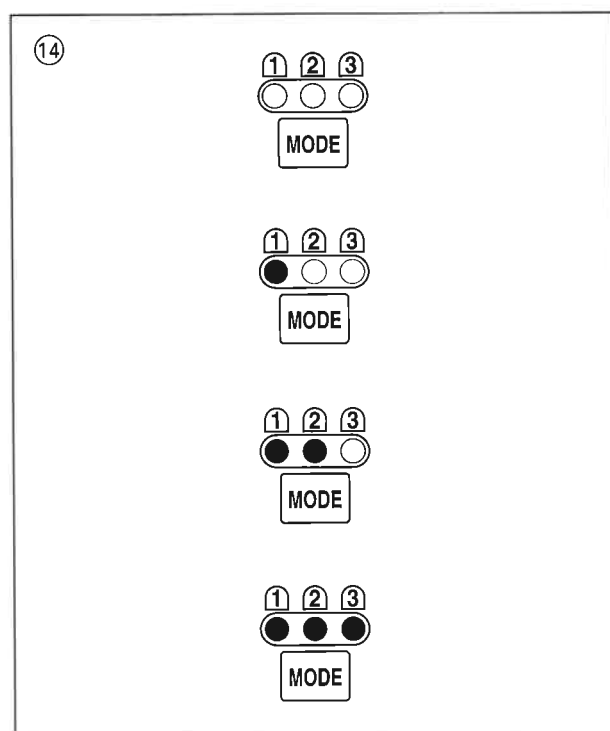
The machine has three separate memories for combining stitches, one for each mode. Press the **M** key to store the entered/memorized stitches.

Press the **M** key to recall the stored stitches within the active mode. See page 60.



13. Elongation Key

Satin stitches 28 through 38 may be lengthened up to five times their regular size without the stitch length varying. Press the **E** key. A light will appear and the computer display screen will show the elongated size. X1, X2, X3, X4 or X5. See pages 52 and 55.



14. Select Mode Key

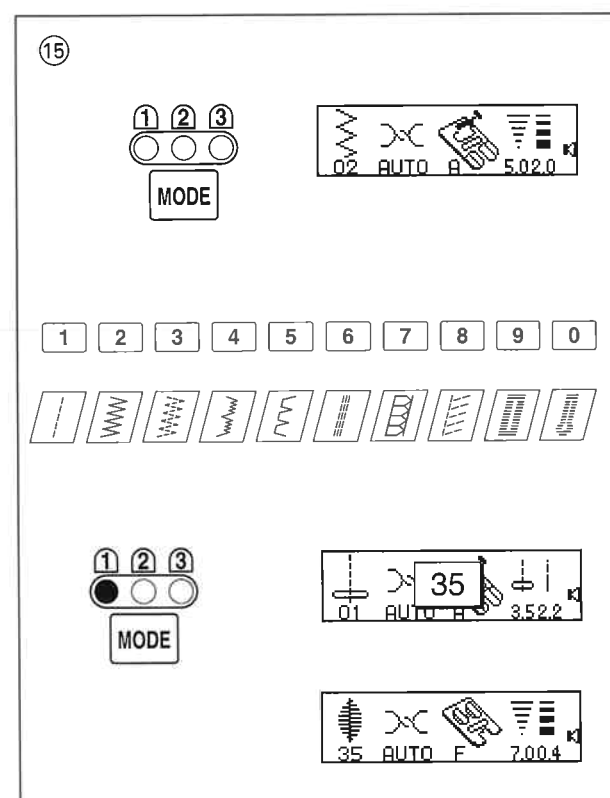
When you switch on the machine, there is not a light in the Select Mode.

Direct Select Mode is active.

Press the **MODE** key and first light appears. Mode 1 is active.

Press the **MODE** key and second light appears. Mode 2 is active.

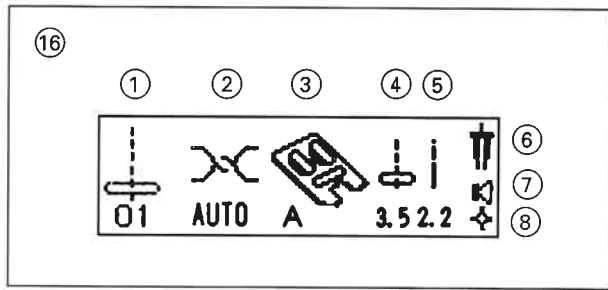
Press the **MODE** key and third light appears. Mode 3 is active.



15. Stitch Selection Keys

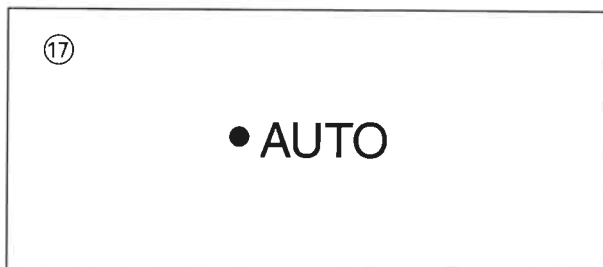
You can select a stitch in the Direct Select Mode by pressing the key directly above the stitch illustration.

To select stitches 01-99 in Mode 1, 01-67 in Mode 2 or 01-72 in Mode 3, simply press the two digits for the desired stitch. To cancel the stitch you selected, press the **C** key, select a different stitch or press **MODE** key.



16. Symbols in the Computer Display Screen

- ① Selected stitch.
- ② Needle thread tension setting.
Turn needle thread tension dial off "AUTO" setting. The recommended manual tension setting will be displayed.
- ③ Elna recommends using presser foot shown (A) for best sewing result.
- ④ Stitch width or needle position (straight stitches) – computer automatically sets stitch width or needle position after selecting a stitch.
- ⑤ Stitch length - computer automatically sets stitch length after selecting a stitch.
- ⑥ Twin needle key - see page 11.
- ⑦ Sound Mode. Machine beeps after touching any key. See page 15.
- ⑧ Quick Resumption Mode. Switch off the machine. The last stitch or memorized sequence of stitches that you sewed will appear when machine is switched on. See page 15.



17. Auto Light

The Auto LED indicates the needle thread tension is set on "AUTO".


Green Light Needle thread tension is set on "AUTO".


No light Needle thread tension is manually set between 0 and 9.


Setting Computer Display Screen

There are three functions that can be set for personal sewing habits. Each is set individually.

1. Quick Resumption Mode

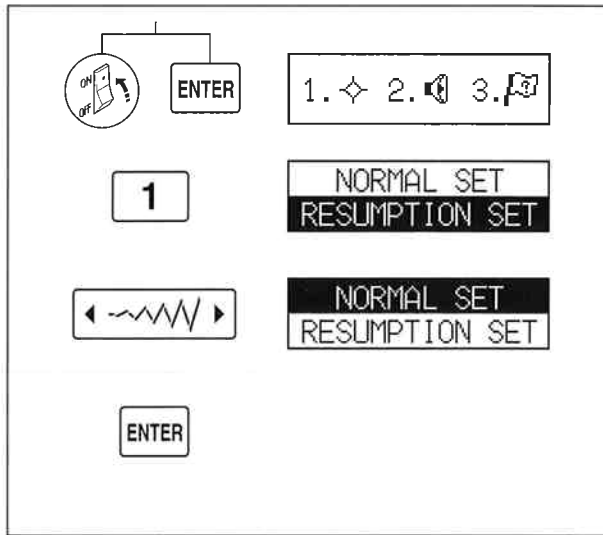
Switch off the machine. Press and hold  key while switching on machine.

Press  key.


Press  key to change setting.


Press  key.


See page 61.



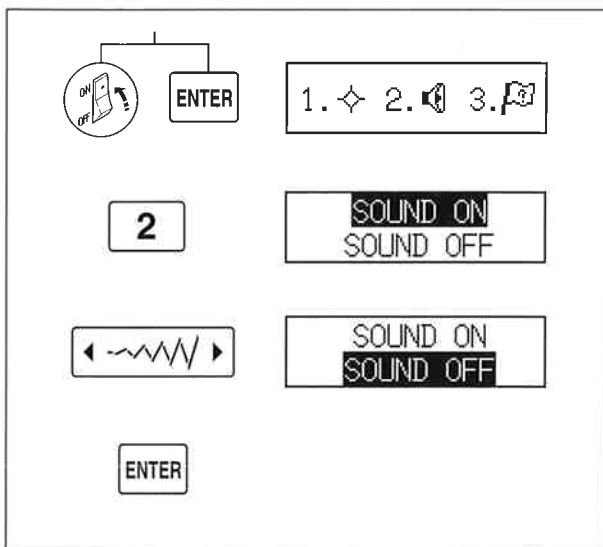
2. Sound Mode

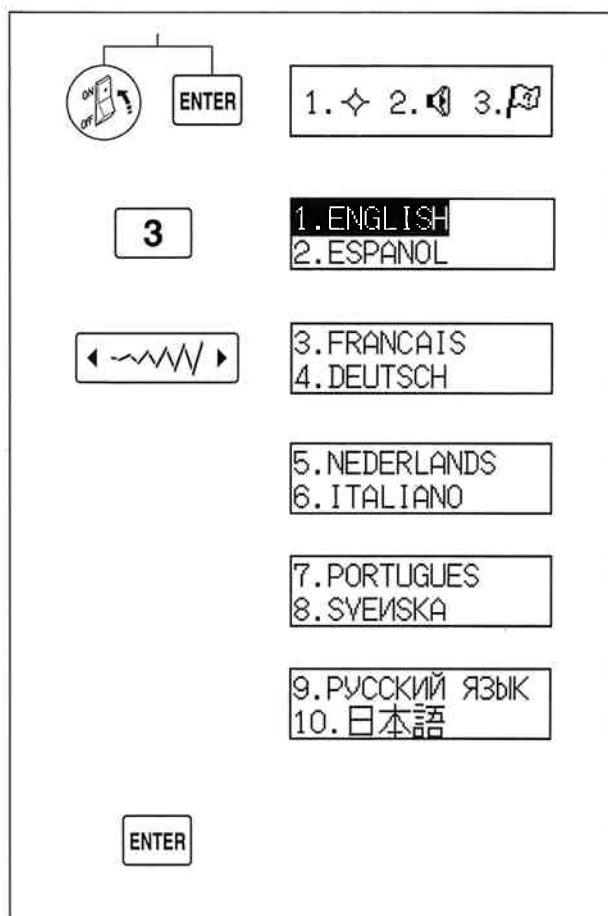
Switch off the machine. Press and hold  key while switching on machine.

Press  key.

Press  key to change setting.

Press  key.





3. Language Selection

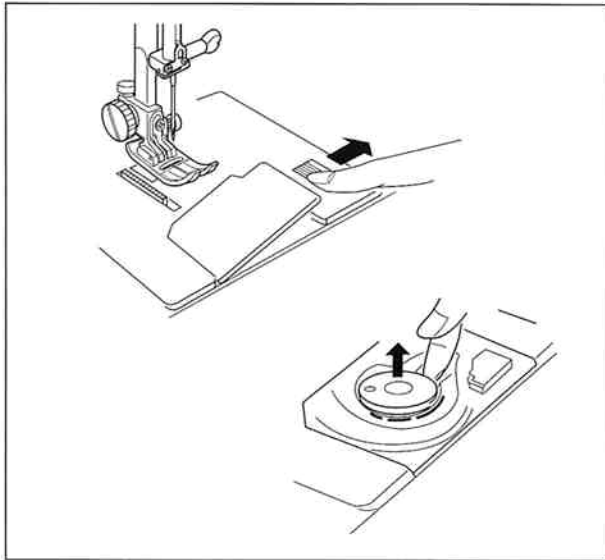
Switch off the machine. Press and hold **ENTER** key while switching on machine.

Press **3** key.

Press **← wavy line →** key to change language.

- | | |
|--------------|-------------|
| ① English | ⑥ Italiano |
| ② Espanol | ⑦ Portugues |
| ③ Francais | ⑧ Svenska |
| ④ Deutsch | ⑨ Russian |
| ⑤ Nederlands | ⑩ Japanese |

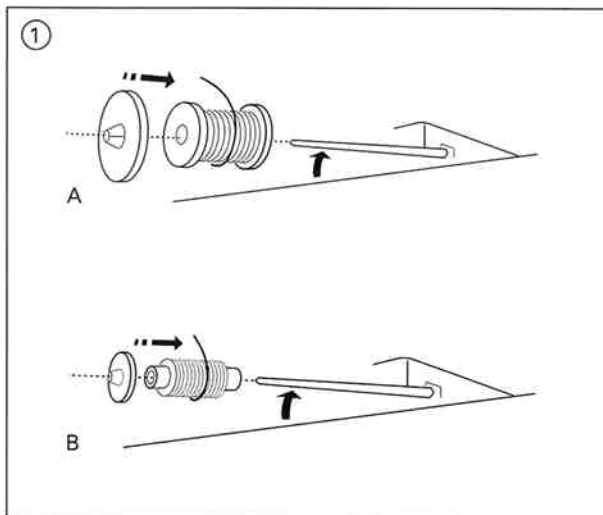
Press **ENTER** key.



Winding the Bobbin

Remove bobbin by sliding the bobbin cover plate release button to the right and lifting away the bobbin cover plate.

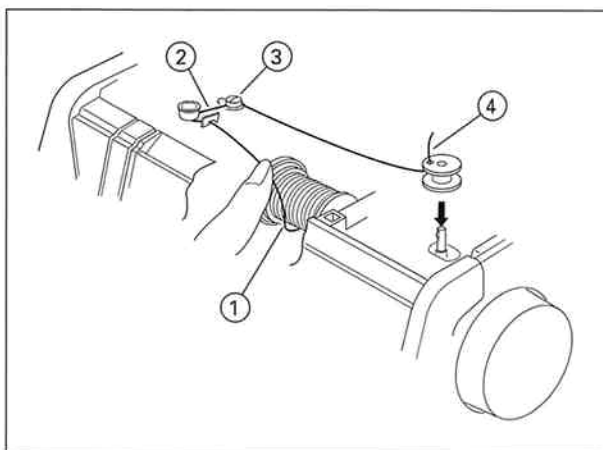
Lift out the bobbin.



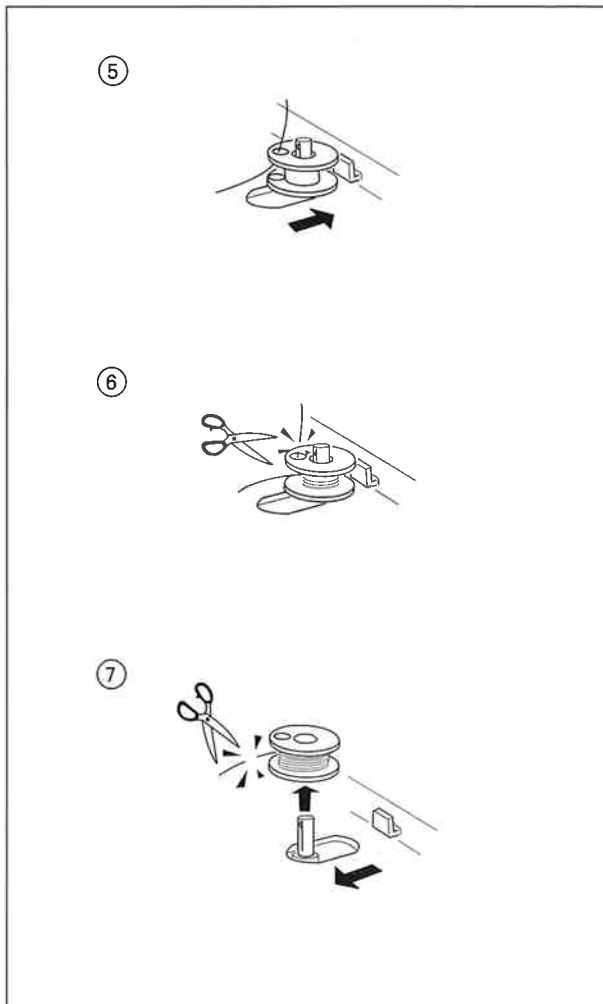
- ① Lift up the spool pin. Place the spool of thread on the spool pin with the thread coming off the spool as shown. Attach the spool holder and press it firmly against the spool of thread.

NOTE: Spool holder needs to be changed according to the type of thread spool.

- A. Large spool
- B. Small spool



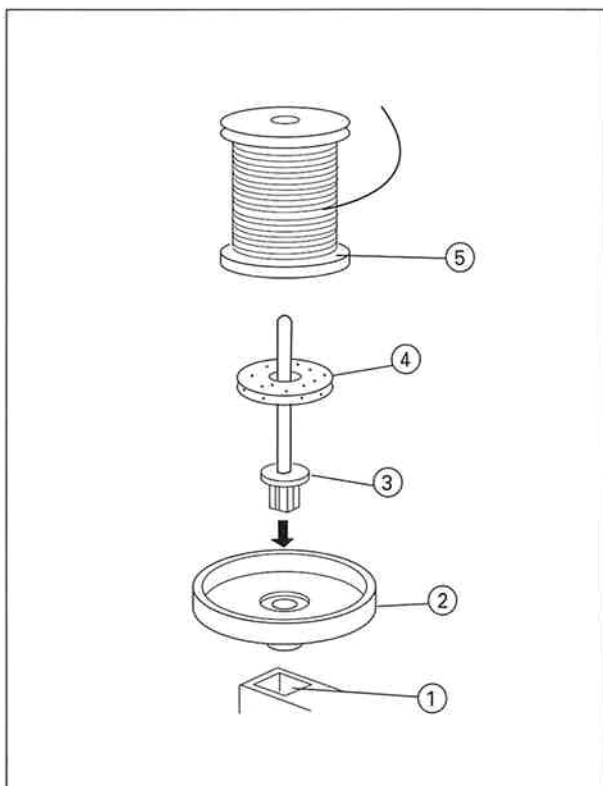
- ② Pull the thread towards the thread guides, under the hook and wrap it around the guide as shown.
- ③ Pull the thread back around the bobbin winder thread guide.
- ④ Pass the thread through the hole in the bobbin from inside to the outside.



⑤ Place the bobbin on the bobbin winder spindle and push it to the right. The computer display screen will read "Bobbin Winding".

⑥ Holding the free end of the thread, press the foot control. Stop the machine when it has made a few turns and cut the thread close to the hole in the bobbin. Press the foot control again. When the bobbin is fully wound, it will stop automatically.

⑦ Return the bobbin winder to its original position by moving the spindle to the left and cut the thread as shown.



Additional Spool Pin

The additional spool pin may be used to wind an extra bobbin without unthreading the machine.

PROCEDURE: Insert the spool stand ② and the additional spool pin ③ in the hole ①. Place the felt ④ and spool ⑤ on the pin with the thread coming off the spool as shown.

Inserting the Bobbin

Place the bobbin in the bobbin case with the thread running counterclockwise.

Guide the thread into notch (A) on the front side of the bobbin case.

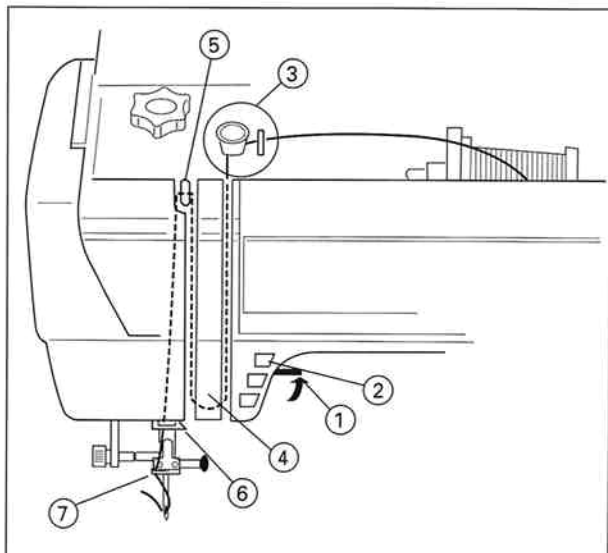
Hold the bobbin with your right hand and pull the thread to the left, through the tension spring blades.

Continue pulling the thread lightly until the thread slips into notch (B).

Pull out about 15 cm (6") of thread.


Replace the bobbin cover plate.

Check the threading by referring to the chart shown on the bobbin cover plate.



Threading the Machine

① Raise the presser foot.

② Press the  key until the needle is in an up position.

③ Pull the thread around the upper thread guide.

④ Guide the thread down and around the checkspring holder.

⑤ Firmly pull the thread from right to left, over the take-up lever and down into the take-up lever eye.

⑥ Proceed down through the lower thread guide.

⑦ Slide the thread to the left behind the needle bar thread guide.

Thread the needle from front to back or use the automatic needle threader.

Automatic Needle Threader

Raise the needle to its highest position.

Lower the needle threader lever as far as it will go.

Turn the lever in the direction of the arrow in the illustration, then insert Hook (A) into the needle eye. Bring the thread around Guide (B) and under Hook (A).

Turn the lever in the direction of the arrow in the illustration, drawing the thread loop through the needle.

Release the lever and let the needle threader return to its original position.

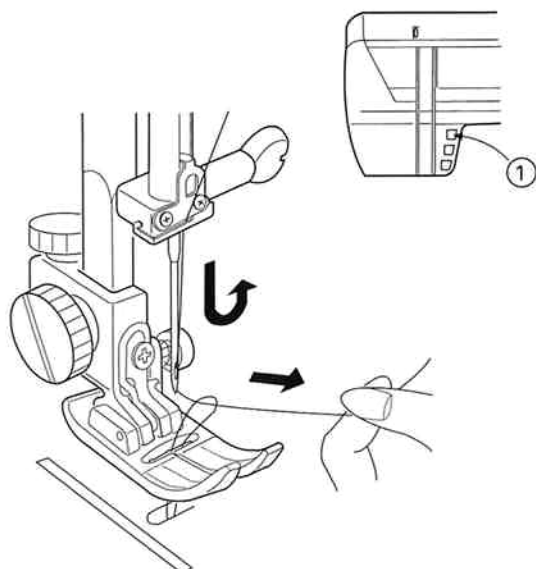
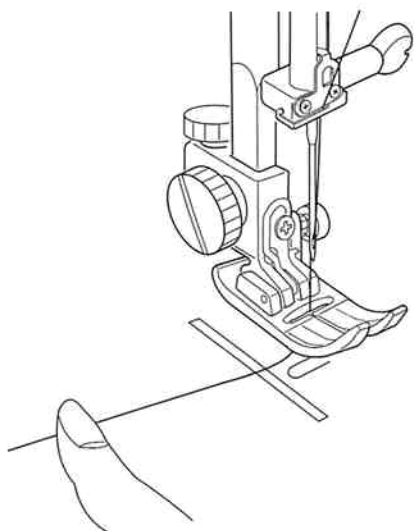
Manually bring the thread through the needle eye by pulling the thread loop to the back.


- The needle threader can be used with #11 to #16 size needles. Thread weight may vary from 30 to 100.

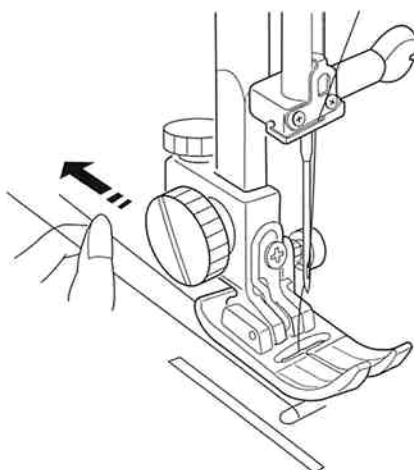
NOTE: Needle threader cannot be used with a twin needle or wing needle.

Drawing Up the Bobbin Thread

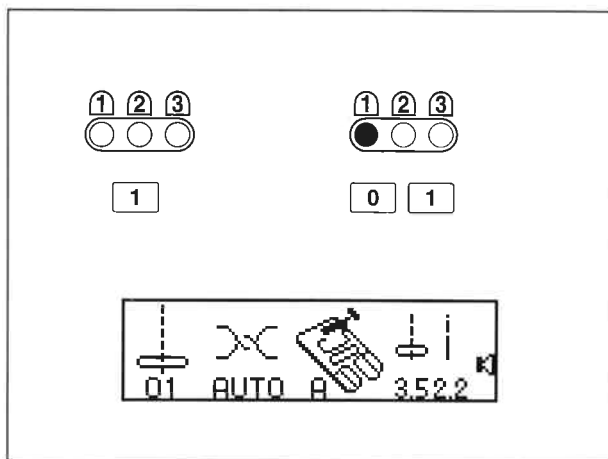
Raise the presser foot. Hold the needle thread lightly with your left hand.



Press the  ① twice to pick up the bobbin thread. Draw up the needle thread together with a loop of bobbin thread.



Slide 10 cm (4") of both threads to the back under the presser foot.



SECTION III

Direct Mode and Mode 1



Straight Stitch, Buttonhole and Utility Sewing




To select stitches 11-99, the machine must be set for Mode 1.

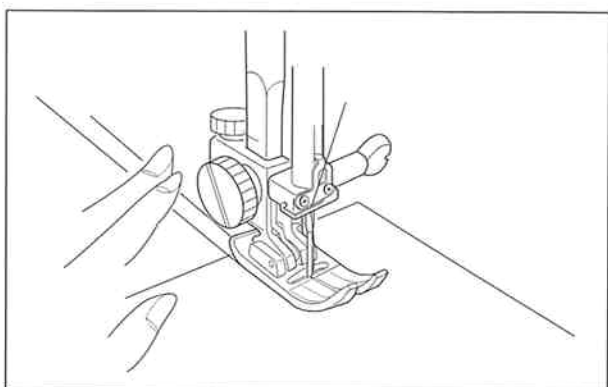
Straight Stitch

When the machine is turned on, it is automatically set to sew a straight stitch in the center needle position. (Exception: Quick Resumption Mode. See page 15.)

The straight stitch is used to sew a seam in woven fabrics. The straight stitch may also be used for gathering, sewing in a zipper, pintucks, rolled hems and twin needle hems.

Direct Mode 
Select 

Mode 1 
Select  

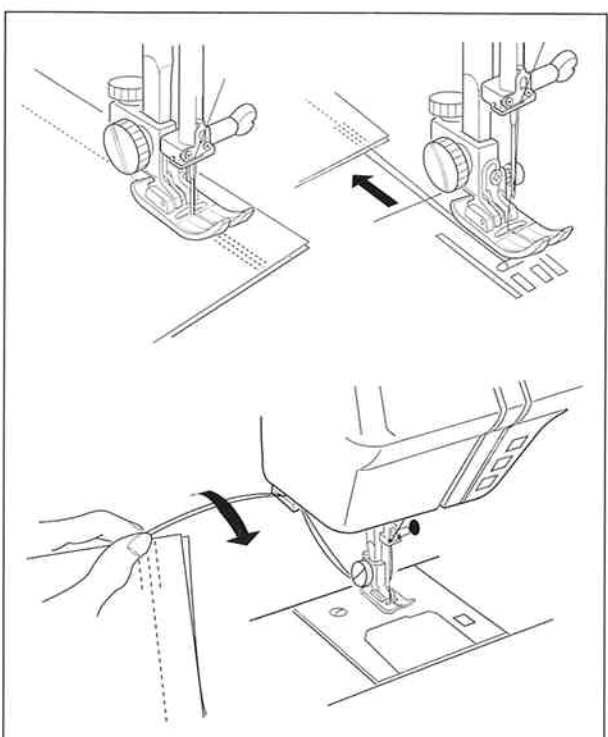


Starting to Sew


Raise the presser foot and position the fabric next to a seam allowance line on the needle plate. See page 6. Lower the needle to the point where sewing is to begin.

Pull the threads under the foot towards the back and lower the presser foot.

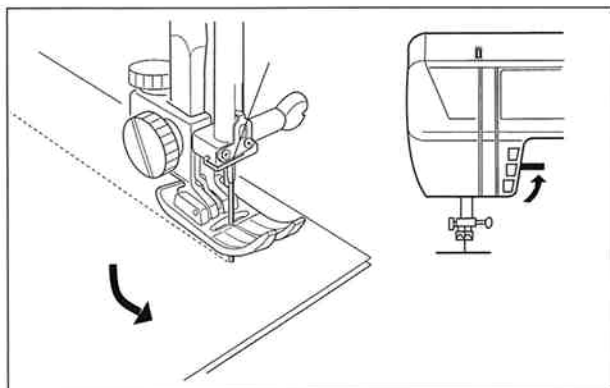
Press the foot control. Gently guide the fabric along the seam allowance line letting the fabric feed naturally.





Finishing Off a Seam

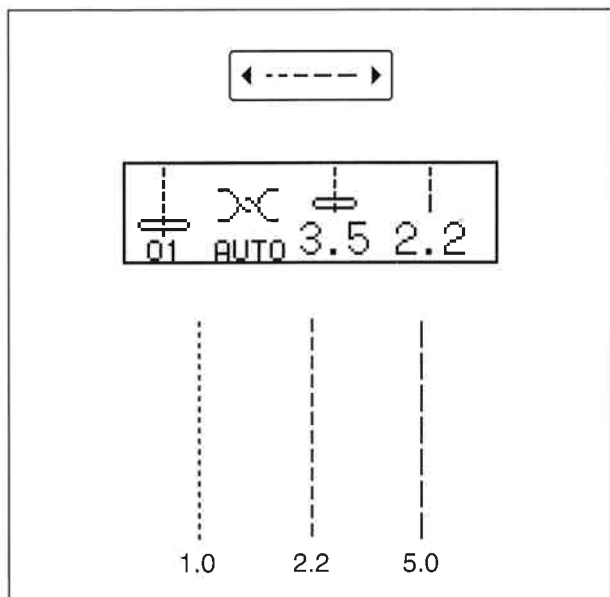
To fasten the threads at the end of a seam, press and hold the  key while sewing.

Raise the presser foot. Remove the fabric, pull the threads to the back and cut threads using the thread cutter. (The threads are cut the proper length to start the next seam.)





Changing Sewing Direction


Stop the machine and bring the needle down into the fabric by pressing the  key. Raise the presser foot. Pivot the fabric around the needle to change sewing direction. Lower the presser foot. Press the  key to bring the needle up.



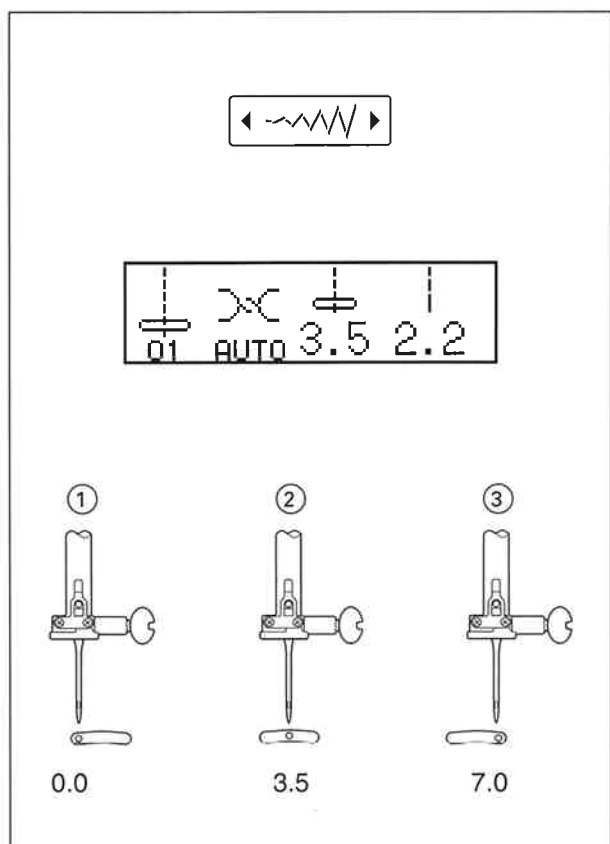
Adjusting Stitch Length Manually

When you press  key, the pre-programmed settings will appear larger on the screen. It can be set between 0.0 and 5.0.


Press  key and the number on the screen will decrease and the stitch length will be shorter.



Press  key and the number on the screen will increase and the stitch length will be longer.

- The reverse stitch length will not sew any longer than 3 mm (1/8").

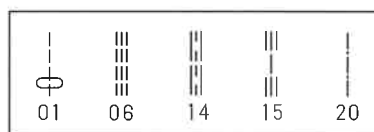


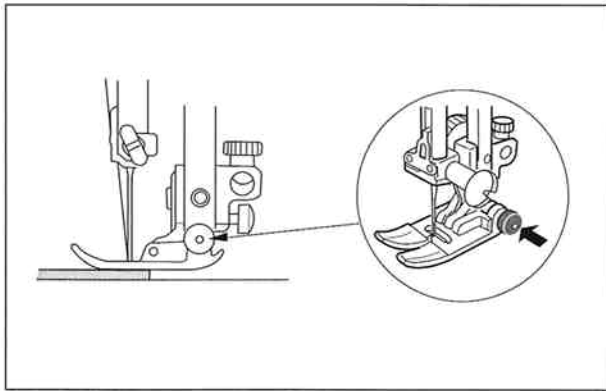
Variable Needle Positions

When you press  key, the pre-programmed settings will appear larger on the screen. The needle position can be set between 0.0 and 7.0.

The stitches listed below allow you to move the needle to any position by pressing the  or  key. There are a total of 15 needle positions.

- ① Left position
- ② Center position
- ③ Right position



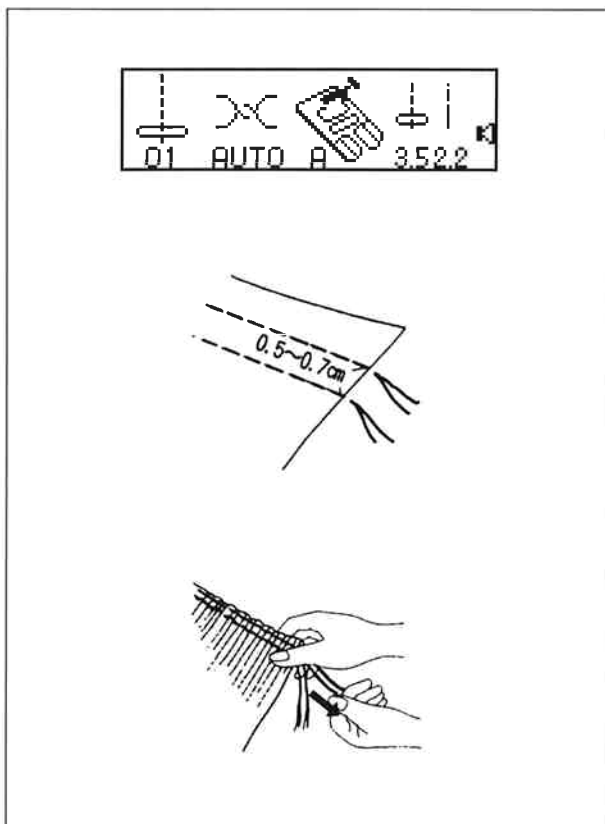


Sewing on Heavy Fabrics

The black button on presser foot A locks the foot in a horizontal position when pushed in before lowering the presser foot. This ensures even feeding at the beginning of seams and helps when sewing many layers of fabric such as welt seams used to hem jeans.

When the point of an increased thickness is reached, lower the needle and raise the presser foot. Press in the black button. Lower the foot and continue sewing.

This button releases automatically after a few stitches have been sewn.



Gathering

Gathering with straight stitches works best on light to mediumweight fabrics.

Decrease tension to 1.0 - 3.0.

Increase stitch length to 5.0.

Sew two rows of parallel stitches. Sew first row next to raw edge using foot A as guide. Sew second row next to first row using foot A as guide. Leave long thread tails at beginning and end of each row.

Pull on the bobbin threads simultaneously from each end of the fabric until the desired amount is gathered.

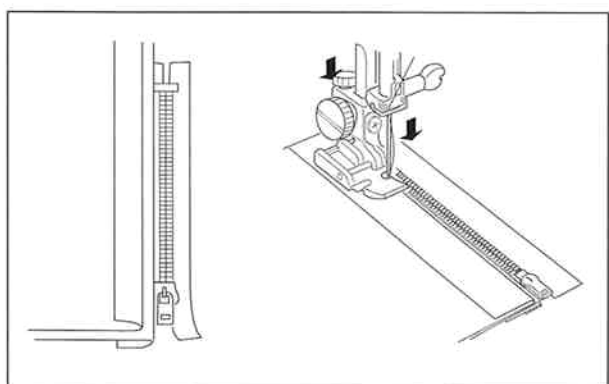
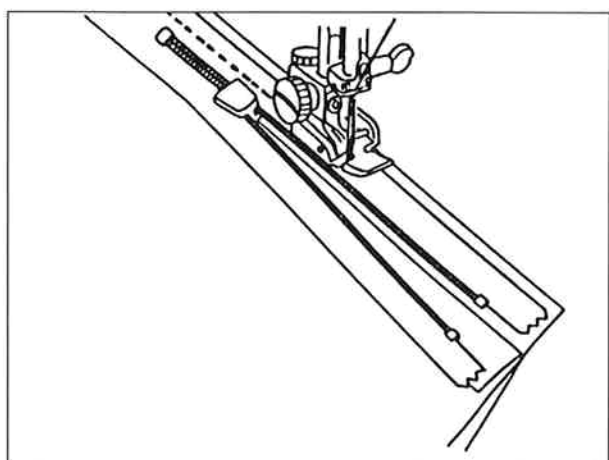
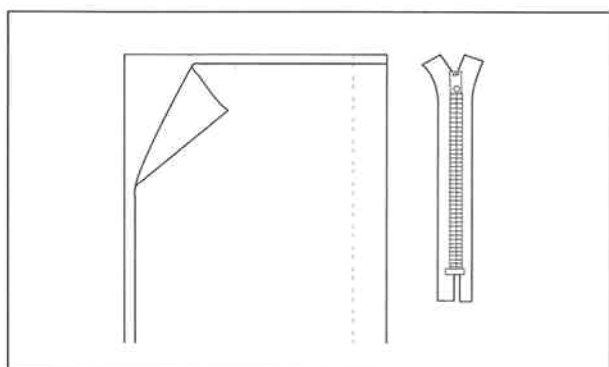
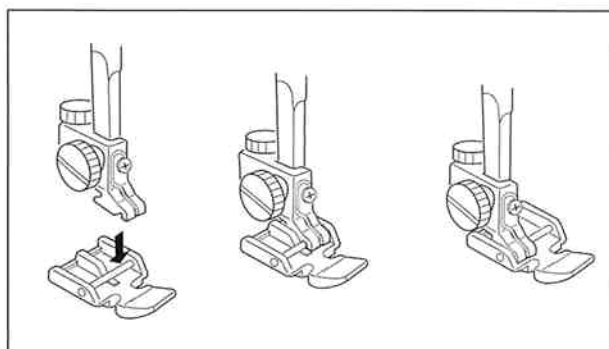
Knot the threads at each end and distribute the gathers evenly.

Select $\frac{1}{01}$ to reset machine for regular straight stitch settings.

Sew between two rows of stitching to secure gathering.

OR

Lay gather fabric over flat fabric and sew the two fabrics together directly on the second row of gathering stitches.



Zipper Insertion

Lapped Application

Remove metal foot A. Attach the pin on zipper foot E to the groove on the shank. Use center needle position 3.5.

- To sew left side of zipper, attach zipper foot on the right hand side.
- To sew right side of zipper, attach zipper foot on the left hand side.

Fabric Preparation

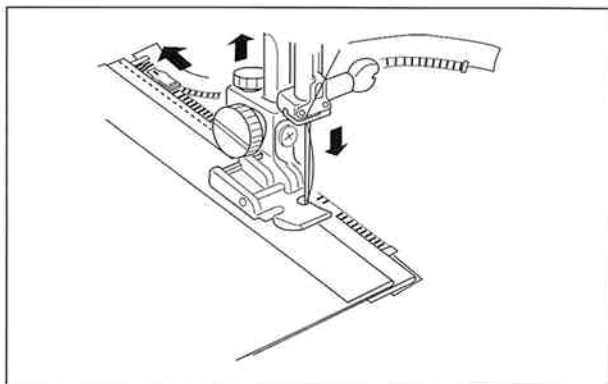
Add 1 cm (3/8") to the zipper size. Use this measurement and mark the opening for the zipper.

Place right sides of fabric together and sew the seam located below zipper placement. (Make sure to reverse sew the stitches directly below the zipper placement.)

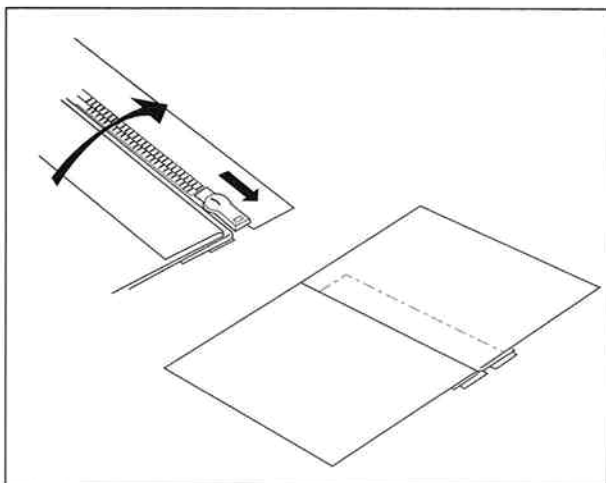
Increase stitch length to 5.0 and baste the zipper opening closed. Press the seam and basting seam open.

Open zipper and place it face down on the seam allowance. Teeth are on the seam line and zipper top is 1 cm (3/8") from fabric top edge. Attach foot with left side pin. Baste zipper in place, sewing from bottom to top.

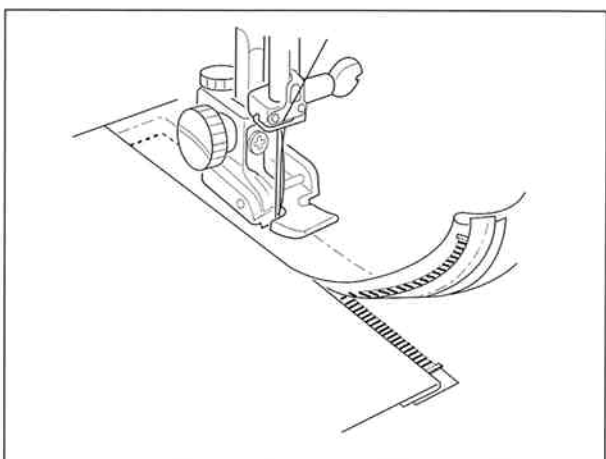
Close zipper. Turn zipper face up (right seam allowance forms a small fold at basting line) and smooth zipper teeth away from seam. Attach foot with right side pin. Re-set straight stitch length to 2.2. Starting at the bottom, sew through the folded seam allowance and zipper tape.



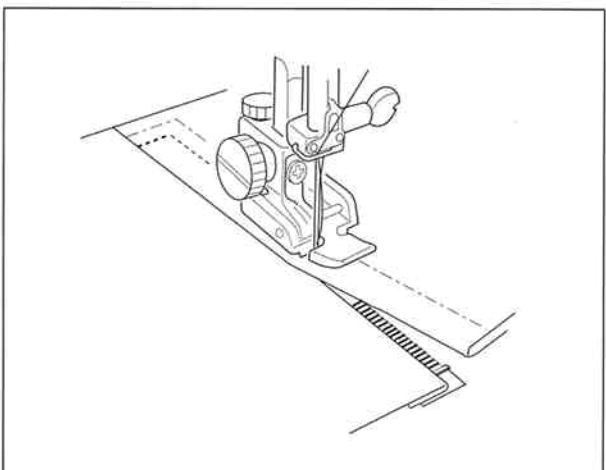
Stop just before the zipper foot reaches the slider on the zipper tape. Lower the needle slightly into the fabric. Raise the zipper foot and open the zipper. Lower the foot and stitch the remainder of the seam.



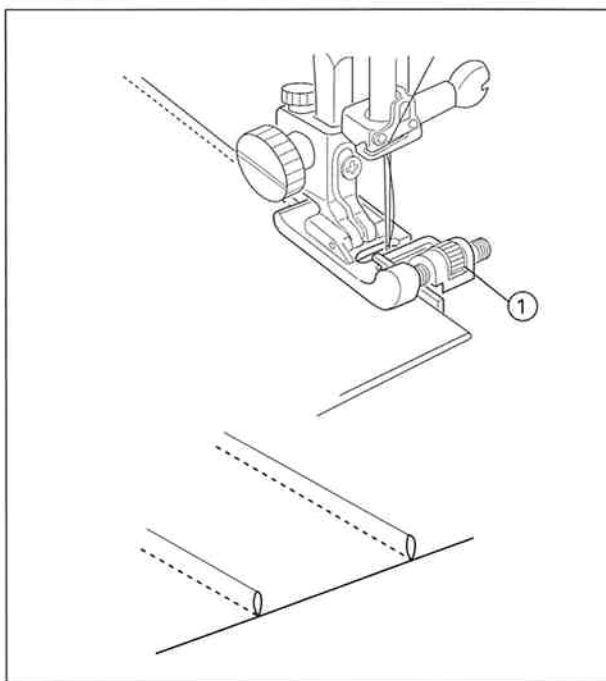
Close the zipper and spread the fabric flat with the right side facing up. Baste through the opened seam allowance and zipper tape.



Move the zipper foot to the left side pin. Guide the edge of foot along the zipper teeth and stitch through the garment and zipper tape. Stop about 5 cm (2") from the top of the zipper.



Slightly lower the needle into the fabric. Raise the foot, remove the basting stitches and open the zipper. Lower the foot and stitch the remainder of the seam, making sure the fold is even.



Pintucks

Pintucks should be added to your fabric before cutting out the pattern piece.

Remove metal foot A. Attach blind hem foot G. Use center needle position 3.5.

1. Use a washable fabric marker and draw lines for pintucks on the fabric right side.
2. Fold the fabric together on the first line with wrong sides together.
3. Place folded fabric under presser foot against the blind hem foot guide. Lower the needle into the fabric. Decide how wide you want the pintucks and move the thumb nut ① to move the guide.
4. Sew using the foot as a guide for the folded edge.
5. Sew all pintucks. Remove fabric marker lines before pressing pintucks to one side.



Rolled Hem

An easy, professional way to sew hems using the straight stitch. Recommended for fine, sheer fabrics used in bridal wear.

Remove metal foot A. Attach hemmer foot D. Use center needle position 3.5.

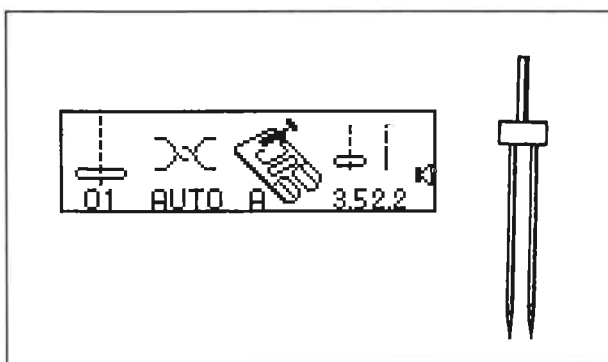
Make a double 3 mm (1/8") fold approximately 8 cm (3") in length.

Lower the needle into the fabric at the point where sewing is to begin; lower hemmer foot D. Sew 3 or 4 stitches while holding the needle and bobbin threads.

Lower the needle into the fabric and raise the hemmer foot. Insert the folded portion of the fabric into the curl of the hemmer foot.

Lower the hemmer foot, then sew by lifting up the edge of the fabric to keep it feeding smoothly.

Trim about 6.5 mm (1/4") from corners to reduce bulk.



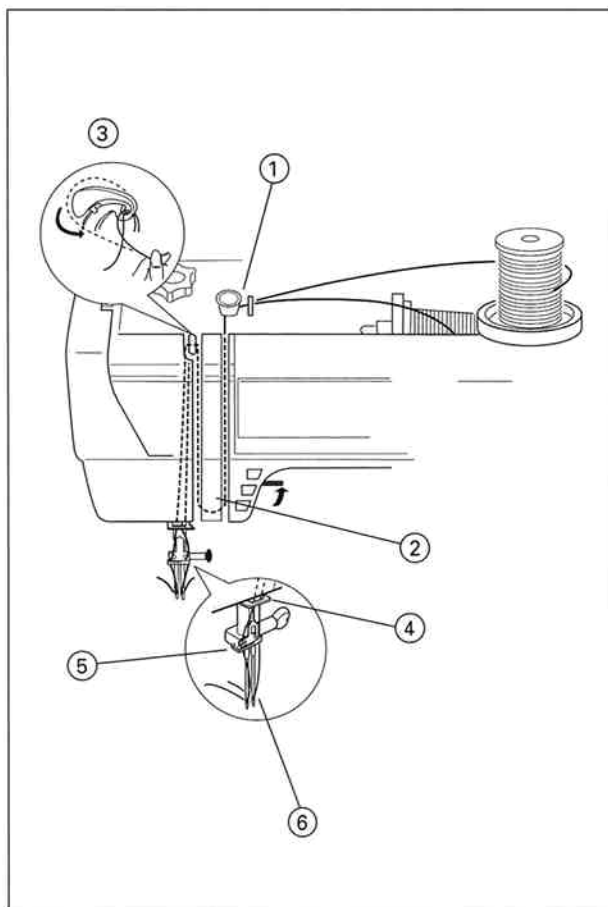
Twin Needle Hem

A twin needle hem is quick and easy. It is especially useful for very stretchy fabrics. Be sure to use a stretch twin needle for knit fabrics.

Turn off the power switch and insert the twin needle.

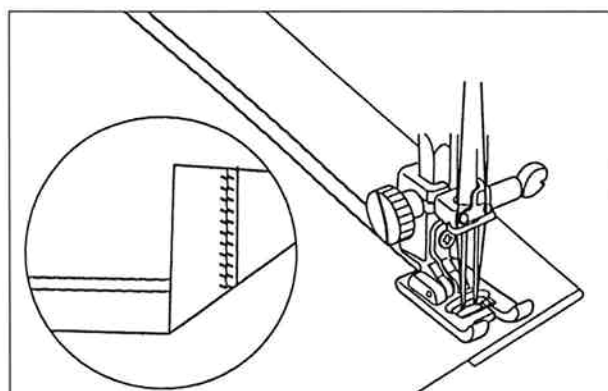
Insert the additional spool pin and put the spool pin felt and second spool on it. See page 18.

Remove metal foot A. Attach satin stitch foot F. Use the center needle position 3.5.



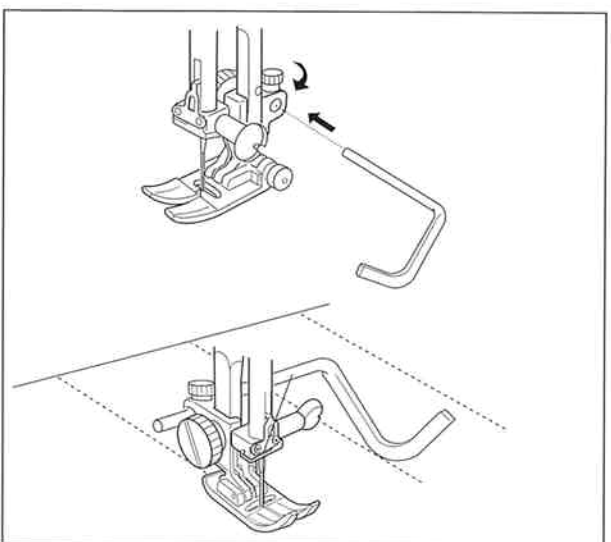
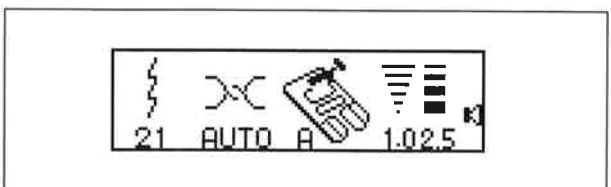
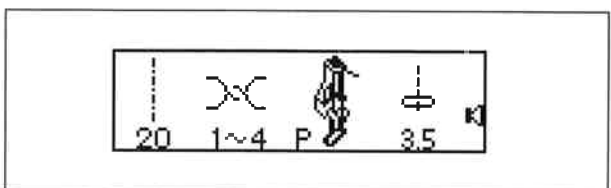
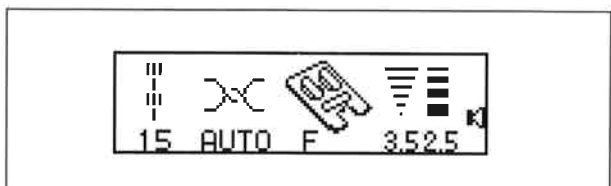
Threading the Machine

- ① – ③ Thread 1 through 3 in the same manner as single thread. See page 20.
- ④ Draw the threads down and slide them through the right side of the lower thread guide.
- ⑤ Slide one of the threads through the needle bar thread guide on the left and the other one on the right.
- ⑥ Thread the needles from front to back.
 - The needle threader cannot be used with a twin needle.



Fold the hem up desired amount and topstitch with the twin needle. Trim away excess fabric carefully using sharp scissors. This is an excellent hemming method for knit fabrics because the bobbin thread zigzags, allowing the hem to stretch with the fabric.

Remove twin needle. Set up machine for single needle sewing.



Other Forms of the Straight Stitch

- **Straight Stitch**

When the machine is turned on, it is automatically set to sew a straight stitch. This stitch can be used for regular seams, zippers, topstitching, etc.

- **Triple Seam**

This strong, durable stitch is recommended where both elasticity and strength are needed to ensure comfort and durability. Use it to reinforce areas such as crotch and armhole seams. Also use for extra strength when constructing items such as backpacks.

- **Saddle Stitch**

Use to topstitch suits, blazers, jumpers and denim outfits.

- **Quilt Stitch**

The quilt stitch adds a three dimensional effect when outlining designs for elegant motifs on clothing, table linens and crafts.

OR

You can easily duplicate hand quilted stitches by using monofilament thread in the needle, 60 weight cotton thread on the bobbin and changing needle tension to 8.

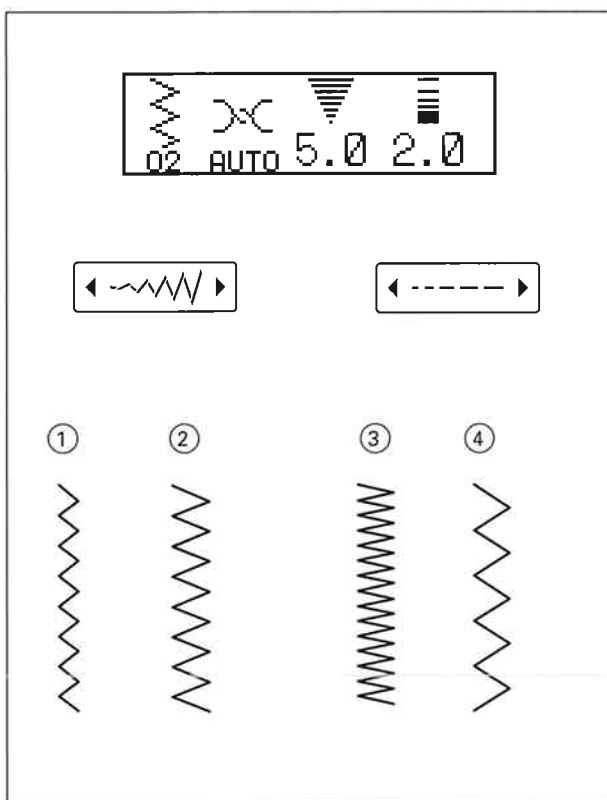
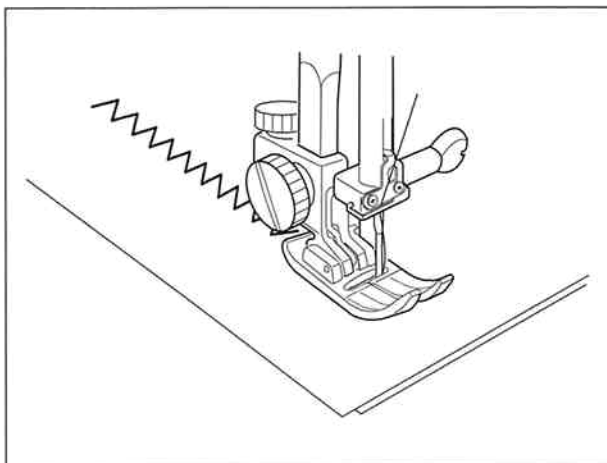
- **Basting Stitch** See page 46.

- **Stretch Seam**

A narrow stretch stitch that eliminates puckering on knit fabrics and bias seams. The seam may be pressed flat and open.

Quilt Guide

The quilt guide will help keep the stitching lines straight. Loosen the quilt holding screw, slide the quilt guide in the opening until the desired width is set and tighten the screw. Sew; the quilt guide will lie over the previous row of stitching.





Zigzag Stitch

The zigzag stitch is a very versatile stitch. Simply change its width and length. Use the zigzag to finish raw edges, sew narrow hems, sew satin stitch appliques and create beautiful monograms.

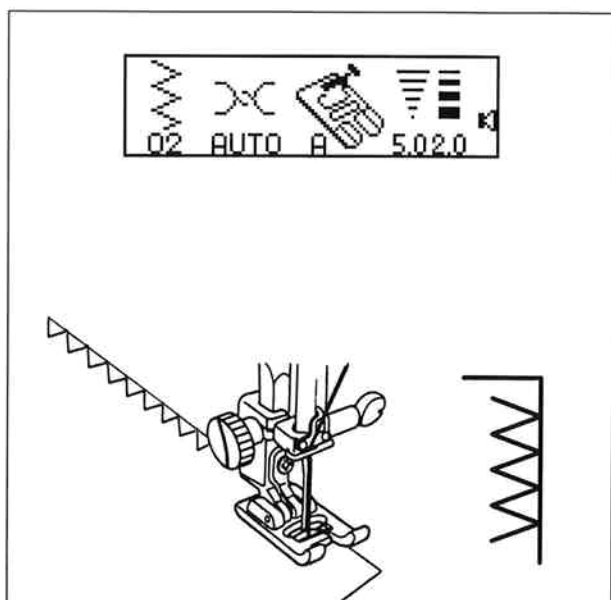
- Stabilize stretch fabrics with interfacing before doing applique or free motion embroidery.

Adjusting Stitch Width and Length

Pre-programmed stitch settings.

Press the  or  key to change the stitch width and length.

- | | | |
|---|----------------|-----------------|
| ① | Narrower width | (lower number) |
| ② | Wider width | (higher number) |
| ③ | Shorter stitch | (lower number) |
| ④ | Longer stitch | (higher number) |

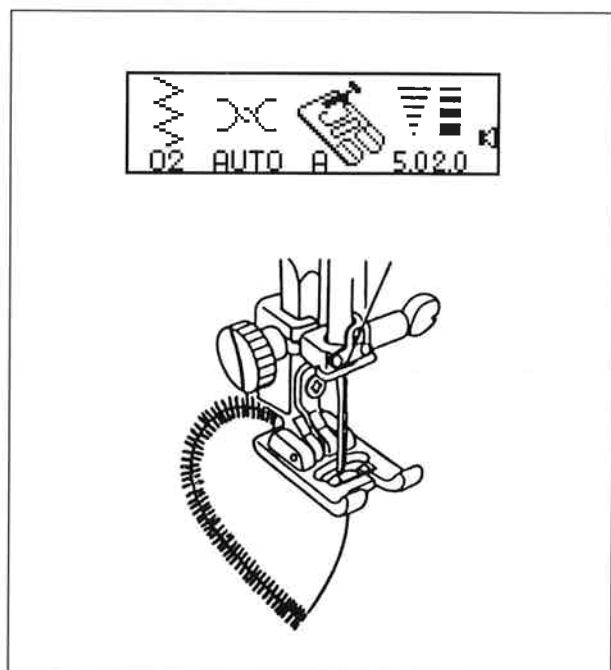


Whip and Roll Hem

This technique produces a beautiful edge on ruffles and hems. Whip and roll is commonly used in heirloom sewing.

Remove metal foot A. Attach satin stitch foot F. Change stitch width to 3.5 and stitch length to 0.8.

The fabric edge must be clean. Lay the fabric edge in the center of the foot. The zigzag will catch the edge on the left and clear the raw edge on the right, rolling the fabric.



Satin Stitch Applique

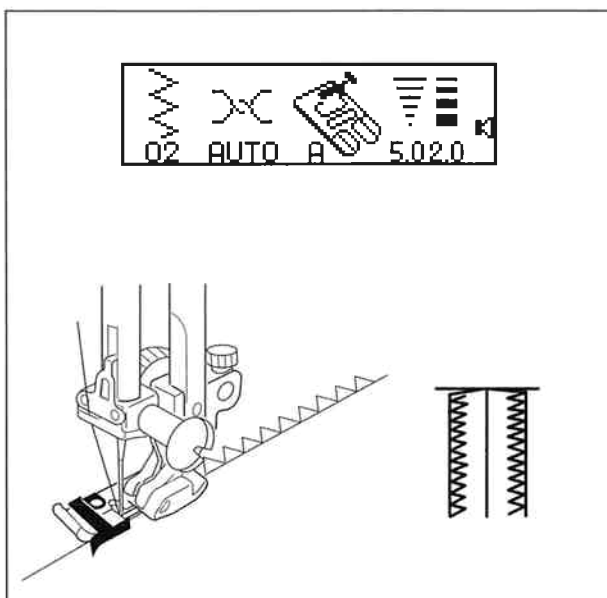
The satin stitch is commonly used for applique, monogramming, stems of flowers and petals. Threads of 100% cotton, rayon or silk provide the best results.

- Apply stabilizer to the fabric for proper stitch formation.

Remove metal foot A. Attach satin stitch foot F. Change stitch width to 3.5 and stitch length to 0.4.

Applique Preparation

- Press fusible webbing to the wrong side of a lightweight fabric.
- Cut out design shape. Fuse design to main fabric.
- Sew design to fabric with the needle swinging off the applique.



Overcast Stitches

- **Zigzag Stitch**

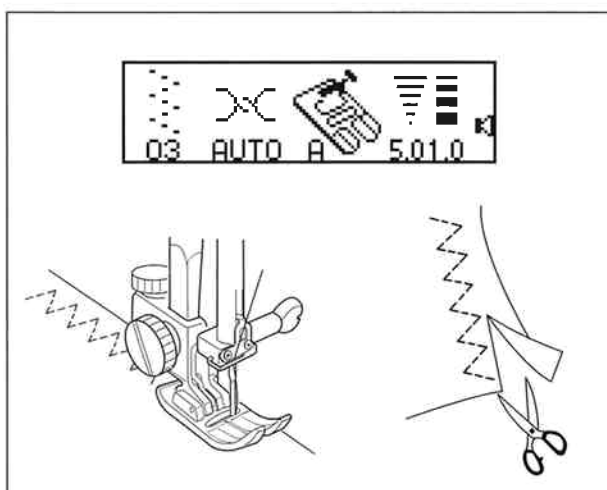
This stitch can be used on most woven fabrics. It is the fastest way to finish an edge.

Remove metal foot A.

Attach overcast foot C. *Do not change the stitch width when using overcast foot C.*

Place the fabric edge next to the black guide on the foot. Sew.

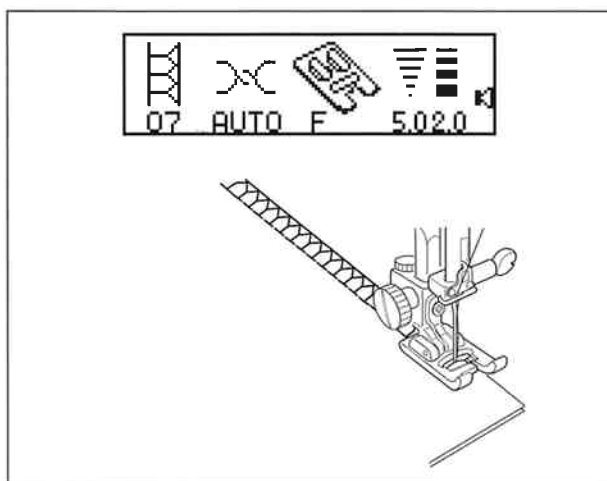
The brush on the foot ensures the thread lies flat with no puckering.



- **3 Step Zigzag Stitch**

This stitch is used to finish seam allowances on synthetics and other fabrics that tend to pucker. It gives a flatter edge finish than the regular zigzag and is excellent for darning and mending tears in fabric.

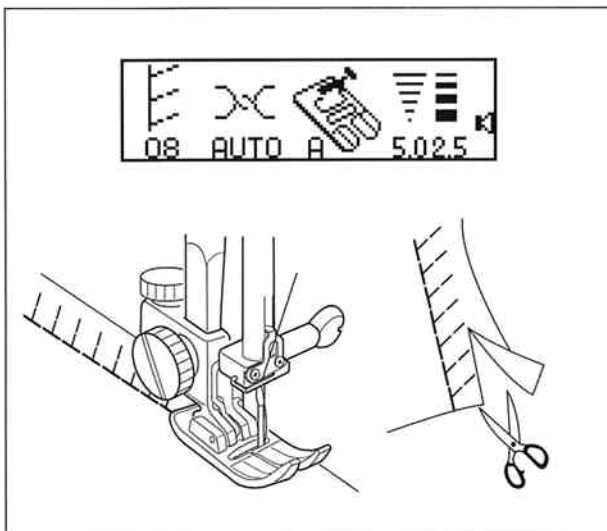
Place the fabric under the presser foot with the right side of the foot edge next to the fabric edge.



- **Super Overlock Stitch**

This industrial inspired overlock stitch is excellent for assembling and finishing fabrics together in one step. Apply ribbing to knits and the garment retains its shape.

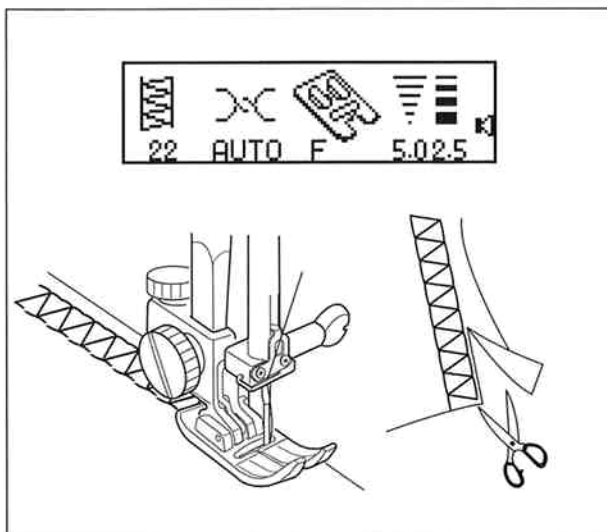
Place the fabric edges together under the presser foot next to the right side edge of the presser foot.



- **Super Stretch Stitch**

This stitch is recommended for sewing fabrics such as swimwear and stretch velour as it provides the greatest amount of stretchability and strength. Seams lie flat and do not lose their shape. Foot pressure dial may need to change to "2" for fabric to maintain its shape.

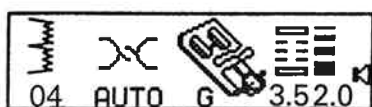
Place the fabric edges together under the presser foot. Trim away any excess seam allowance.



- **Double Overlock Stitch**

This stitch finishes the edges of your seams similar to a commercial overlock machine stitch.

Place the fabric edges together under the presser foot. Trim away any excess seam allowance.

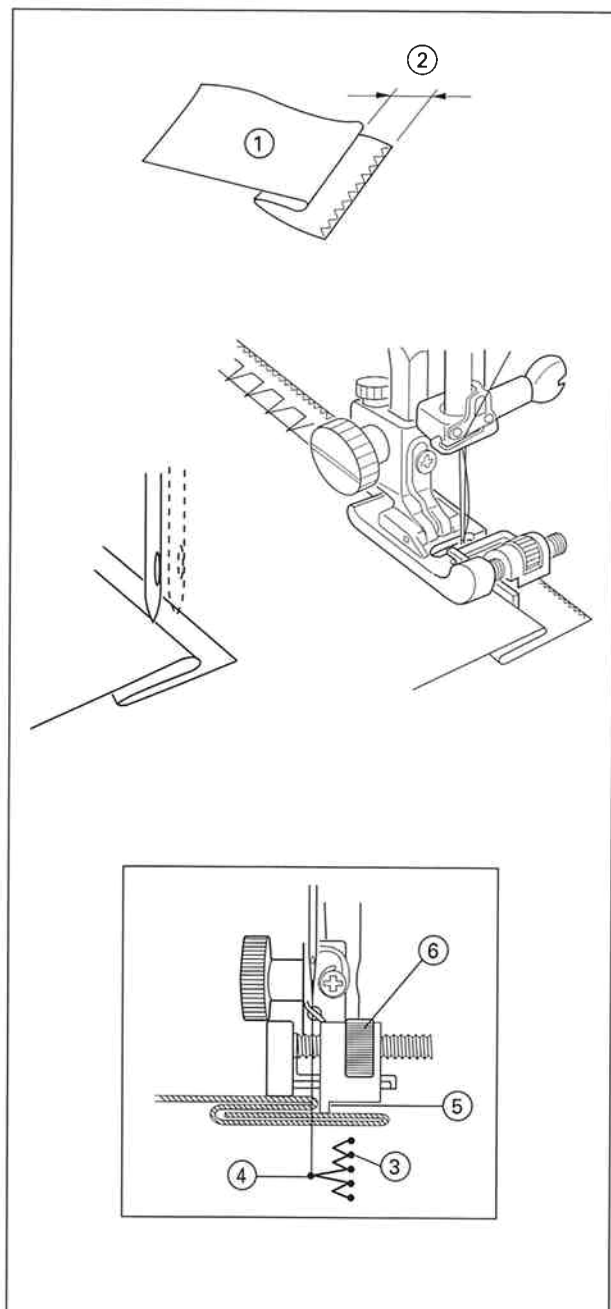


Blind Hem Stitch

The blind hem is a great method of finishing a hemline or sleeve. Finish the raw hem edge with a zigzag or 3 step zigzag before sewing the blind hem.

4: Stretch Blind Hem
OR

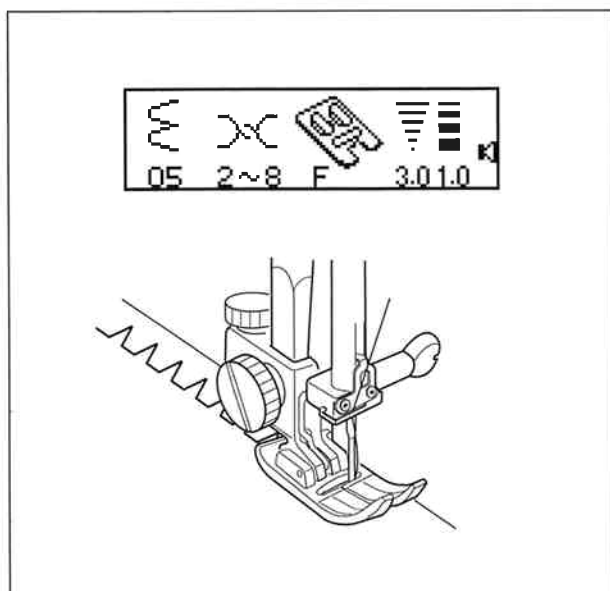
16: Woven Blind Hem



Fold up the hem allowance and press. Fold under the hem toward right side of garment. Leave a 6.5 – 10 mm (1/4" to 3/8") extension ② at the right.

① Wrong side of fabric

Position the fabric so the folded edge is to the left side of the guide ⑤. Lower the presser foot. Make sure only the widest zigzag catches one or two fibers of the fold ④. By turning the adjustment nut ⑥, it is possible to move the guide to the right or left. (The narrow zigzag ③ will be sewn on the single fabric layer.)

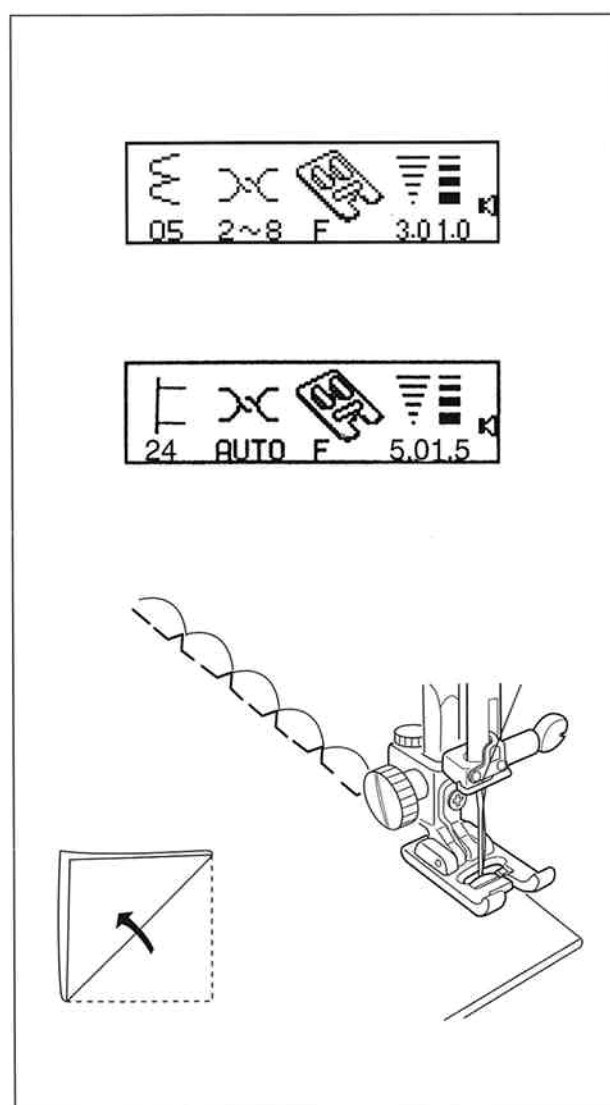


Lingerie Stitch

Sew a fine seam in lingerie and lightweight knits. The small seam size stretches and is comfortable to wear.

The auto LED flashes. Change needle thread tension dial to 2-6.

Place fabric edges so the needle will just clear the edge when it swings off the fabric to the right.



Shell Tucks

This is a pretty hem finish for lingerie and tricot fabrics.

5: Lingerie Stitch

The auto LED flashes. Change needle thread tension dial to 6-8. Change stitch width to 4.0 and stitch length to 2.0.

OR

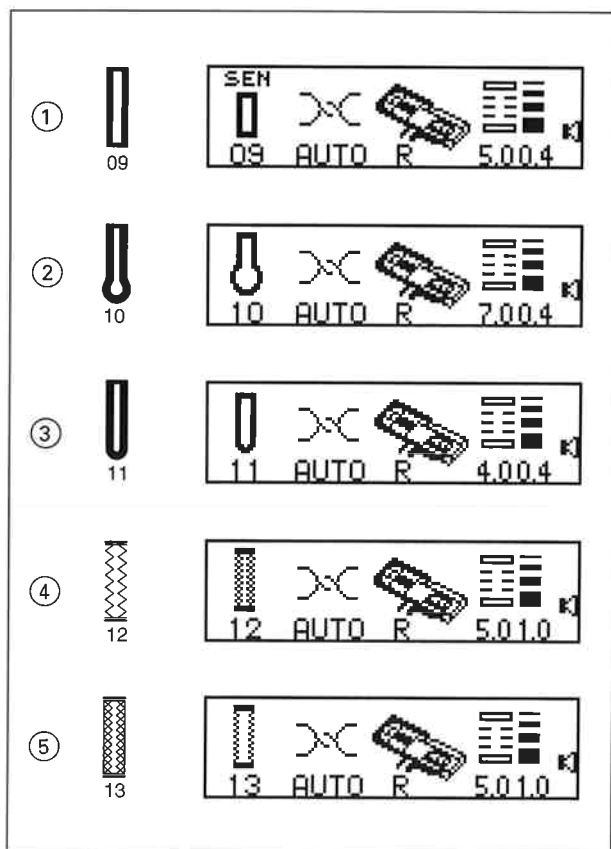
24: Shell Hem

Change needle thread tension dial to 6-8.

Use a lightweight fabric such as tricot. Fold and stitch on the bias. Set the stitch width and length as you desire. You may need to tighten the top thread slightly. Allow the needle to just clear the folded edge of the fabric when it swings off the fabric to the right.

If you sew rows of shell stitches, space the rows at least 1.5 cm (5/8") apart.

You can sew shell stitches in any direction on knits or soft silky wovens.



Buttonholes

Buttonhole Variations

All buttonholes should use interfacing suitable for the fabric weight. This is especially important when sewing on stretch fabrics.

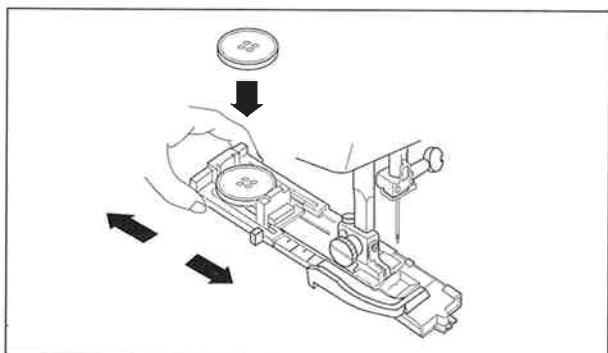
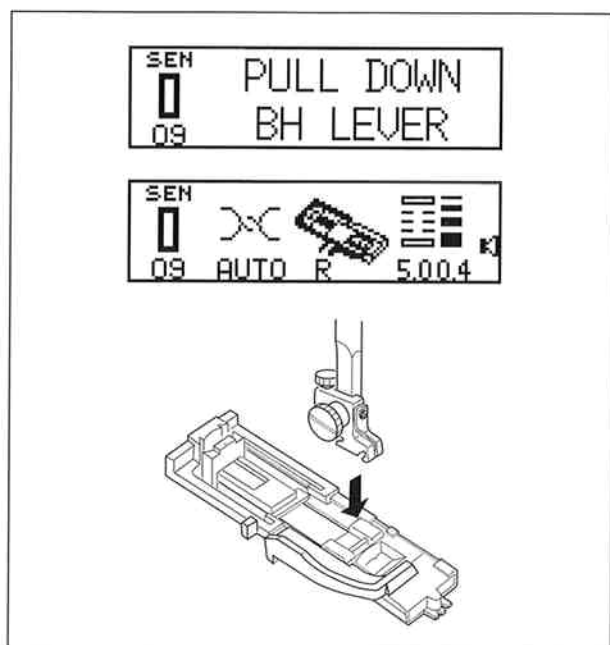
- ① **Sensor Buttonhole**
For buttonholes on shirts and blouses.
- ② **Keyhole Buttonhole**
For buttonholes on jackets.
- ③ **Rounded Buttonhole**
For buttonholes on fine fabrics.
- ④ **Stretch Buttonhole**
For stretch fabrics.
- ⑤ **Knit Buttonhole**
For knit fabrics.

Test sew the buttonhole on a sample swatch of the same fabric. Include the interfacing and any seam allowances that will be in the actual garment. This is very important to ensure the buttonhole style and fabric are compatible.

Press the keys to select a buttonhole style. A message screen will appear for two seconds and automatically change to stitch display. Alter the buttonhole width to match the fabric and thread. See page 41.

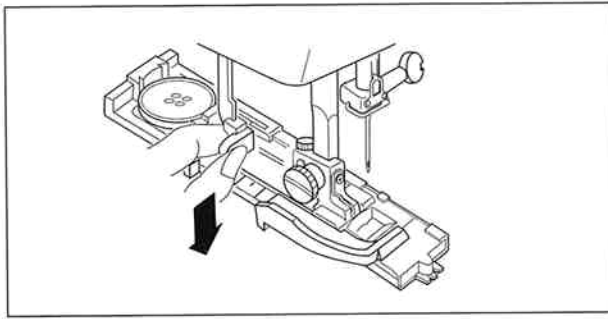
Raise the needle and presser foot.

Attach automatic buttonhole foot R. Make sure the button opening is at the back of the foot when it is attached.

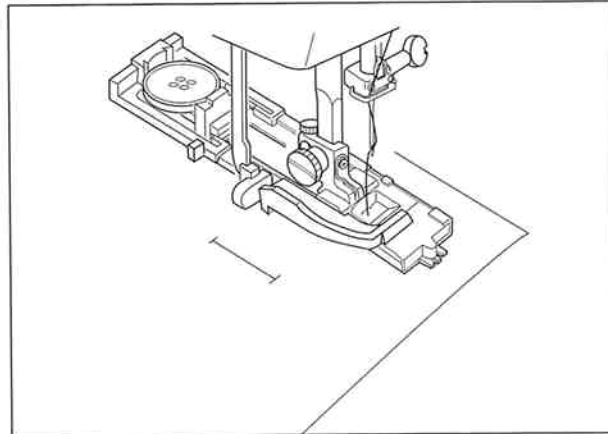


Extend the buttonholder to the back and place the button in it. Push the holder together tightly around the button.

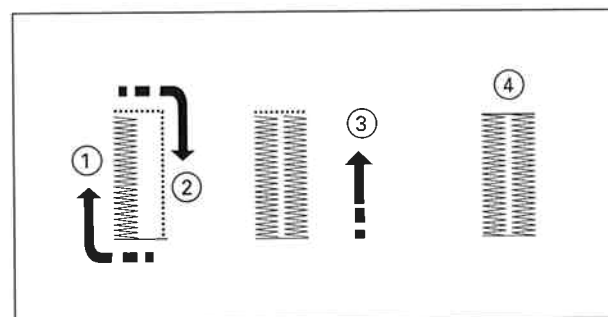
The size of the buttonhole is automatically set by placing the button in the automatic buttonhole foot. The buttonholder on the foot adjusts for a button up to 2.5 cm (1") in diameter.



Pull the buttonhole lever down as far as it will go.



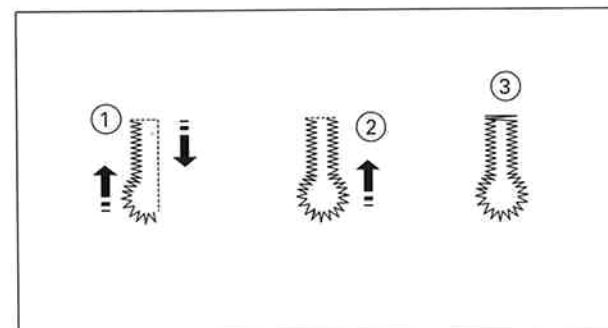
Place **both threads** to the left **under** the foot. Insert the garment under the foot and lower the needle at the starting point. Then lower the automatic buttonhole foot.



#09 Sensor Buttonhole

The buttonhole will automatically sew:

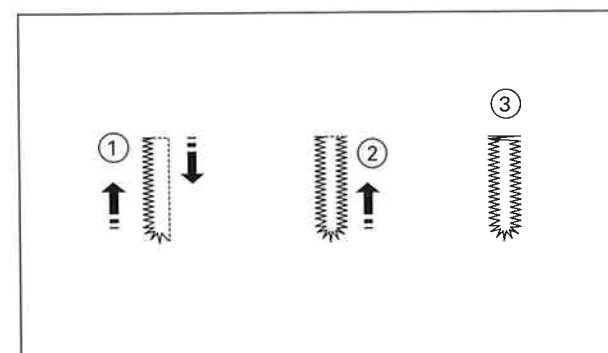
- ① the front bartack and zigzag on left side
- ② straight stitch on right side to front bartack
- ③ zigzag on right side
- ④ back bartack and stop



#10 Keyhole Buttonhole

The buttonhole will automatically sew:

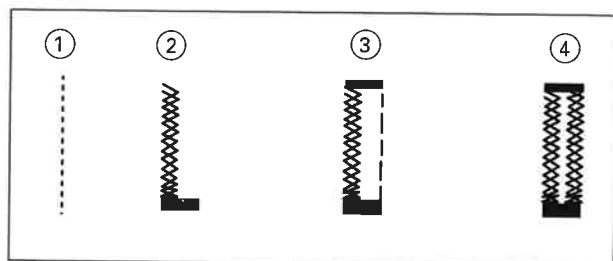
- ① the front left half of keyhole, zigzag on left side and straight stitch on right side to front
- ② front right half of keyhole and zigzag on right side
- ③ back bartack and stop



#11 Rounded Buttonhole

The buttonhole will automatically sew:

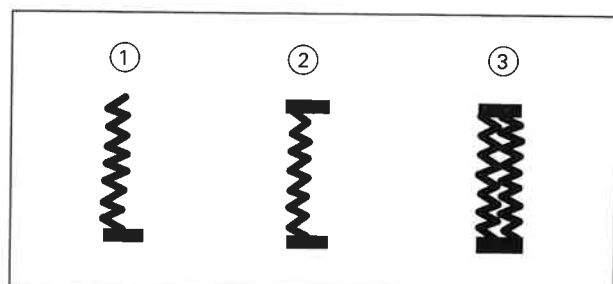
- ① the front left half of rounded end, zigzag on left side and straight stitch on right side to front
- ② front right half of rounded end and zigzag on right side
- ③ back bartack and stop



#12 Stretch Buttonhole

The buttonhole will automatically sew:

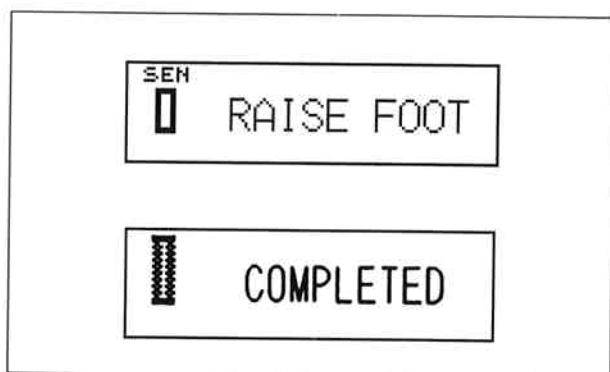
- ① straight stitch on left side backwards
- ② cross stitch forward on left side and front bartack
- ③ straight stitch on right side backwards and back bartack
- ④ cross stitch forward on right side and stop



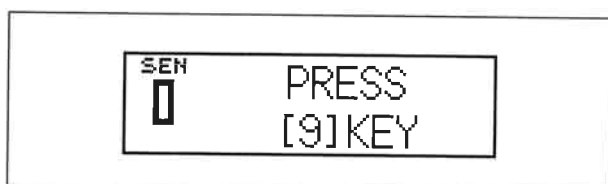
#13 Knit Buttonhole

The buttonhole will automatically sew:

- ① front bartack and triple zigzag on left side
- ② front bartack
- ③ triple zigzag on right side and stop




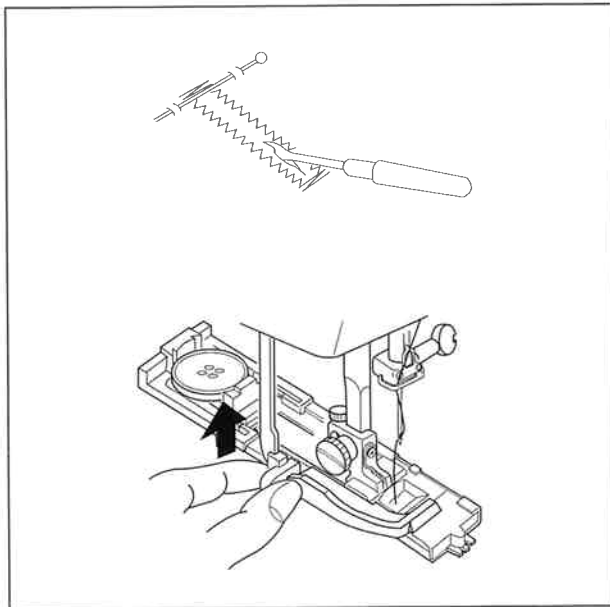
The machine signals you when the buttonhole is finished. The display message will read "RAISE FOOT" or "COMPLETED".



Raise the presser foot and the display message disappears. A new message will appear.

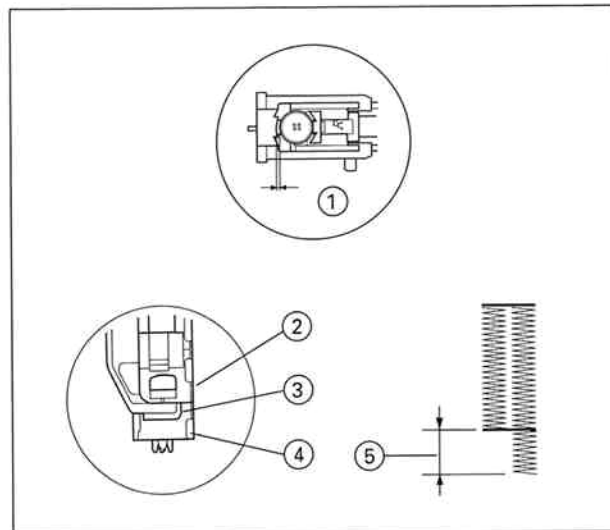


Buttonholes  and  will not display a message.



Remove the fabric and place a pin just inside the bartack at each end to prevent accidentally cutting bartacks. Cut buttonhole open with the seam ripper.

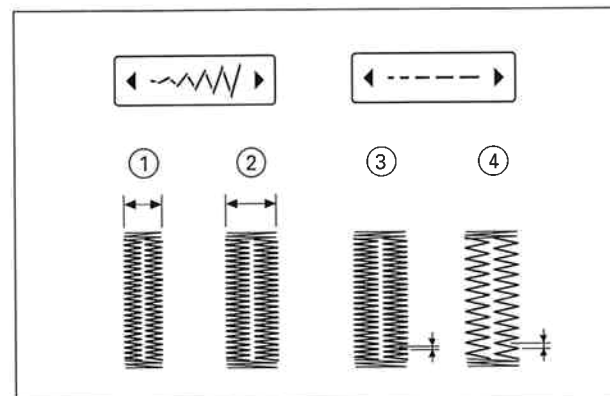
When buttonhole sewing is finished, push the buttonhole lever upward as far as it will go.



If the button is extremely thick and difficult to fit through the test buttonhole, you can lengthen the buttonhole by pulling the buttonholder on the foot back a little extra. The length of the hole will increase by that same amount.

- ① Buttonholder
- ② Slider
- ③ There should be no gap
- ④ Spring holder
- ⑤ Incorrect buttonhole

Make sure there is not a gap between the slider and the spring holder. If there is a gap, the sides of the buttonhole will be different lengths (⑤).

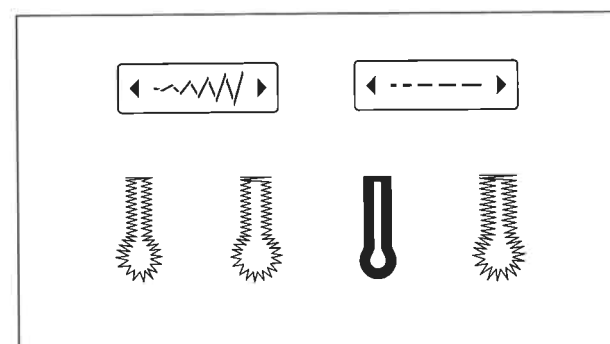


• How to Alter Buttonhole Stitch Width and Length

The pre-programmed stitch settings are shown on the screen.

Press the or key to alter the buttonhole for different weights of fabric and thread.

- ① Narrow width
- ② Wider width
- ③ Shorter stitch
- ④ Longer stitch

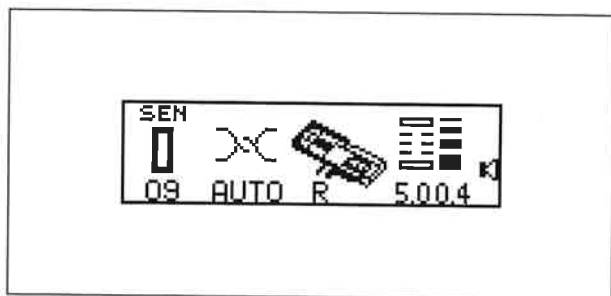


• Alter Keyhole Buttonhole According to Fabric and Thread

0.3 Lightweight fabric
(for lawn and batiste)

0.4 Mediumweight fabric
(for gabardine, linen and wool)

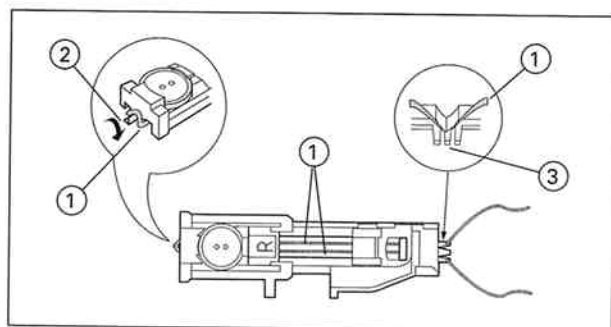
0.8 Heavyweight fabric
(for coating and polar fleece)



Corded Buttonhole

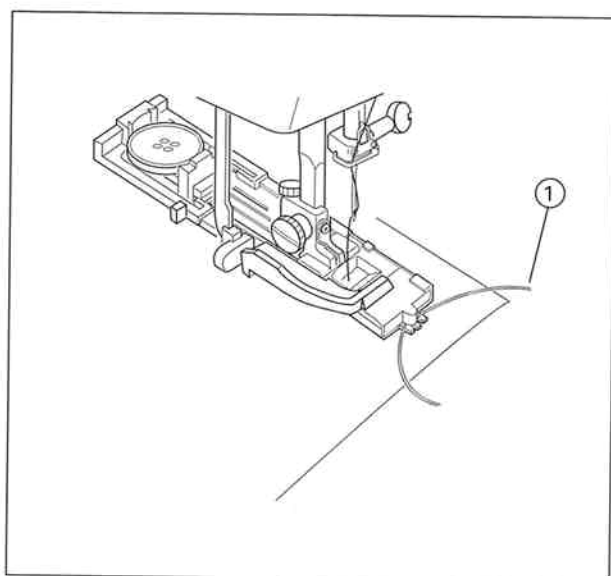
Sew a corded buttonhole using the same procedure described on pages 38-41 for a sensor buttonhole.

- Set the stitch width to match the thickness of the cording.



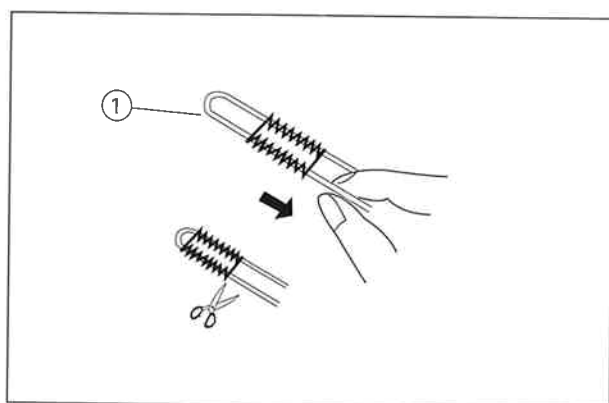
With the buttonhole foot raised, hook the filler cord ① on the spur ② at the back of the buttonhole foot. Bring the ends forward under the buttonhole foot.

Position the cord into the forks ③ on the front of the foot to hold them tight.



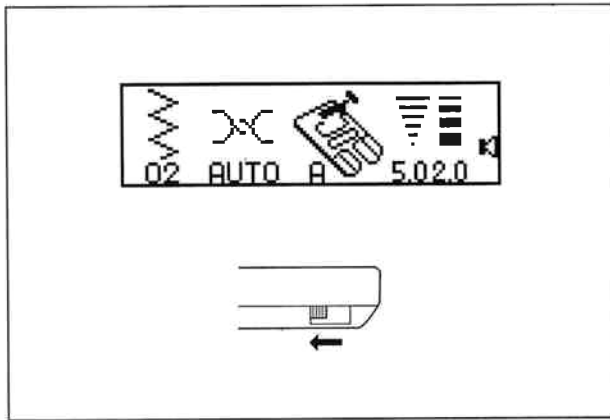
Lower the needle into the garment where the buttonhole will start and lower the presser foot.

Press the foot control and slowly sew the buttonhole. Each side of the buttonhole and the bartacks will be sewn over the cord. Remove the fabric from the machine and cut only the sewing threads.



Pull the left end of the cord to tighten it. Thread the end through a darning needle, draw to the wrong side of the fabric and cut.

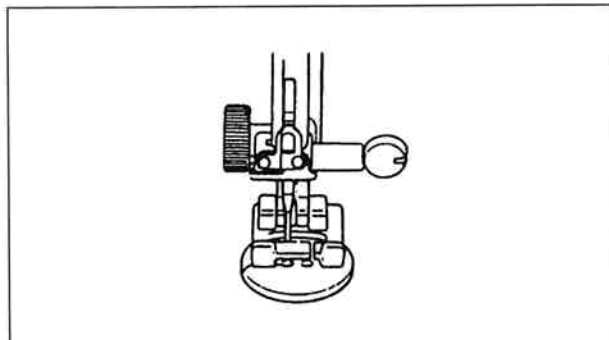
Cut open buttonhole.



How to Sew on a Button

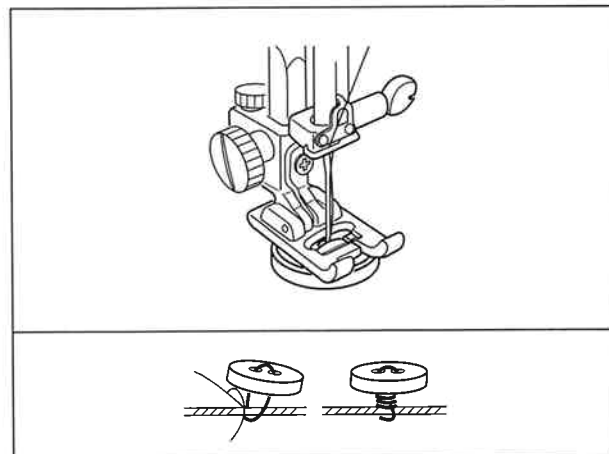
Remove metal foot A. Attach satin stitch foot F. Drop feed dog. See page 5.


- Set the stitch width according to the position of the holes in the button.



Mark button placement on fabric. Place the button and fabric under the presser foot. Match the holes in the button to the horizontal slot on the presser foot.

Turn the flywheel by hand until the needle is down inside the left hole of the button. Lower the presser foot.



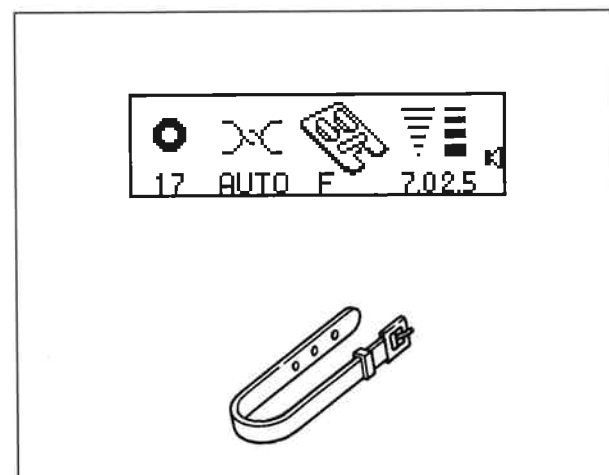
Turn the flywheel by hand to position the needle above the right hole of the button. Press the  key to adjust the needle over the right hole.

Stitch several times.

After you finish sewing, cut the thread leaving 10 – 15 cm (4" – 6") of thread at the button.

Pull the thread to the reverse side of the fabric and tie the threads.

Raise the feed dog after sewing on buttons. See page 5.

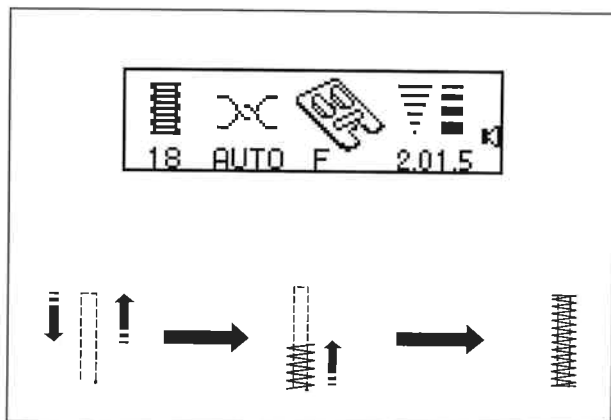


Eyelets

Small eyelets may be sewn on belts, used for lacing cords or simply used for a decorative effect.

Press the foot control and the machine will sew an eyelet and automatically stop.

Cut open the eyelet with a seam ripper, pointed scissors or an awl.



Bartacks

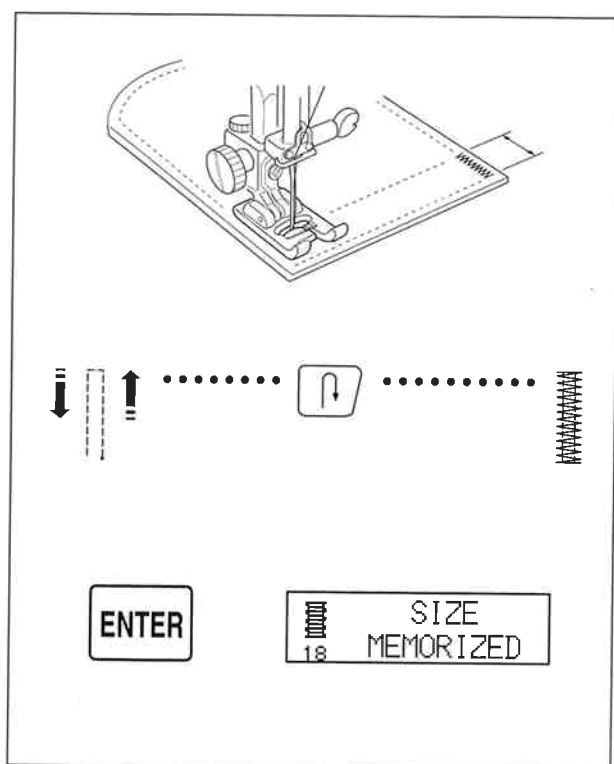
A bartack is a reinforced stitch used on garment areas that receive extra stress like pockets, belt loops and zippers.

Automatic Bartack Size

Place the fabric under presser foot. Lower presser foot. Press the foot control until the machine automatically stops. A 1.5 cm (5/8") bartack is sewn.


Press the  or  key to adjust bartack and density.

Make a longer bartack by combining bartacks until desired length is obtained.




Manual Bartack Size

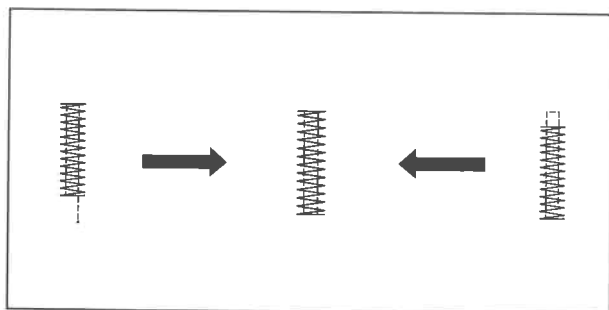
It is possible to sew a bartack length shorter than 1.5 cm (5/8").

Place the fabric under presser foot. Lower presser foot. Press the foot control until the desired bartack length is sewn. Press the  key. Press the foot control until the machine automatically stops.

The machine signals you when the bartack is finished. Display messages "COMPLETED" and "SIZE MEMORY → ENT KEY" will appear.

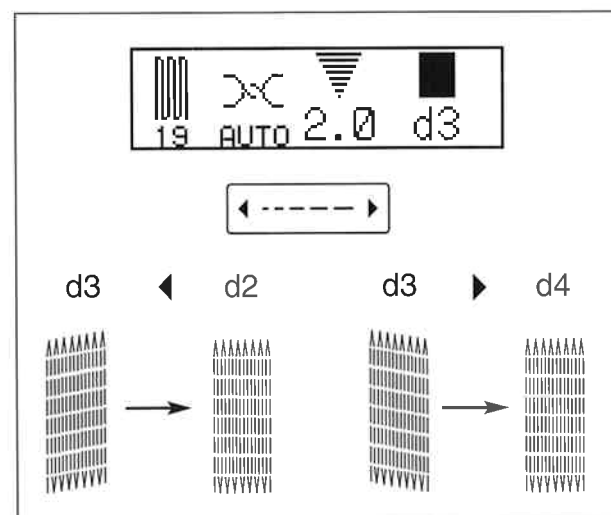
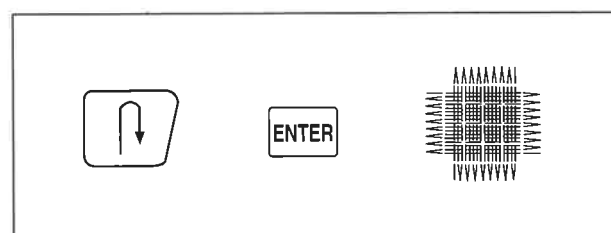
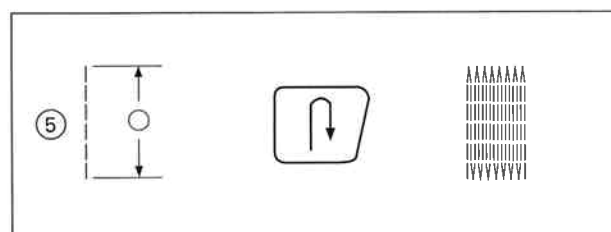
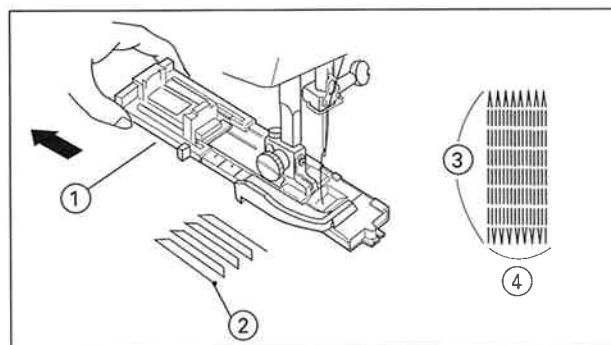
Press  key to memorize the manual bartack size. Sew another bartack.

Press the  key or select another stitch after all bartacks are sewn.



Fine Adjustment Dial

Very heavy fabrics may require the use of the fine adjustment dial. See page 4.



Darning

Automatic darning saves a lot of time. It is used for repairing very worn areas (not holes) in fabric.

A message screen will appear for two seconds and automatically change to stitch display.

Extend the buttonholder completely open. Place **both threads** to the left **under** the foot. Insert the garment under the foot and lower the needle at the starting point. Lower the foot. Sew.

- The size of one darn cycle is variable. However, the maximum stitch length is 2 cm (3/4") and the maximum stitch width is 7 mm (1/4").

- | | |
|------------------|-----------------|
| ① Buttonholder | ③ Stitch length |
| ② Starting point | ④ Stitch width |

To darn a length less than 2 cm (3/4") ⑤, first stop the machine after sewing the desired length and press the key. The required length has now been determined. Restart the machine and continue sewing until the machine stops automatically.

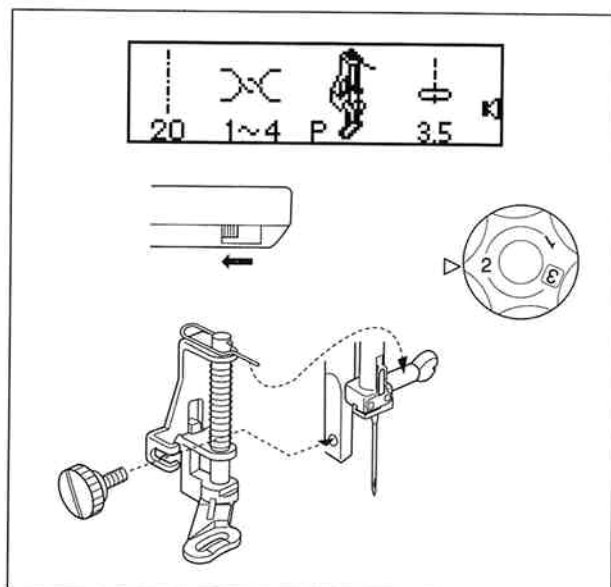
To Memorize Darning Stitches

First stop the machine after sewing the desired length and then press the key. The required length has now been determined. Restart the machine and continue sewing until the machine stops automatically. Messages appear: "COMPLETED" and "SIZE MEMORY → ENT KEY". Press key.

(If you press the key instead of the key, the machine will memorize the darning cycle with the starting point changed to the right.)

To Adjust the Evenness of Darning Stitches

If one side of the darning stitch is higher or lower than the other, make them even by pressing the key as illustrated.



Basting

The basting stitch can be used to temporarily hold together two or more layers of fabric. Use a fine needle to avoid leaving permanent needle marks.

Lower feed dog. See page 5.

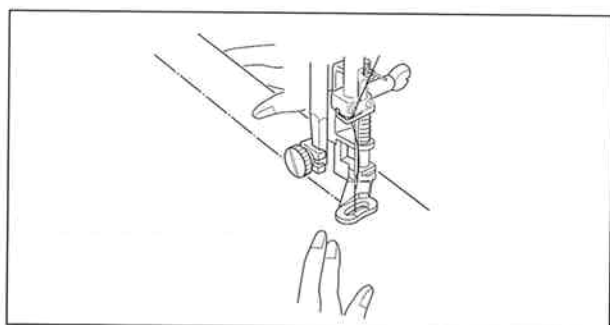
Set foot pressure dial lower than 2. Manually set needle tension to 3.

A message screen will appear for two seconds and automatically change to stitch display.

Remove the shank to attach the darning foot.

Pull needle and bobbin threads behind the presser foot. Place fabric under foot and lower presser foot.

Press the foot control. The machine will sew one stitch and stop.



Hold the fabric firmly and move it to the area for the next stitch. Press the foot control.

Continue the procedure until all basting is complete.

- When basting is complete, reset foot pressure dial, attach shank and raise the feed dog.

SECTION IV

Mode 1 Decorative Sewing

Smocking




Smocking is a delicate, decorative treatment on children's clothing or women's blouses. Choose a soft, lightweight fabric such as batiste, gingham or challis. Cut the fabric three times the finished width.

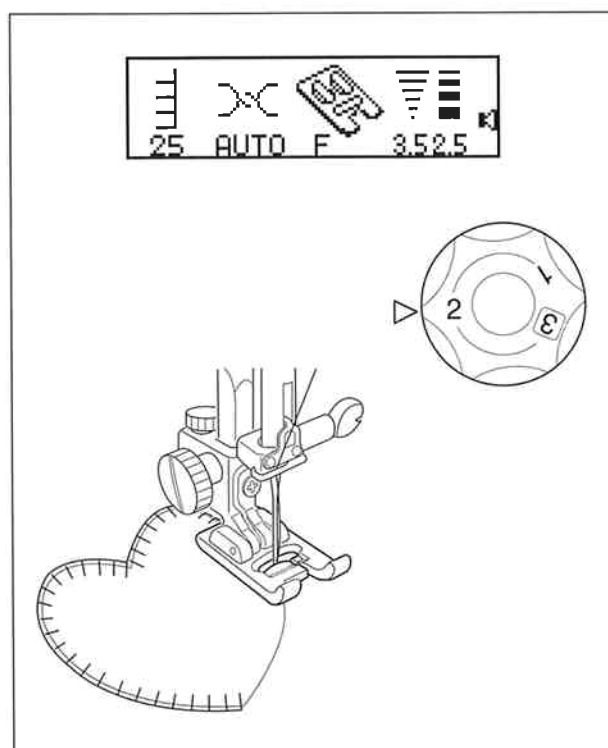
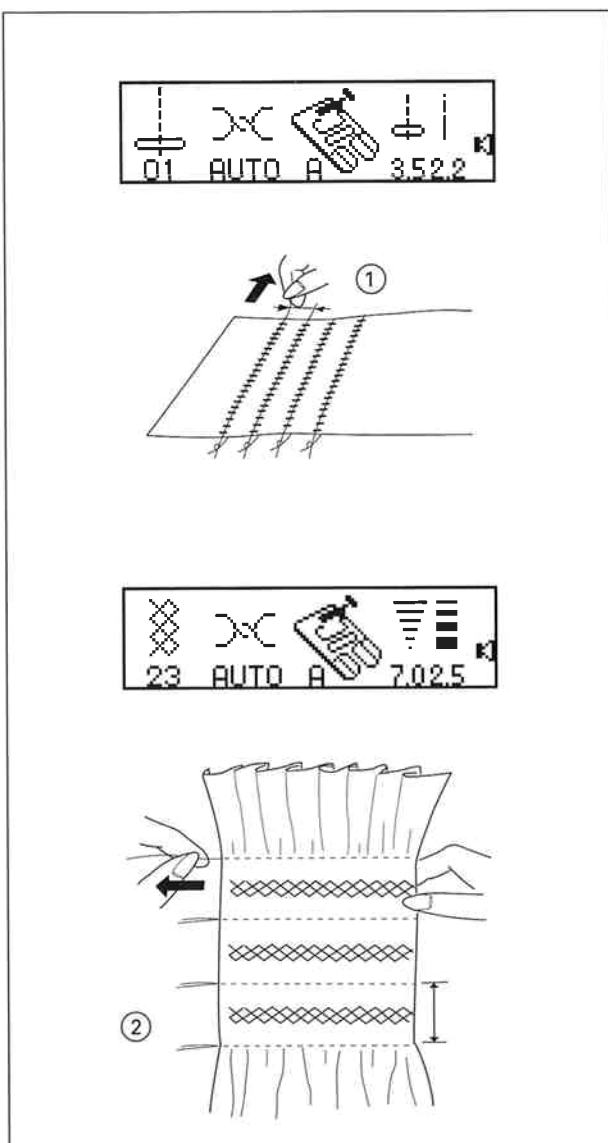
Change stitch length to 5.0.

Sew rows of straight stitches approximately 1 cm (3/8") apart, across the area to be smocked. (A looser needle thread tension will make gathering easier.) Tie the threads along one edge. Pull the bobbin threads and distribute the gathers evenly. Secure the threads at the other end.

Reduce the tension and pressure if necessary and sew smocking stitch between the straight seams. Pull out the gathering stitches.

- ① Gathering lines – 1 cm (3/8") apart
- ② Smocking stitch – remove gathering

* Stitches ,  and  may also be used. Always change to satin stitch foot F.



Buttonhole Applique

Use fine cotton embroidery thread (50 weight or finer) and needle appropriate to fabric. You may need to set the foot pressure dial to 2.

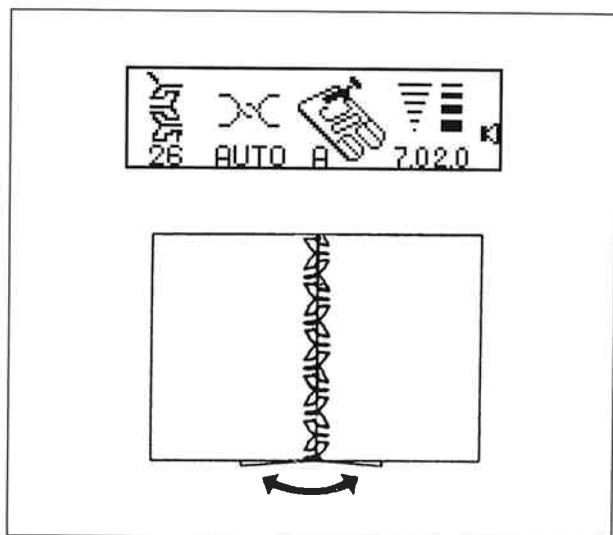
In this type of applique, raw edges are folded under.

To prepare the raw edge, first cut the applique design out of paper.

Press a fusible webbing to the wrong side of the fabric, then cut the fabric slightly larger than the paper pattern.






Fold the fabric under to match paper pattern size and press only the edge to form a perfectly shaped design.

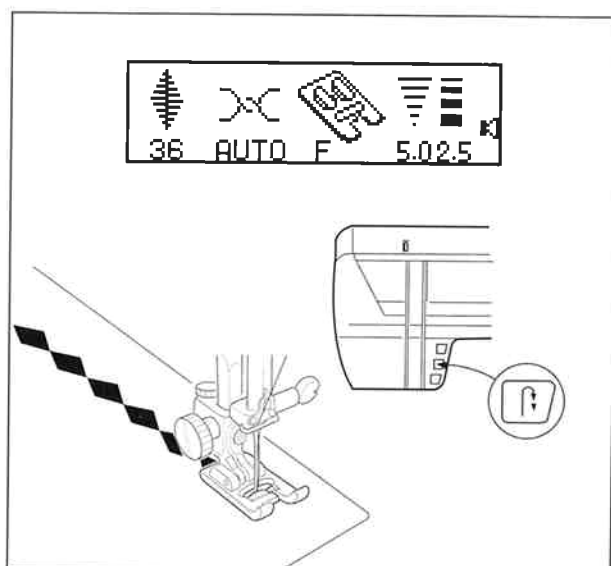
Press the applique in place and sew. Straight stitch edge is sewn next to the folded edge of the applique.



Patchwork

Sew a straight stitch seam and press seam allowance open. Sew patchwork stitch on right side of garment centering it over the seam.

* Stitches ⁵⁰ , ⁵¹ , ⁵³ , ⁶¹  and ⁶²  may also be used.

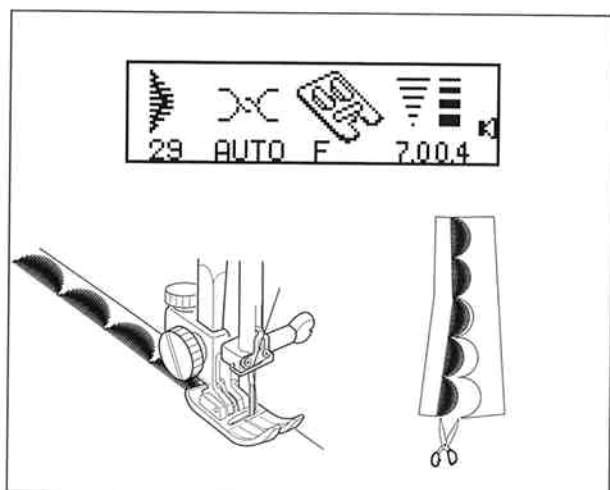


Decorative Satin Stitches




Add a decorative accent to your sewing. Express your creative talents by selecting stitches 28-42, 68-73 and 88-91.

- Remember to use stabilizer appropriate to the fabric.

Press  key at end to tie off stitches.

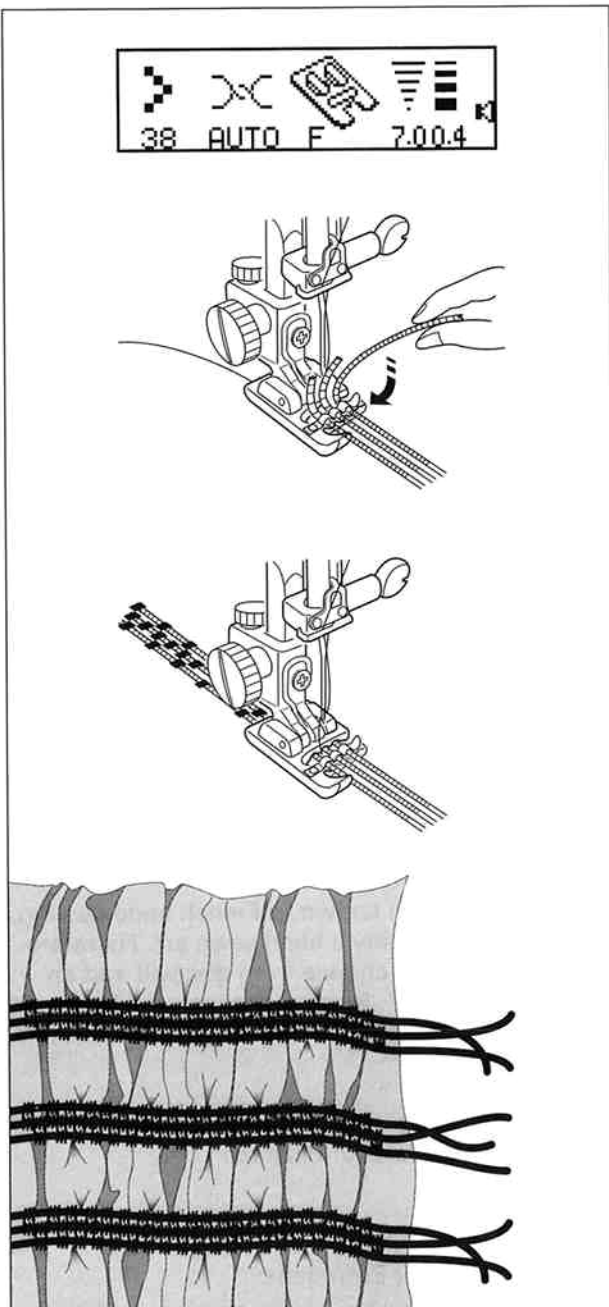


Scallop Edges

Stitches ²⁸ , ²⁹  and ³²  can be used to attractively finish the edges of collars, pockets and placemats.

To edge a collar, place interfacing between upper and under collar and sew the scallop on the seam line.

After sewing, trim fabric close to stitching taking care not to cut the scallops.



Domino

Sew over three strands of cording to create unique border trims or corded smocking. Pearl cotton, knitting yarn, embroidery floss, lace thread, fine wool or lily yarn may be used as cording.

Slide the sewing threads to the left and insert three strands of cording into the slots of cording foot H with 10 cm (4") extending behind the foot. (The slots on foot H will hold the lengths of cording in place while the stitches form over the cording.)

Border Trim

Mark the design on the right side of the fabric.

Stitch slowly and smoothly, turning the fabric as you sew while guiding the cording over the design line.

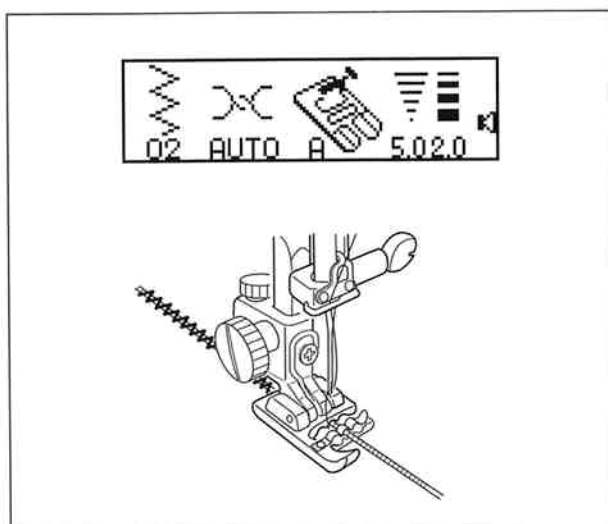
Corded Smocking

Mark at least 3 parallel lines on right side of the fabric.

Stitch over first line. Press **[P]** key at end of fabric. Stitch over next line. Sew over all lines using same method.

Pull 3 cords simultaneously from each end of the fabric until smocking effect is formed. Secure cords.

Use same method and secure all cords.

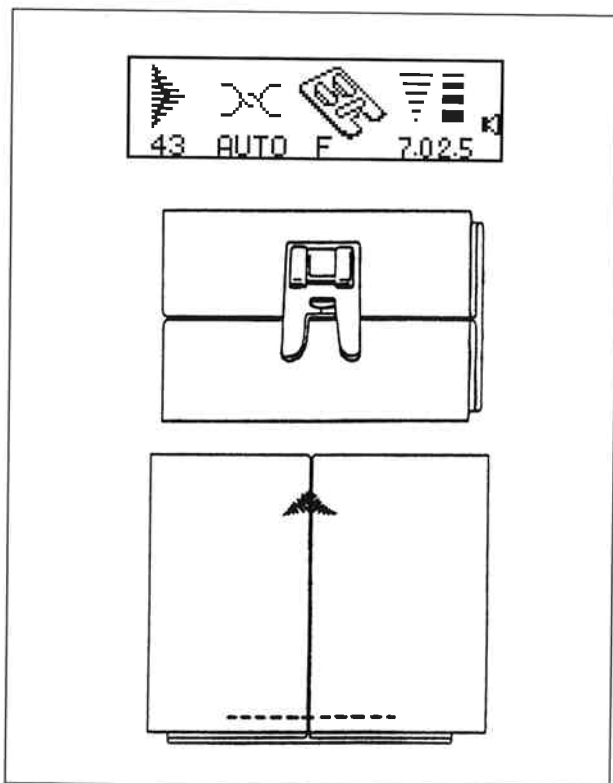


Gathering Heavy Fabric

- Sew over a single strand of cord using zigzag stitch. Change the width to 3.0. Insert the single strand of cording in the center groove of foot H.

Pull cord for desired amount of gathering. Secure ends and distribute gathers evenly.

Lay gathered fabric over flat fabric and sew the two fabrics together using a straight stitch with stitch length at 3.0 or higher.

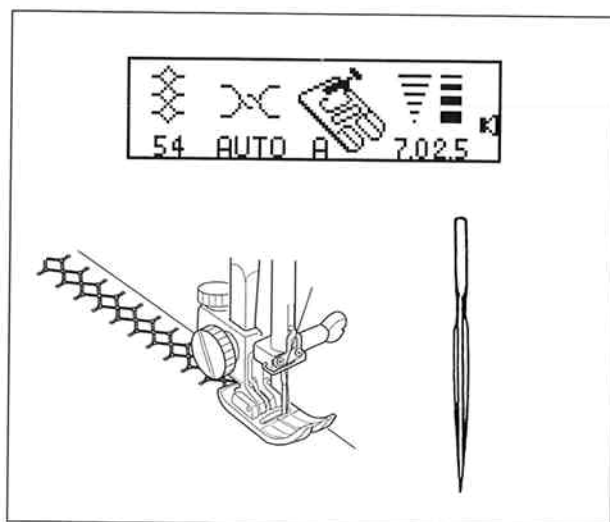


Arrowtack

This stitch is used to reinforce the corners of pockets and pleats.

Place fabric under foot so center pleat line is horizontal in front of you. Lower presser foot so the center bar lines up with the pleat line. (This allows the widest part of the stitch to be sewn in the pleat center.) Begin sewing and press **[P]** key. Machine will complete arrowtack, automatically stop and sew locking stitch.

NOTE: Adjust foot pressure dial and fine tuning for best results on very heavy fabrics.



NOTE:

Only insert a wing needle when sewing the listed hemstitches. A wing needle is wider than a regular needle. You should hand turn the flywheel a few times to ensure the needle does not touch the needle plate. If the needle touches the needle plate, narrow the stitch width.

Hemstitches

Hemstitching, also known as French hand sewing, was traditionally only a hand sewn art. There are several stitches to choose from that will add an "old world charm". Best results require the use of linen, cotton or a blend of linen/cotton.

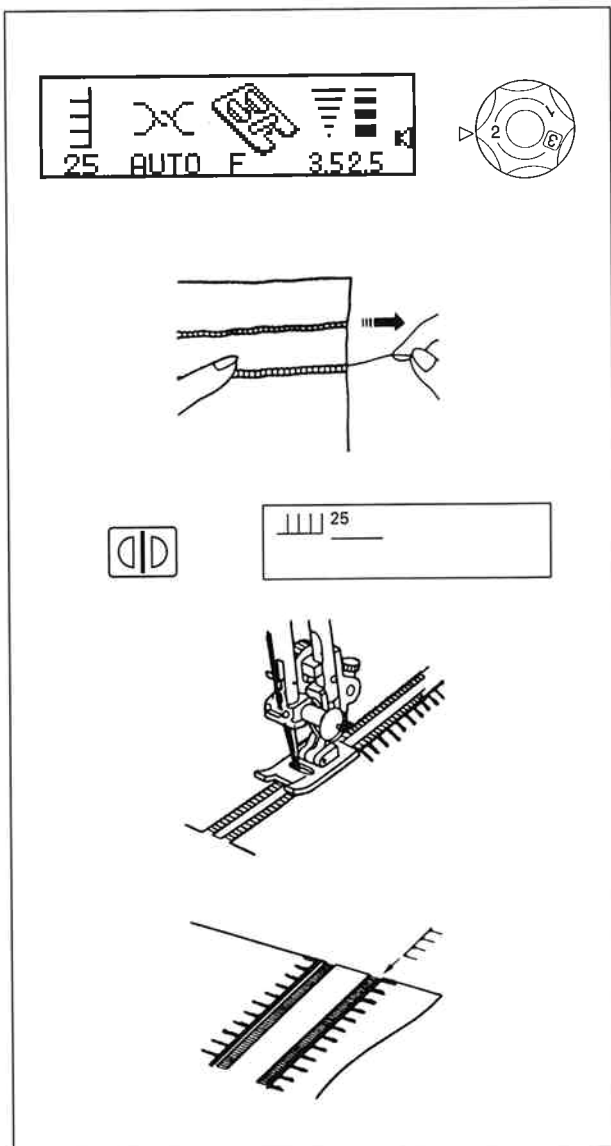
- ✳ 44 Daisy
- |||| 45 Point de Paris or Pinstitch
- |||| 46 Turkish
- |||| 47 Venetian or Entredeux
- |||| 48 Rhodes
- |||| 49 Square
- |||| 54
- |||| 55

Thread machine, needle and bobbin with a fine cotton embroidery thread (50 weight or finer). Insert a universal needle size #110 or a wing needle. Use spray starch to stabilize fabric. Change thread tension to 3.

Draw design lines with a washable fabric marker. Sew slowly over design lines.

- Adjust fine tuning until needle precisely penetrates each repeat hole. See page 4.

Remove wing needle.



Drawn Work and Fringing

Drawn work and fringing add a special touch on table linens and shawls. Choose a firm, woven fabric like linen where threads can be removed easily.

Set foot pressure dial to 2.

• Drawn Work

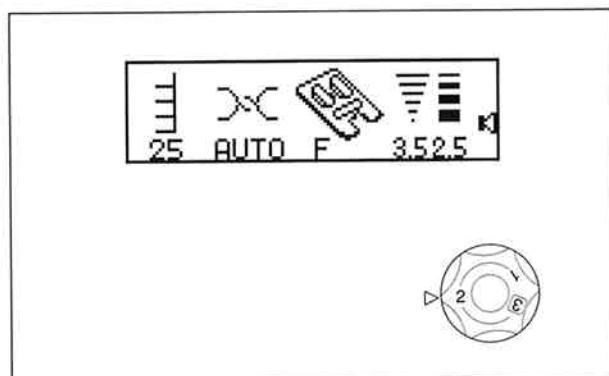
Carefully cut the fabric on grain. Determine the width of the drawn work and remove one yarn or fabric thread at each end.

Press  key.

Sew down the right side, guiding the fabric so the left hand stitches fall in the open space.

After finishing the left side, turn the fabric around 180°. Sew down the other side.

Remove the yarn or fabric threads between the stitching.




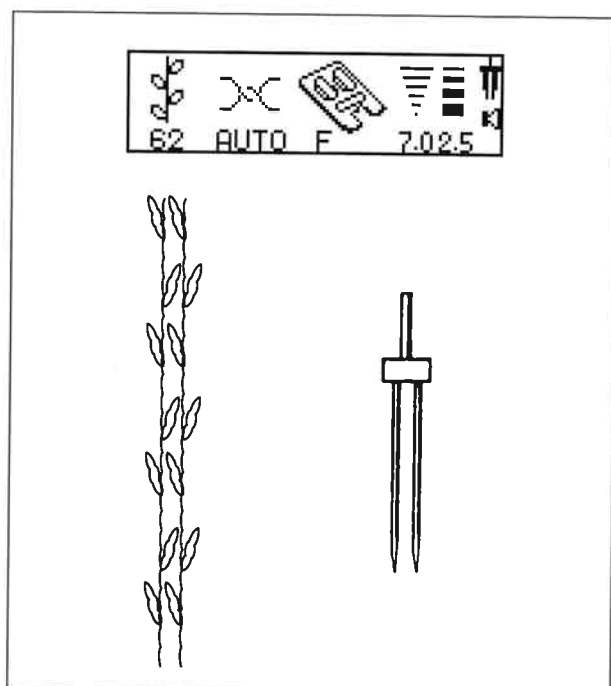
• Fringing

Set foot pressure dial to 2.

Fringing uses the same method as drawn work. Carefully cut the fabric on grain. Remove a single yarn or thread where the fringing is to begin. Sew down the left side so the right hand stitches fall in the open space. Remove all excess yarn to create fringe.

- Reset foot pressure dial to 3 after sewing.


Stitch  may also be used.



Twin Needle Decorative Stitches

Sew decorative stitches with a twin needle and two different needle thread colors.

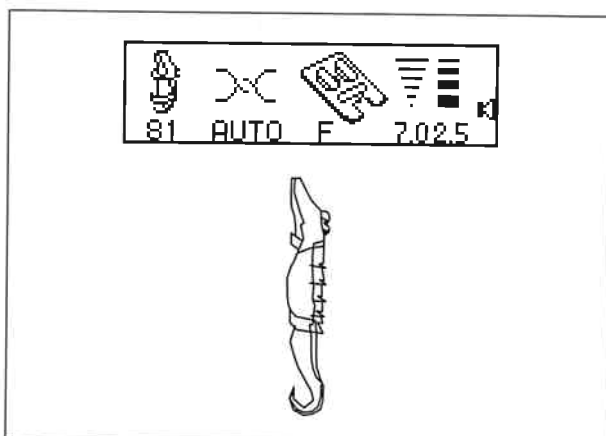
Turn off power switch and insert twin needle. Thread machine. See page 30.

Mode 1 – select stitch ⁶² .



Press  key.

Sew.

NOTE: Twin needles are available in many different sizes and widths. If you use a twin needle wider than 2.0mm, hand turn the flywheel to make sure the needles will not hit the foot before sewing.

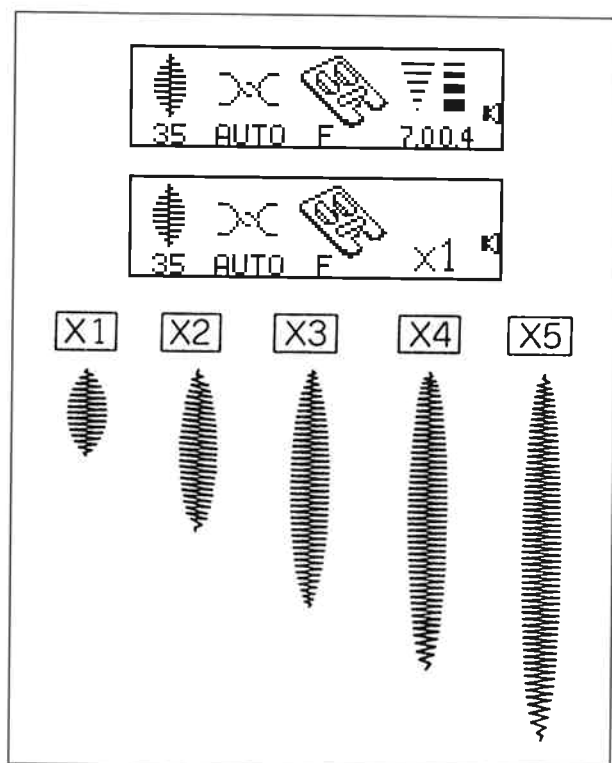


Single Lock Stitches

Stitches ⁷⁹  and ⁸¹  are preprogrammed to auto-lock, sew the stitch, auto-lock and stop.


Place fabric and stabilizer under presser foot. Lower presser foot. Press foot control to sew single crocodile.


- Sew more than one crocodile by memorizing them. See page 54.



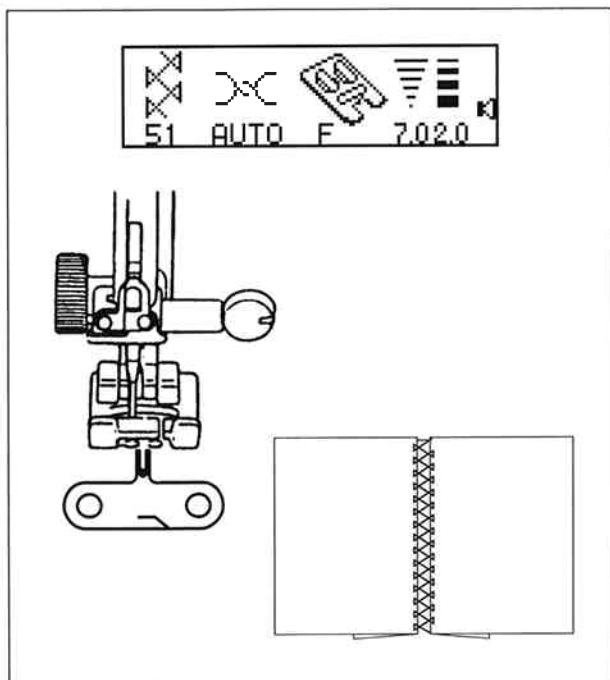
Satin Stitches - Elongation

Satin stitches 28-38 may be lengthened up to five times their original size without the stitch length varying.

Press the  key and the elongated size is indicated.

- Change the stitch width or length for maximum stitch options by pressing  key.





Exclusive Optional Elna Accessories

Fagoting (Bridging)





Fagoting is a technique seen in heirloom sewing. Two folded edges are joined together by threads over an open area. Use linen, cotton or blend of linen/cotton.

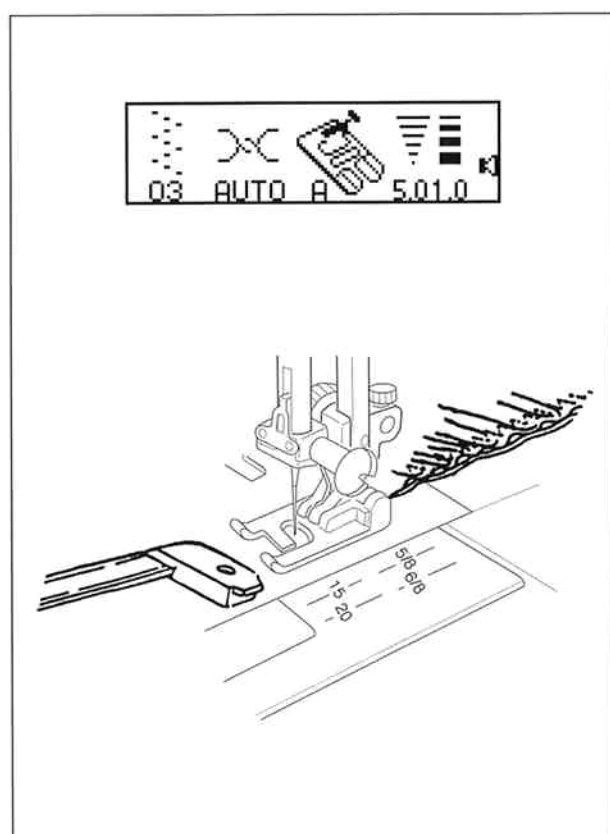
Remove the bobbin cover plate and attach the narrow fagoting plate (optional accessory).

Thread machine, needle and bobbin with a fine embroidery thread (50 weight or finer). Use spray starch to stabilize fabric.

Fold and press under seam allowance to wrong side of fabric.

Place folded fabric right side up on both sides of fagoting plate. Sew slowly, guiding the fabrics against the fagoting plate. Adjust stitch width so needle catches folded edges.

- Stitches ⁴⁷ , ⁵⁰ , ⁵²  and ⁶⁷  (use wide fagoting plate) may also be used.



Apply Elastic with Elastic Gatherer

The elastic gatherer stretches the elastic as it is sewn to the fabric, a quick and easy method. Available in 3 sizes –7mm, 10 mm or 13mm (1/4", 3/8" or 1/2").

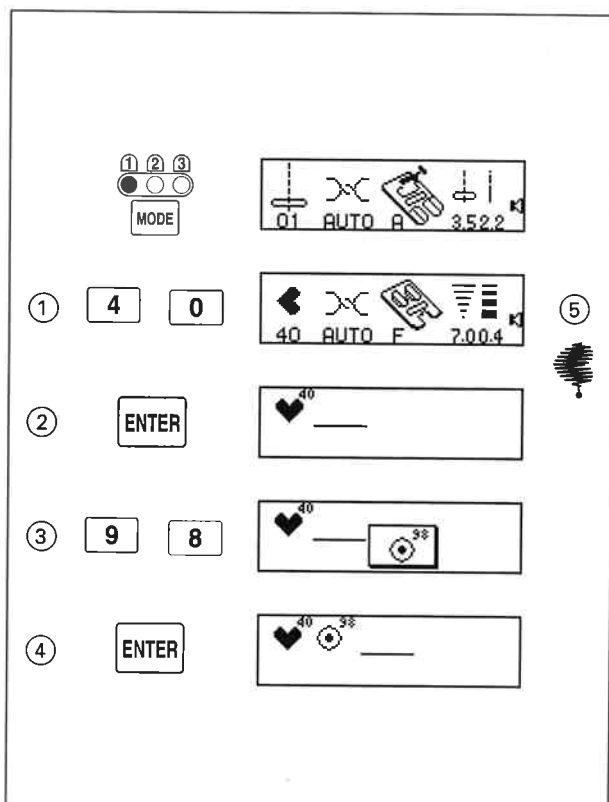
Remove metal foot A. Attach satin stitch foot F. Change stitch length to 3.0. Remove bobbin cover plate.

Loosen the adjusting screw ① on the elastic gatherer and insert elastic into slot ②. Pull elastic through slot until 4cm-5cm (1 1/2"-2") extends out the back. Tighten adjusting screw.

Attach elastic gatherer to machine.

Place scrap fabric under foot on top of elastic. Test sew.

Tighten or loosen adjusting screw as desired.



SECTION V

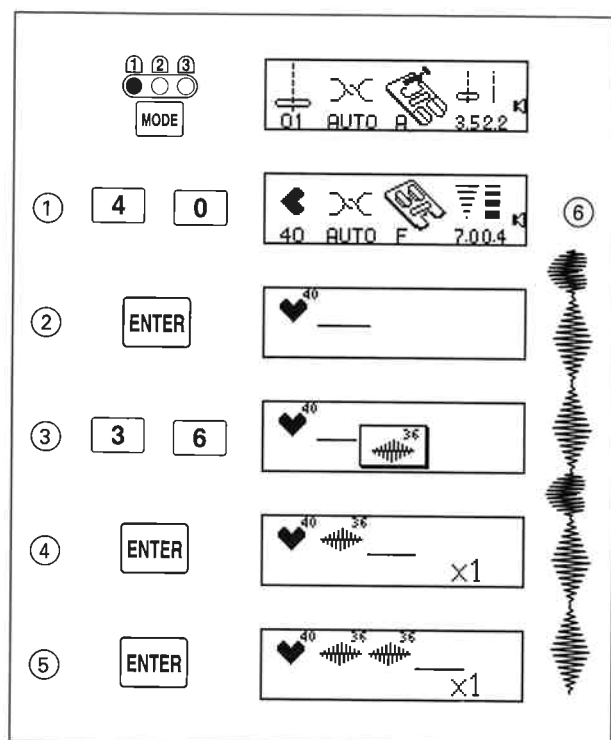
Programming Stitches

Mode 1

How to Program Decorative Stitches

Single Stitches

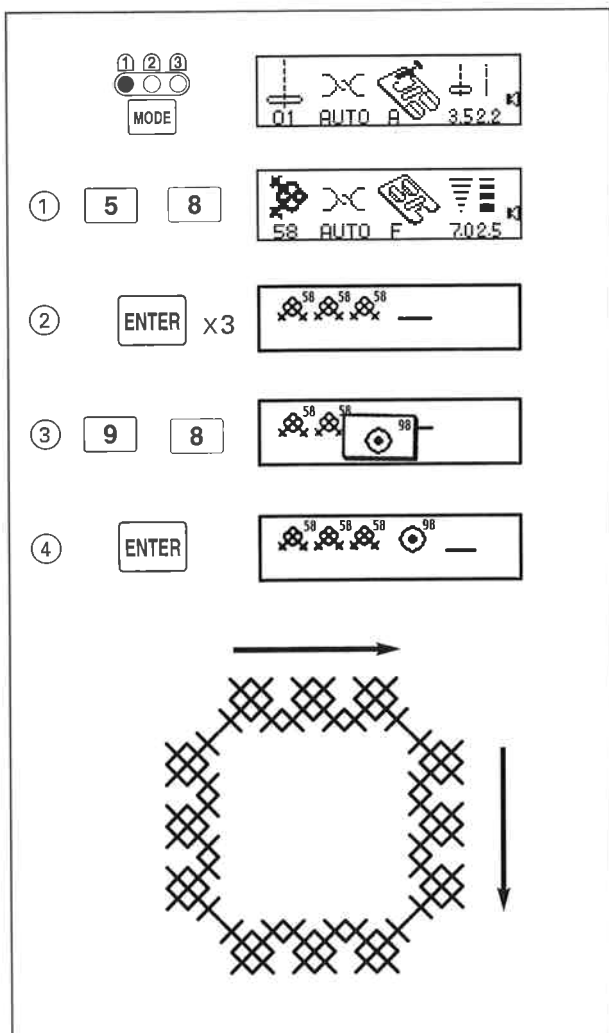
- ① Select stitch 40.
- ② Press **ENTER** key to memorize stitch. The cursor should blink after each time **ENTER** key is pressed.
- ③ Select stitch 98.
- ④ Press **ENTER** key.
- ⑤ Place fabric and stabilizer under foot and sew. Machine will auto-lock, sew decorative stitch, auto-lock and stop.



Combining Stitches

- ① Select stitch 40.
- ② Press **ENTER** key to memorize stitch. The cursor should blink after each time **ENTER** key is pressed.
- ③ Select stitch 36.
- ④ Press **ENTER** key.
- ⑤ Press **ENTER** key.
- ⑥ Sew memorized decorative stitches repeatedly.

NOTE: It is possible to combine up to 50 stitches in Mode 1 including the locking stitch.



Cross Stitch Square

- ① Select stitch 58.
- ② Press **ENTER** key 3 times.
- ③ Select stitch 98.
- ④ Press **ENTER** key.

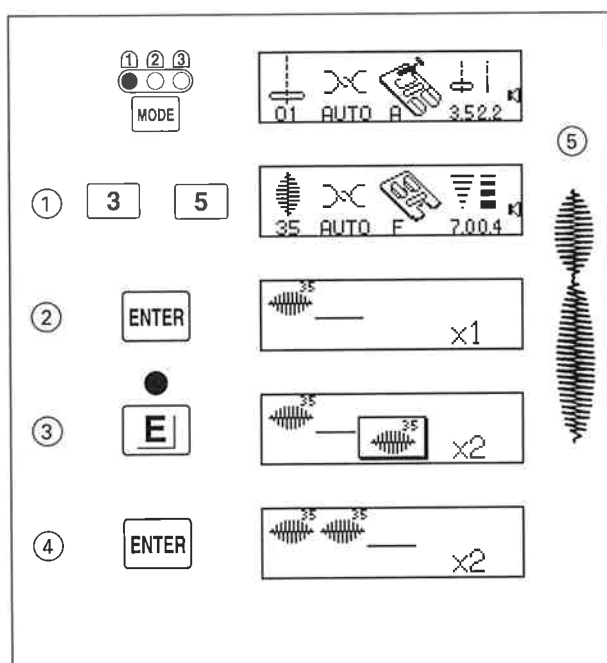
Place fabric and stabilizer under presser foot. Lower the needle at the starting point by pressing **↓** key and sew until the machine stops automatically.

Needle will automatically stop down. Turn the fabric 90° counterclockwise.

Sew the second row until the machine stops automatically.

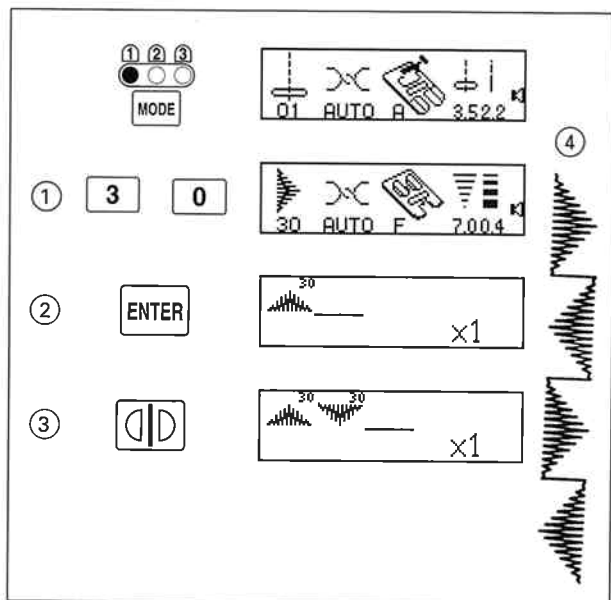
Complete the square pattern, repeating the same procedure. Press **↓** key to raise needle.

* Stitches ⁵⁶ or ⁵⁷ may also be used.



Elongation

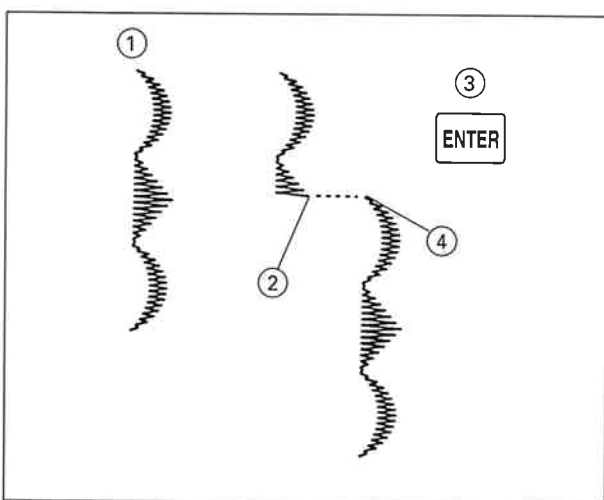
- ① Select stitch 35.
- ② Press **ENTER** key.
- ③ Press **E** key.
- ④ Press **ENTER** key.
- ⑤ Place fabric under foot and sew.



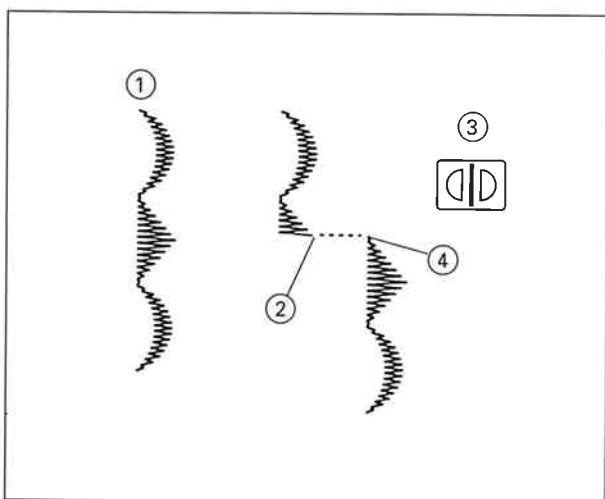
Combining Decorative Stitches with Mirror Image

- ① Select stitch 30.
- ② Press **ENTER** key to memorize stitch. The cursor should blink after each time **ENTER** key is pressed.
- ③ Press the **MIRROR** key to memorize Mirror Image stitch 30.
- ④ Place fabric under foot and press foot control. Machine will auto-lock and alternately sew the decorative stitch and the mirror image decorative stitch.

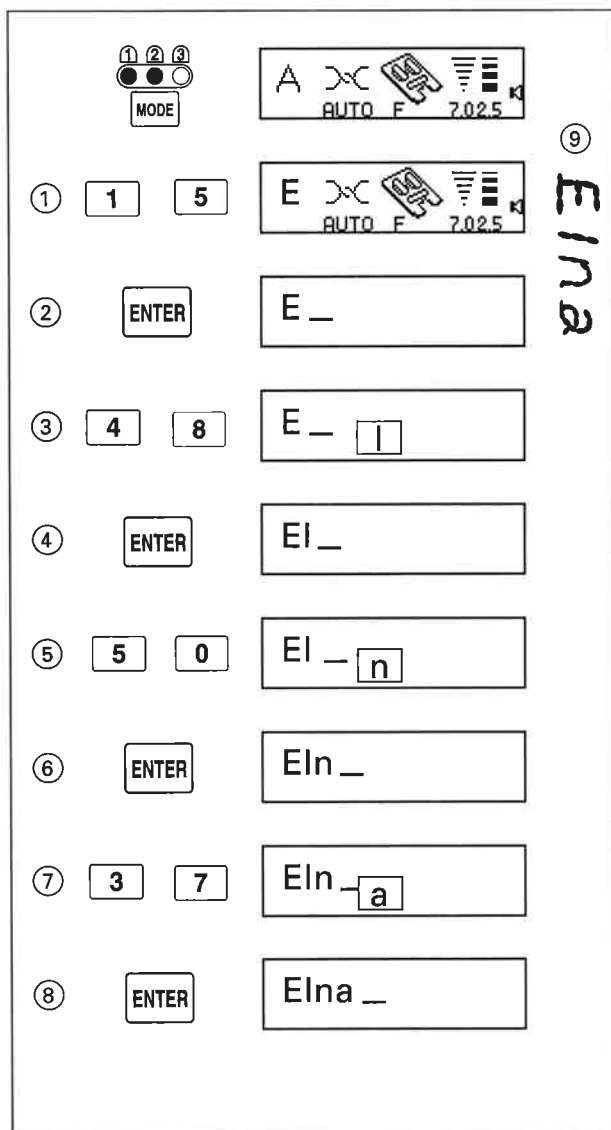
It is possible to partially sew the combined decorative stitches and restart the machine at the beginning of the design or stitch.



- ① Combined decorative stitches.
- ② Stop sewing.
- ③ Press the **ENTER** key. Move fabric.
- ④ Press the foot control. The machine sews from the beginning of the combined decorative stitches.



- ① Combined decorative stitches.
- ② Stop sewing.
- ③ Press the **MIRROR** key. Move fabric.
- ④ Press the foot control. The machine sews from the beginning of the stitch last sewn.



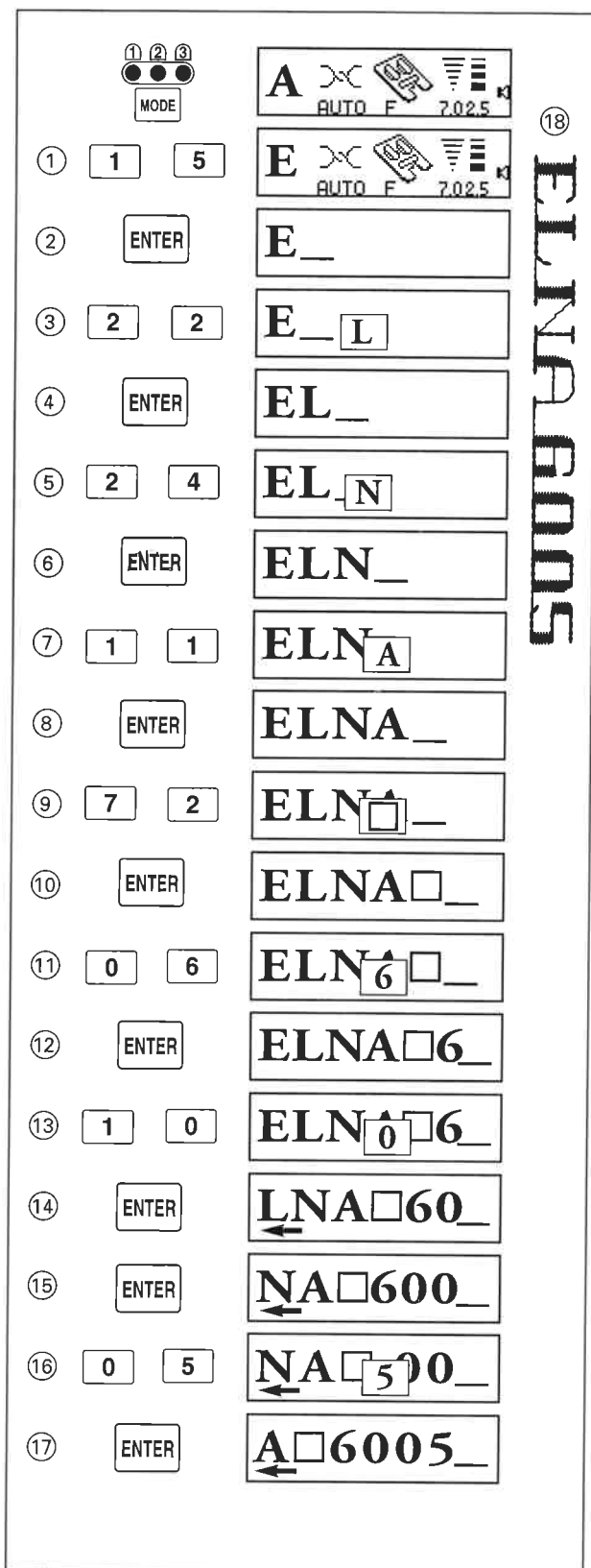
Mode 2 Combining Block Letters – Full Size

- ① Select stitch 15.
- ② Press **ENTER** key to memorize stitch. The cursor should blink after each time **ENTER** key is pressed.
- ③ Select stitch 48.
- ④ Press **ENTER** key.
- ⑤ Select stitch 50.
- ⑥ Press **ENTER** key.
- ⑦ Select stitch 37.
- ⑧ Press **ENTER** key.
- ⑨ Place fabric under foot and sew. Carefully clip out connecting threads.

Combining Letters – 2/3 Size

Repeat steps 1-9 shown above but instead of pressing **ENTER** key after selecting a letter, press the **Q/D** key.

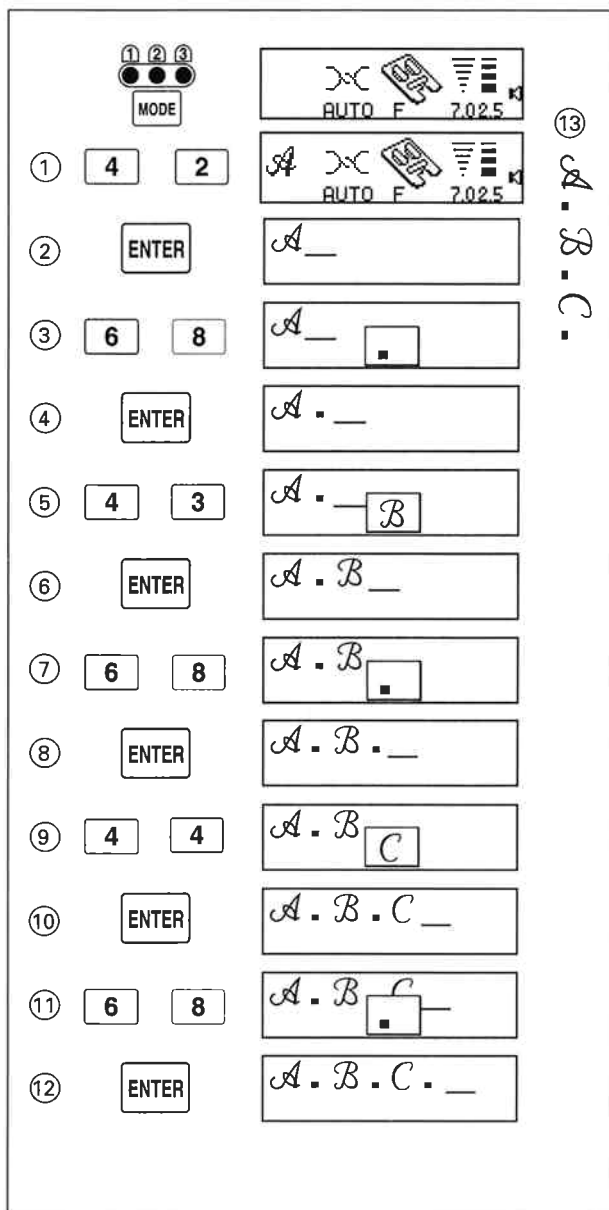
NOTE: It is possible to combine up to 50 letters and numbers in Mode 2 including punctuation, spaces and locking stitch.



Mode 3 Combining Gothic Letters – Full Size

- ① Select stitch 15.
- ② Press **ENTER** key to memorize stitch. The cursor should blink after each time **ENTER** key is pressed.
- ③ Select stitch 22.
- ④ Press **ENTER** key.
- ⑤ Select stitch 24.
- ⑥ Press **ENTER** key.
- ⑦ Select stitch 11.
- ⑧ Press **ENTER** key.
- ⑨ Select stitch 72.
- ⑩ Press **ENTER** key.
- ⑪ Select stitch 06.
- ⑫ Press **ENTER** key.
- ⑬ Select stitch 10.
- ⑭ Press **ENTER** key.
- ⑮ Press **ENTER** key.
- ⑯ Select stitch 05.
- ⑰ Press **ENTER** key.
- ⑱ Place fabric under foot and sew. Do not clip out connecting threads.

NOTE: It is possible to combine up to 50 letters and numbers in Mode 3 including punctuation, spaces and locking stitch.

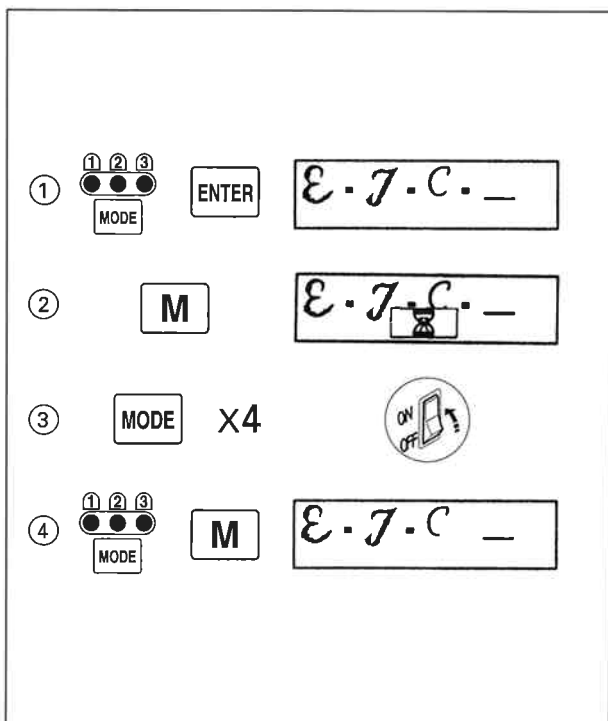


Mode 3 Creating Monograms – Full Size

- ① Select stitch 42.
- ② Press **ENTER** key to memorize stitch. The cursor should blink after each time **ENTER** key is pressed.
- ③ Select stitch 68.
- ④ Press **ENTER** key.
- ⑤ Select stitch 43.
- ⑥ Press **ENTER** key.
- ⑦ Select stitch 68.
- ⑧ Press **ENTER** key.
- ⑨ Select stitch 44.
- ⑩ Press **ENTER** key.
- ⑪ Select stitch 68.
- ⑫ Press **ENTER** key.
- ⑬ Place fabric under foot and sew. Carefully clip out connecting threads.

Monograms – 2/3 Size

Repeat steps 1-13 shown above but instead of pressing **ENTER** key after selecting a letter, press the **Q/D** key.



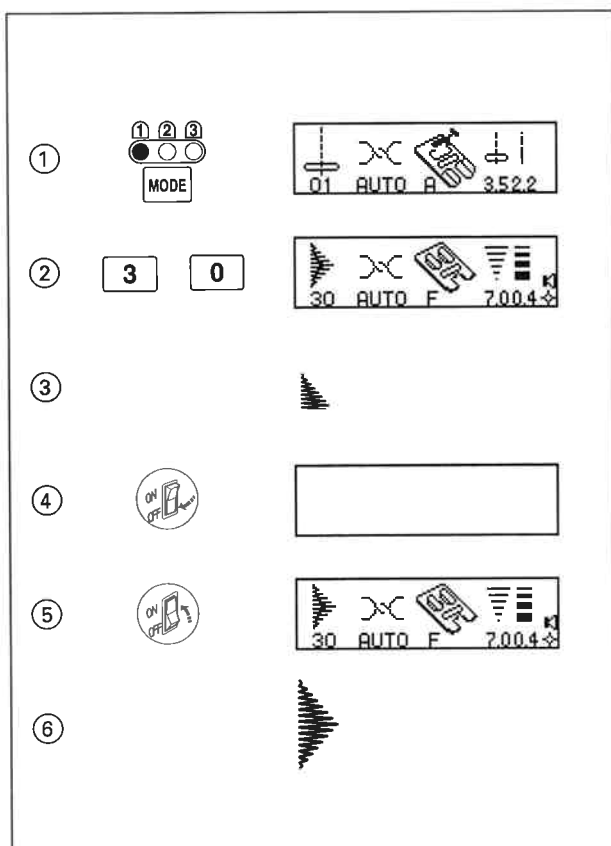
Storing and Recalling Memorized Stitches

Modes 1, 2 and 3 have one memory each for storing memorized combinations.

- ① Mode 3 – Use **ENTER** key to memorize your initials with the monogram alphabet.
- ② Press **M** key to store your initials in the mode 3 memory. An hourglass will appear to indicate the stitches are stored.
- ③ Press **MODE** key 4 x's or switch machine off and on.
- ④ Mode 3 – Press **M** key to recall memorized initials.

NOTE: It is important to use recall function when a new combination of memorized stitches is not in the computer display screen.

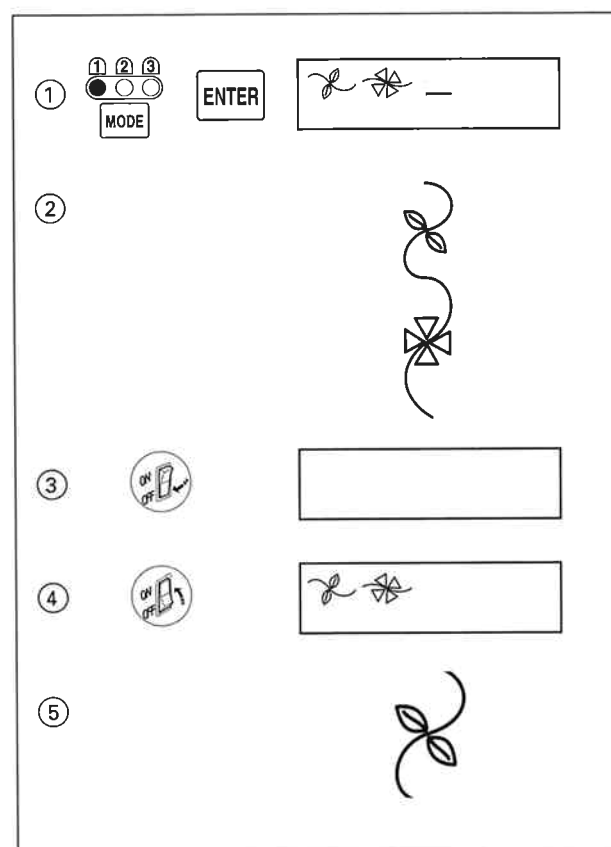
If you press the **M** key with a new combination of memorized stitches in the computer display screen, the old combination will be deleted.



Quick Resumption Mode

Single Stitch

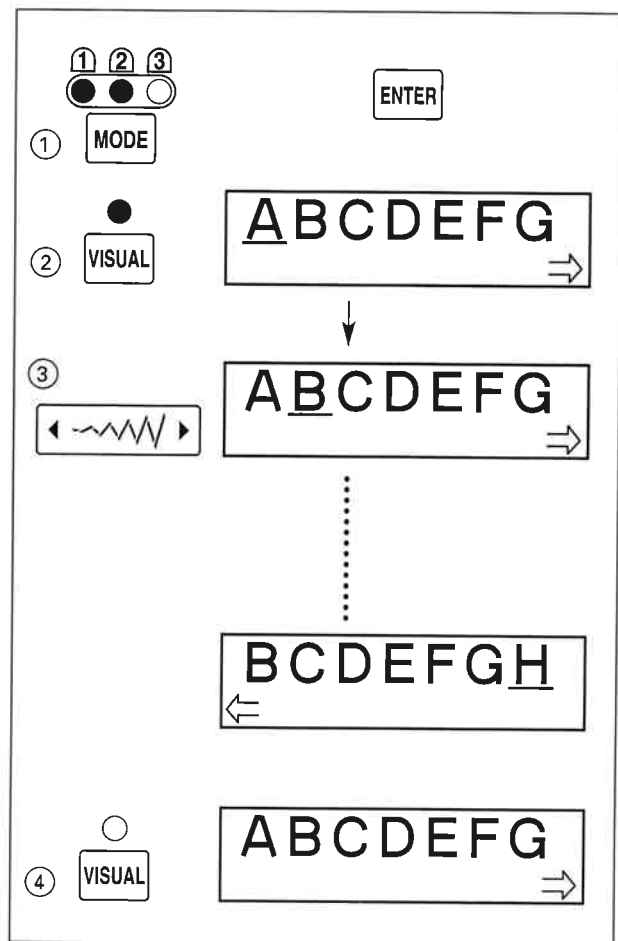
- ① Set machine to function with quick resumption mode. See page 15.
- ② Select stitch 30.
- ③ Sew. (You must sew at least one stitch for quick resumption mode to register the selected stitch.)
- ④ Switch off machine.
- ⑤ Switch on machine. Stitch 30 will appear in the computer display screen.
- ⑥ Sew. The machine will sew at the beginning of the stitch.



Combined Stitches

- ① Mode 1 – Use **ENTER** key to program stitches 85 and 86.
- ② Sew and finish the sequence.
- ③ Switch off machine.
- ④ Switch on machine.
- ⑤ Sew. The machine will sew at the beginning of the sequence.

NOTE: If you switch off the machine before finishing the sequence, sewing will resume at the beginning of the sequence when you switch on the machine.



Editing

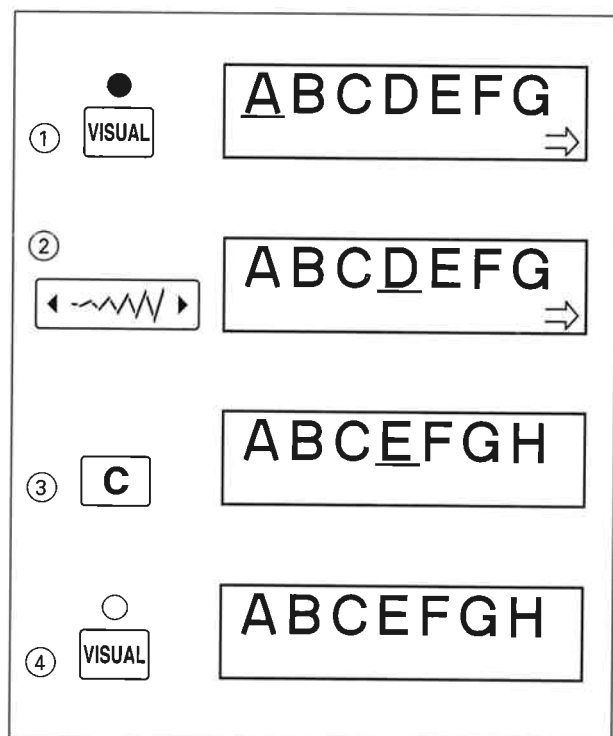
Standard Editing

It is possible to edit the entered/memorized stitches before sewing.

• How to Preview the Stitches

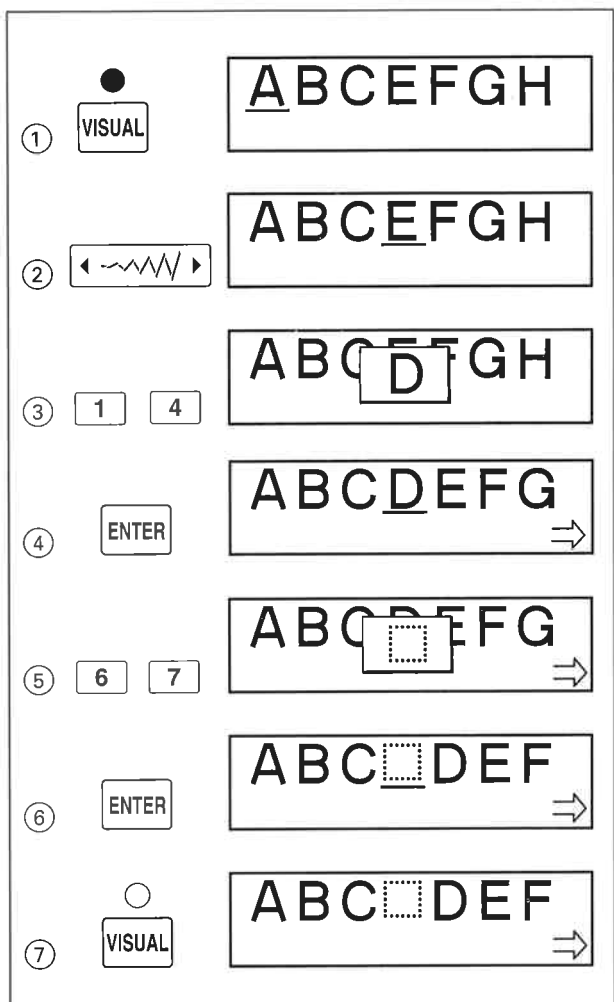
- ① Mode 2 – Use **ENTER** key to program letters A-H.
- ② Press **VISUAL** key. A light appears. In the computer display screen the first stitch in the sequence has a flashing line (cursor) under it.

(The \Rightarrow or \Leftarrow symbol indicates there are more memorized stitches.)
- ③ Press **←~W~→** key. The cursor moves to the next stitch. Continue to press the **▶** key until the entire sequence has been previewed.
- ④ Press **VISUAL** key. The light disappears. The computer display screen shows the stitches at the beginning of the sequence.



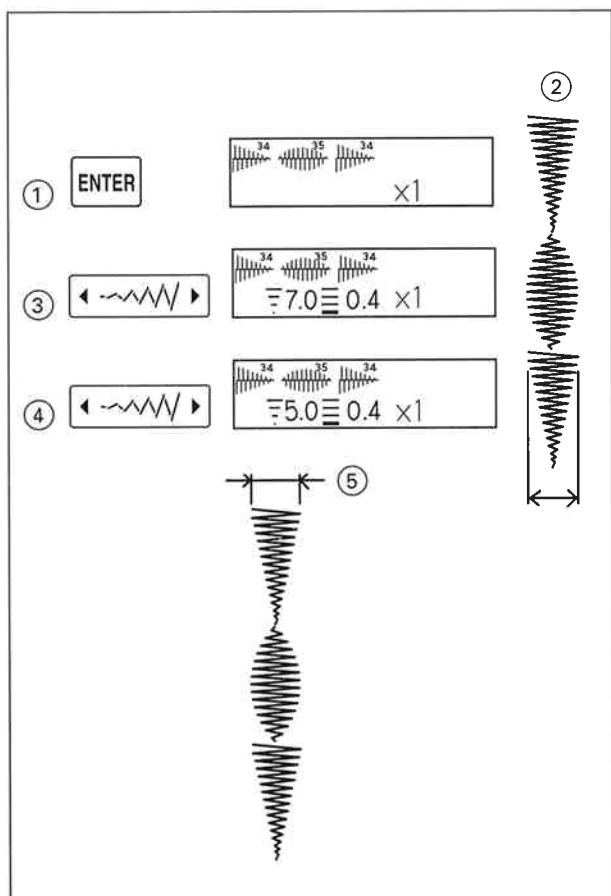
• How to Delete Stitches (example: Delete D)

- ① Press **VISUAL** key.
- ② Press **←~W~→** key until the cursor is under the D.
- ③ Press **C** key to delete the D.
- ④ Press **VISUAL** key when editing is complete.



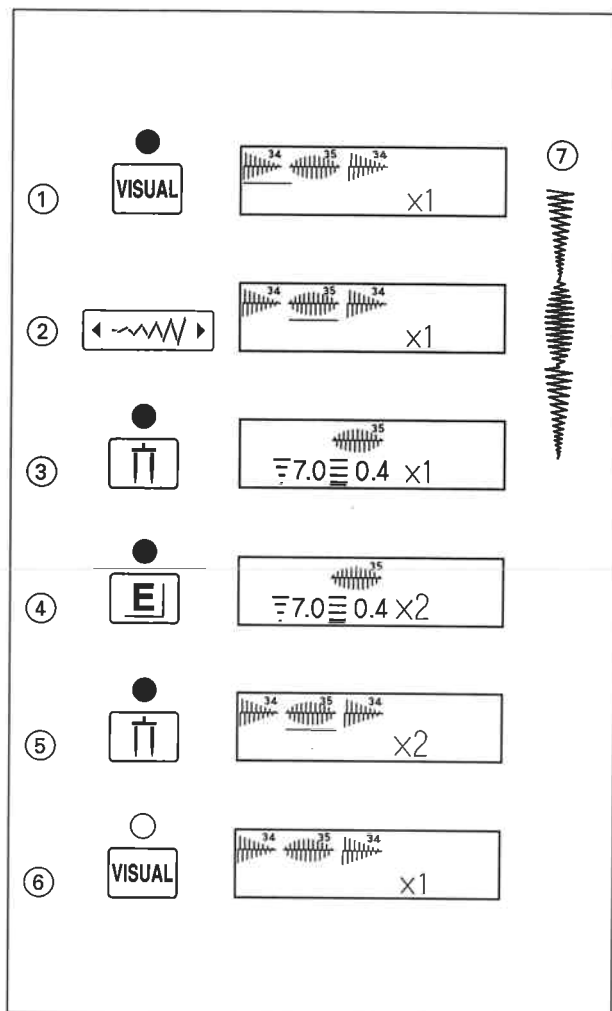
• **How to Add Stitches (example: add D and space)**

- ① Press key.
- ② Press key until the cursor is under the E.
- ③ Select stitch 14.
- ④ Press key.
- ⑤ Select stitch 67.
- ⑥ Press key.
- ⑦ Press key when editing is complete.



• **How to Change Width or Length of Entered/Memorized Stitches**

- ① Mode 1 – Use key to program stitches 34, 35, 34.
 - ② Sew.
 - ③ Press key.
- CAUTION:** The computer display screen will automatically reprogram all stitches to the widest width and longest length of the stitches within the sequence. See Full Feature Editing on next page.
- ④ Press or key to reprogram all stitches within the sequence.
 - ⑤ Sew.



Full Feature Editing

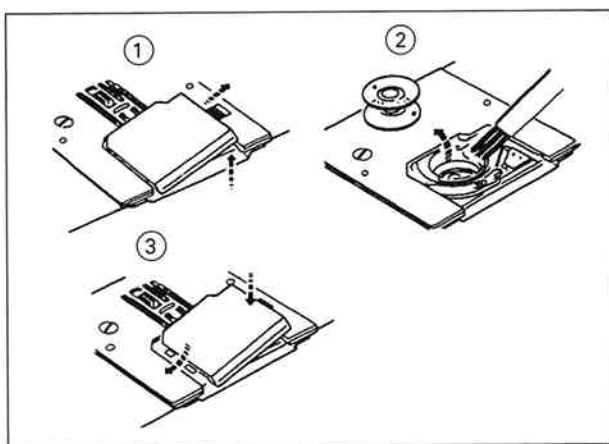
It is possible to individually reprogram width, length or elongation for each stitch within the sequence.

- ① Press key.
- ② Press key. Move cursor (flashing line) until it is under .
- ③ Press key.
- ④ Press key.
- ⑤ Press key.
- ⑥ Press key.
- ⑦ Sew.

SECTION VI


Maintenance

The Elna 6005 Heirloom Edition has been meticulously designed and manufactured to give you a lifetime of sewing pleasure. Do not store the machine in a high humidity area, near a heat radiator or in direct sunlight. The machine is self-lubricating, however, the area around the bobbin and hook must be cleaned each time the machine has had extensive use. Do not dismantle the machine further than explained on these pages. Clean the outside of the machine with a soft cloth and pure soap.

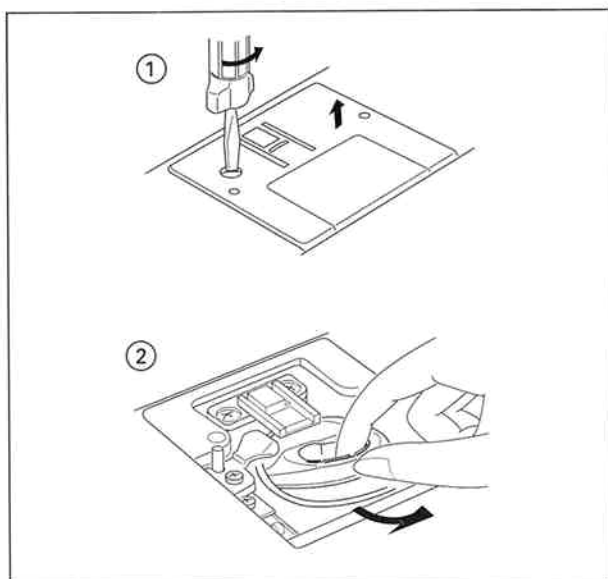


Cleaning the Bobbin Area

Loose threads and dust may cause puckered stitches and thread breakage during stitching. Check for lint buildup after each garment is completed.

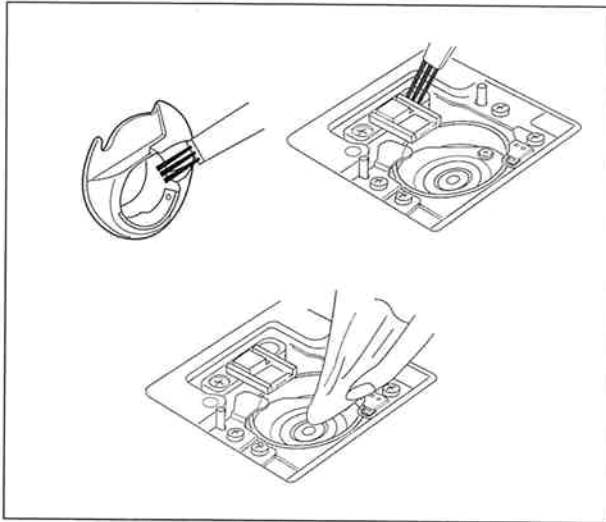
Press the  key until the needle is raised. Unplug the machine before cleaning.

- ① Remove the bobbin cover plate by sliding the bobbin cover plate release button to the right.
- ② Take out the bobbin; brush out dust and lint. (You may also use a small vacuum cleaner.)
- ③ Insert the bobbin and attach the bobbin cover plate.

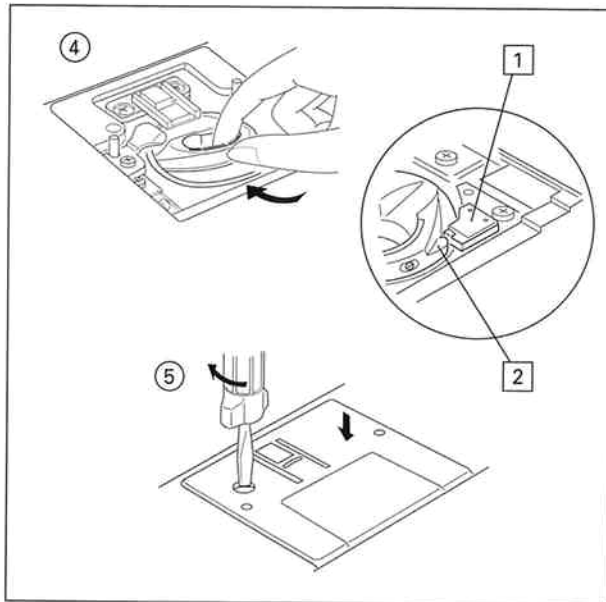


Cleaning the Hook Area and Feed Dog

- ① Remove the presser foot, bobbin cover plate, needle and bobbin. Remove the screw on the left side of the needle plate using the screwdriver supplied with the machine.
- ② Remove the needle plate. Lift up and remove the bobbin case.



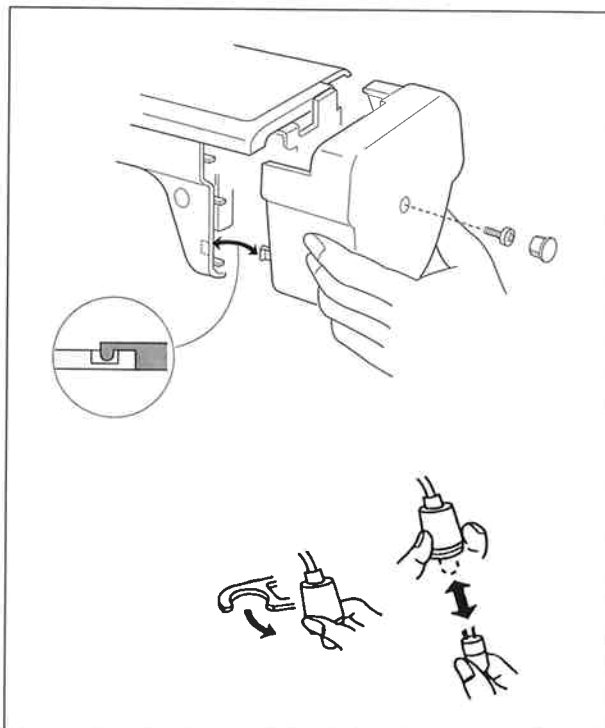
- ③ Clean the feed dog and hook area with the lint brush. Wipe out gently with soft, dry cloth. (You may also use a vacuum cleaner.)



Replacing the Bobbin Case

- ④ Insert the bobbin case so that the knob fits next to the stopper in the hook area.
- 1 Stopper
2 Knob
- ⑤ Replace the needle plate, inserting the two needle plate guide pins into the holes in the needle plate. Replace the screw.

After cleaning, be sure to replace the needle, presser foot and bobbin.



Changing the Light Bulb

The sewing light is located behind the face plate.

Remove screw button and screw. Pull away face plate.

Pull out light socket. Pull out light bulb. Push in light bulb with pins aligned to holes in light socket. Push in light socket.

Replace face plate, screw and screw button.

NOTE: When replacing the bulb, unplug the machine. Use same type light bulb rated 13.2 Volts D.C., 3 watts.

Troubleshooting

Condition	Cause	Reference
The needle thread breaks.	<ol style="list-style-type: none"> 1. The needle thread is not threaded properly. 2. The needle thread tension is too tight. 3. The needle is bent or blunt. 4. The needle is incorrectly inserted. 5. The needle thread and the bobbin thread are not set properly under (drawn to the back of) the presser foot when starting to sew. 6. The fabric is not moved to the back when sewing is finished. 7. The thread is too heavy or too fine for the needle. 	<p>See page 20. See page 7. See page 8. See page 8. See page 23. See page 23. See page 8.</p>
The bobbin thread breaks.	<ol style="list-style-type: none"> 1. The bobbin thread is not threaded properly in the bobbin case. 2. Lint has collected in the bobbin case. 3. The bobbin is damaged and doesn't turn smoothly. 	<p>See page 19. See page 65. Change the bobbin.</p>
The needle breaks.	<ol style="list-style-type: none"> 1. The needle is incorrectly inserted. 2. The needle is bent or blunt. 3. The needle clamp screw is loose. 4. The needle thread tension is too tight. 5. The fabric is not moved to the back when sewing is finished. 6. The needle is too fine for the fabric being sewn. 	<p>See page 8. See page 8. See page 8. See page 7. See page 23. See page 8.</p>
Screen is not clear.	<ol style="list-style-type: none"> 1. The lighting of the computer display screen is not adjusted properly. 	<p>See page 11.</p>
Skipped stitches.	<ol style="list-style-type: none"> 1. The needle is incorrectly inserted. 2. The needle is bent or blunt. 3. The needle and/or threads are not suitable for the fabric being sewn. 4. A stretch needle is not being used for sewing stretch, very fine fabrics and synthetics. 5. The needle thread is not threaded properly. 6. The foot pressure dial is not adjusted correctly. 7. The wrong needle is being used. 	<p>See page 8. See page 8. See page 8. See page 8. See page 20. See page 5. See page 8.</p>
Seam puckering	<ol style="list-style-type: none"> 1. The needle thread tension is too tight. 2. The needle thread is not threaded properly. 3. The needle is too heavy for the fabric being sewn. 4. The stitch length is too long for the fabric. 5. The foot pressure dial is not adjusted correctly. 	<p>See page 7. See page 20. See page 8. Make stitch shorter. See page 5.</p>
Slipping fabric.	<ol style="list-style-type: none"> 1. The foot pressure dial is not adjusted correctly. 2. The correct presser foot is not being used. 	<p>See page 5. See page 14.</p>
The fabric is not feeding smoothly.	<ol style="list-style-type: none"> 1. The feed dog is packed with lint. 2. The foot pressure dial is not adjusted correctly. 3. The stitches are too close. 4. The feed dog was not raised after being lowered. 5. The correct presser foot is not used. 	<p>See page 65. See page 5. Make stitch longer. See page 5. See page 14.</p>
Gathering	<ol style="list-style-type: none"> 1. The needle thread tension is too loose. 2. The needle is too heavy or light for the fabric being sewn. 	<p>See page 7. See page 8.</p>

Troubleshooting (cont'd)

Condition	Cause	Reference
The machine doesn't work.	<ol style="list-style-type: none"> 1. The machine is not plugged in. 2. A thread is caught in the hook area. 3. The bobbin winder spindle is still in the winding position. 	<p>See page 9. See page 65. See page 18.</p>
Stitches are distorted.	<ol style="list-style-type: none"> 1. The fine adjustment dial is not set properly. 2. The correct presser foot is not being used. 3. The needle thread tension is too tight. 4. The stitch length is not suitable for the fabric being sewn. 5. Use interfacing for fine or stretch fabrics. 	<p>See page 4. See page 14. See page 7. See page 11. See page 48.</p>
The automatic buttonhole stitches are not working.	<ol style="list-style-type: none"> 1. The stitch length is not suitable for the fabric being sewn. 2. Interfacing is not being used with fabrics. 3. There is a gap between the slider and spring holder. 	<p>See page 41. See page 38. See page 41.</p>
Noisy operation	<ol style="list-style-type: none"> 1. There is thread caught in the hook area. 2. Lint has built up in the bobbin holder or hook area. 	<p>See page 65. See page 65.</p>

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