

INSTRUCTION BOOK

MC6600P

IMPORTANT SAFETY INSTRUCTIONS

When using an electrical appliance, basic safety precautions should always be followed, including the followings:

Read all instructions before using this appliance.

DANGER— To reduce the risk of electric shock:

1. An appliance should never be left unattended when plugged in. Always unplug this sewing machine from the electric outlet immediately after using and before cleaning.
2. Always unplug before replacing a sewing machine bulb. Replace bulb with same type rated 12 Volts, 5 Watts.

WARNING— To reduce the risk of burns, fire, electric shock, or injury to persons:

1. Do not allow to be used as a toy. Close attention is necessary when this sewing machine is used by or near children.
2. Use this appliance only for its intended use as described in this owner's manual. Use only attachments recommended by the manufacturer as contained in this owner's manual.
3. Never operate this sewing machine if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Return this sewing machine to the nearest authorized dealers or service center for examination, repair, electrical or mechanical adjustment.
4. Never operate the appliance with any air opening blocked. Keep ventilation openings of this sewing machine and foot controller free from accumulation of lint, dust and loose cloth.
5. Never drop or insert any object into any opening.
6. Do not use outdoors.
7. Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
8. To disconnect, turn all controls to the off ("O") position, then remove plug from outlet.
9. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
10. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.
11. Always use the proper needle plate. The wrong plate can cause the needle to break.
12. Do not use bent needles.
13. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
14. Switch this sewing machine off ("O") when making any adjustment in the needle area, such as threading the needle, changing the needle, threading the bobbin or changing the presser foot, and the like.
15. Always unplug this sewing machine from the electrical outlet when removing covers, lubricating, or when making any other adjustments mentioned in this owner's manual.

SAVE THESE INSTRUCTIONS

The design and specifications are subject to change without a prior notice.

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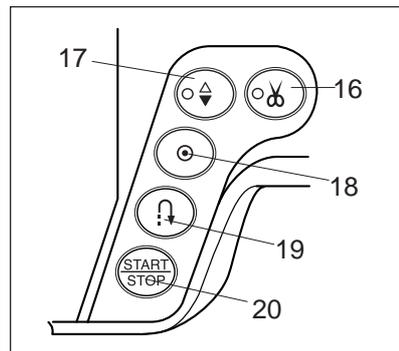
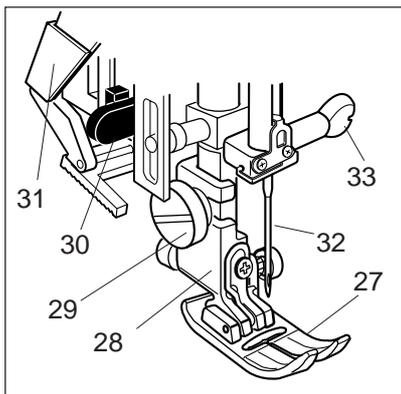
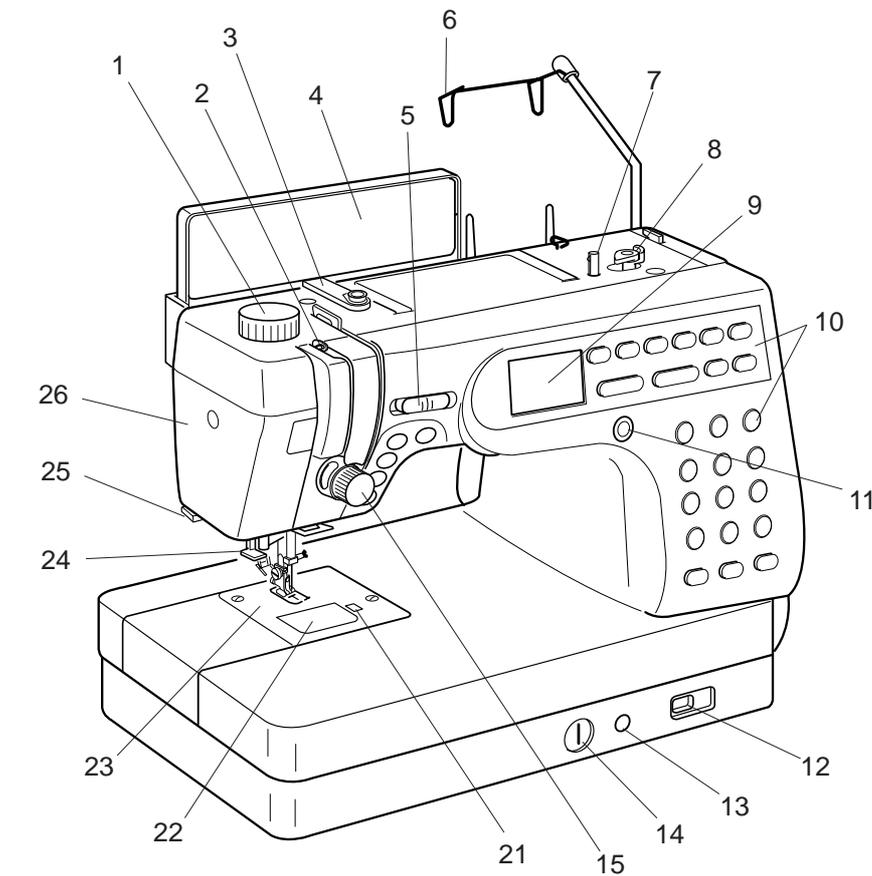
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UTILITY STITCHES AND

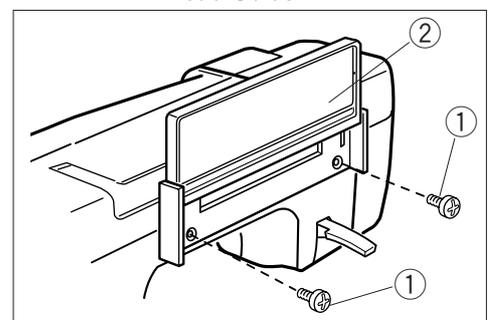
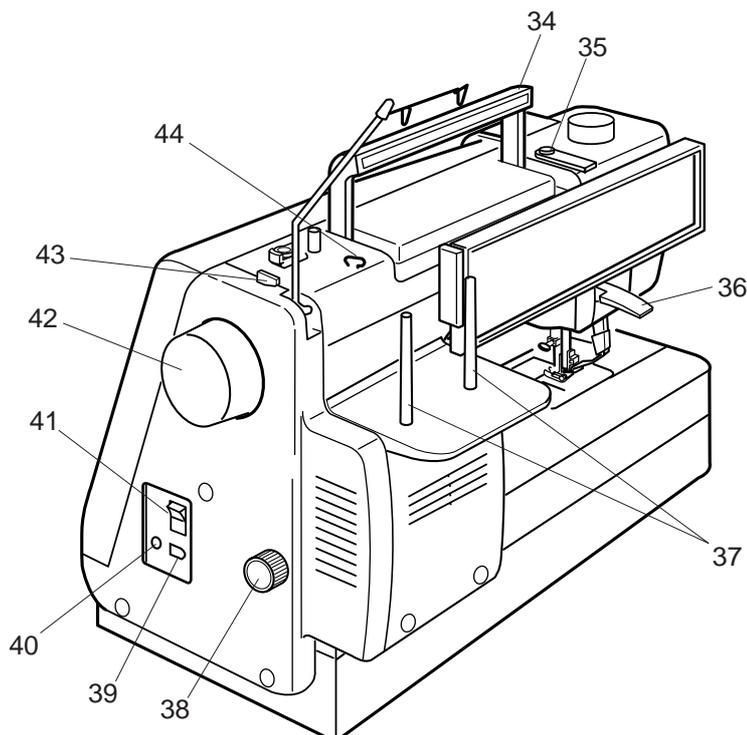
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NAME OF PARTS



1. Foot Pressure Dial
2. Thread Take-up Lever
3. Thread Guide
4. Quick Reference Board
5. Speed Control slider
6. Retractable Thread Guide
7. Bobbin Winder Spindle
8. Bobbin Winder Stopper
9. LCD Screen
10. Function Buttons
11. LCD Contrast Adjusting Dial
12. Drop Feed Lever
13. Knee Lifter Socket
14. Stitch Balance Adjusting Screw
15. Tension Regulating Dial
16. Thread Cutter Button
17. Up/Down Needle Button
18. Auto-Lock Button
19. Reverse Button
20. Start/Stop Button
21. Hook Cover Plate Release Button
22. Hook Cover Plate
23. Needle Plate
24. Needle Threader
25. Thread Cutter
26. Face Plate
27. Zigzag Foot A
28. Foot Holder
29. Thumb Screw
30. Buttonhole Lever
31. Upper Feed Mechanism
32. Needle
33. Needle Clamp Screw
34. Carrying Handle
35. Bobbin Winding Tension Disk
36. Presser Foot Lifter
37. Spool Pins
38. Dual Feed Adjusting Dial
39. Machine Sockets
40. Foot Control Plug
41. Power Switch
42. Handwheel
43. Thread Cutter
44. Thread Guide 1



Attaching the quick reference board

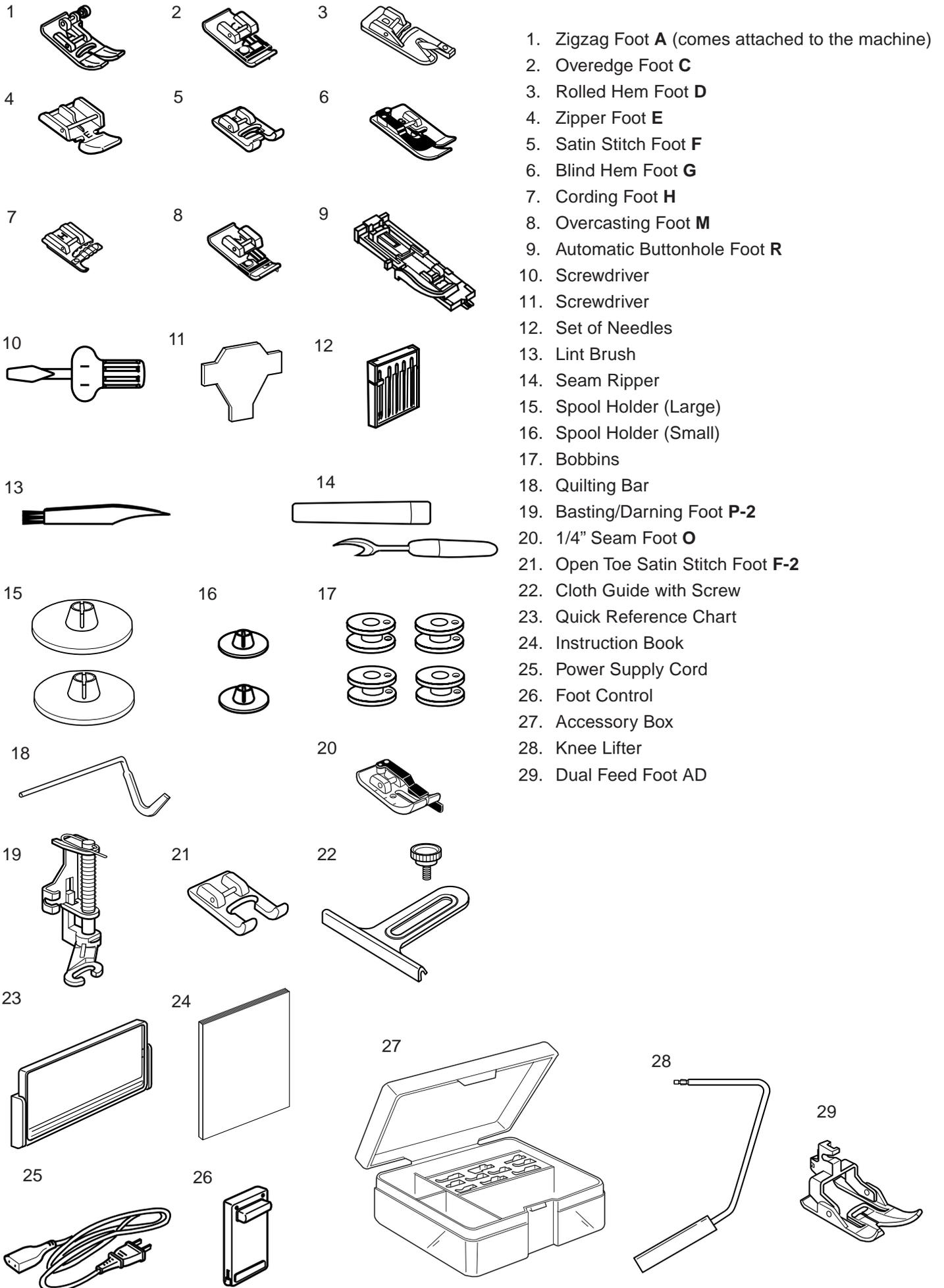
The quick reference board and setscrews are included in the standard accessories.

Fix the quick reference board on the backside of the machine with the two setscrews.

Tighten the screws firmly with a screwdriver.

- ① Setscrews
- ② Quick Reference Board

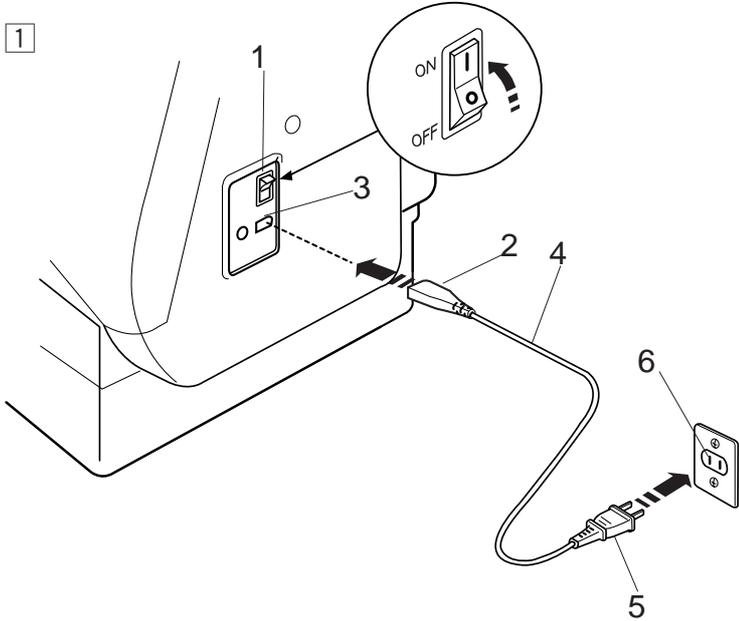
STANDARD ACCESSORIES



GETTING READY TO SEW

Connecting the Power Supply

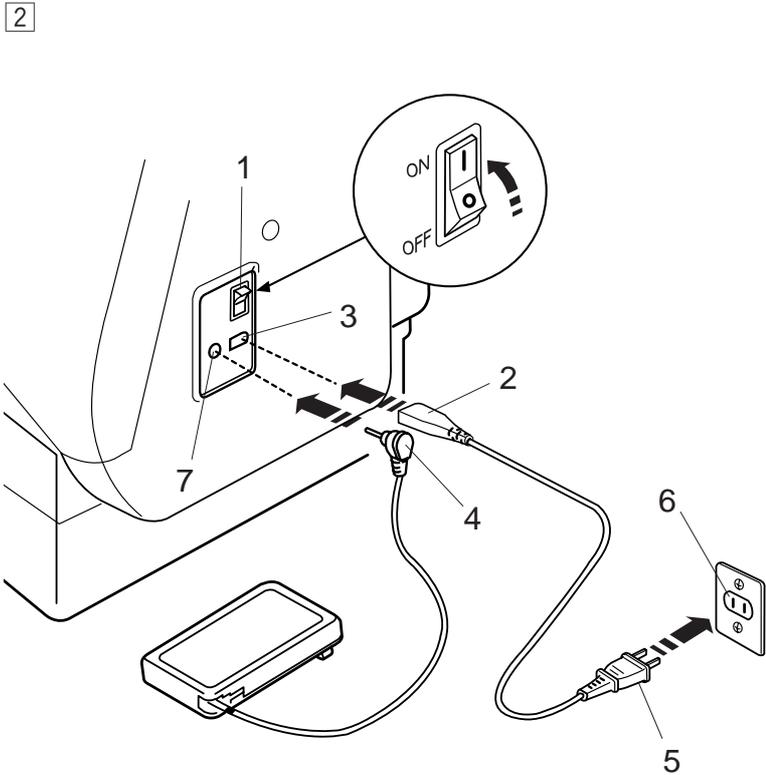
CAUTION
Always turn the power switch off and unplug the sewing machine from the electrical outlet when the machine is not in use.



1 To use start/stop button
Turn off the power switch, then insert the machine plug into the machine and the power supply plug into the wall outlet. Turn on the power switch.

- 1 Power Switch
- 2 Machine Plug
- 3 Machine Socket
- 4 Power Supply Cord
- 5 Power Supply Plug
- 6 Wall Outlet

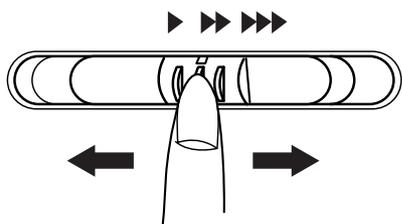
NOTE:
Make sure to use the power supply cord that comes with the machine.



2 To use foot control
Turn off the power switch, insert the foot control plug and machine plug into the machine, then the power supply plug into the wall outlet in this order. Turn on the power switch.

- 1 Power Switch
- 2 Machine Plug
- 3 Machine Socket
- 4 Foot Control Plug
- 5 Power Supply Plug
- 6 Wall Outlet
- 7 Foot Control socket

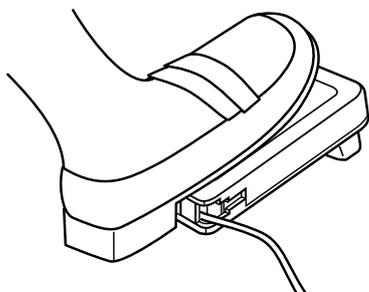
Controlling Sewing Speed



Speed control slider

Sewing speed can be varied according to your sewing needs with the speed control slider.

- ① To increase sewing speed, slide it to the right.
- ② To decrease sewing speed, slide it to the left.



Foot control

Sewing speed is varied by the foot control.

The harder you press down on the foot control, the faster the machine runs.

The machine runs at the maximum speed set by the speed control slider when the foot control is fully depressed.

Operating Instructions:

The symbol "O" on a switch indicates the "off" position of a switch.

For appliances with a polarized plug (one blade wider than the other): To reduce the risk of electric shock, this plug is intended to fit in a polarized outlet only one way. If it does not fit fully in 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.

Foot controller Model 21371 is for use with sewing machine Model MC6600P.

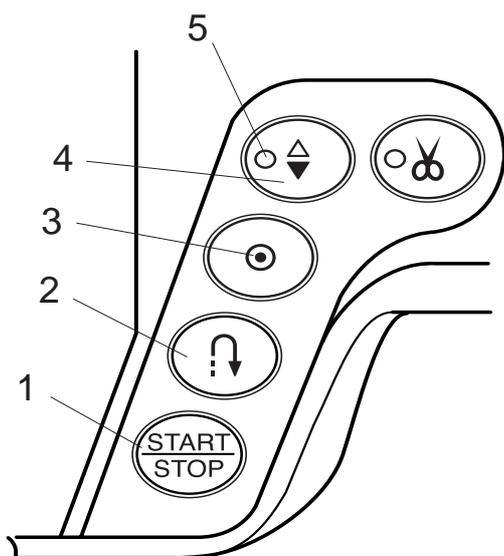
Function Buttons

1 Start/stop button

Press this button to start or stop the machine. The machine starts running slowly for the first few stitches, it then runs at the speed set by the speed control slider.

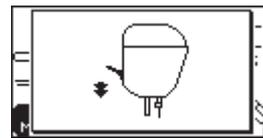
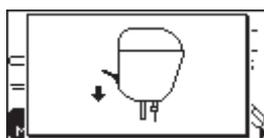
The button turned on to red while the machine running.

The button turned on to green while the machine stopping.



NOTES:

- Start/stop button cannot be used when the foot control is connected to the machine.
- If you start the machine with the presser foot up (normal up position or extra lifted position), the LCD screen will advise you to lower the machine. (See page 11. for the presser lifter position)



2 Reverse stitch button

When stitches D1, D2, 8, 9 Mode 1, D01, D02, 08, 09 Mode 2 and 01, 02 Mode 3 are selected, the machine will sew in reverse while the reverse stitch button is pressed.

If you press the reverse stitch button when sewing any other stitches, the machine will immediately sew locking stitches and automatically stop.

3 Auto-lock button

When stitches D1, D2, 8, 9 Mode 1, D01, D02, 08, 09 Mode 2 and 01, 02 Mode 3 are selected, the machine will immediately sew locking stitches when the Auto-lock button is pressed, then automatically stop. When sewing any other stitches, the machine will sew locking stitches at the end of the current pattern and automatically stop.

4 Up/down needle position button

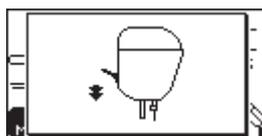
Press this button to bring the needle up or down. The machine will stop with the needle up or down depending on the needle position determined by this button. The needle position LED will turn on when the down position is selected.

5 Needle up/down stop position LED

NOTE:

The needle will always stop in the up position after sewing buttonholes, bartacks, eyelets and darning.

If you press the up/down needle position button when the presser foot is at the extra lifted position, the LCD screen will advise you to lower the foot.

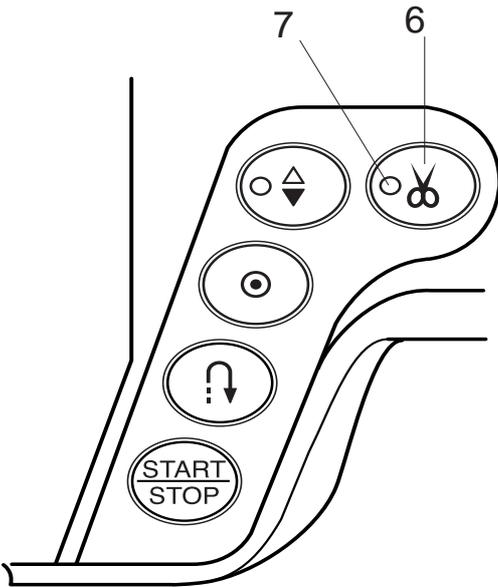


6 Thread cutter button

Press this button after finishing sewing and the machine will trim the threads.

The LED signal blinks while cutting the threads.

7 Thread Cutter Signal



NOTES:

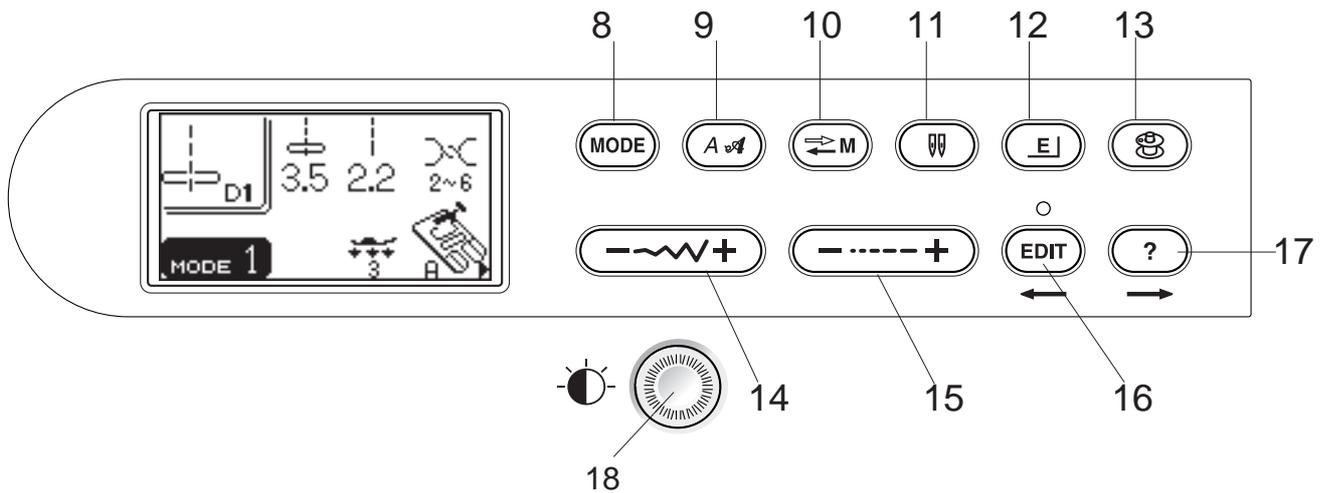
The auto thread cutter will work well with normal sewing threads #30 or finer.

Use the thread cutter on the face plate to cut the specialized or thick threads if the auto thread cutter does not work well.

When starting the next seam, pull the needle thread to pick the bobbin thread up and draw them to the back and under the foot.

Clean the auto thread cutter mechanism regularly to avoid malfunction due to built up lint.

Avoid using a paper cored spool when it begins to empty since it will not unwind smoothly. It may cause the thread to bunch or slip when using the auto thread cutter.

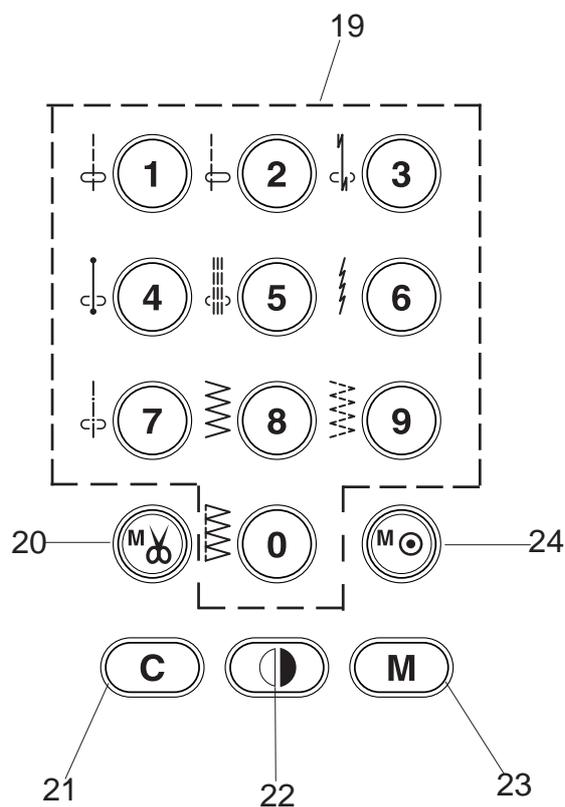


8		Mode button (See page 26) Press this button to select the desired mode.
9		Letter style button (See page 74) Press this button to change the letter style of monogram.
10		Memory/recall button (See pages 33, 82) Press this button to register or recall programmed pattern combinations. The previous pattern combination will be replaced by the new combination when pressing this button after programming. The registered pattern combination will be recalled when pressing this button on the initial screen of the selected mode.
11		Twin needle button (See page 84) Press this button when sewing with a twin needle.
12		Elongation button (See page 69) Press this button to elongate satin stitch patterns.
13		Bobbin winding button (See page 17) Press this button to wind the bobbin.
14		Stitch width adjusting button (See pages 38, 75) Press this button to alter the stitch width. In the monogram mode, pressing the “ – ” button will reduce the letter to 2/3 of the original size.
15		Stitch length adjusting button (See pages 33, 38) Press this button to alter the stitch length.
16		Editing button (See page 77) Press this button to edit the programmed patterns. In the editing mode this button is used to shift the cursor to the left.
17		Help button (See pages 27, 77) Press this button to view alternative applications of certain stitches. In the editing mode this button is used to shift the cursor to the right.
18		LCD contrast adjusting dial Turn this dial to adjust contrast of the LCD Screen.

19 Pattern selection buttons (See page 27)

Press these buttons to select the desired pattern. In the direct selection mode (Mode 1), patterns number 01 to 10 can be directly selected by pressing the corresponding button.

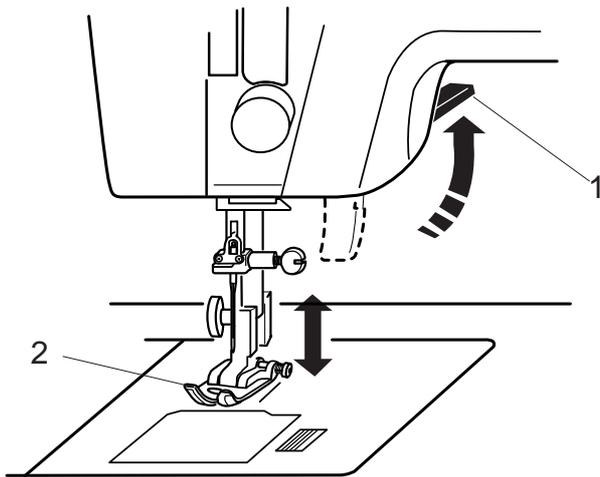
In other modes, enter the two-digit pattern number with the numeral buttons.



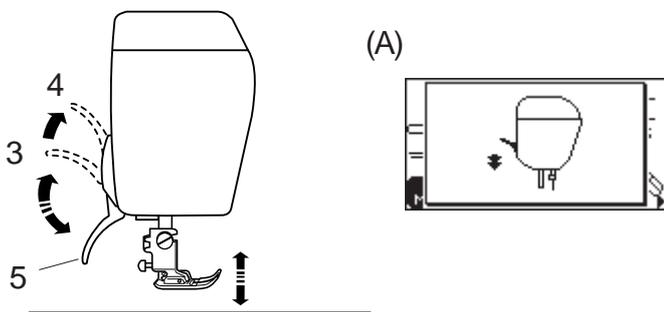
20		<p>Auto thread cutter button (See pages 52, 76) Press this button after the last memorized pattern and the machine will automatically trim the threads when sewing is finished.</p>
21		<p>Clear button (See page 77) Press this button to delete a pattern from programmed pattern combination. Pressing this button after sewing or pressing and holding for a few seconds will delete entire pattern combination and the LCD screen will return to the initial display of the selected mode. Initial display: D1 Mode 1, D01 Mode 2 , 01 Mode 3.</p>
22		<p>Turnover memory button (See pages 70, 71) Press this button to memorize a pattern in mirror image.</p>
23		<p>Memory button (See pages 66-68, 71, 75, 78) Press this button to memorize the desired patterns. Up to 50 patterns can be memorized.</p>
24		<p>Locking stitch button (See page 67) Press this button after memorizing the last pattern and the machine will sew the pattern combination and lock the stitch off then stop automatically when sewing is finished.</p>

Raising and Lowering the Presser Foot

The presser foot lifter raises and lowers the presser foot. You can raise the presser foot higher than the normal up position. This allows for setting the dual feed device and helps you to place thick fabrics under it.



- 1 Presser Foot Lifter
- 2 Presser Foot
- 3 Up Position
- 4 Extra Lift
- 5 Down Position



NOTE:

If you press the up/down needle position button with the presser foot at the extra lifted position, the LCD screen advise you to lower the foot (A).

Attaching the Knee Lifter

The Knee Lifter is extremely helpful when sewing applique, patchwork and quilting since it allows you to handle the fabric while your knee controls the presser foot.

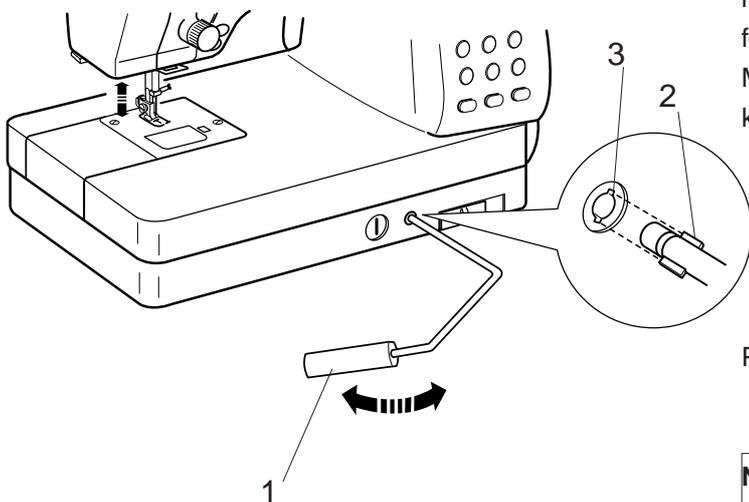
Match the ribs on the knee lifter with the notches in the knee lifter socket and insert the knee lifter.

- 1 Knee Lifter
- 2 Ribs
- 3 Notches

Push the knee lifter with your knee to raise and lower.

NOTE:

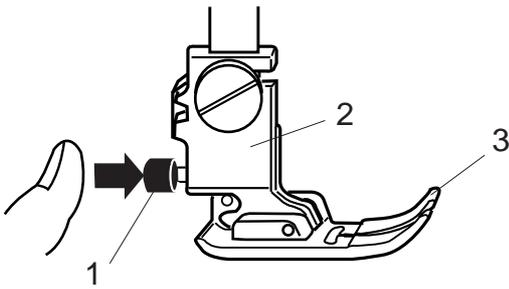
Do not touch the knee lifter while sewing, otherwise the fabric will not be fed smoothly.



Changing the Presser Foot

CAUTION:

Turn OFF the power switch before changing the foot.
Always use the proper foot for the selected pattern. Wrong foot can cause the needle to break.

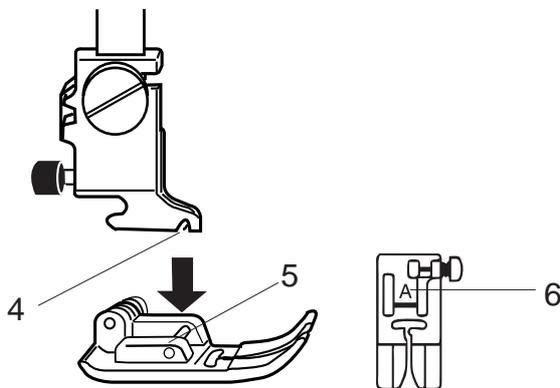


To snap off:

Raise the needle and presser foot.

Press the red button on the back of the foot holder and the foot will drop.

- 1 Red Button
- 2 Foot Holder
- 3 Presser Foot



To snap on:

Place the presser foot so the pin on the foot lies just under the groove of the foot holder.

Lower the foot holder to lock the foot in place.

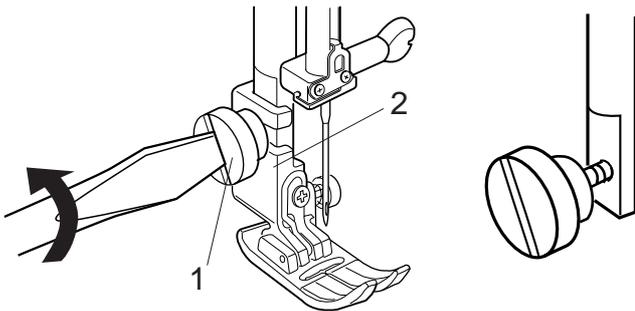
Each foot is marked with a letter for identification.

- 4 Groove
- 5 Pin
- 6 Identification Letter

Detaching and Attaching the Foot Holder

WARNING:

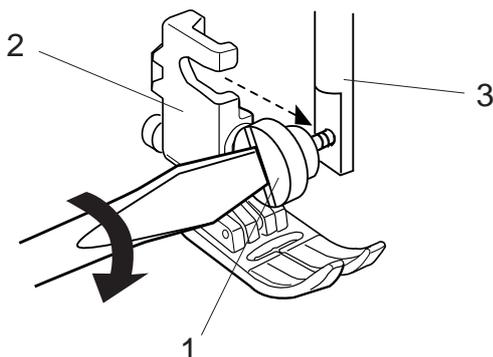
Turn OFF the power switch before detaching or attaching the foot holder.



To detach:

Raise the presser bar and turn the thumbscrew counterclockwise to remove the foot holder.

- 1 Thumbscrew
- 2 Foot holder



To attach:

Loosen the thumbscrew and attach the presser foot to the presser bar.

Tighten the thumbscrew by turning it clockwise.

- 3 Presser Bar

Setting for Dual Feed Sewing

When you use the Dual feed, attach the Dual feed as follows.

(See page 27)

To attach the Dual feed foot:

Raise the needle and presser foot.

- 1 Presser foot lifter

Loosen the thumb screw and remove the foot holder.

- 2 Thumb screw
- 3 Foot holder

Attach the Dual feed foot to the pressure bar, and tighten thumbscrew lightly. Lower the presser foot lifter and tighten the thumbscrew securely.

- 4 Dual feed foot
- 5 Pressure bar

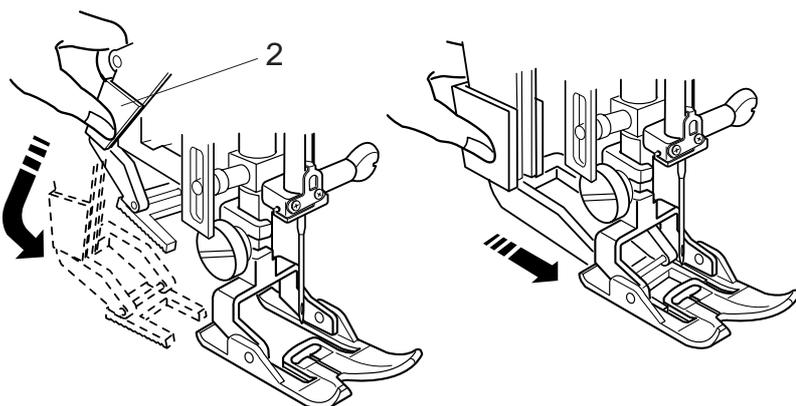
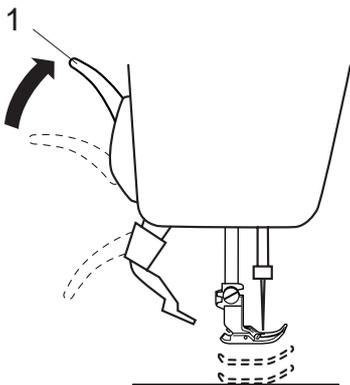
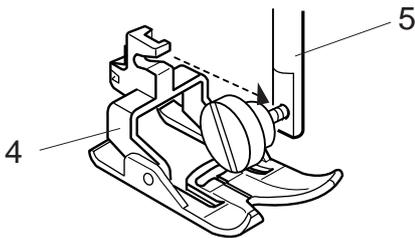
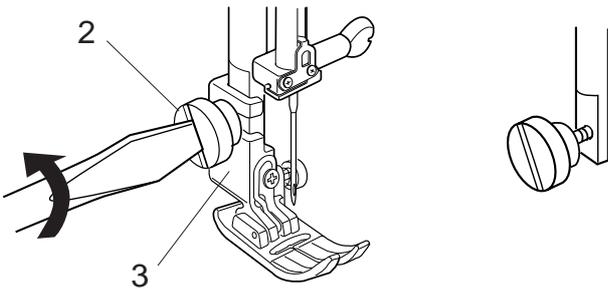
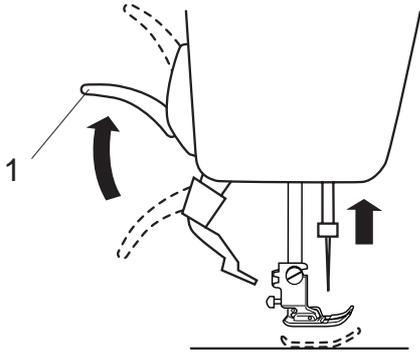
To engage the dual feed device

Raise the presser foot lifter to its extra lift position.

- 1 Extra lift position

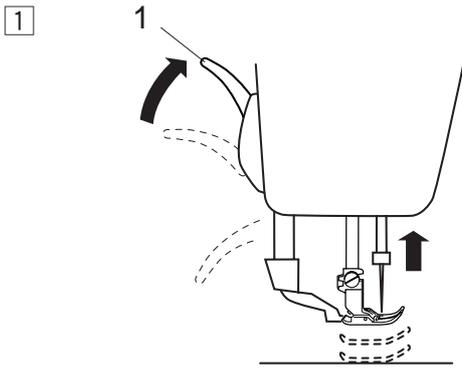
Lower the Dual feed device slowly and swing forward to the under side of the Dual feed foot until they engage.

- 2 Dual feed device

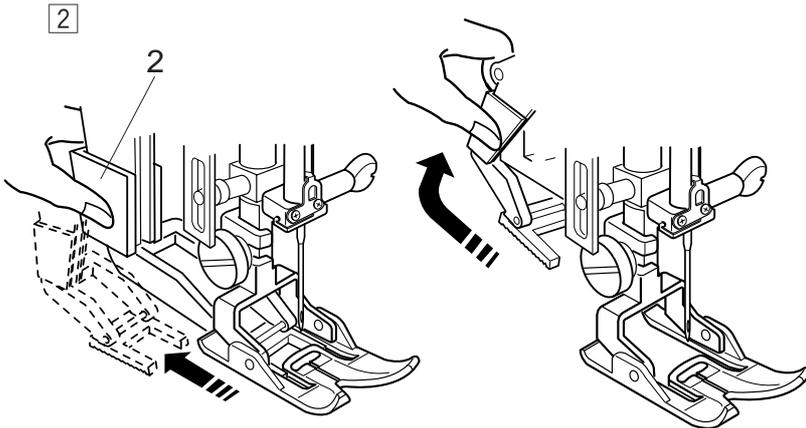


To disengage the Dual Feed Device

- 1 Raise the needle and the presser foot lifter to its extra lift position.
1 Presser foot lifter

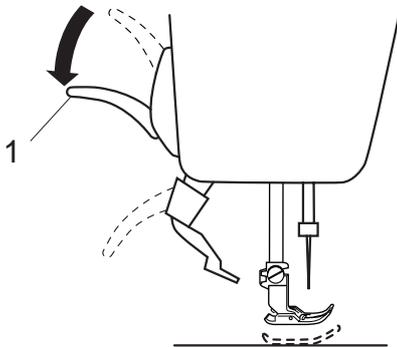


- 2 Pull down the Dual feed device and swing it to the rear to disengage. Release the Dual feed device slowly.
2 Dual feed device



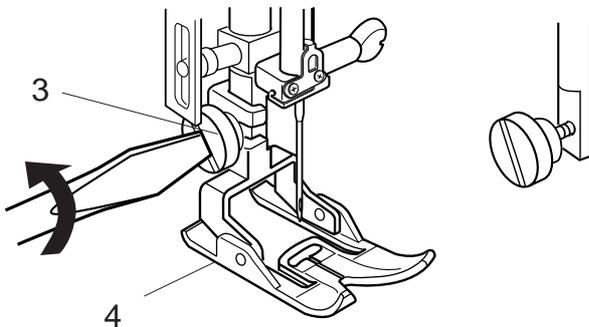
Detaching the Dual Feed Foot

- 1 Set the presser foot lifter to normal position.



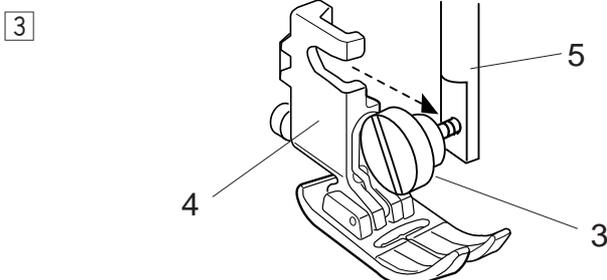
- 2 Loosen the thumb screw and remove the Dual feed foot.

- 3 Thumb screw
- 4 Dual feed foot

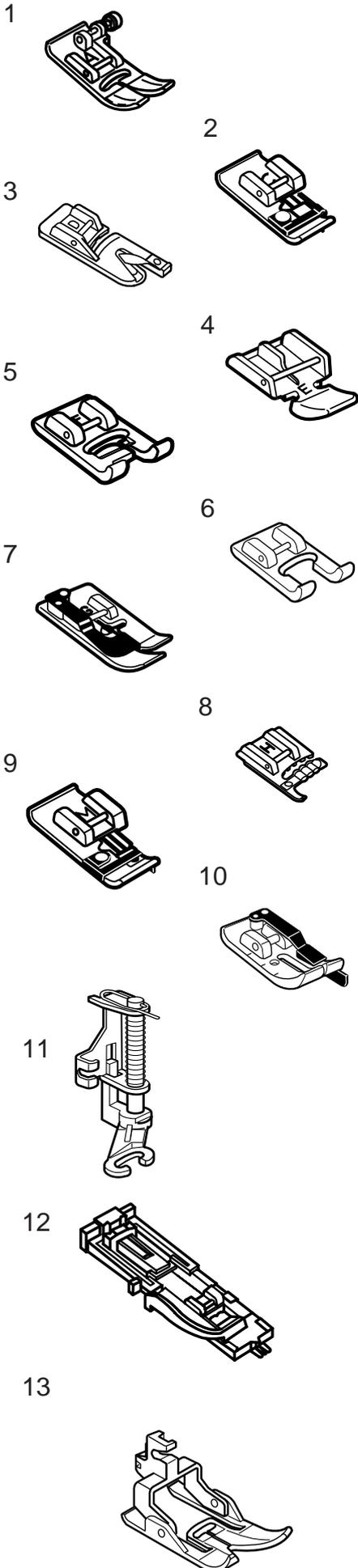


- 3 Attach the foot holder to the pressure bar and tighten thumb screw firmly.

- 5 Foot holder
- 6 Pressure bar



Variety of Presser Feet and Their Uses



1 Zigzag foot A:

This is the most versatile foot. It can be used for various stitches including straight stitches and zigzag stitches. It is designed to achieve firm and neat seam results.

2 Overedge foot C:

This foot is exclusively for overedging. The brush on the foot effectively prevents skipped stitches on the raw edge of fabrics.

3 Rolled hem foot D:

This special foot is for sewing a rolled hem. The curl of the foot helps to form a hem at a constant width.

4 Zipper foot E:

This foot is for sewing zippers. The zipper teeth are guided through the grooves on the bottom of the foot.

5 Satin stitch foot F:

This clear plastic foot is ideal for satin stitches and decorative stitches. The center groove on the bottom of the foot ensures smooth feeding of dense stitches.

6 Craft foot F-2:

This is an open toe satin stitch foot for patchwork and appliqué.

7 Blind hem foot G:

This foot is specially designed for blind hemming. The guide on the foot helps feed the fabric and sew a straight and nearly invisible blind-hem.

8 Cording foot H:

This foot is specially designed to hold one or three strands of cording to create braiding.

9 Overcasting Foot M:

This foot is specially designed to simulate professional style overlocking. The wires on the foot effectively prevent the fabric edge from puckering or rolling.

10 1/4" Seam foot O:

This foot is useful for patchwork piecing. The guide on the foot maintains an exact 1/4" (0.7 cm) seam allowance.

11 Basting/Darning foot P-2:

This is a special foot for basting. It holds the fabric while taking a stitch, synchronizing with the needle bar movement. This foot can also be used for free motion embroidery or quilting.

12 Automatic buttonhole foot R:

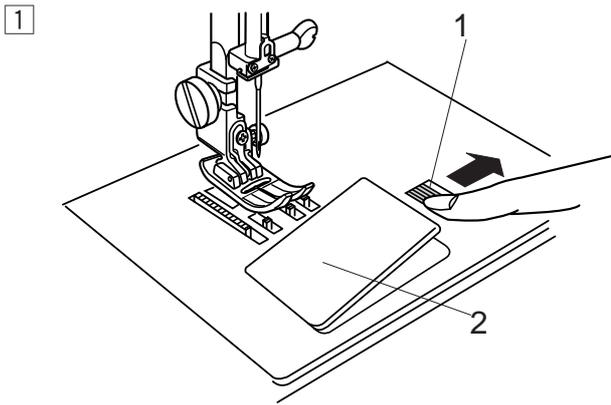
This foot is for buttonholes and for darning. Place a button in the button holder on the rear of the foot. This automatically sets the buttonhole size.

13 Dual feed foot AD:

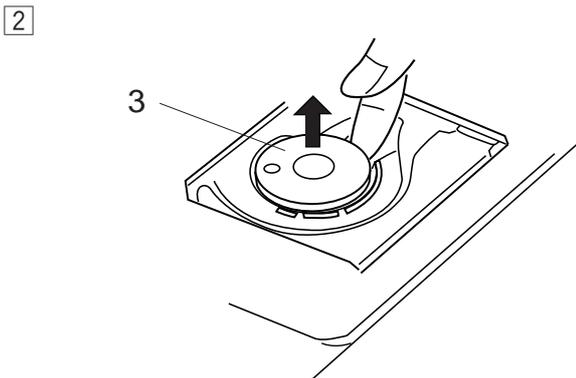
This is a special foot for hard-to-feed materials. This foot effectively prevents fabrics from shifting and puckering. It is great for quilting and matching plaids.

Winding the Bobbin

Removing the bobbin



- 1 Slide the hook cover plate release button to the right, and remove the hook cover plate.

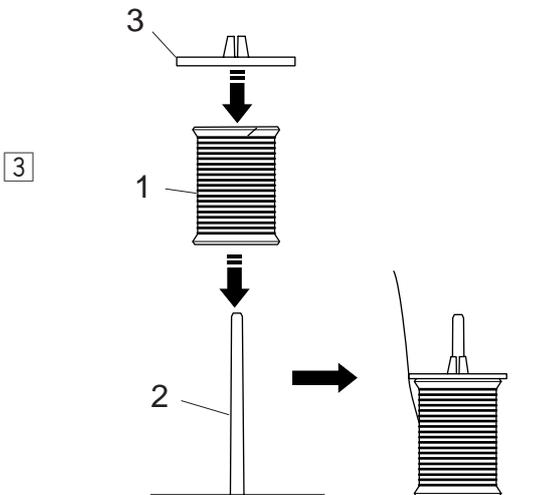


- 2 Lift out the bobbin from the bobbin holder.

- 1 Hook Cover Plate Release Button
- 2 Hook Cover Plate
- 3 Bobbin

NOTES:

Avoid using a bobbin when it begins to become empty, as it may cause thread bunching. Always use the correct bobbin. Using a wrong bobbin may cause malfunctions.



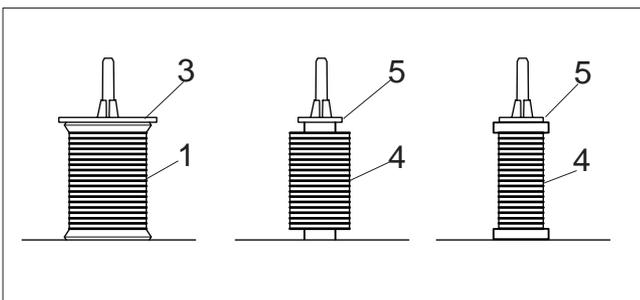
Setting the spool of thread

- 3 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.

- 1 Spool of Thread
- 2 Spool Pin
- 3 Spool Holder

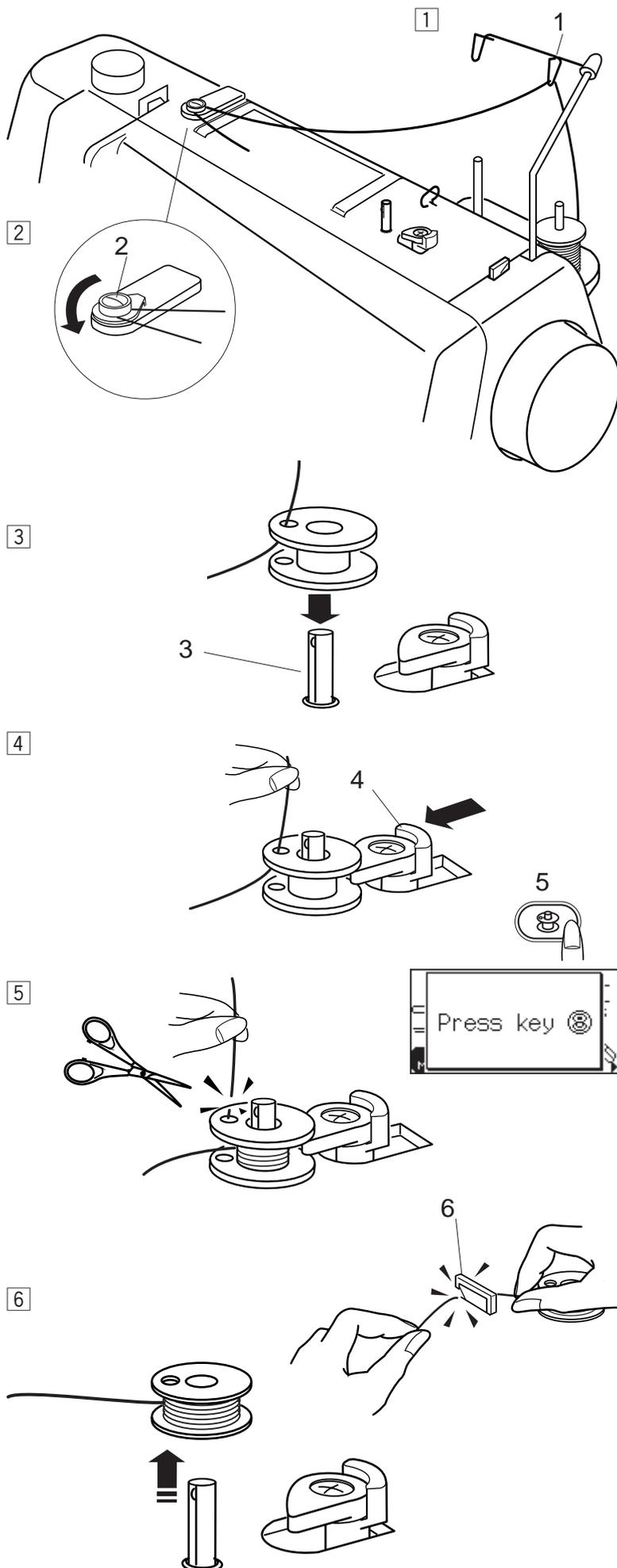
Use the large spool holder for ordinary spools, while the small spool holder for small spools.

- 4 Small Spool
- 5 Small Spool Holder



NOTES:

Avoid using a paper cored spool when it begins to empty since it will not unwind smoothly. It may cause the thread to bunch or slip when using the auto thread cutter.

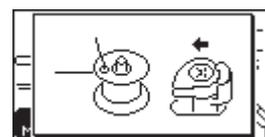


Winding the bobbin

- 1 Pass the thread through the guide on the thread guide bar from behind.
1 Thread Guide Bar
- 2 Pass the thread under the bobbin winding tension disk.
2 Bobbin Winding Tension Disk
- 3 Thread through the hole in the bobbin from the inside to the outside.
3 Bobbin Winder Spindle
- 4 Put the bobbin on the bobbin winder spindle. Push the bobbin winder stopper to the left.
4 Bobbin Winder Stopper

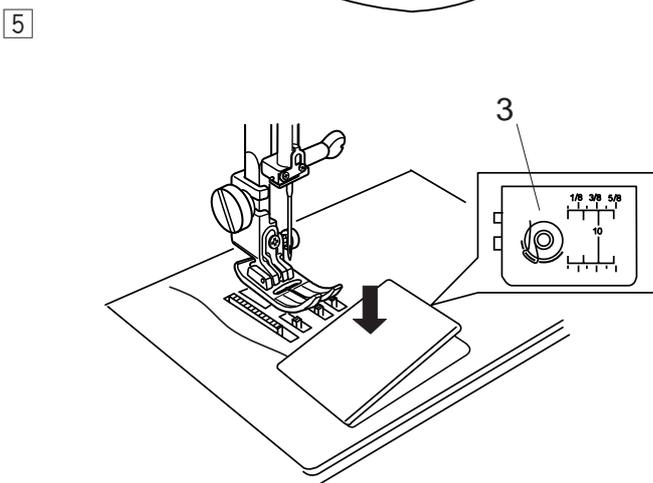
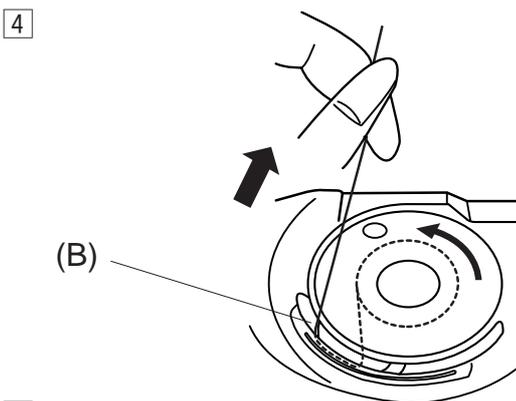
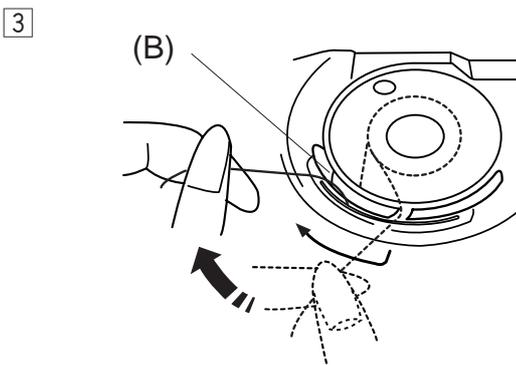
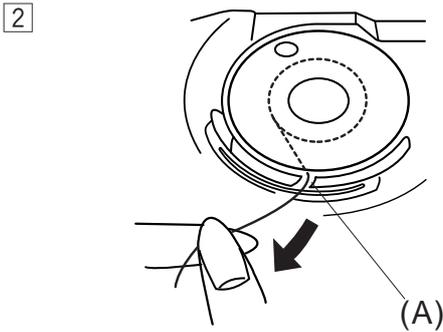
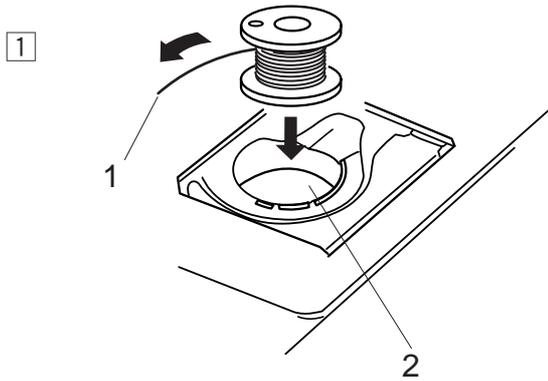
NOTE:

When the bobbin winding button is pushed without pushing the bobbin winder stopper to the left, the following screen is displayed.



- 5 Hold the free end of the thread in your hand and press the bobbin winding button. Press the bobbin winding button again to stop the bobbin when it has wound several layers, and cut the thread close to the hole in the bobbin.
5 Bobbin Winding Button
- 6 Press the bobbin winding button again. When the bobbin is fully wound, the machine will stop automatically. Automatically return the bobbin winder stopper to its original position, and cut the thread.
6 Thread cutter

Inserting the bobbin



- 1 Place the bobbin in the bobbin holder with the thread running off counterclockwise.

1 Thread
2 Bobbin Holder

- 2 Guide the thread into notch **(A)** on the front of the bobbin holder.

- 3 Draw the thread to the left, sliding it between the tension spring blades.

- 4 Continue to draw the thread lightly until the thread slips into side notch **(B)**. The bobbin should turn counterclockwise when pulling the bobbin thread. If not, reverse the bobbin and re-thread.

- 5 Pull out about 10 cm (4") of thread to the rear. Refer to the threading chart shown on the hook cover plate.

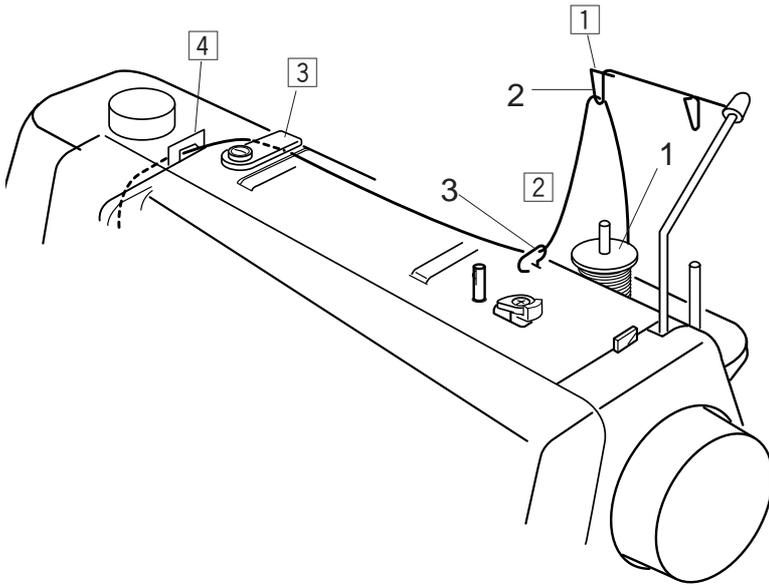
Reattach the hook cover plate.

3 Threading Chart

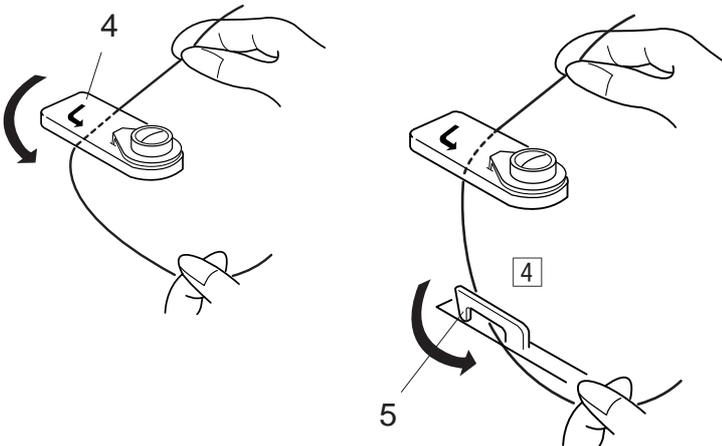
Threading the Machine

Draw the thread in order from **1** to **9**.

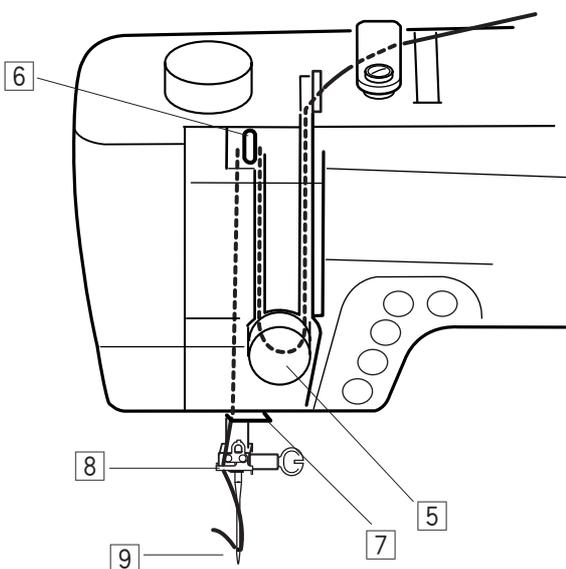
Raise the presser foot lifter. Press the up/down needle button twice to raise the needle to its highest position. Turn the power switch off.



- 1** Pass the thread through the guide on the thread guide bar from behind.
1 Spool Holder
- 2** Pass the thread through the right thread guide.
2 Right Thread Guide



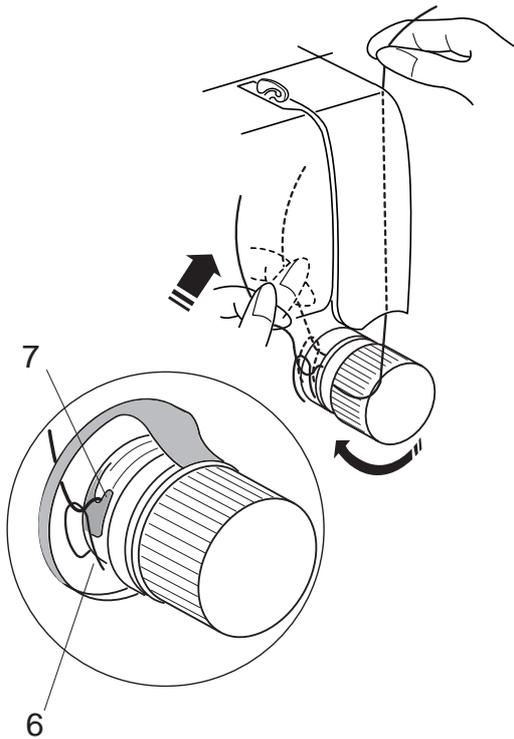
- 3** Hold the upper thread with both hands as shown and slip it under the thread guide plate.
3 Thread Guide Plate
- 4** Draw the thread toward you and pass it into the left thread guide. Draw the thread along the right channel.
4 Left Thread Guide
5 Thread Guide 2



NOTE:

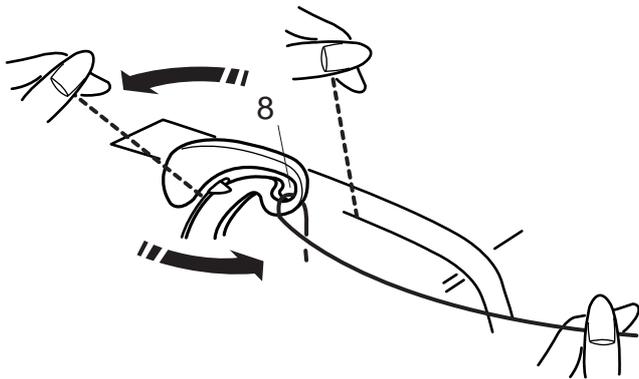
Be sure to use the spool holder to secure the thread spool in place.

Threading the machine (continued)



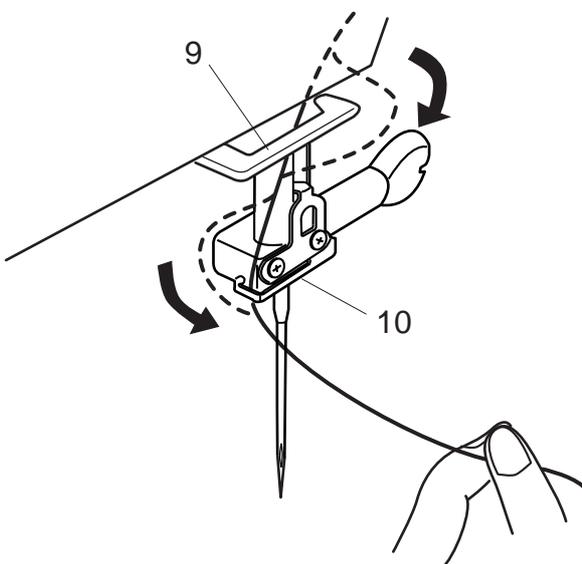
- 5 Draw the thread down and around the tension dial from the right to the left. Pull the thread up to insert it between the tension disks and under the loop of the check spring. Be sure that the thread is coming out from notch of the disk.

6 Check Spring
7 Notch



- 6 Firmly draw the thread up to the take-up lever and down into its eye from the right to the left, while holding the thread at the spool.

8 Eye of the Thread Take-up Lever



- 7 Draw the thread down through the lower thread guide from the right.

9 Lower Thread Guide

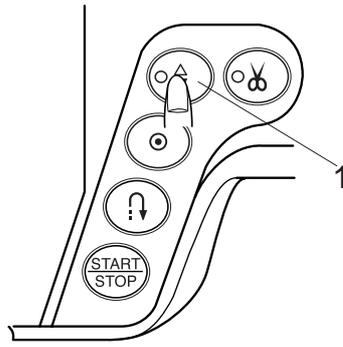
- 8 Slip the thread behind the needle bar thread guide on the left.

10 Needle Bar Thread Guide

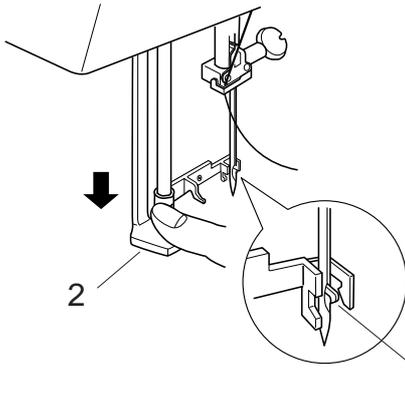
- 9 Thread the needle from front to back by hand or use the automatic needle threader.

Automatic needle threader

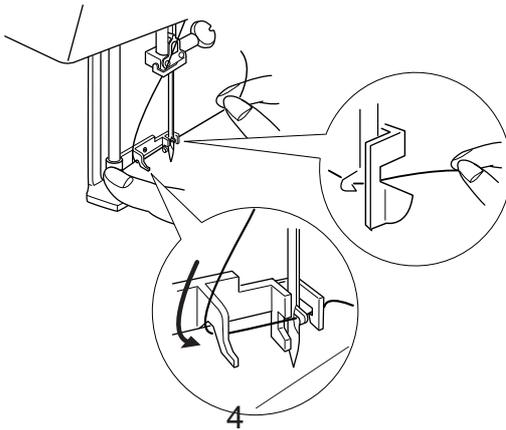
1



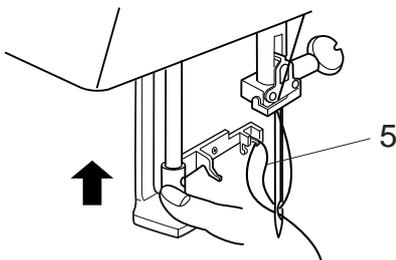
2



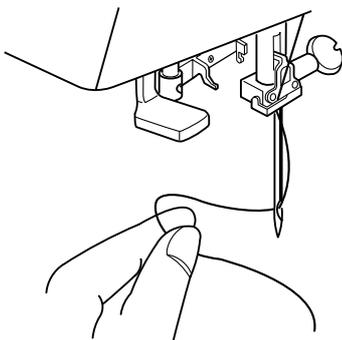
3



4



5



- 1 Raise the needle to its highest position by pressing the up/down needle button twice. Turn the power switch off. Lower the presser foot.

1 Up/Down Needle Button

- 2 Depress the needle threader knob as far as it will go. The hook comes out through the needle eye from behind.

2 Needle Threader Knob

3 Hook

- 3 Draw the thread down around the threader guide and under the hook.

4 Threader Guide

- 4 Release the threader knob slowly while holding the thread end with your hand. A loop of the thread is pulled up through the needle eye.

5 Loop of Thread

- 5 Remove the loop from the threader and pull out the thread end from the needle eye.

NOTES:

The automatic threader works well with the threads #50-90 and needles #11-16, including the Blue Tip needle.

The automatic needle threader cannot be used for threading the twin needle.

If the hook fails to pull a loop of the thread, check the needle and its setting.

Drawing up the bobbin thread

1 Raise the Presser Foot Lifter.

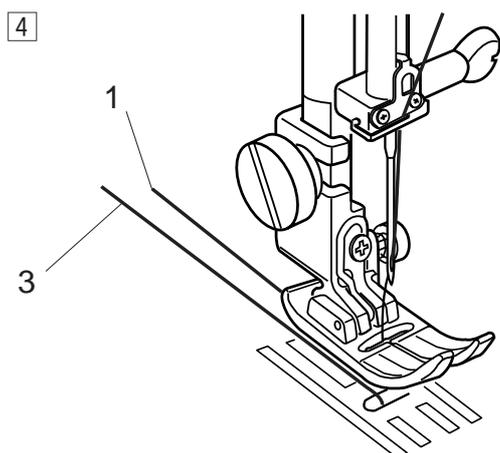
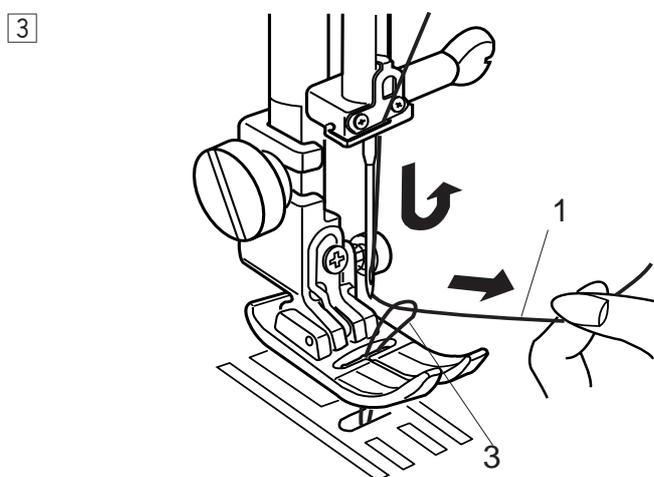
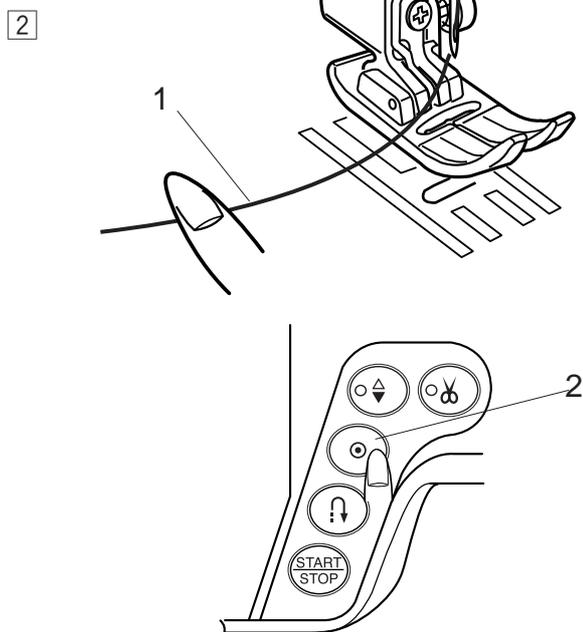
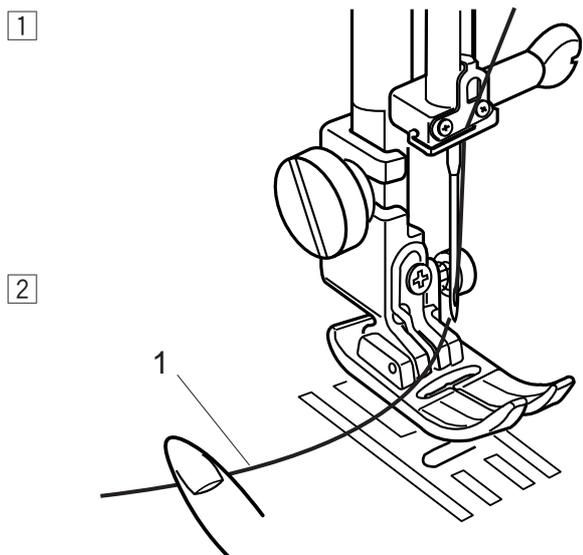
2 Hold the needle thread with your finger and press the up/down needle button twice to pick up the bobbin thread.

- 1 Needle Thread
- 2 Needle Up/Down Button

3 Draw up the needle thread to bring up a loop of the bobbin thread.

- 3 Bobbin Thread

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



Changing Needles

Raise the needle by pressing the up/down needle button and lower the presser foot.
Turn off the power switch.

Loosen the needle clamp screw by turning it counterclockwise.

Remove the needle from the clamp.

1 Needle Clamp Screw

Insert a new needle into the needle clamp with the flat side of the needle to the rear.

When inserting the needle into the needle clamp, push it up against the stopper pin and tighten the needle clamp screw firmly.

2 Stopper Pin

3 Flat Side

To check needle straightness, place the flat side of the needle onto something flat (a needle plate, glass etc.)

The gap between the needle and the flat surface should be consistent.

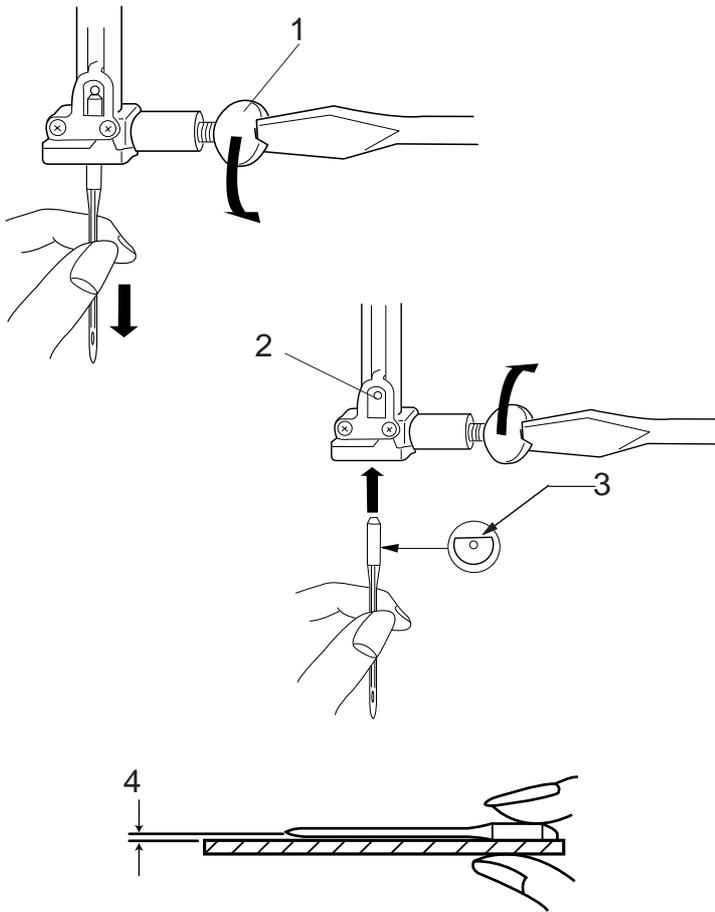
Never use a blunt needle.

4 Gap



CAUTION:

Always make sure to turn the power switch off and disconnect the machine from power supply before changing the needle.



Fabric and Needle Chart

WEIGHT	FABRIC	TYPE of NEEDLE	NEEDLE SIZE	
Very Light	Chiffon, Georgette, Fine Lace, Organdy Net, Tulle	Universal	9 (65)	
		Ball Point	9 (65)	
Light	Batiste, Voile, Lawn, Pure Silk, Crepe de Chine, Sheer Crepe, Chambray, Handkerchief Linen, Gingham, Challis, Percale, Wool Crepe, Peau de Soie, Taffeta, Satin, Silk Surah, Satin-backed Crepe, Qiana	Blue Tip Needle	11 (75)	
		Universal	11 (75) 12 (80)	
		Single Knits, Jersey, Swim wear, and Tricot	Blue Tip Needle Ball Point	11 (75) 11 (75)
	Leather Suede	Wedge Point Leather Needle	11 (75)	
Medium	Flannel, Velour, Velvet, Muslin, Velveteen, Poplin, Corduroy, Broadcloth, Linen, Chintz, Gabardine, Felt, Terry, Burlap, Quilted Fabrics	Universal	14 (90)	
		Double Knits, (synthetic and natural) Stretch Velour, Stretch Terry, Sweater Knits	Ball Point	14 (90)
		Leather, Vinyl, Suede	Wedge Point Leather Needle	14 (90)
Heavy	Denim, Sailcloth, Ticking	Denim Needle	16 (100)	
		Double Faced Wool, Heavy Coating, Fake Fur, Drapery Fabrics	Universal	16 (100)
		Leather, Suede	Wedge Point Leather Needle	16 (100) 18 (110)
Very Heavy	Canvas, Duck, Upholstery Fabrics	Universal	16 (100)	
	Topstitching for Special Finish	Topstitching Needle	14 (90)	

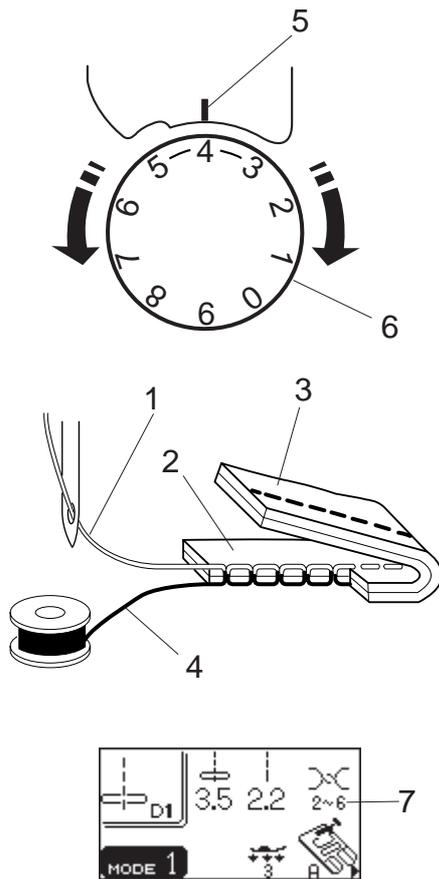
Balancing Thread Tension

Correct tension:

The ideal straight stitch has threads locked between two layers of fabric.

For an ideal zigzag stitch, the bobbin thread does not show on the right side of the fabric, and the needle thread shows slightly on the wrong side of the fabric.

- 1 Needle Thread
- 2 Right Side of the Fabric
- 3 Wrong Side of the Fabric
- 4 Bobbin Thread



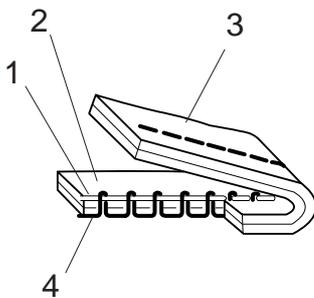
Adjusting the tension

Tension adjustment may be needed depending on the sewing materials, layers of fabric and other sewing conditions.

Turn the tension control dial to set the desired number at the setting mark.

Consult information on the LCD screen for the recommended tension setting.

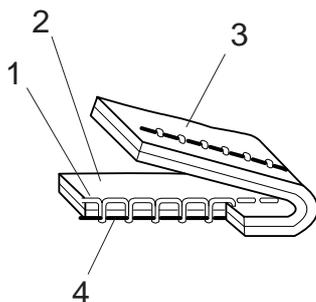
- 5 Setting Mark
- 6 Tension Control Dial
- 7 Recommended Tension Setting



Needle thread tension is too tight:

The bobbin thread will appear on the right side of the fabric.

Loosen the needle thread tension by moving the dial to a lower number.

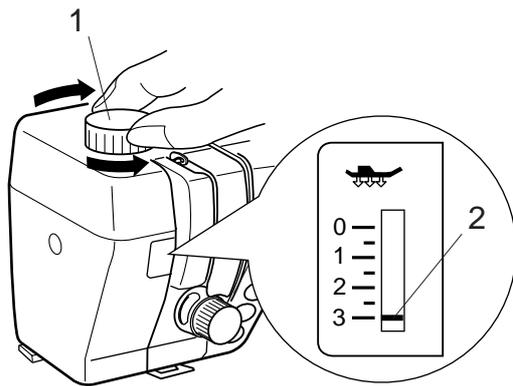


Needle thread tension is too loose:

The needle thread will appear on the wrong side of the fabric.

Tighten the needle thread tension by moving the dial to a higher number.

Adjusting the Foot Pressure



The foot pressure dial should be set at “3” for regular sewing.

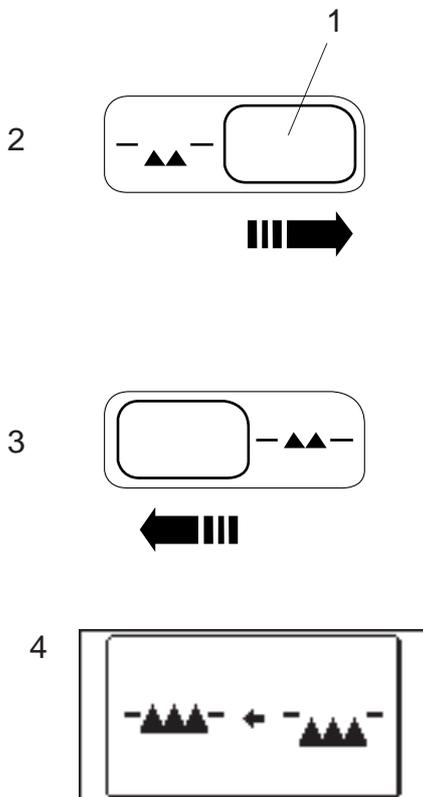
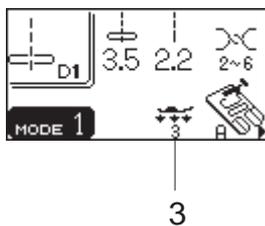
Reduce the pressure for appliqué, sewing on fine synthetics and elastic fabrics.

Set the dial at “1” when sewing extra fine fabrics.

- 1 Foot Pressure Dial
- 2 Setting mark
- 3 Recommended Tension Setting

NOTE:

Do not reduce the foot pressure lower than “0”.



Dropping the Feed Dog

The feed dog can be lowered by the drop feed lever for sewing on buttons, free motion embroidery, etc.

Shift the drop feed lever to the right to lower the feed dog.

Shift the lever to the left to raise the feed dog, it will return to the up position when starting the machine.

- 1 Drop Feed Lever
- 2 Down position
- 3 Up position

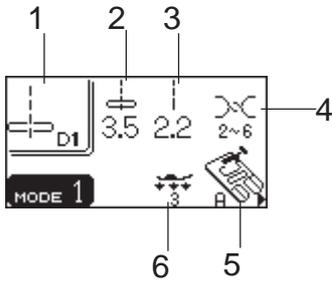
NOTE:

The feed dog should be in up position for normal sewing. A message will appear on the LCD screen when starting the machine with the feed dog lowered. The machine will run with the feed dog lowered when pattern D1, D2, 7, 8, 9 (Mode 1) and 11, 12, 13, 14, 15, 16, 26, 29, 61, 62, 63 (Mode 2) has been selected. The machine will not sew with the feed dog lowered when other patterns have been selected.

- 4 Message on the LCD screen



Mode 1



Selecting the Sewing Mode

On the LCD screen, the mode number and the following information are displayed:

- 1 Stitch Pattern
- 2 Stitch Width
- 3 Stitch Length
- 4 Recommended Thread Tension
- 5 Recommended Foot
- 6 Recommended Foot Pressure

The following 3 sewing modes are available:

Mode 1 (Direct):

The 10 most commonly used stitches can be selected directly.

Mode 2



Mode 2 (Quilting):

The patterns for patchwork quilting are available.

Mode 3



Mode 3 (Utility):

The buttonholes, utility and decorative stitches are available.

The Help Button

Pressing this button will show alternative applications of the selected pattern.

Example: When pattern D1 has been selected.

Each time you press the help button, the LCD will show as follows:

- 1 The zigzag foot and quilting bar for quilting will be shown.
 - 1 Presser foot
 - 2 Quilting bar
 - 3 Foot pressure
 - 4 Indicate there are more pages to show
- 2 The rolled hem foot for rolled hem will be shown.
- 3 The zipper foot for zipper sewing will be shown.
- 4 Step-by-step instructions how to engage and disengage the dual feed device.

Selecting the Pattern

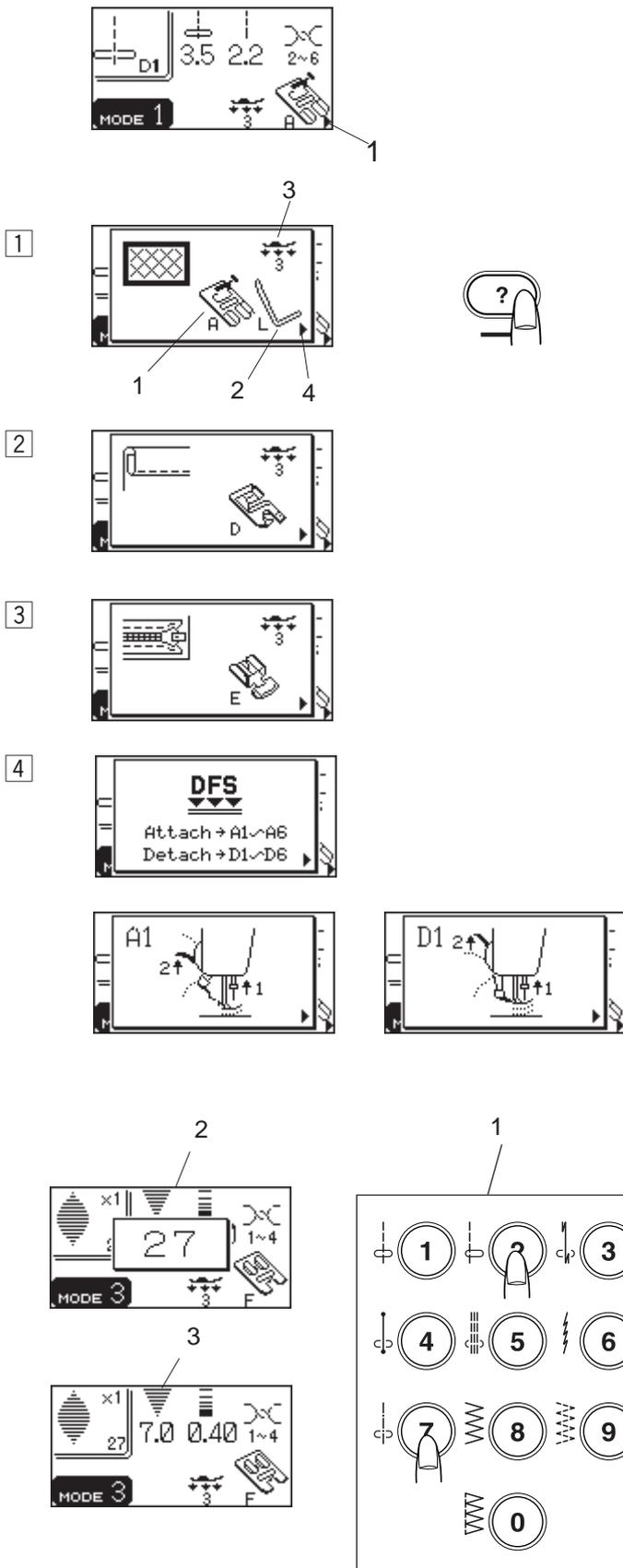
Mode 1: Press one of the numeral buttons corresponding to the desired pattern.

Mode 2 - 3: Enter the 2-digit pattern number by pressing the numeral buttons.

(Example: Pattern 27 mode 3)

The LCD screen will show the pattern number, stitch image then main display for the selected pattern.

- 1 Pattern Selection Button
- 2 Pattern Number Display
- 3 Main Display

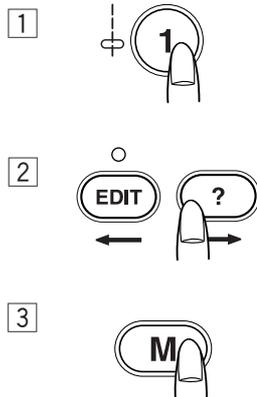
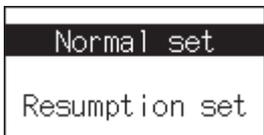
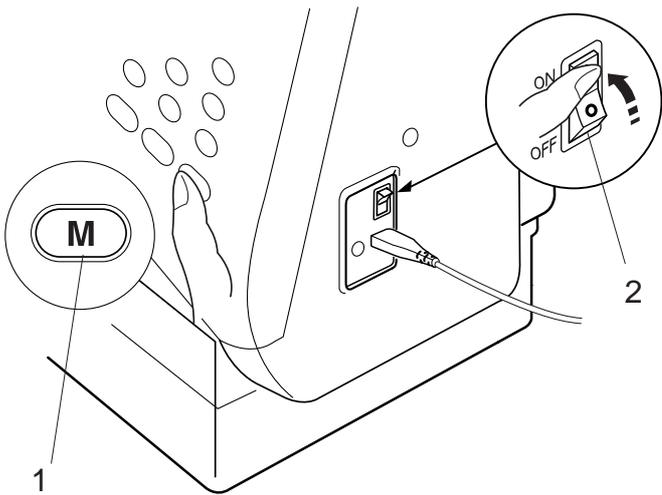


Customizing Machine Settings

You can customize the machine settings to your preference.

Turn the power switch on while pressing the memory button and the LCD screen will show the machine setting window.

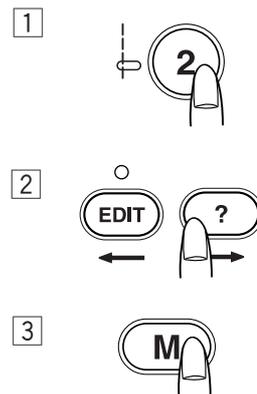
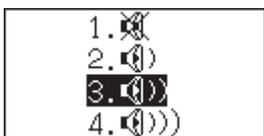
- 1 Memory button
- 2 Power Switch



Resumption setting

The last pattern sewn before turning the power off will be recalled when turning the power on again.

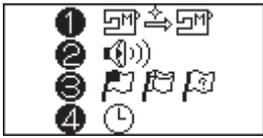
- 1 Press the button number 1 and the LCD screen shows normal/resumption setting display.
- 2 Press the editing or help button to select either Normal or Resumption setting.
- 3 Press the memory button to confirm your selection.



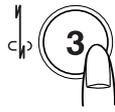
Sound setting

You can mute the buzzer in normal operation.

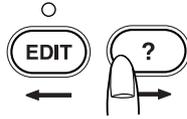
- 1 Press the button number 2 and the LCD screen shows sound setting display.
- 2 Press editing or help button to select sound setting either on or off.
- 3 Press the memory button to confirm your selection.



1



2



3



Language selection

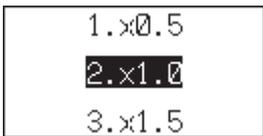
You can choose one of 10 languages for screen display.

- 1 English
- 2 Spanish
- 3 Finnish
- 4 French
- 5 German
- 6 Italian
- 7 Dutch
- 8 Portuguese
- 9 Russian
- 10 Swedish

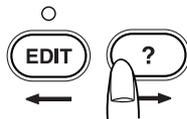
- 1 Press the button number 3 and the LCD screen shows language selection display.
- 2 Press editing or help button to select a language.
- 3 Press the memory button to confirm your selection.



1



2



3



Window duration time setting

A window will appear when selecting patterns, altering stitch length or width.

The duration of window displayed can be set.

The default setting is 2. x1.0 (2 seconds).

1. x 0.5.....1 second
3. x 1.0.....2 seconds

- 1 Press the "4" key. The LCD screen shows the window duration time setting display.
- 2 Press the edit or help key to select the duration.
- 3 Press the memory key to enable the setting.



* The opening window shows the customized settings that you have made.

BASIC STITCHES (Mode 1)

Straight Stitch

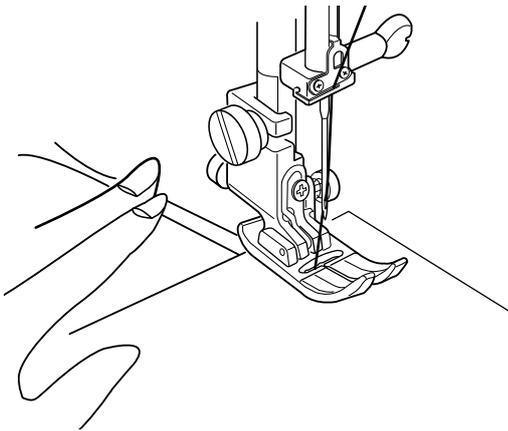
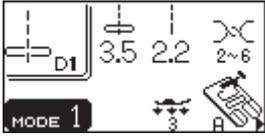
Machine Setting

Pattern: D1

Thread tension: 2-6

Presser foot: Zigzag foot A

Foot pressure: 3



To sew

Raise the presser foot and position the fabric next to a seam guide line on the needle plate. Lower the needle to the point where you wish to start.

Pull the needle and bobbin threads toward the rear. Lower the presser foot.

Depress the foot control to start sewing. Gently guide the fabric along the seam guide line letting the fabric feed naturally.

To sew from the edge of thick fabric

The black button on the zigzag foot locks the foot in the horizontal position.

This is helpful when you start sewing from extreme edge of thick fabrics or sewing across a hem.

Lower the needle into the fabric at the point where you wish to start sewing.

Lower the foot while pushing the black button in. The foot is locked in the horizontal position to avoid slipping.

- 1 Thick Fabrics
- 2 Black Button

Securing seam

For fastening the ends of seams, press the reverse button and sew several reverse stitches.

The machine sews in reverse as long as you press and hold in the reverse button.

Press the reverse button once when sewing the Lock-a-Matic stitch (pattern 03) or locking stitch (pattern 04) so the machine will lock the stitch off and stop automatically.

After finishing sewing, press the thread cutter button to cut the threads.

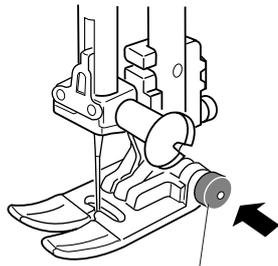
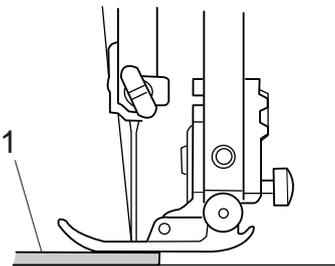
- 3 Thread Cutter Button

To start the next seam, it is recommended to bring the bobbin thread up and pull both needle and bobbin threads to the back under the presser foot.

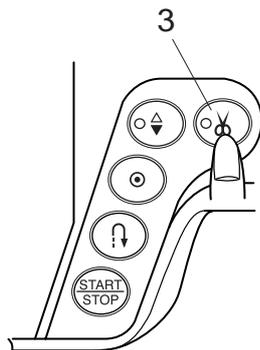
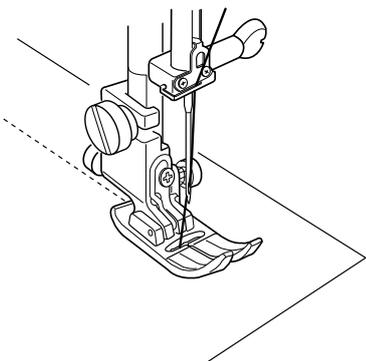
NOTE:

Use the thread cutter on the face plate to cut the specialized or thick threads if the auto thread cutter does not work well.

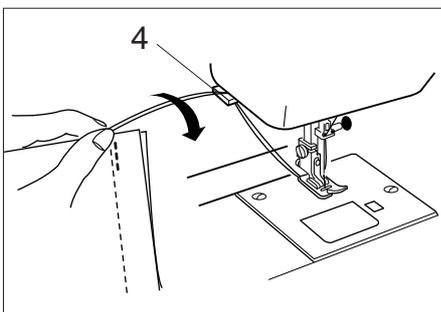
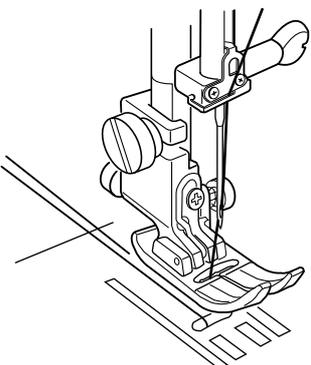
- 4 Thread Cutter



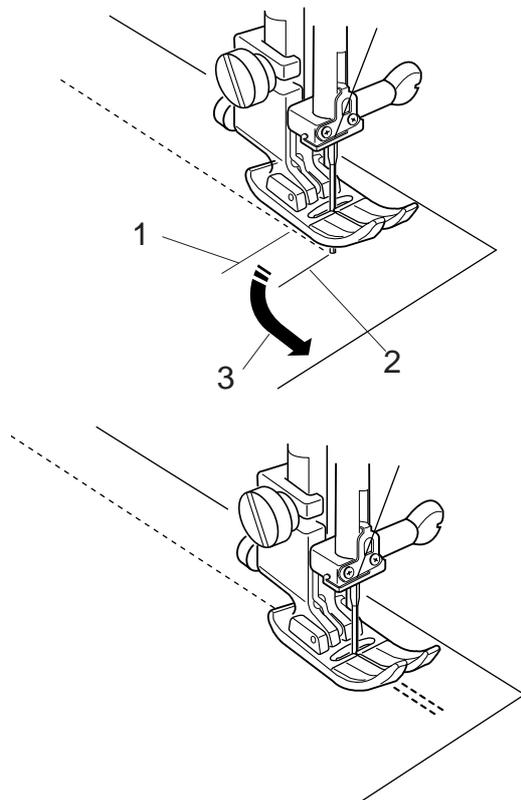
2



3



4



Changing sewing direction:

Stop the machine a few stitches before the end of a seam. Press the up/down needle button a few times until the needle falls on the end of the seam.

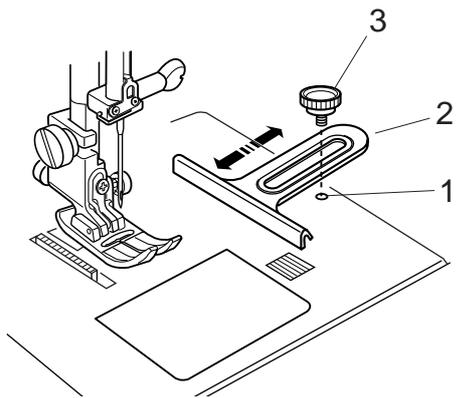
Raise the presser foot.

Pivot the fabric around the needle to change the sewing direction as desired.

Lower the presser foot and start sewing in a new direction.

- 1 A few stitch before the end of seam
- 2 End of seam
- 3 Changing direction

* Patterns D3, D4 (mode1), D03, D04 (mode 2) will stop automatically after pressing the reverse button.

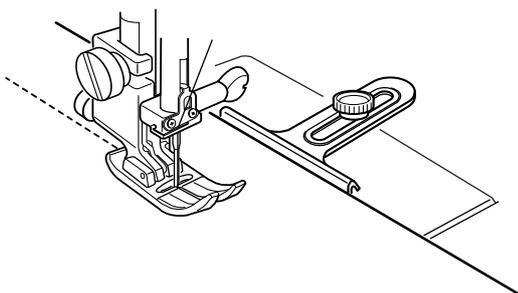


Using the cloth guide:

Attach the cloth guide on the needle plate with a screw. Adjust the position of the cloth guide and tighten the screw.

Place the fabric with its edge against the cloth guide and sew.

- 1 Threaded Hole
- 2 Cloth Guide
- 3 Screw



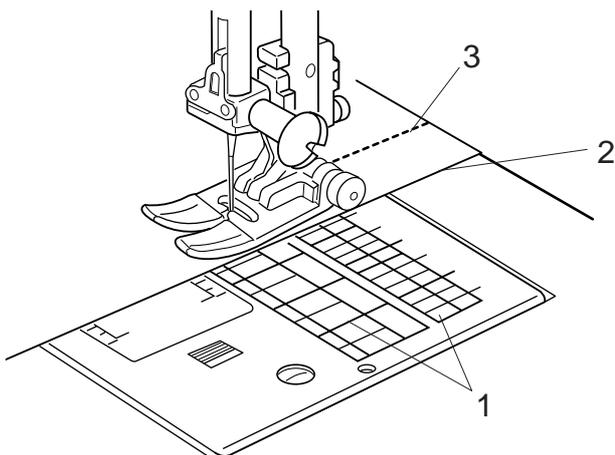
Using the seam guide lines:

The seam guides on the needle plate and hook cover help you to measure seam allowance.

NOTE:

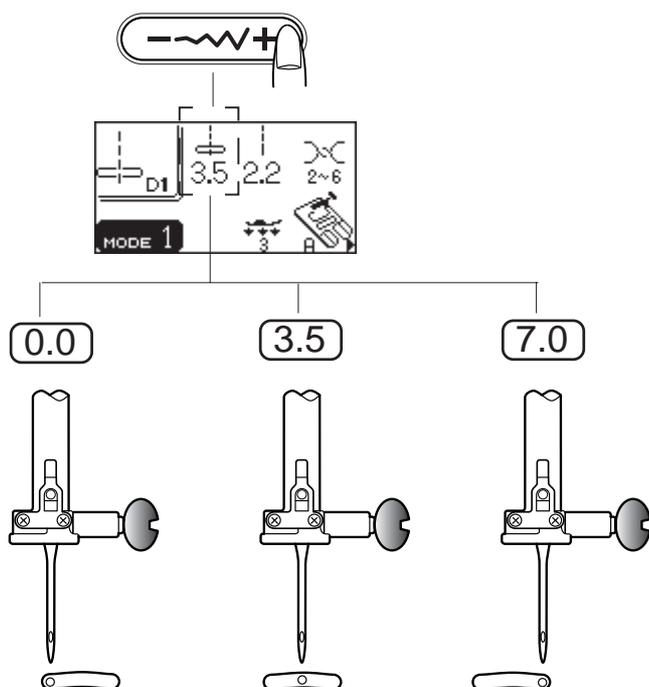
The numbers on the needle plate indicate the distance from the center needle position in millimeters and inches.

- 1 Center Needle Position
- 2 Edge of the Fabric
- 3 Guide Lines



Adjusting the needle drop position

The needle drop position can be altered by pressing the stitch width adjusting button.



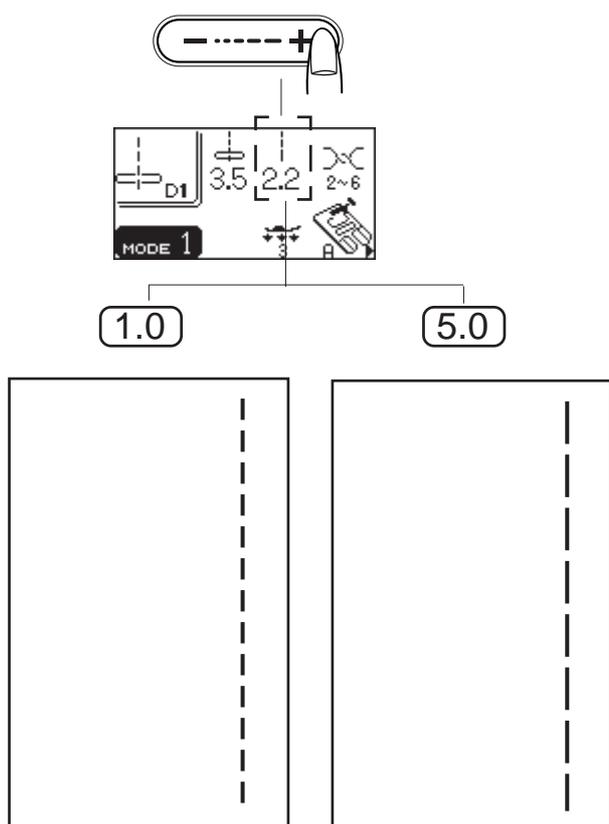
Press the right side of the button (+ sign) to move the needle bar to the right.

Press the left side of the button (- sign) to move the needle bar to the left.

Adjusting the stitch length

The stitch length can be altered by pressing the stitch length adjusting button.

The stitch length indication will change as pressing the button.



Press the right side of the button (+ sign) to increase the stitch length.

Press the left side of the button (- sign) to decrease the stitch length.

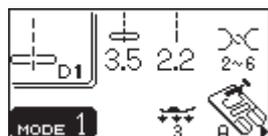
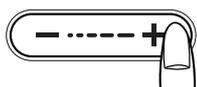
To customize the preset values for the stitch length and width

The preset value of the stitch length and width are optimized for the selected pattern. However, you can change the preset value of the following patterns to suit your sewing preference.

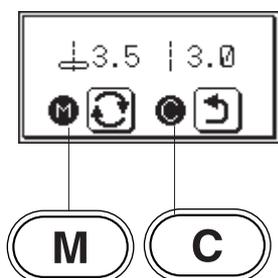
Mode 1: Patterns D-9, 0

Mode 3: Patterns 14 – 20

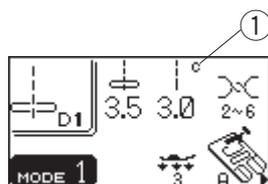
1



2



3



1 Example: To change the preset value for the stitch length

Select the stitch pattern you want to change the preset value.

Press “-” or “+” to change the stitch length.

To decrease the stitch length, press “-”

To increase the stitch length, press “+”.

2 Press the stock/call key. The LCD screen will display the custom setting window.

: Press the Memory button to save the custom settings

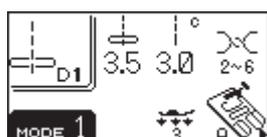
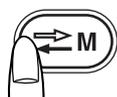
: Press the Clear button to restore the default settings

3 The LCD screen will return to the previous window and a symbol “C” ① will appear on the screen to indicate that the preset values have been changed.

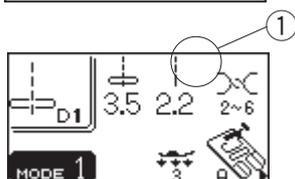
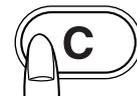
Restoring the default settings

Select the pattern that you have changed the settings of.

1



2



1 Press the stock/call key. The LCD screen will show the custom setting window with the customized settings.

2 Press the “C” ① key. The LCD screen will return to the previous window and the symbol “C” will disappear. The preset values will return to the default setting (the same settings when you have purchased the machine).

Variety of the straight stitches

Straight stitch with left needle position

Machine Setting

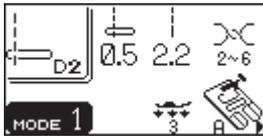
Pattern: D2

Thread tension: 2-6

Presser foot: Zigzag foot A, Dual feed foot AD

Foot pressure: 3

Use this stitch to seam the edge of fabrics.



Lock-a-Matic stitch

Machine Setting

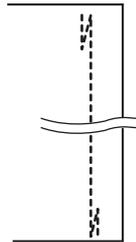
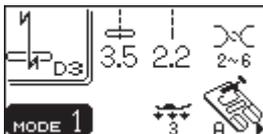
Pattern: D3

Thread tension: 2-6

Presser foot: Zigzag foot A, Dual feed foot AD

Foot pressure: 3

Use this stitch to secure the beginning and the end of a seam with backstitching. When you reach the end of the seam, press the reverse button once. The machine will sew four reverse stitches, four forward stitches, and then stop sewing automatically.



Locking stitch

Machine Setting

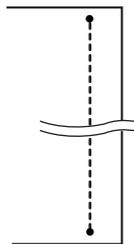
Pattern: D4

Thread tension: 2-6

Presser foot: Zigzag foot A, Dual feed foot AD

Foot pressure: 3

This unique stitch is used where an invisible locking stitch is needed. Lower the needle close to the front edge of the fabric. The machine will sew several locking stitches in place and continue sewing forward. When you press the reverse button at the end of the seam, the machine will sew several locking stitches in place, then stop sewing automatically.



Triple stretch stitch

Machine Setting

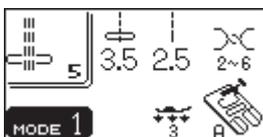
Pattern: 5

Thread tension: 2-6

Presser foot: Zigzag foot A

Foot pressure: 3

This strong, durable stitch is recommended for areas 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 it when constructing items such as backpacks for extra strength.



Stretch stitch

Machine Setting

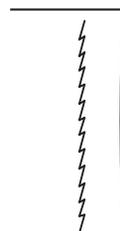
Pattern: 6

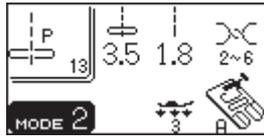
Thread tension: 2-6

Presser foot: Zigzag foot A

Foot pressure: 3

This is a narrow stretch stitch designed to eliminate puckering on knit fabrics and bias seams, while permitting the seam to be pressed completely open flat.





Patchwork piecing

Machine Setting

Pattern: 13, 16
 Thread tension: 2-6
 Presser foot: Zigzag foot A
 Foot pressure: 3

This stitch is ideal for patchwork piecing.



French knots

Machine Setting

Pattern: 19
 Thread tension: 5-8
 Presser foot: Satin Stitch foot F
 Foot pressure: 2-3

Use this stitch for decorative stitching.



Straight stitch

Machine Setting

Pattern: 22
 Thread tension: 3-6
 Presser foot: Satin Stitch foot F
 Foot pressure: 2-3

Use this stitch for decorative outlines.

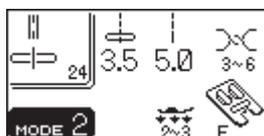


Sculpture stitch

Machine Setting

Pattern: 23
 Thread tension: 3-6
 Presser foot: Satin Stitch foot F
 Foot pressure: 2-3

Use this stitch for decorative outlines.



New Sculpture stitch

Machine Setting

Pattern: 24
 Thread tension: 3-6
 Presser foot: Satin Stitch foot F
 Foot pressure: 2-3

Use this stitch for quilting or decorative stitching.



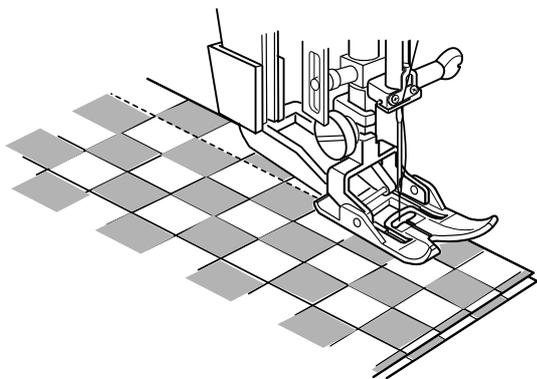
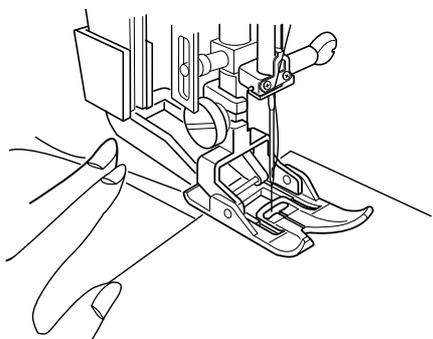
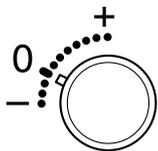
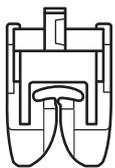
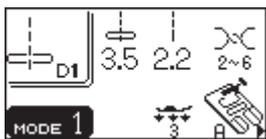
Saddle stitch

Machine Setting

Pattern: 25
 Thread tension: 3-6
 Presser foot: Zigzag foot A
 Foot pressure: 2-3

You can achieve a lovely hand-worked look when topstitching suits, blazers, jumpers and denim outfits with the saddle stitch.

Straight Stitch (Dual Feed: AD)



Machine Setting

Pattern: D1
 Thread tension: 2-6
 Presser foot: Dual Feed foot AD
 Foot pressure: 3
 Dual Feed adjusting dial: 0

Patterns D1, D2, D3, D4 (mode 1) and D01, D02, D03, D04 (mode 2) can be used with the Dual Feed foot.

The Dual Feed foot is extremely effective for sewing with hard to feed materials such as vinyl or leather. It also eliminates layer slippage.

NOTE:

See page 13 for how to attach the Dual Feed foot and to engage the Dual Feed device.

To sew

Raise the presser foot and position the fabric next to a seam guide line on the needle plate. Lower the needle to the point where you wish to start.

Pull the needle and bobbin threads toward the rear. Lower the presser foot.

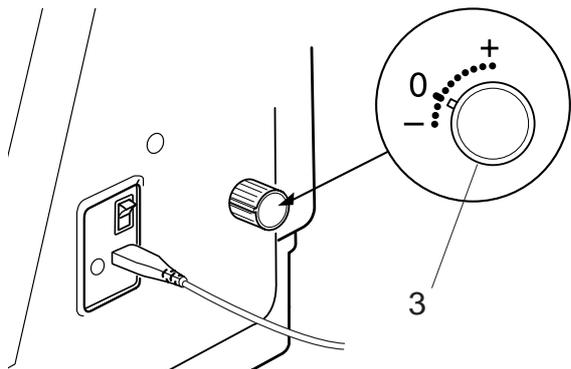
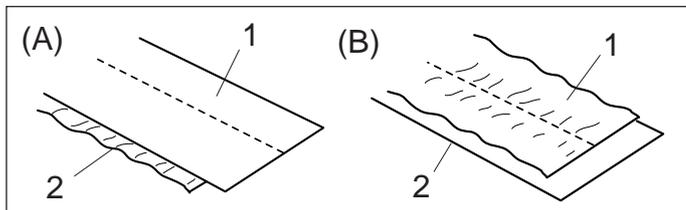
Depress the foot control to start sewing. Gently guide the fabric along the seam guide line letting the fabric feed naturally.

Dual Feed adjusting dial

(A) If the lower layer puckers, turn the Dual Feed adjusting dial toward “+”.

(B) If the upper layer puckers, turn the Dual Feed adjusting dial toward “-”.

- 1 Upper layer
- 2 Lower layer
- 3 Dual Feed adjusting dial



Basting Stitch

Machine Setting

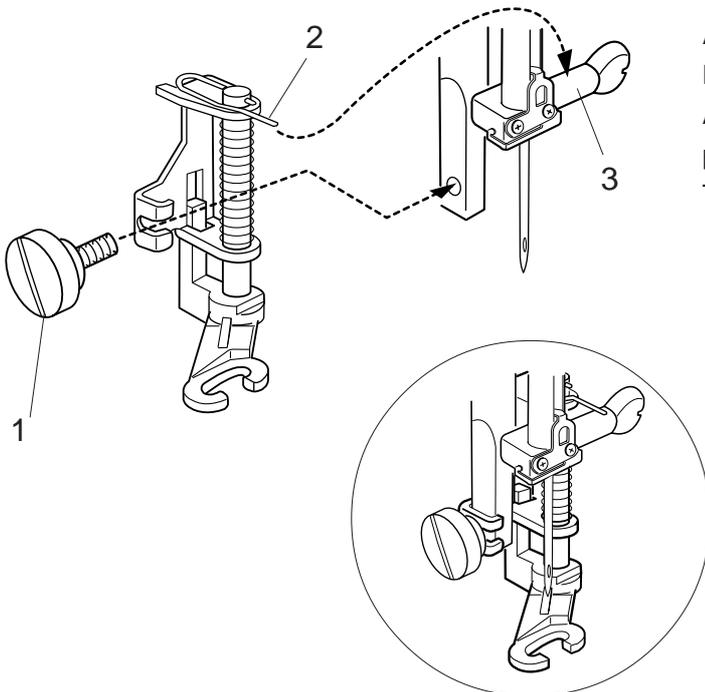
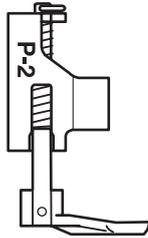
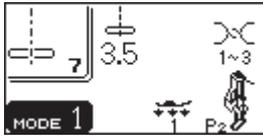
Pattern: 7

Thread tension: 1-3

Presser foot: Basting/Darning foot P-2

Foot pressure: 1

Feed dog: Dropped (See page 25)



Attaching the Basting/Darning foot P-2

Loosen the thumbscrew and remove the foot holder.

Attach the Basting/Darning foot **P-2** to the presser bar putting the pin on the needle clamp screw.

Tighten the thumbscrew firmly with the screwdriver.

- 1 Thumb screw
- 2 Pin
- 3 Needle clamp screw

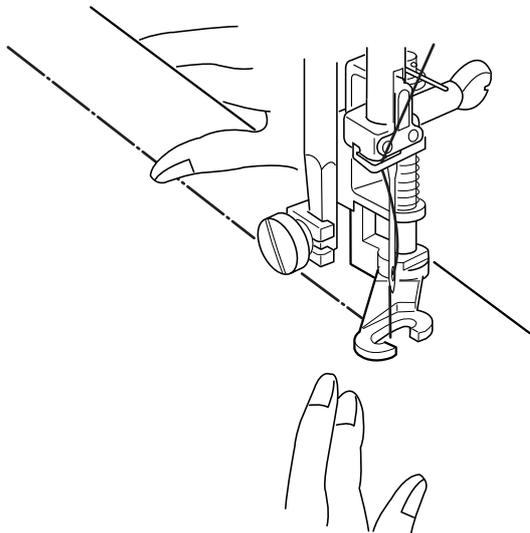
To sew:

Draw both needle and bobbin thread to the back.

Depress the foot control. The machine will take one stitch and stop automatically.

Release the foot control.

Hold the fabric taut and slide it to a place where you want the next stitch.



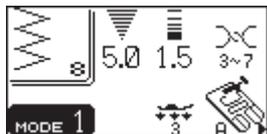
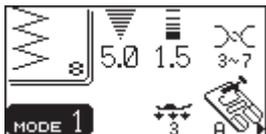
CAUTION:

Do not pull the fabric toward you while stitching. It may deflect the needle causing it to break.

Zigzag Stitch

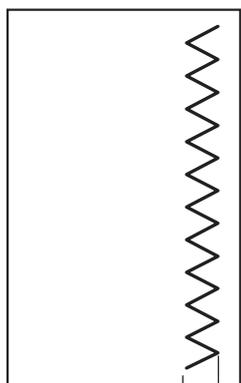
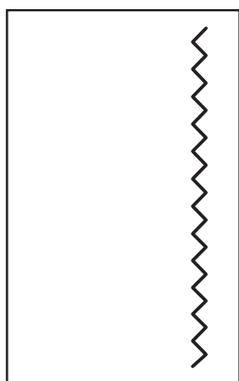
Machine Setting

Pattern: 8 (mode 1), 08,09 (mode2) 01, 02 (mode 3)
 Thread tension: 3-7
 Presser foot: Zigzag foot A
 Foot pressure: 3



2.0

7.0



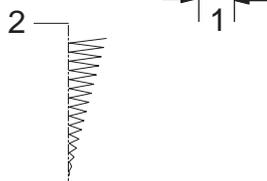
Zigzag stitch is used for various sewing needs including overcasting. It can be used on most woven fabrics. A dense zigzag stitch can also be used for appliqué.

Adjusting the stitch width

Press the right side of the button (+ sign) to increase the stitch width.

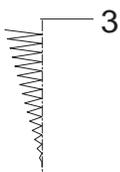
Press the left side of the button (- sign) to decrease the stitch width.

1 Stitch Width



Pattern 01 (mode 3) has a fixed left needle drop position. When you change the stitch width, right needle drop position will be changed.

2 Fixed left needle position



Pattern 02 is fixed right needle position.

3 Fixed right needle position



1.0

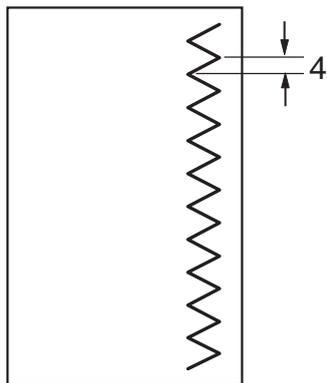
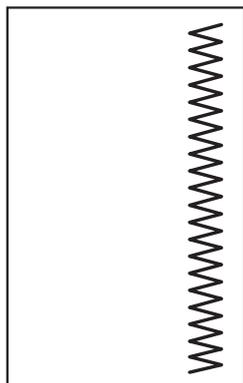
5.0

Adjusting the stitch length

Press the right side of the button (+ sign) to increase the stitch length.

Press the left side of the button (- sign) to decrease the stitch length.

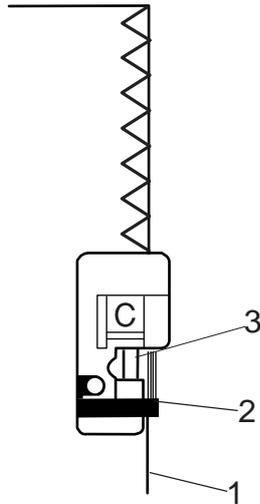
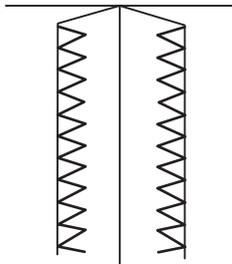
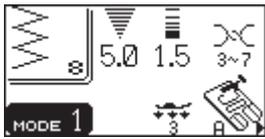
4 Stitch Length



NOTE:

The stitch length and width can be altered while stitching.

Variety of Overcasting Stitches



Overcasting with zigzag stitch

Machine Setting

Pattern: 8 (mode 1)
 Thread tension: 3-7
 Presser foot: Zigzag foot A
 Foot pressure: 3

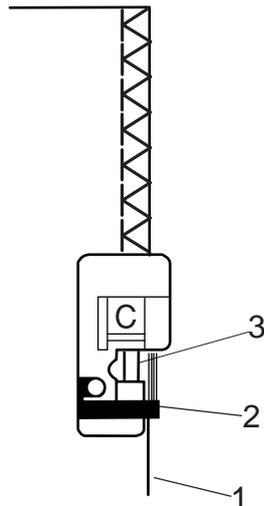
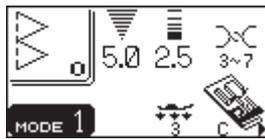
Place the fabric edge next to the guide of the foot and then sew.

- 1 Edge of Fabrics
- 2 Guide
- 3 Wires on Foot



CAUTION:

When you use the overedge foot C, you must set the zigzag width at 5.0 or wider to prevent the needle from hitting the wires on the foot.



Overcasting stitch

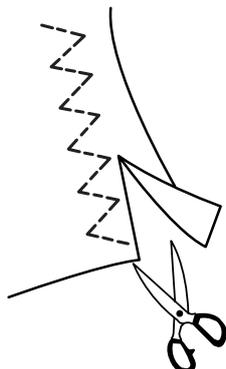
Machine Setting

Pattern: 0 (mode 1)
 Thread tension: 3-7
 Presser foot: Overedge foot C
 Foot pressure: 3

This stitch can be used to simultaneously seam and overcast edges of fabrics.

Use this stitch when you do not need to open seams flat. Place the fabric edge next to the guide of the foot and then sew.

- 1 Edge of Fabrics
- 2 Guide
- 3 Wires on Foot



Multiple zigzag stitch (Tricot stitch)

Machine Setting

Pattern: 9 (mode 1)
 Thread tension: 3-6
 Presser foot: Zigzag foot A
 Foot pressure: 3

This stitch is used to finish a raw edge of synthetics and other stretch fabrics that tend to pucker.

Sew along the fabric edge leaving an adequate seam allowance.

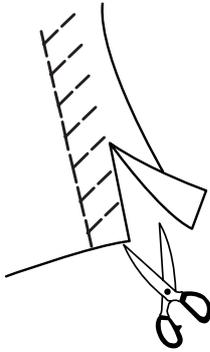
After sewing, trim the seam allowance close to the stitches.

Variety of Overcasting Stitches (continued)

Knit stitch

Machine Setting

Pattern: 03 (Mode 3)
 Thread tension: 3-6
 Presser foot: Zigzag foot A
 Foot pressure: 3



This stitch is recommended for sewing such fabrics as synthetic knits and stretch velour as it provides the greatest amount of elasticity and strength.

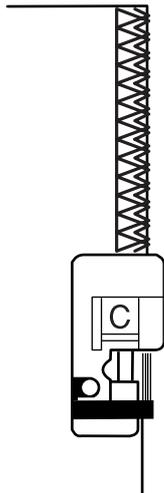
Sew along the fabric edge leaving an adequate seam allowance.

After sewing, trim the seam allowance close to the stitches.

Double Overedge stitch

Machine Setting

Pattern: 04 (Mode 3)
 Thread tension: 3-7
 Presser foot: Overedge foot C
 Foot pressure: 3



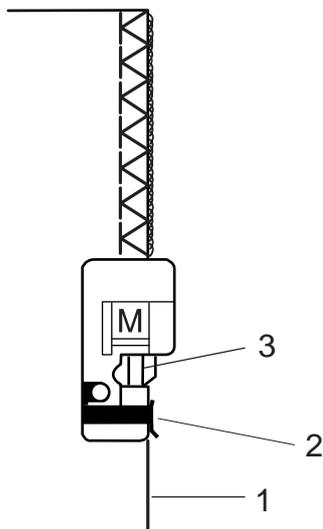
This is an excellent stitch for fabrics that tend to fray extensively such as linens and gabardines.

Two rows of zigzag stitches are simultaneously sewn over the edge to insure that fabric will not ravel.

Place the fabric edge next to the guide of the foot and then sew.

! CAUTION:

When you use the overedge foot C, you must set the zigzag width at 5.0 or wider to prevent the needle from hitting the wires on the foot.



Overlock stitch

Machine Setting

Pattern: 05 (Mode 3)
 Thread tension: 6-8
 Presser foot: Overcasting foot M
 Foot pressure: 3

This stitch finishes the edges of fabric similar to a commercial overlocking machine for a professional look.

Place the fabric edge next to the guide of the foot and then sew.

Note:

The stitch width of this pattern cannot be changed.

! CAUTION:

When you use the overedge foot C or overcasting foot M, you must set the zigzag width at 5.0 or wider to prevent the needle from hitting the wires on the foot.

- 1 Edge of Fabrics
- 2 Guide
- 3 Wires on Foot

Zipper Sewing

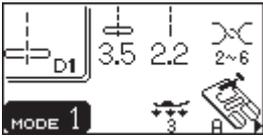
Machine Setting

Pattern: D1 (Mode 1)

Thread tension: 2-6

Presser foot: Zipper foot E

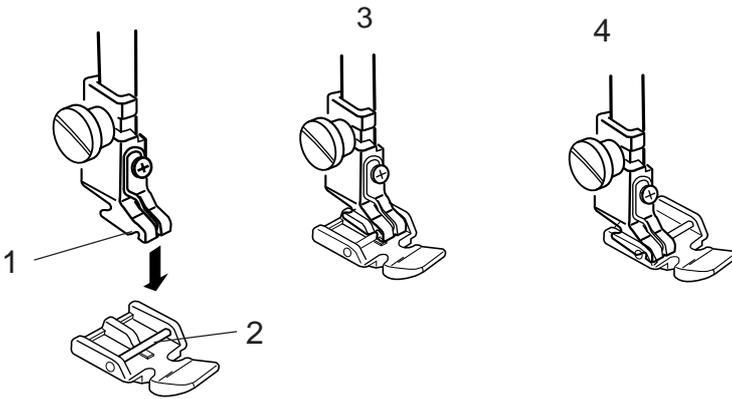
Foot pressure: 3



To attach the zipper foot E

Fit the pin on zipper foot E to the groove on the foot holder.

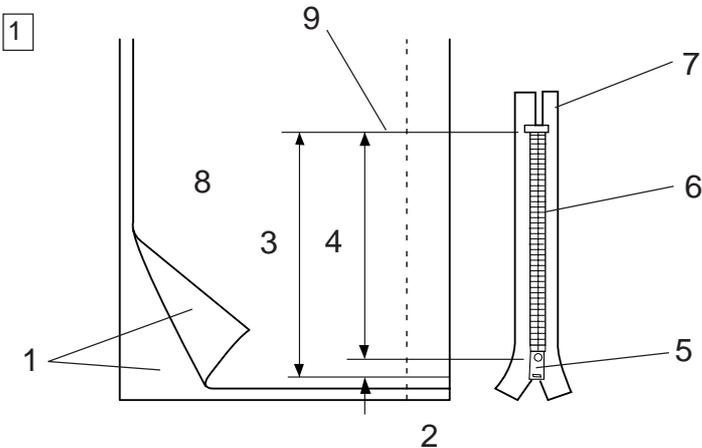
- 1 Groove
- 2 Pin
- 3 To sew the left side of the zipper, attach zipper foot E with the pin on the right-hand side.
- 4 To sew the right side of the zipper, attach zipper foot E with the pin on the left-hand side.



Fabric preparation

1 Add 1 cm (3/8") to the zipper size. This is the overall opening size.

- 1 Right Sides of the Fabric
- 2 1 cm (3/8")
- 3 Opening Size
- 4 Zipper Size
- 5 Slider
- 6 Zipper Teeth
- 7 Zipper Tape
- 8 Wrong Side of the Fabric
- 9 End of the Zipper Opening

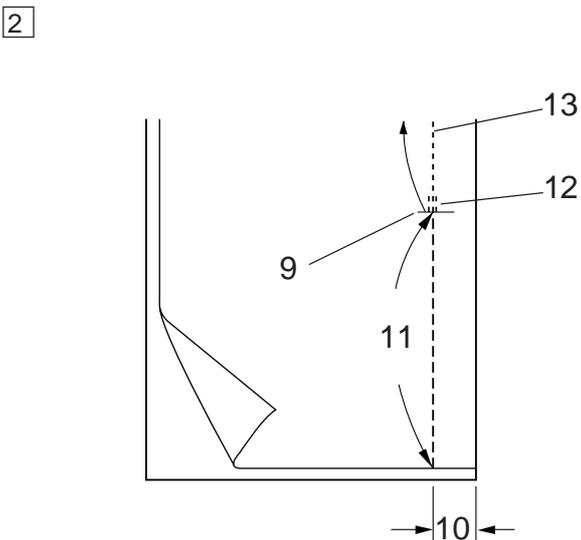


2 Place the right sides of the fabric together and sew to the end of the opening with a 2 cm (5/8") seam allowance.

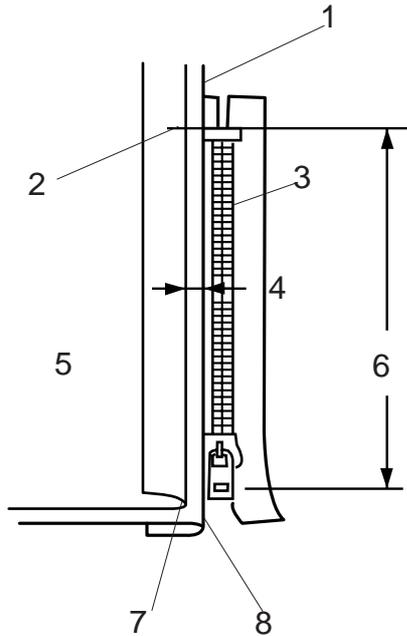
Reverse Stitch to lock the seams.

Manually increase the stitch length to 5.0 and baste the zipper opening with the thread tension loosened.

- 10 2 cm (5/8") Seam Allowance
- 11 Basting
- 12 Reverse Stitches
- 13 Seam Stitches



3



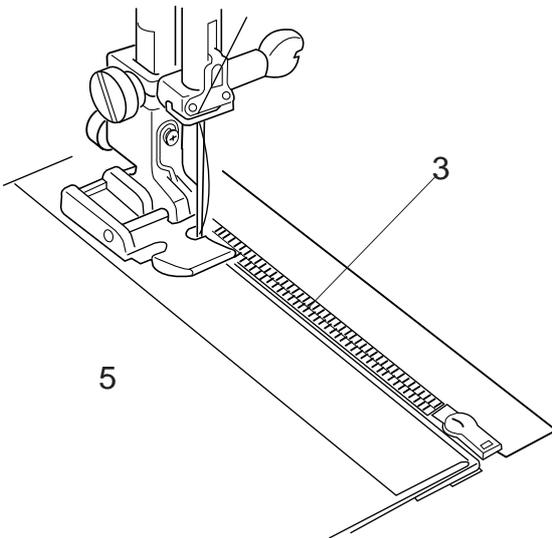
To sew

3 Fold back the left seam allowance. Turn the right seam allowance under to form a 0.2 to 0.3 cm (1/8") margin. place the zipper teeth next to the fold and pin it in place.

Set the stitch length and thread tension back to the original setting.

- 1 Lower Fabric
- 2 End of the Opening
- 3 Zipper Teeth
- 4 0.2 to 0.3 cm (1/8") margin
- 5 Right Side of the Upper Fabric
- 6 Opening Size
- 7 Basting Stitches
- 8 Fold

4

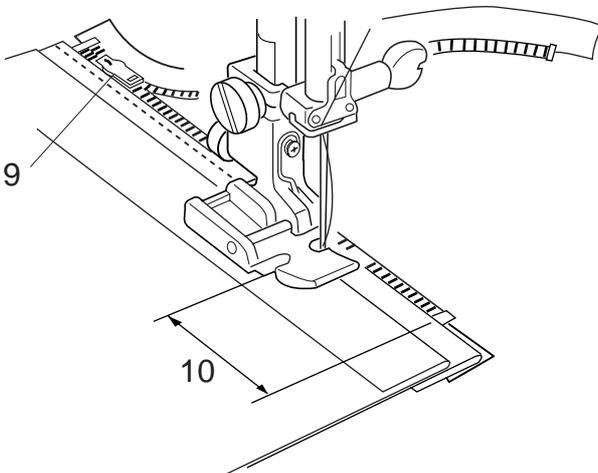


4 Attach zipper foot E with the pin on the right hand side.

Lower the foot onto the topside at the bottom of the zipper so that the needle pierces the fabric next to the fold and the zipper tape.

Sew along the zipper guiding the zipper teeth along the side edge of the foot.

5



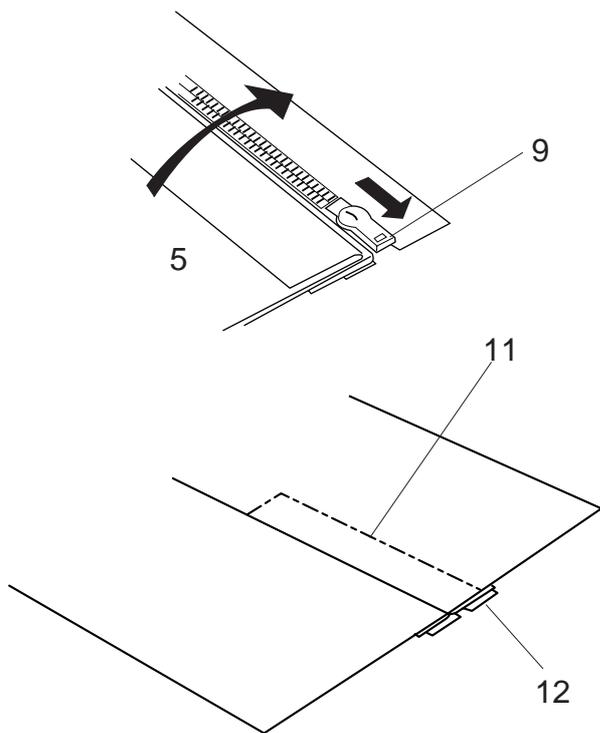
5 Sew through all layers next to the fold. Stop 5 cm (2") before zipper foot E reaches the slider on the zipper tape.

Lower the needle slightly into the fabric.

Raise the foot and open the zipper. Lower the foot and stitch the remainder of the seam.

- 9 Slider
- 10 5 cm (2")

6



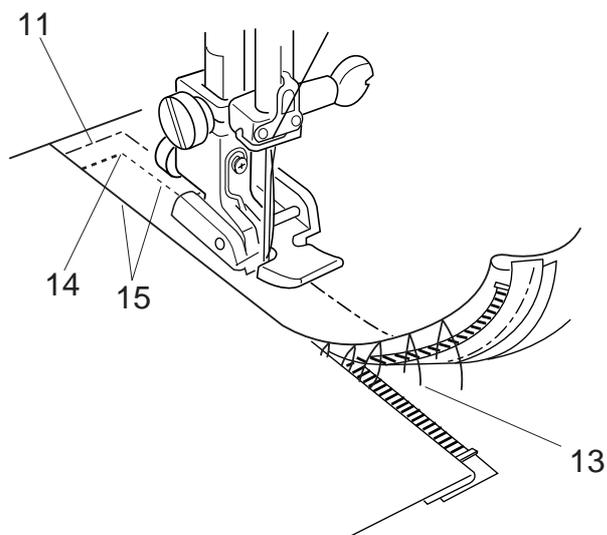
6 Close the zipper and spread the fabric open flat with the right side facing up.

Baste the opened fabric and zipper tape together.

11 Basting

12 Zipper Tab

7



7 Re-attach the zipper foot E with the left pin.

Backstitch across the end of opening to 0.7 – 1 cm (3/8").

Stitch through the garment and zipper tape, guiding the zipper teeth along the side edge on the foot.

Stop about 5 cm (2") from the top of the zipper.

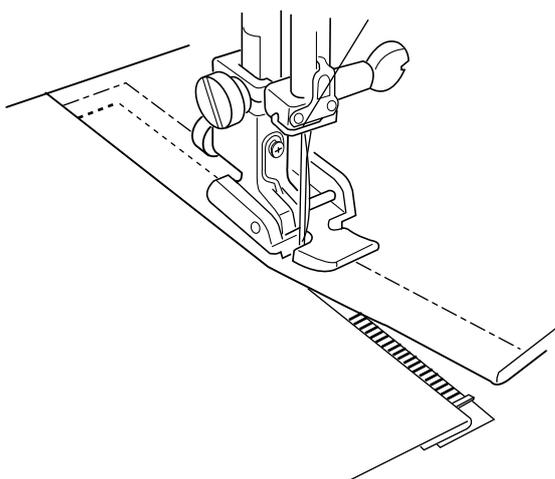
Unfasten the basting stitches.

13 Basting Stitches

14 End of Opening

15 0.7 – 1 cm (3/8")

8



8 Lower the needle into the fabric, raise the foot, and open the zipper.

Lower the foot and stitch the remainder of the seam, making sure the fold is even.

Remove the basting threads after seaming.

Rolled Hem

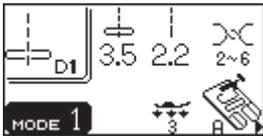
Machine Setting

Pattern: D1 (Mode 1)

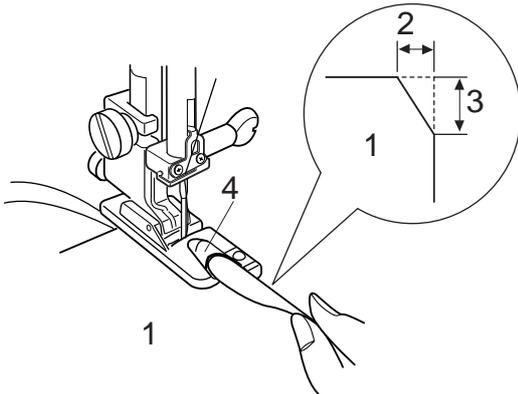
Thread tension: 2-6

Presser foot: Rolled hem foot D

Foot pressure: 3



1

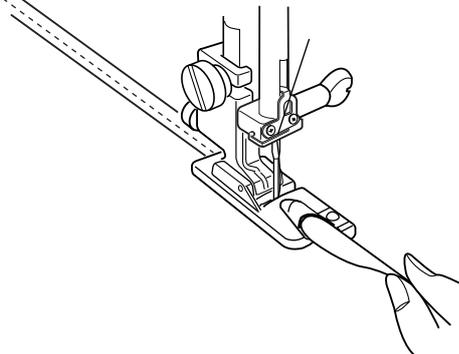


1

Fold the edge of the fabric twice, 6 cm (2 - 3/8") in length and 0.3 cm (1/8") in width. Trim the corner 0.5 cm (3/16") by 0.8 cm (1/4") for easier insertion of the hem into the foot.

- 1 Wrong Side of the Fabric
- 2 0.5 cm (3/16")
- 3 0.8 cm (1/4")
- 4 Curl of the Foot

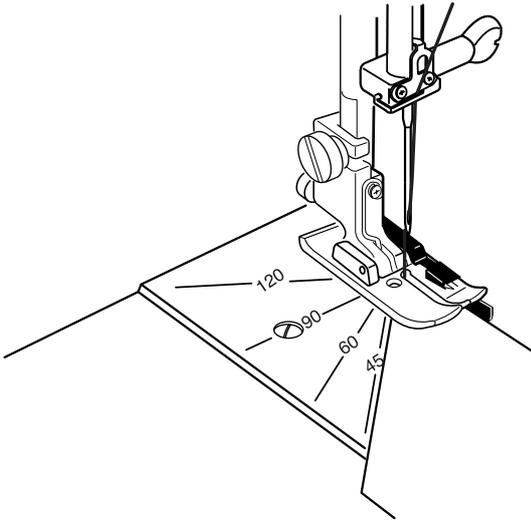
2



2

Place the fabric aligning the edge of hem with the guide on the foot. Lower the foot and sew to 1-2 cm (1/2"-1") while pulling both thread to the back. Stop the machine and lower the needle into the fabric. Raise the foot and insert the folded portion of the fabric into the curl of the foot. Lower the foot, and then sew by lifting up the edge of the fabric to keep it feeding smoothly and evenly.

QUILTING (Mode 2)



Angle scale on the needle plate

You can easily seam patchwork pieces at the desired angles without marking, by using the unique angle scales on the needle plate.

The angle scales are marked at 45, 60, 90 and 120 degrees.

Seaming patchwork pieces

Machine Setting

Pattern: 11 (Mode 2)

Thread tension: 2-6

Presser foot: 1/4" Seam foot O

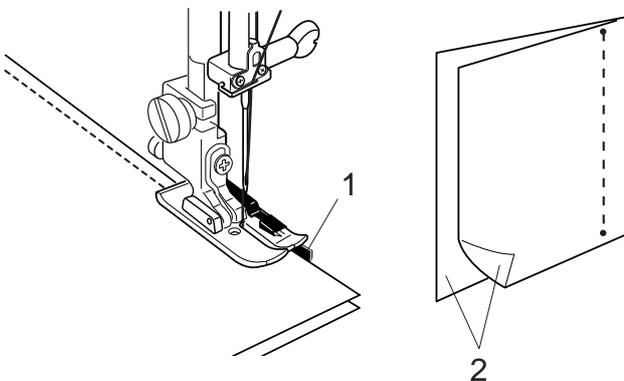
Foot pressure: 3



Lock-a-Matic stitch pattern 03 and auto lock stitch pattern 04 in the Mode 1 are ideal for seaming patchwork pieces together.

Place the patchwork pieces right sides together. Sew while guiding the edge of the fabric along the guide on the foot to keep a precise 1/4" seam allowance.

- 1 Guide
- 2 Right Sides of the Fabric



Patchwork stitches

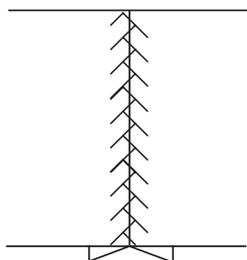
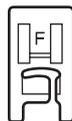
Machine Setting

Pattern: 33 (Mode 2)

Thread tension: 1-4

Presser foot: Satin Stitch foot F

Foot pressure: 2-3



Patterns 64-70 in the Mode 2 can be used as patchwork stitches.

Open seam flat with the right side up and sew patchwork stitch along the seam line.

Quilting

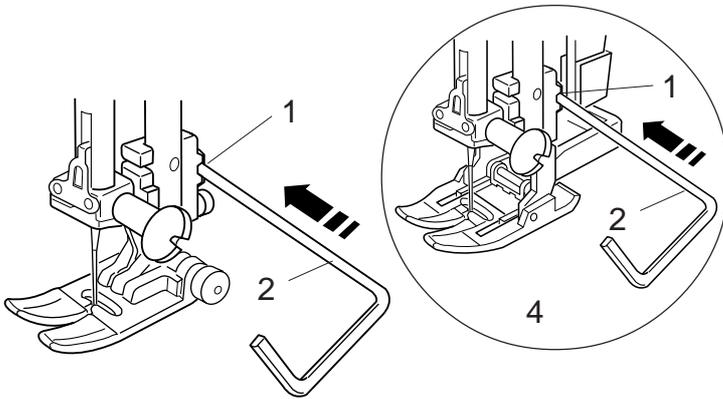
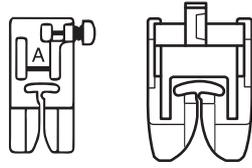
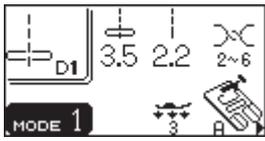
Machine Setting

Pattern: D1 (Mode 1)

Thread tension: 2-6

Presser foot: Zigzag foot A or Dual feed foot AD (See page 13)

Foot pressure: 3



Reduce the foot pressure to “2” for better handling of bulky material.

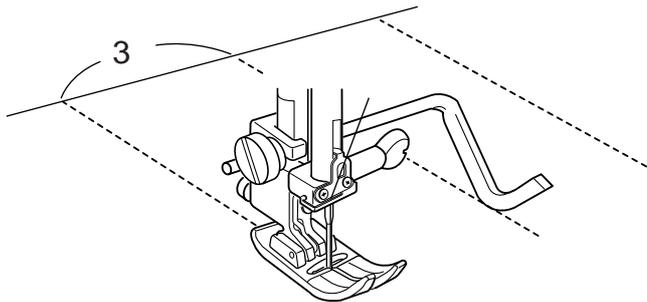
Attaching the quilting bar:

Insert the quilting bar into the opening and slide the quilting bar to set the width at the space of the seams you desire.

- 1 Opening on the Foot Holder
- 2 Quilting Bar
- 3 Space of the Seams
- 4 Dual feed foot

To sew

Sew while tracing the previous seam with the quilting bar.



Free Motion quilting

Machine Setting

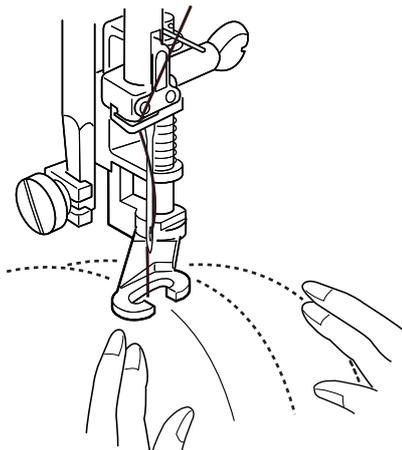
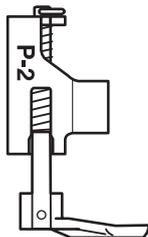
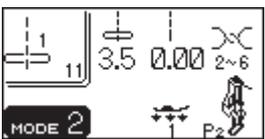
Pattern: 11 (Mode 2)

Thread tension: 2-6

Presser foot: Basting/Darning foot P-2

Foot pressure: 1

Feed dog: Dropped (See page 25)



Baste or pin the quilt layers. Draw a quilt design on the top fabric with a washable maker.

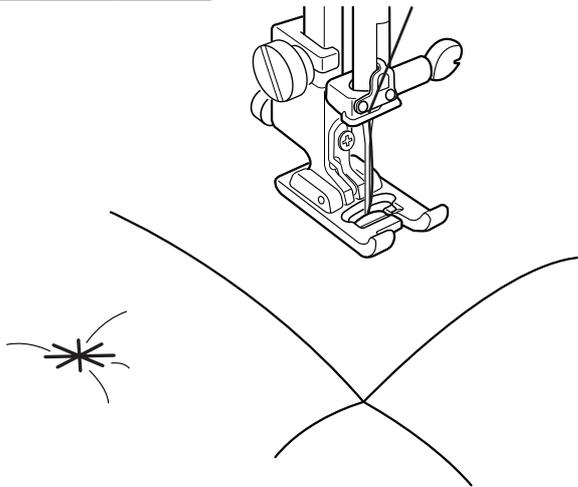
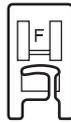
Move the quilt layers slowly and evenly while stitching on the marked design.

When using quilting patterns 61, 62, 63 (mode 2), you must drop the feed dog before starting to sew.

Clasp stitch

Machine Setting

Pattern: 73 (Mode 2)
 Thread tension: 3-6
 Presser foot: Satin Stitch foot F
 Foot pressure: 2-3

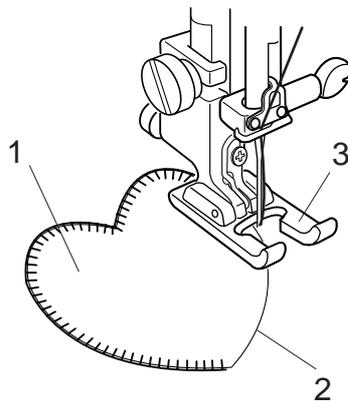
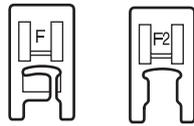


You can tack thick quilt layers together with the clasp stitch.

Select pattern 73 and press the memory button.

Press the locking stitch button.

Lower the presser foot and start sewing. The machine will automatically stop after sewing one unit of the pattern. Raise the presser foot and move the fabric to the next position.



Applique

Machine Setting

Pattern: 35-41 (mode 2)
 Thread tension: 1-4
 Presser foot: Satin Stitch foot F or Craft foot F2
 Foot pressure: 2

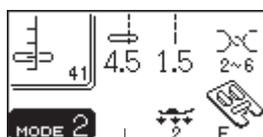
Quilts can be more attractive and artistic by adding applique.

Place an applique on the fabric and baste it in place or use a fusible web to secure the applique in place. Guide the applique fabric, so that the needle falls off the edge of the applique when the needle swings to the right.

- 1 Applique
- 2 Edge of the Applique
- 3 Craft foot



40



41

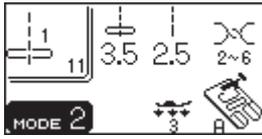
NOTE:

The stitch widths of patterns 40 (3.5 mm) and 41 (2 mm) are fixed, but the needle drop position will move to the left or to the right by pressing the stitch width adjusting button.

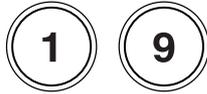
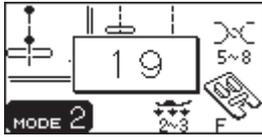
Programming French Knots

Example: Combination of patterns 19 and 12.

1



2



2

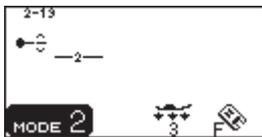
Select pattern 19.

3

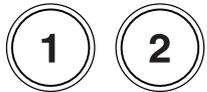
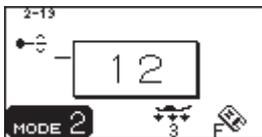


3

Press the memory button.



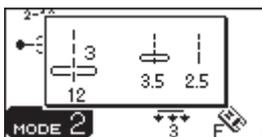
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4

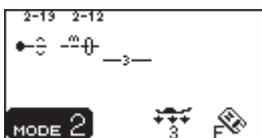
Select pattern 12.

5



5

Press the memory button.



6

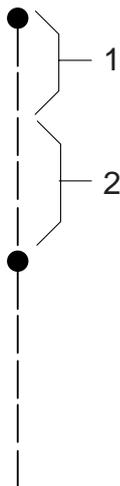
Lower the foot and start sewing.

1 Pattern 19

2 Pattern 12

NOTE:

The sewing speed is limited to the maximum speed of the pattern with the lowest speed in the combination.



UTILITY STITCHES AND DECORATIVE STITCHES (Mode 3)

SEN



14

Buttonholes

Variety of buttonholes

14 Sensor (Square) BH

This square buttonhole is widely used on medium to heavy weight fabrics.

The buttonhole size is automatically determined by placing a button in the foot.

AUTO



15

15 Automatic (Square) BH

This is also a square buttonhole similar to the sensor square buttonhole, but you can manually set and memorize the buttonhole size to sew buttonholes of the same size.

This buttonhole is useful for bulky fabrics or when sewing on un-even layers.



16

16 Round End BH

This buttonhole is used on fine to medium weight fabrics especially for blouses and children's clothes.



17

17 Fine Fabric BH

This buttonhole is rounded at both ends and is used on fine, delicate fabrics such as fine silk.



18

18 Keyhole BH

The Keyhole Buttonhole is widely used on medium to heavy weight fabrics. It is also suitable for larger and thicker buttons.



19

19 Stretch BH

This buttonhole can be used on stretch fabrics. It can also be used as a decorative buttonhole.



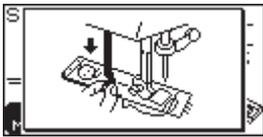
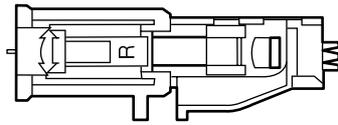
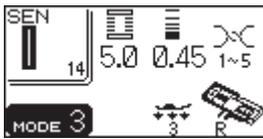
20

20 Knit BH

This buttonhole is suitable for knit fabrics.

It can also be used as a decorative buttonhole.

Sensor buttonholes



Machine Setting

Pattern: 14 (Mode 3)
 Thread tension: 1-5
 Presser foot: Automatic Buttonhole foot R
 Foot pressure: 3

Square Buttonhole

Buttonholes 14 and 16 to 20 are sensor buttonholes. The size of a buttonhole is automatically set by placing a button in the rear of automatic buttonhole foot R.

The button holder of the foot takes a button size of 0.5 cm (3/16 ") to 2.5 cm (1") in diameter.

It is sometimes necessary to change buttonhole size to match certain heavy or specific fabrics and threads.

Make a test buttonhole on an extra piece of the fabric to check your settings.

The preset width of the buttonhole is suited for ordinary buttons.

Apply an interfacing to stretch or fine fabrics.

To sew

1 Press the up/down needle button to raise the needle. Attach the automatic buttonhole foot R snapping the pin into the groove of the foot holder.

- 1 Groove
- 2 Pin

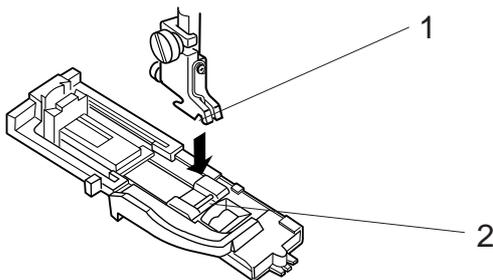
2 Pull the button holder to the back, and place the button in it. Push it together tightly on the button.

- 3 Button Holder

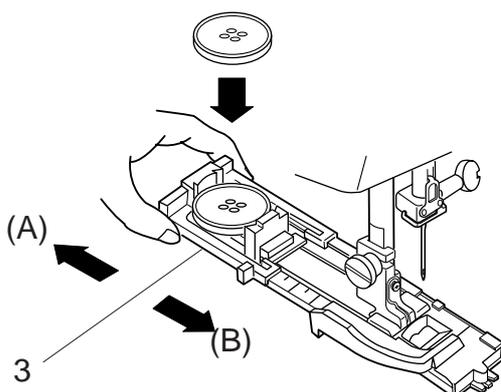
NOTE:

If the button is extremely thick, make a test buttonhole on an extra piece of the fabric. If it is difficult to fit the button through the test buttonhole, you can lengthen the buttonhole by pulling the button holder back a little. The length of the buttonhole will be increased.

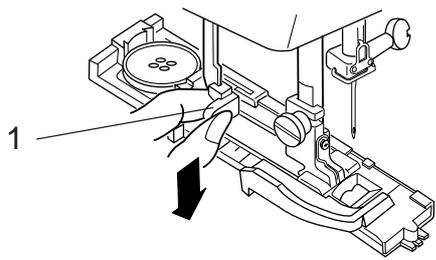
1



2

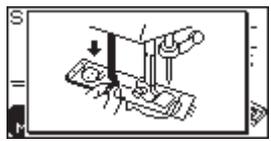


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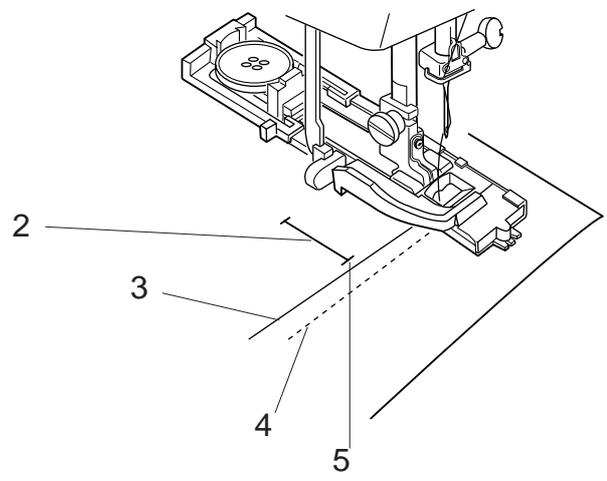


3 Pull the buttonhole lever down as far as it will go.
1 Buttonhole lever

NOTE:
If you start sewing without pulling down the buttonhole lever, the LCD screen will show a warning and the machine will stop after a few stitches. Pull the buttonhole lever down and start sewing.

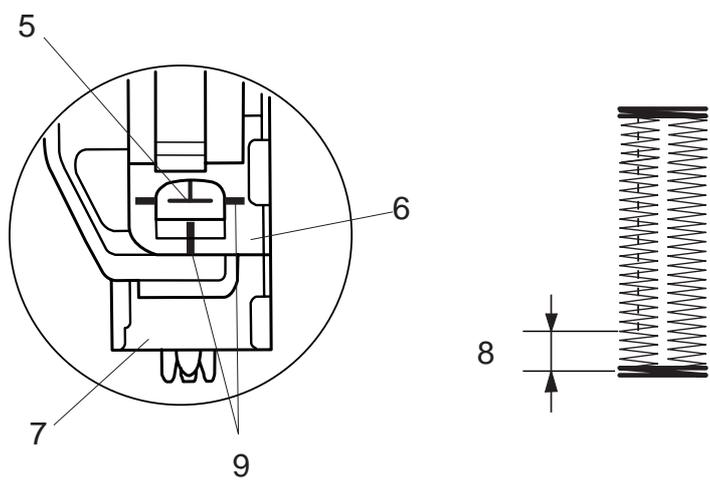


4



4 Insert the corner of the fabric under the foot. Press the up/down needle button twice. Remove the fabric to the left to draw the needle thread through the hole of the foot. Place the garment under the foot, and lower the needle at the starting point of the buttonhole mark. Then lower the automatic buttonhole foot R.
2 Buttonhole mark
3 Needle thread
4 Bobbin thread
5 Starting point

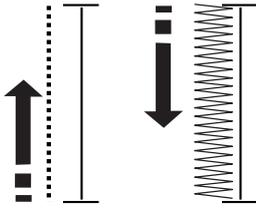
NOTE:
Make sure there is no gap between the slider and front stopper, otherwise the left and right lengths will be different.



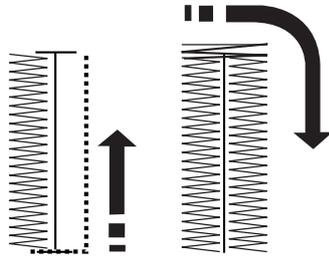
6 Slider
7 Front stopper
8 Sewing gap
9 Starting mark

5

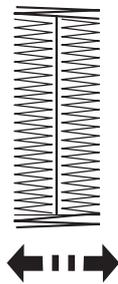
Step 1



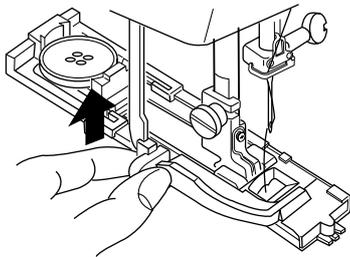
Step 2



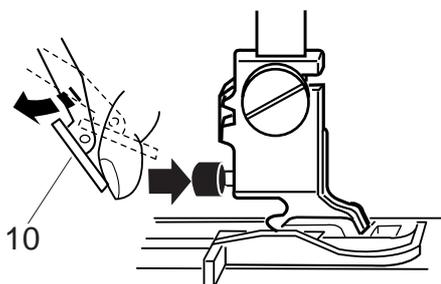
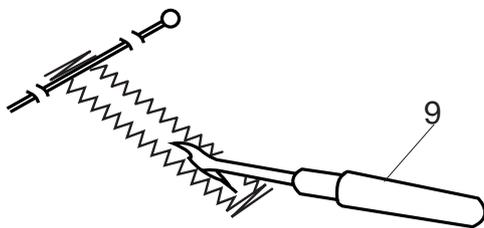
Step 3



6



7



5

Start the machine to sew the buttonhole.
The buttonhole will be automatically sewn.

Step 1: The machine will sew the front bartack and the left row first.

Then it goes back to the starting point with straight stitch.

Step 2: The machine will sew the right row.

Step 3: The machine will sew the back bartack, and the machine will stop automatically.

To sew another buttonhole, press the thread cutter button and raise the presser foot. Move the fabric to where the next buttonhole to be sewn, then lower the foot and start the machine.

NOTE:

After selecting the buttonhole, press the thread cutter memory button. LED lights on. The thread will be cut off automatically after finishing sewing.

6

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

7

Remove the fabric and place a pin just below the bartack at each end to prevent accidentally cutting stitches. Cut the opening with the seam ripper.

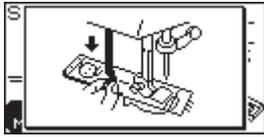
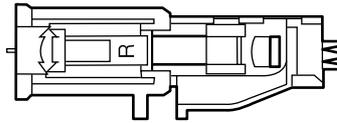
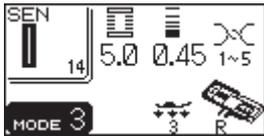
9 Seam Ripper

NOTE:

When snapping off the buttonhole foot, move up the dual feed device for an easy access to the red button.

10 Dual Feed Device

Corded buttonhole



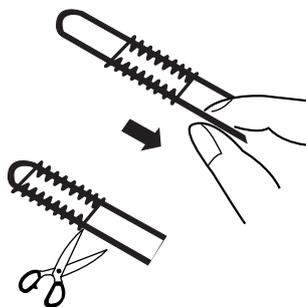
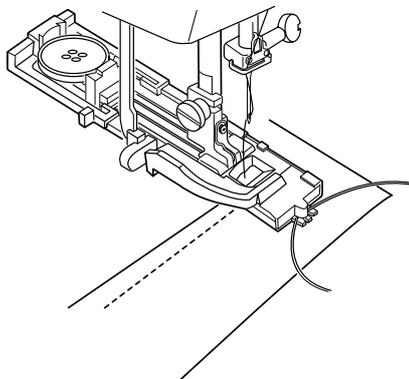
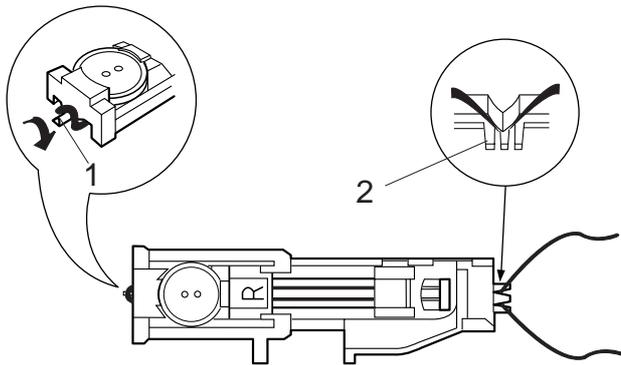
Machine Setting

Pattern 14 (mode 3)

Thread tension: 1-5

Presser foot: Automatic Buttonhole foot R

Foot pressure: 3



To sew a corded buttonhole, follow the same procedure as a sensor buttonhole.

- 1 With the automatic buttonhole foot R raised, hook the filler cord on the spur at the back of the buttonhole foot
- 2 Bring the ends of cord toward you under the buttonhole foot clearing the front end.
- 3 Hook the ends of the filler cord into the forks on the front of buttonhole foot to hold them tight.
 - 1 Spur
 - 2 Forks
- 4 Lower the needle into the garment where the buttonhole will start and lower the foot.
- 5 Lower the buttonhole lever and buttonhole foot. Start the machine and sew the buttonhole over the filler cord. The machine stops automatically when finished.
- 7 Remove the fabric from the machine and cut the sewing threads.
- 8 Pull the left end of the filler cord to tighten it. Thread the end of the cord through a darning needle and draw it to the wrong side of the fabric and cut.

NOTES:

Set the stitch width in accordance with the thickness of the filler cord used.

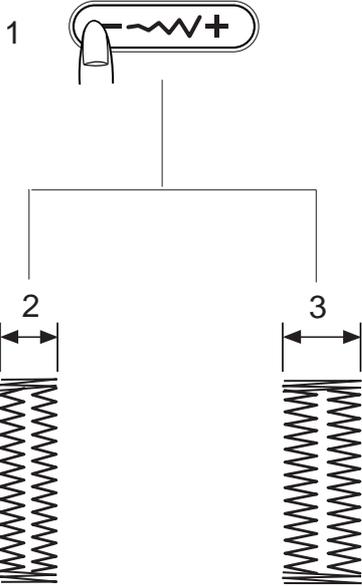
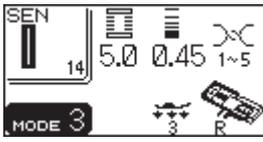
To cut the buttonhole opening, refer to page 52.

Changing buttonhole width

Press the stitch width adjusting button and the adjusting window opens.

Press on “+” to increase the buttonhole width.

Press on “-” to decrease the buttonhole width.



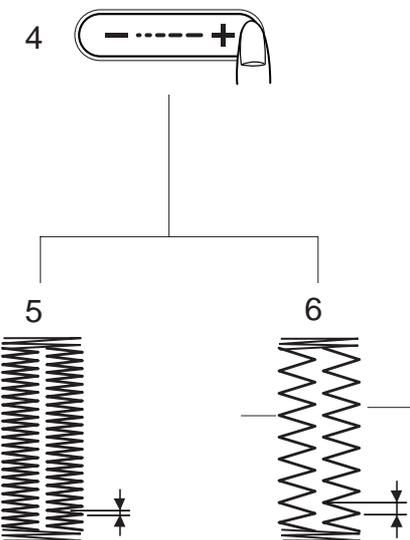
- 1 Stitch Width Adjusting Button
- 2 Narrower Buttonhole
- 3 Wider Buttonhole

Changing buttonhole stitch density

Press the stitch length adjusting button, the adjusting window opens.

Press on “+” to make the buttonhole stitch less dense.

Press on “-” to make the buttonhole stitch denser.



- 4 Stitch Length Adjusting Button
- 5 Denser Buttonhole
- 6 Coarser Buttonhole

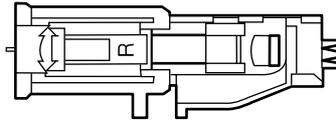
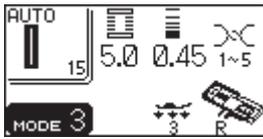
NOTES:

To alter the buttonhole width and density while sewing a test buttonhole, stop the machine at the left or right row of the buttonhole then adjust the stitch width and density to find the appropriate settings.

Press the memory button so that you can sew a buttonhole with the new settings.

The setting will return to the default when turning the power switch off or selecting another stitch.

Automatic buttonhole



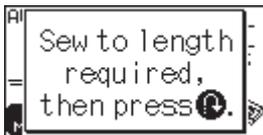
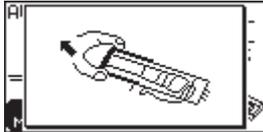
Machine Setting

Pattern: 15 (Mode 3)

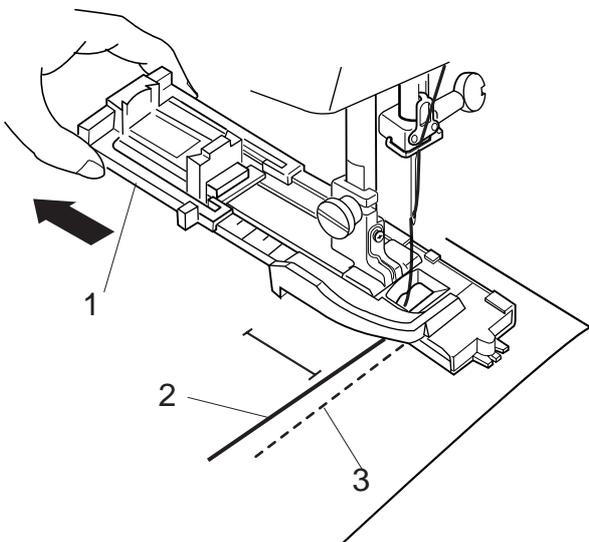
Thread tension: 1-5

Presser foot: Automatic Buttonhole foot R

Foot pressure: 3



- 1 Pull the button holder of the buttonhole foot all the way out.

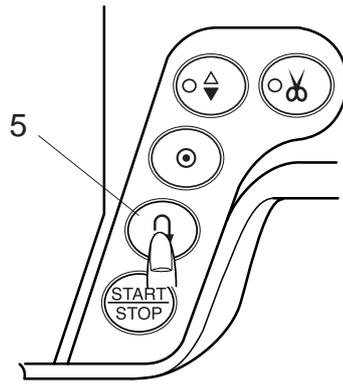
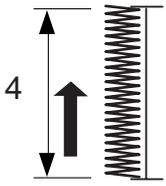


- 2 Insert the fabric under the foot. Press the up/down needle button twice.
- 3 Remove the fabric to the left to draw the needle thread through the hole of the foot.
- 4 Insert the garment under the foot, and lower the needle at the starting point.
Then lower the automatic buttonhole foot R.

- 1 Button Holder
- 2 Needle Thread
- 3 Bobbin Thread

NOTES:

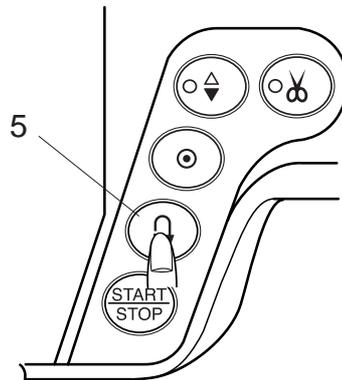
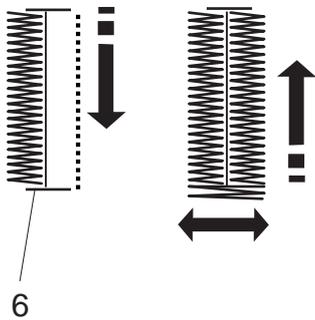
You do not need to pull down the buttonhole lever.
If you wish to change the buttonhole width and density press the stitch width and length buttons.
If there is a difference in stitch density between the right and left rows of the buttonhole, refer to page 86 for correction.
If you wish to sew a buttonhole longer than the size permitted by the automatic buttonhole foot R, use satin stitch foot F or buttonhole foot B (optional item).



To sew

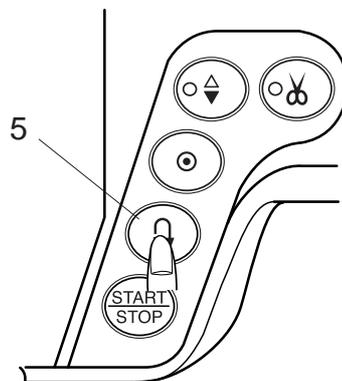
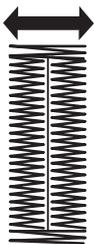
- 5 Depress the foot control to sew the left side up to the required length of the buttonhole. Stop the machine and press the reverse button.

- 4 Required Length
- 5 Reverse Button



- 6 Start the machine again. The machine will automatically tack and sew down the right side of the buttonhole. Stop the machine when you are directly opposite the starting point. Press the reverse button.

- 6 Starting Point



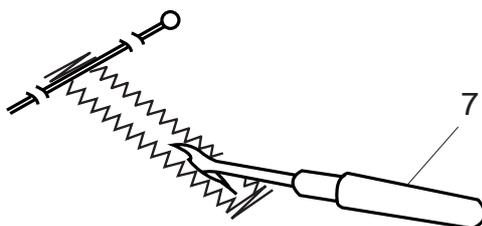
- 7 Keep the foot control depressed. The machine will sew a bartack, lock the stitches and automatically stop when the buttonhole is completed.

- 8 To make the next buttonhole, position the fabric and step down on the foot control. To sew the next buttonhole at a different size, press the memory button (M) to memorize a new size and start sewing from the beginning.

NOTES:

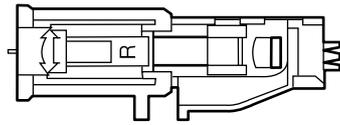
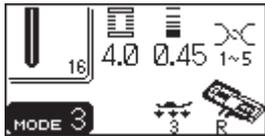
The machine will sew the buttonholes identical to the first one.

The stitch density of the memorized buttonhole cannot be altered.



- 9 Cut the buttonhole opening with the seam ripper.

- 7 Seam Ripper



Round-end buttonholes (#16, #17)

Machine settings

Pattern: 16 (mode 3) or 17 (mode 3)
 Thread tension: 1 - 5
 Presser foot: Automatic Buttonhole foot R
 Foot pressure: 3

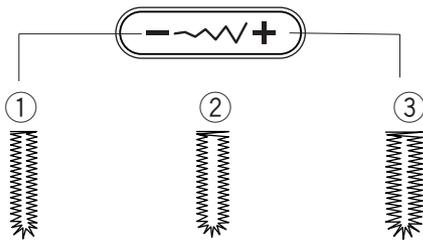
* The sewing procedure is same as buttonhole #14

Adjusting buttonhole width on stitch pattern #16

Press the stitch width adjustment key, the adjustment window opens.

Press “+” to make the buttonhole wider.

Press “-” to make the buttonhole narrower.



① Stitch width 2.5

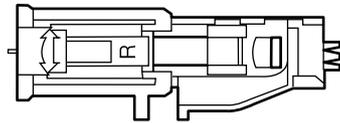
② Stitch width 4.0

③ Stitch width 5.5

* The stitch length should be adjusted between 0.3 to 0.8.

Adjusting buttonhole stitch length on pattern #16

* The stitch length should be between 0.3 to 0.8.



Keyhole buttonholes (#18)

Machine settings

Pattern: 18 (mode 3)
 Thread tension: 1 - 5
 Presser foot: Automatic Buttonhole foot R
 Foot pressure: 3

* The sewing procedure is same as buttonhole #14 (see pages 50).

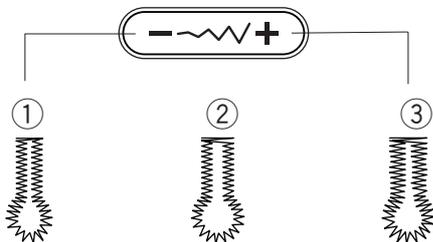
* Instead of opening buttonhole with seam ripper, open a using hole by punch.

Adjusting buttonhole width on stitch pattern #18

Press the stitch width adjustment key, the adjustment window opens.

Press “+” to make the buttonhole wider.

Press “-” to make the buttonhole narrower.



① Stitch width 5.5

② Stitch width 6.5

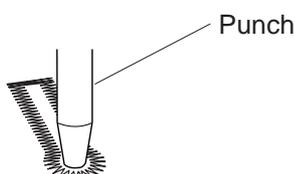
③ Stitch width 7.0

* The stitch width should be adjusted between 5.5 to 7.0.

Adjusting buttonhole stitch length on pattern #18

* The stitch length should be between 0.3 to 0.8.

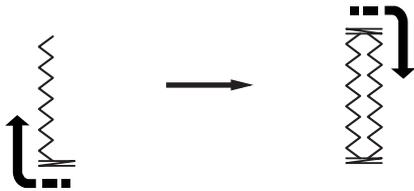
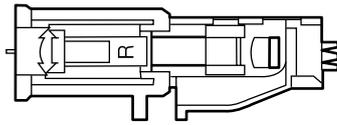
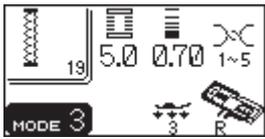
* Use an Eyelet punch to open a keyhol buttonhole.



Knit buttonhole (#19)

Machine settings

Pattern: 19 (mode 3)
Thread tension: 1 - 5
Presser foot: Automatic Buttonhole foot R
Foot pressure: 3



- 1 Sew the left row.
- 2 Sew the front bartack.
- 3 Sew the rear bartack and right row. The machine will automatically stop when buttonhole sewing is finished.

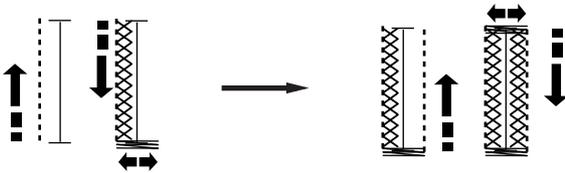
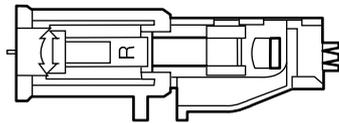
NOTE:

If the last few stitches of the right row extend beyond the bartack, make the stitch length shorter to correct it.

Knit buttonhole (#20)

Machine settings

Pattern: 20 (mode 3)
Thread tension: 1 - 5
Presser foot: Automatic Buttonhole foot R
Foot pressure: 3



- 1 Sew the left row.
- 2 Sew the front bartack.
- 3 Sew the rear bartack and right row. The machine will automatically stop when buttonhole sewing is finished.

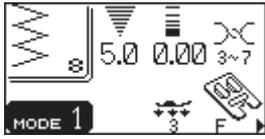
NOTE:

If the last few stitches of the right row extend beyond the bartack, make the stitch length shorter to correct it.

Button Sewing

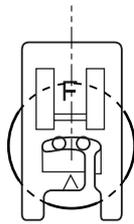
Machine Settings

Pattern: 08 (Mode 1)
 Thread tension: 3-7
 Presser foot: Satin Stitch foot F
 Foot pressure: 3
 Feed dog: Dropped (See page 25)



Unthread the needle thread.

Adjust the stitch width so that the needle enters both holes in the button.



Place a button on the fabric and lower the needle by turning the handwheel, so that the needle enters into the left hole in the button.

Align the holes in the button with the slot on the foot and lower it to hold the button in place.

Turn the handwheel to lower the needle into the right hole in the button.

Adjust the stitch width if necessary.

Rethread the machine and sew about 10 stitches.

NOTE:

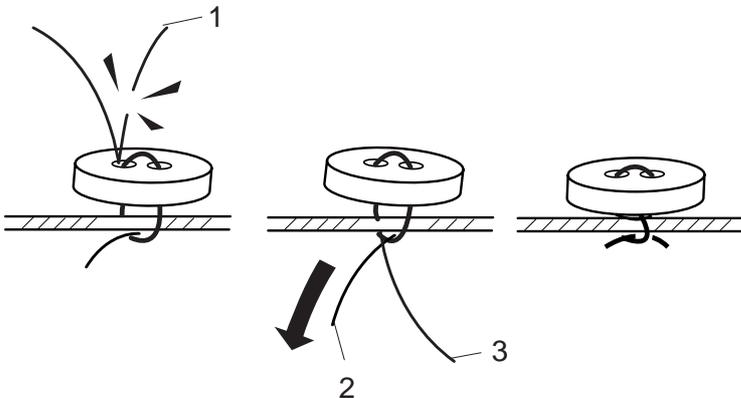
The LCD screen shows a warning to raise the feed dog, but depress the foot control again to start sewing.



Raise the presser foot and remove the fabric.

Trim both needle and bobbin threads at the beginning. Cut both threads leaving 20 cm (8") tails.

Pull the bobbin thread to bring the needle thread to the wrong side of the fabric then knot the threads.

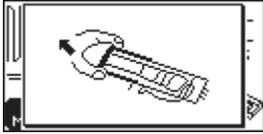
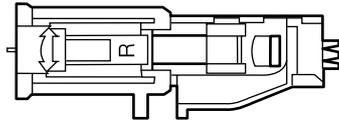
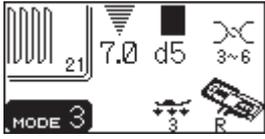


- 1 Needle Thread at the Beginning
- 2 Bobbin Thread
- 3 Needle Thread

Darning

Machine Settings

Pattern:	21 (Mode 3)
Thread tension:	3-6
Presser foot:	Automatic Buttonhole foot R
Foot pressure:	3



The LCD screen shows the sewing instructions when selecting pattern 21.

Pull the button holder to the rear.

Place the garment under the foot.

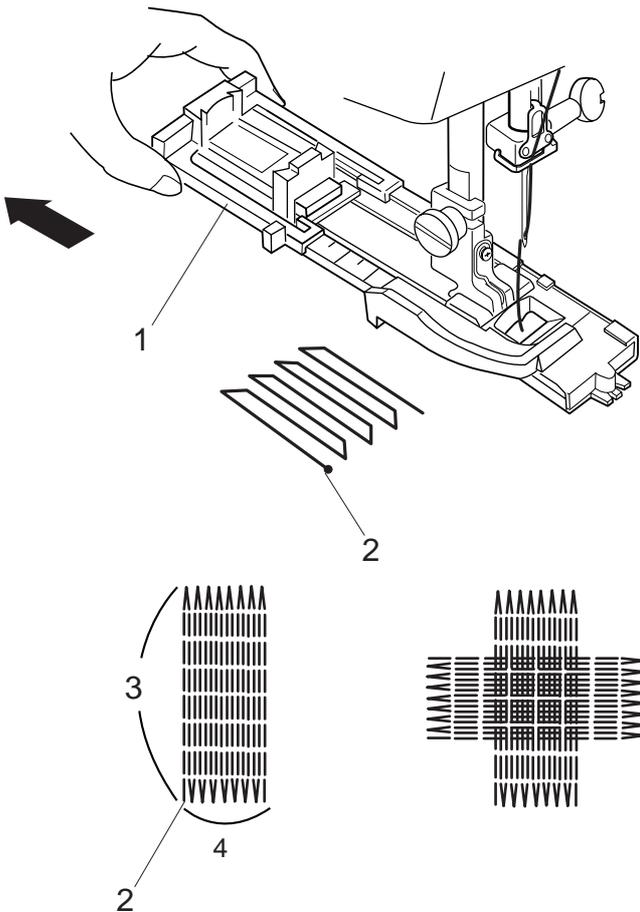
Press the up/down needle button twice. Remove the fabric to the left to draw both threads under the foot and place the fabric back under the foot.

Lower the needle at the starting point then lower the foot.

- 1 Button Holder
- 2 Starting Point

Depress the foot control and the machine will sew a darning 2 cm (3/4") long and stop automatically.

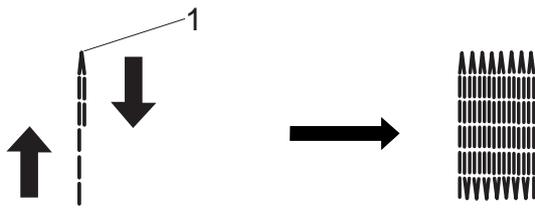
Repeat sewing in the different direction until the darning covers the rip or hole.



NOTE:

The maximum size of darning is 2 cm (3/4") long and 0.7 cm (1/4") wide.

- 3 Maximum Length 2 cm (3/4")
- 4 Maximum Width 0.7 cm (1/4")



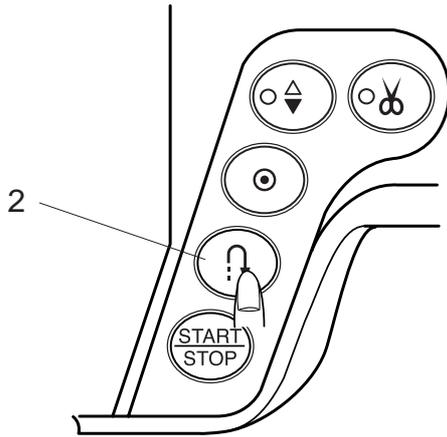
To sew a shorter darning

To sew a darning shorter than 2 cm (3/4"), first stop the machine after sewing the required length, then press the reverse button.

The required length has been determined.

Start the machine and continue sewing until the machine stops automatically.

- 1 Required Length
- 2 Reverse Button



To sew the same size darning

Simply start the machine to sew another darning at the same size.

To sew the darning at a different size

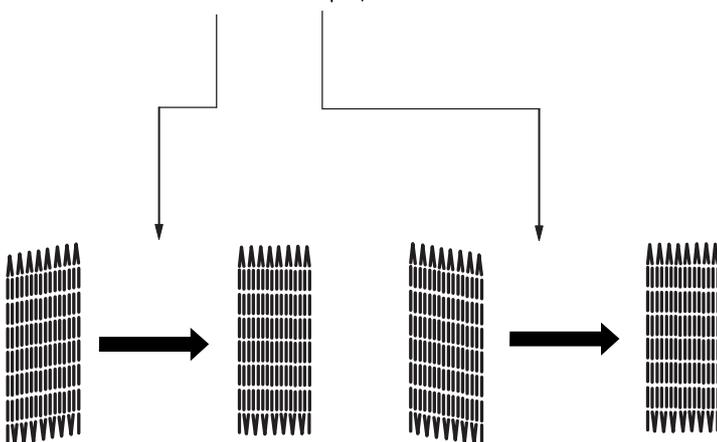
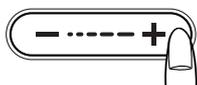
Press the memory button and start sewing from the beginning.

To adjust the evenness of darning

The evenness of darning may vary depending on the sewing condition, such as type of fabrics, number of layers etc. You can correct the unevenness of darning with the stitch length adjusting button.

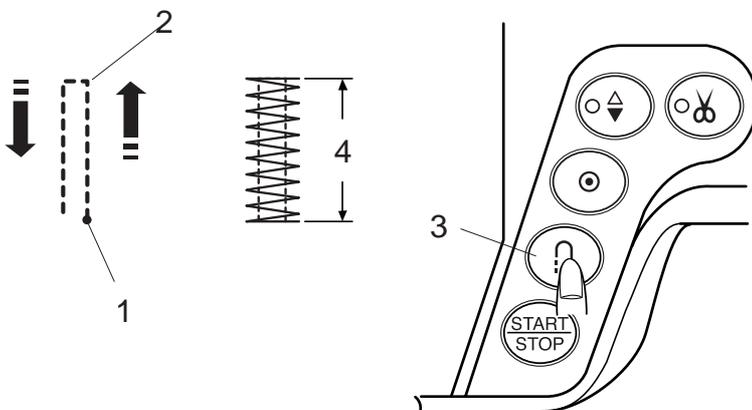
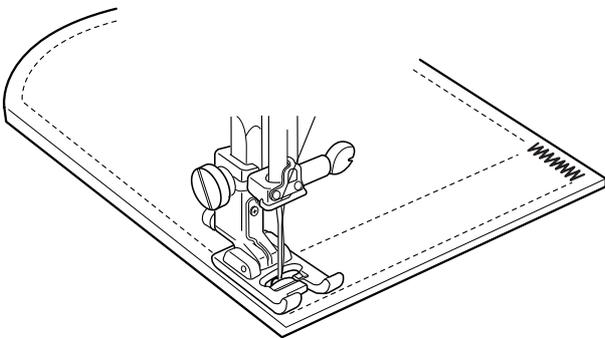
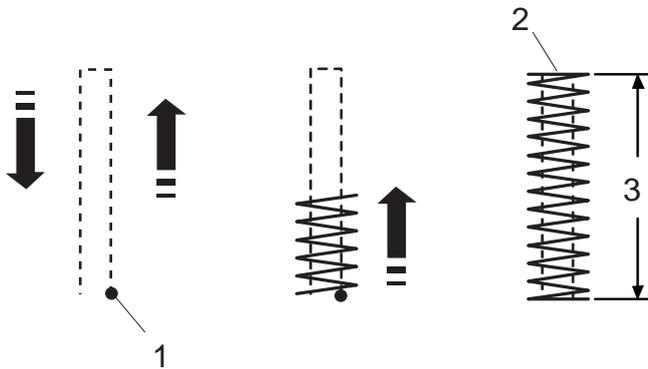
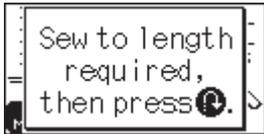
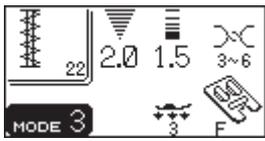
If the left corner is lower than the right side, press on "—" to correct it.

If the right corner is lower than the left side, press on "+" to correct it.



NOTE:

The evenness can be adjusted within d1 to d9 (default setting is d5).



Tacking

Machine Settings

Pattern: 22 (Mode 3)

Thread tension: 3-6

Presser foot: Satin Stitch foot F

Foot pressure: 3

The LCD screen shows the sewing instruction when selecting pattern 22.

Tacking is used to reinforce pockets, crotches and belt carriers where extra strength is needed.

To sew

Depress the foot control until the machine stops automatically.

The machine will sew a tacking 1.5 cm (9/16") long automatically.

- 1 Starting point
- 2 Ending point
- 3 1.5 cm (9/16 ")

To sew a shorter tack

To sew a tack shorter than 1.5 cm (9/16"), first stop the machine after sewing the required length, and then press the reverse button.

The required length has been determined.

Start the machine and continue sewing until the machine stops automatically.

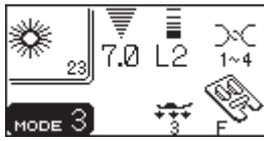
- 1 Starting point
- 2 Required Length
- 3 Reverse Button
- 4 Tack Length

To sew the same size tack

To sew another tack at the same size, simply start the machine and it will stop automatically when finishing sewing.

To sew the tack at a different size

To sew the next tack at a different size, press the memory button to memorize a new size and start sewing from the beginning.



Eyelet

Machine Setting

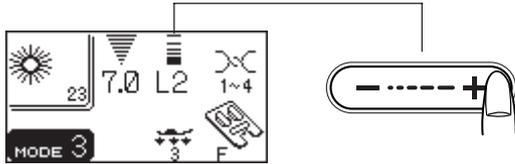
Pattern: 23 (Mode 3)

Thread tension: 1-4

Presser foot: Satin Stitch foot F

Foot pressure: 3

The eyelet is used for belt holes etc.

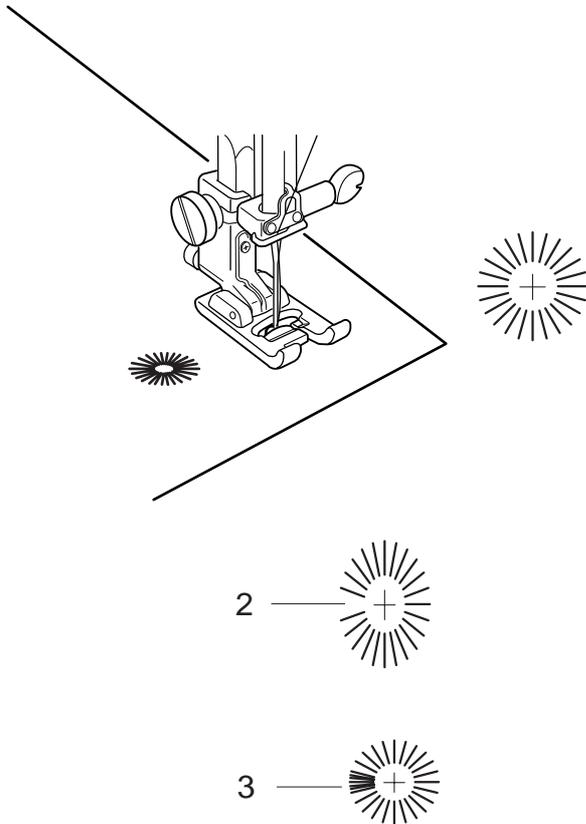


To sew

Depress the foot control to sew.

The machine will sew an eyelet and stop automatically when completed.

Open the eyelet with an awl, punch or pointed scissors.



Adjusting the shape of an eyelet

Correct the shape of the eyelet as follows:

If the eyelet gap opens, press “—” on the stitch length adjusting button.

If the eyelet overlaps, press “+” on the stitch length adjusting button.

- 1 Eyelet gap opens
- 2 Eyelet overlaps

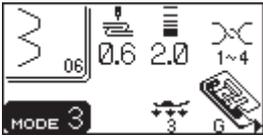
NOTE:

The shape can be adjusted within L1 to L3 (default setting is L2).

Blind Hem

Machine Settings

Pattern: 06 (Mode 3)
Thread tension: 1-4
Presser foot: Blind Hem foot G
Foot pressure: 3



Select pattern 07 for woven fabrics or pattern 05 for elastic fabrics.

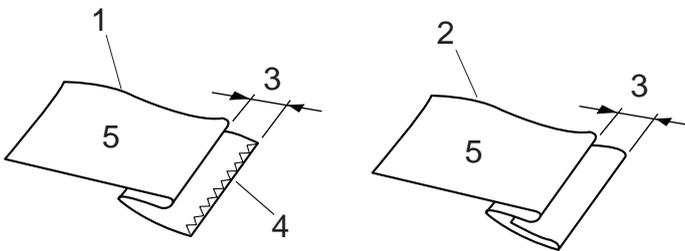
NOTE:

The stitch width of patterns 06 and 07 can not be changed, but the needle drop position will move.

How to fold the fabric

Fold the fabric to make a hem as shown.

- 1 Heavy Fabric
- 2 Fine to Medium Fabric
- 3 0.4 -0.7 cm (3/16"-1/4")
- 4 Overcasted Edge of Fabric
- 5 Wrong Side of Fabric



To sew

Position the fabric so that the fold comes to the left side of the guide on the foot.

Lower the presser foot.

Adjust the position of the needle swing with the stitch width adjusting button so that the needle just pierces the folded edge of the fabric when the needle comes over to the left side.

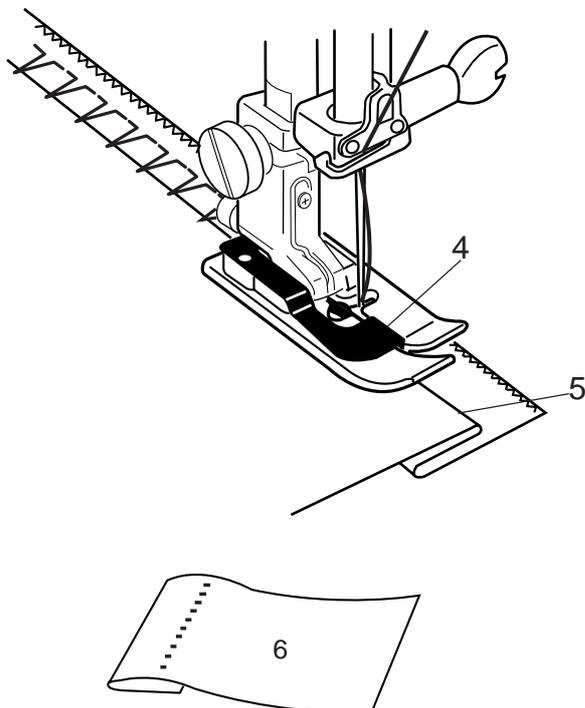
Sew guiding the fold along the guide.

- 4 Guide on the Foot
- 5 Fold

Open the fabric with the right side up.

The stitches on the right side of the fabric is almost invisible.

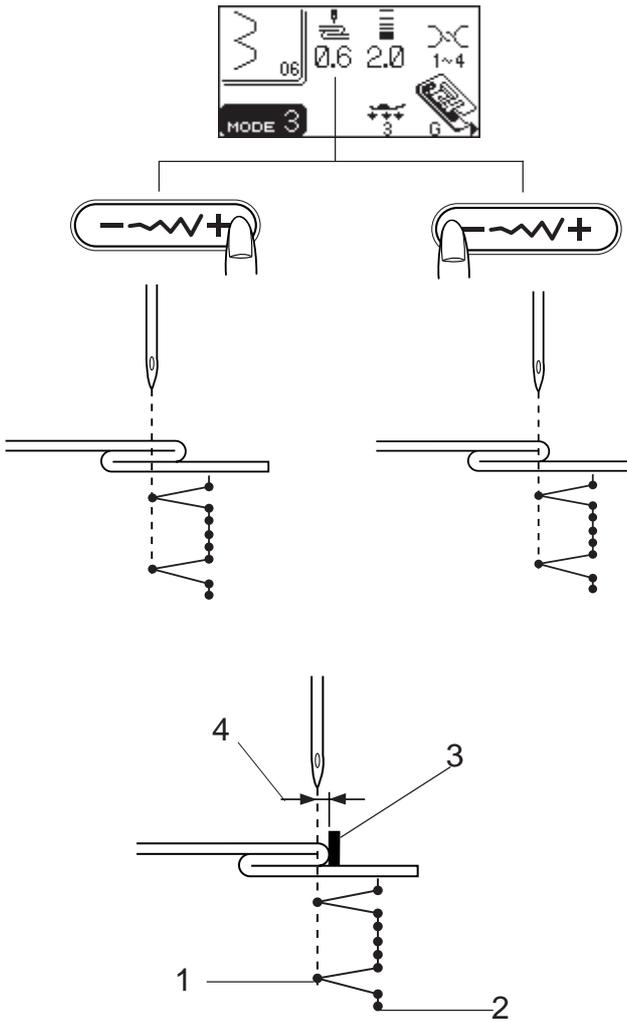
- 6 Right Side of the Fabric



Changing needle drop position

Press the stitch width adjusting button.

The LCD screen shows the left needle position from the guide in millimeters.



Press on “-” to move the needle to the right.

Press on “+” to move the needle to the left.

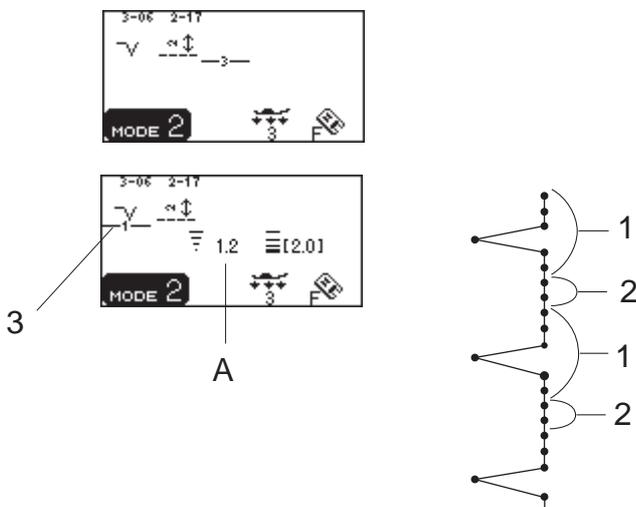
- 1 Left Needle Drop Position
- 2 Right Needle Drop Position
- 3 Guide on Foot
- 4 Distance between the Left Needle Position and the Guide

To make the straight stitches in blind hem stitch longer

Program a combination of patterns 06 and pattern 17 or 18 in the Mode 3.

Two straight stitches will be added to the blind hem stitch when combining with the pattern 06.

Four stitches will be added with the pattern 17.



- 1 Pattern 06
- 2 Pattern 17

NOTE:

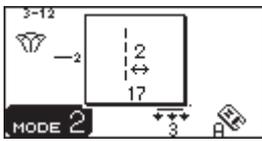
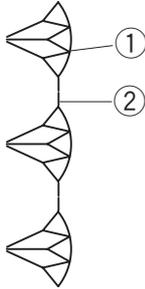
To alter the needle drop position of the programmed pattern combination, shift the cursor under pattern 06 and press the stitch width adjusting button. LCD screen will be changed to A.

It is not necessary to adjust the needle drop position of the pattern 17 as it will synchronously change.

Extender stitches

Patterns 11, 12, 14, 15, 17, 18, 20 and 21 in Mode 2 are extender stitches, which are used to insert straight stitches after a stitch pattern.

Patterns 17, 18 and 21 will inherit the stitch length and needle drop position of a previous pattern in the programmed pattern combination.



Example: Combination of patterns 12 (Mode 3) and 17 (Mode 2)

Two counts of the straight stitch are inserted after pattern 12.

- ① Pattern 12 (Mode 3)
- ② Two counts of straight stitch: Pattern 17 (Mode 2)

NOTES:

The number on the right of the stitch image indicates a stitch count to be inserted.

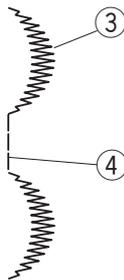
A double headed arrow under the stitch count indicates that the needle drop position will follow that of the previous pattern.

The stitch length and needle drop position of patterns 11, 13, 14, 15 and 20 are independent from those of the combined pattern.

Example: Combination of patterns 28 (Mode 3) and 15 (Mode 2)

Three counts of the straight stitch in the left needle drop position are inserted after pattern 28.

- ③ Pattern 28 (Mode 3)
- ④ Three counts of straight stitch: Pattern 15 (Mode 2)



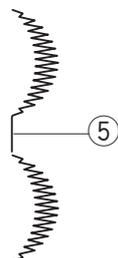
NOTE:

Patterns 11 and 12: Length 2.5 mm, center needle position
 Patterns 14 and 15: Length 2.5 mm, left needle position
 Pattern 20: Triple stitch, length 5.0 mm, center needle position

To insert a blank space, use pattern 99 in Mode 2.

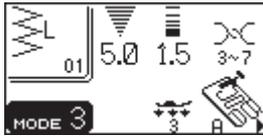
After sewing, trim the connection thread.

- ⑤ Connecting thread



One cycle sewing with the auto-lock stitch

1



1 Select pattern 27.



2 Press the memory button.

2



3 Press the locking stitch button.

3



NOTE:

No further patterns can be memorized after pressing the auto-lock button.

Depress the foot control to sew.

The machine will lock the stitch and sew single unit of the pattern, then stop automatically after locking off the stitch.

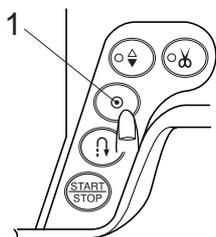
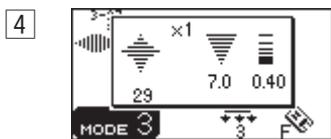
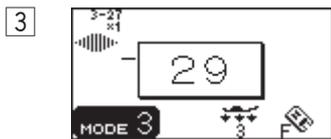
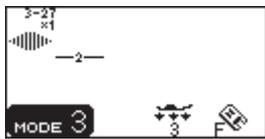
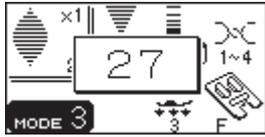
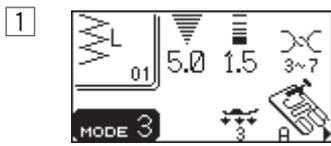
1 Locking Stitch



Programming a Pattern Combination

Pattern combination

Example: Programming patterns 27 and 29.



1 Select pattern 27 in the Mode 3.

2 Press memory button.

3 Select pattern 29.

4 Press memory button.

NOTE:

Set the thread tension at 1-4, foot pressure at 3 and use the satin stitch foot F when sewing the programmed pattern combination.

Start to sew. The machine will sew the pattern combination repeatedly.

NOTE:

If you press the auto-lock button in the middle of sewing a programmed pattern, the machine will stop automatically after the current pattern is completed.

1 Auto-Lock Button

Pattern combination with auto thread cutting

Select the pattern 27 in Mode 3.

Press the memory button.

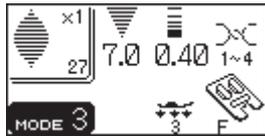
Select pattern 29.

Press the memory button.

Press the auto thread cutter button.

Start the machine.

The machine will sew one unit each of patterns 27 and 29 then stop automatically and trim the threads.



Elongation Sewing

Machine Setting

Pattern: 27 (Mode 3)

Thread tension: 1-4

Presser foot: Satin Stitch foot F

Foot pressure: 3



X 1



X 2



X 3



X 4

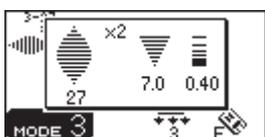


X 5



Example: Pattern 27

- 1 Select pattern 27.
- 2 Press the elongation button. Elongation ratio is indicated in multiples of the original pattern length.
- 3 Start to sew.



Programming a pattern combination with an elongated pattern

Example: Programming pattern 27 and its elongated image.

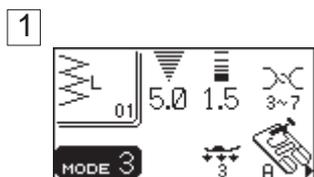
- 1 Select pattern 27 in the mode 3.
- 2 Press the memory key.
- 3 Select pattern 27 in mode 3.
- 4 Press the elongation key to change its elongation ratio to X2.
- 5 Press the memory key. Start sewing.

NOTE:

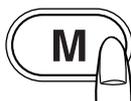
If you press the auto-lock button in the middle of the pattern, the machine will stop automatically after the current pattern is completed.

Programming pattern combination with a mirror Image

Example: Pattern 28



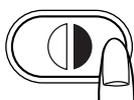
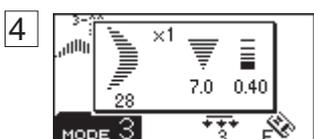
1 Select pattern 28 in Mode 3.



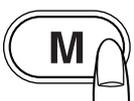
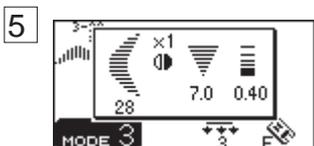
2 Press the memory button.



3 Select pattern 28 in Mode 3.



4 Press the turnover memory button.



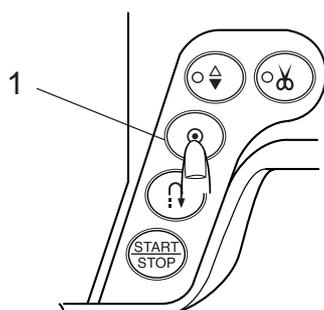
5 Press the memory button.



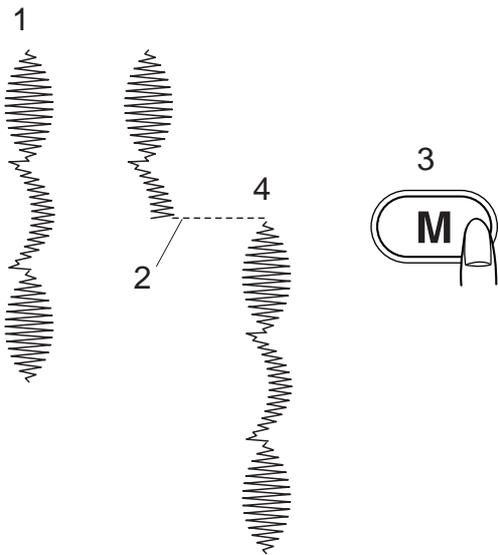
Start to sew. The machine will sew the pattern combination repeatedly.

NOTE:

If you press the Auto-lock button in the middle of sewing a programmed pattern the machine will stop automatically after the current pattern is completed.



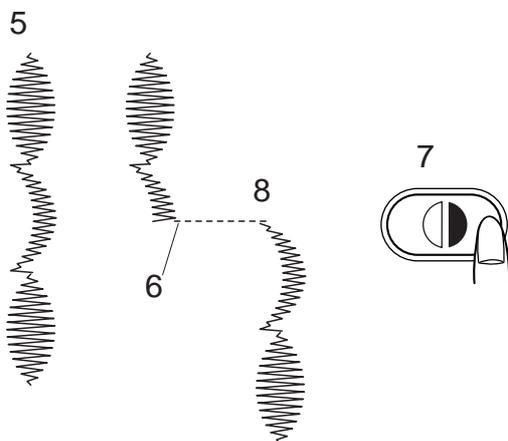
1 Auto-Lock Button



Sewing the pattern combination from the beginning

If you have to stop sewing the pattern combination and wish to sew it over again, press the memory button to sew the pattern combination from the beginning.

- 1 Programmed Pattern Combination
- 2 Stop sewing.
- 3 Press the memory button.
- 4 Machine sews the pattern combination from the beginning.



Sewing the current pattern from the beginning

If you have to stop sewing the pattern combination and wish to sew from the incomplete pattern, press the turn over memory button to sew from the beginning of the pattern last sewn.

- 5 Programmed Pattern Combination
- 6 Stop sewing.
- 7 Press the turnover memory button.
- 8 Machine sews the pattern combination from the beginning of the current pattern.

Shell Tuck

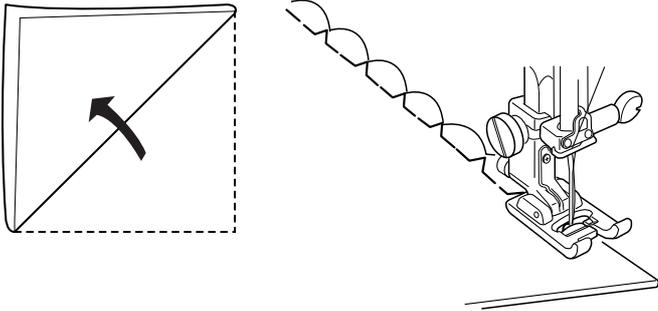
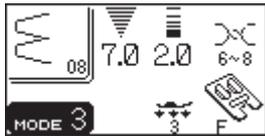
Machine Setting

Pattern: 08 (Mode 3)

Thread tension: 6-8

Presser foot: Satin Stitch foot F

Foot pressure: 3



Use a light weight fabric (tricot, for example). Fold the fabric as shown and stitch on the fold. Allow the needle to just clear the folded edge to create a shelled edge. You may need to increase the needle thread tension slightly.

If you sew rows of shell stitches, space the rows at least 5/8" (1.5 cm) apart. You can also sew shell stitches on knits or soft silky woven fabrics, in any direction.

Scallop

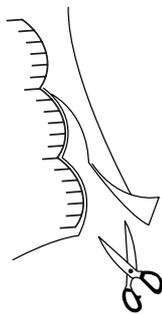
Machine Setting

Pattern: 10 or 11 (Mode 3)

Thread tension: 3-6

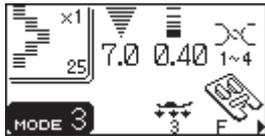
Presser foot: Zigzag foot A

Foot pressure: 3



Sew the stitches approximately 3/8" (1 cm) inside of the edge of fabric.

Trim the outside of the stitches as shown. Make sure not to cut the thread.



Cording

3-strand cording

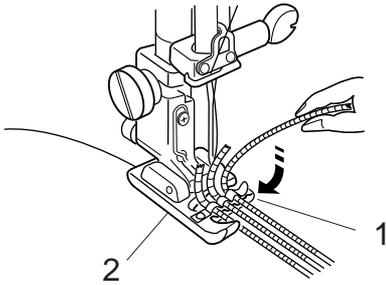
Machine Setting

Pattern: 25 (Mode 3)

Thread tension: 1-4

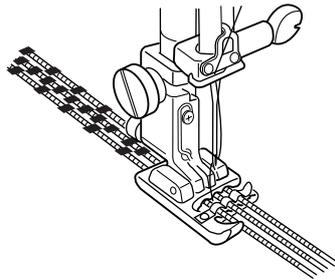
Presser foot: Cording foot H

Foot pressure: 3



Insert 3 strands of cording under the spring of the foot and draw them under the foot to the rear. Hold the three strands parallel for even sewing and be sure to sew over the strands. Stitch slowly and smoothly, guiding the fabric as you sew.

- 1 Spring
- 2 Cording foot H



1-strand cording

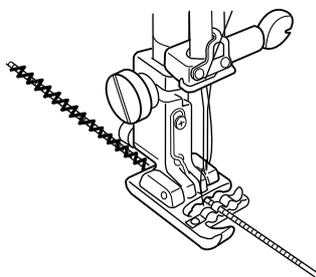
Machine Setting

Pattern: 8 (Mode 1)

Thread tension: 3-7

Presser foot: Cording foot H

Foot pressure: 3



Insert one strand of cording under the spring of the foot and draw it under the foot to the rear (use the center slot of the spring). Select pattern 8 (mode 1), then decrease the stitch width and sew.

MONOGRAMMING

Selecting a Letter Style

You can select Block and Script Style letters.

Machine Setting

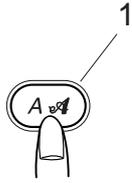
Thread tension: 1-4

Presser foot: Satin Stitch foot F

Foot pressure: 3

* Needle: Blue Tip needle

(1)



(2)



(3)



(4)



Press the letter style button to choose one of the following:

- (1) Block
- (2) Block (European accented letters)
- (3) Script
- (4) Script (European accented letters)

1 Letter Style Button

To select a letter, enter the 2-digit pattern number.

Programming a Monogram

Example: To program “R&B”



1 Select the Letter Style Button



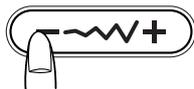
2 Select letter “R” (pattern 28).



3 Press the memory button.



4 Select pattern “&” (pattern 64).



5 Press the stitch width adjusting button.
The letter size will be reduced to 2/3 of the original size.
The reduced pattern “&” will be memorized.



6 Press the memory button.

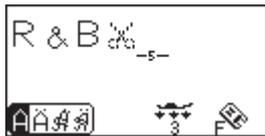


7 Select letter “B” (pattern 12).



8 Press the memory button.

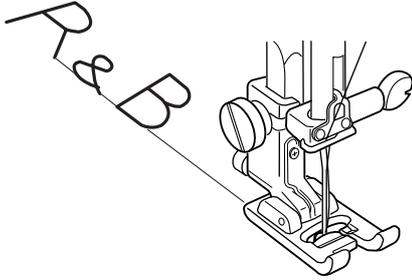
9



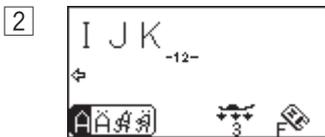
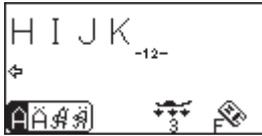
- 9 Press the auto thread cutter button after programming a monogram. The LED signal will turn on and the cutter mark will appear after the monogram.

To sew

Depress the foot control to sew. The machine will sew a monogram then stop automatically and trim the threads.



EDITING (1)



Viewing a long text

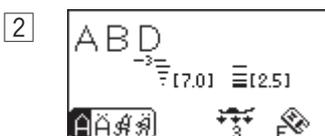
- 1 The LCD screen only shows 8 characters of a monogram at a time. If the entire text is not displayed, press the edit key or help key to scroll the text.

Pressing the edit key shifts the cursor and scrolls the text to the left.

- 2 Pressing the help key shifts the cursor and scrolls the text to the right.

NOTE:

Arrows   under a character indicate that there are remaining characters in that direction.



Editing the programmed patterns Deleting a letter (character)

- 1 **Example: To delete "C" from "ABCD"**

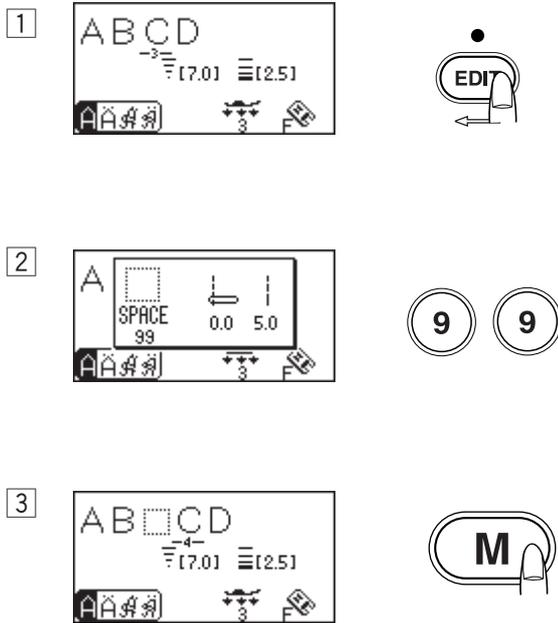
Press the edit key to shift the cursor under letter "C".

- 2 Press the clear key. Letter "C" will be deleted.

NOTE:

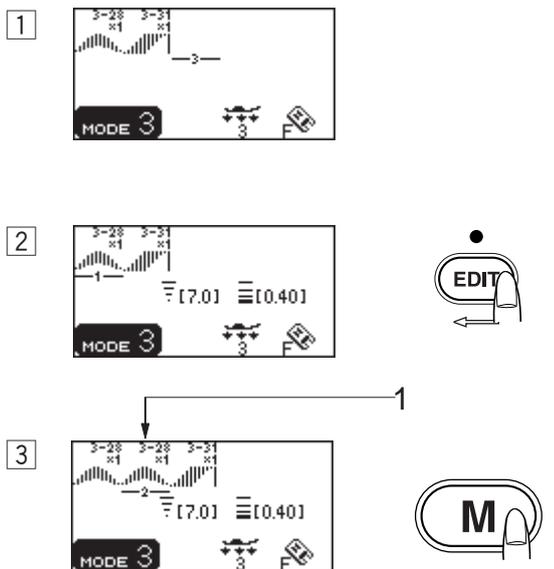
Pressing and holding the clear key will delete all the programmed patterns and the LCD screen will return to the initial display of the selected mode.

Inserting a letter (character)



Example: To insert a space in “ABCD”.

- 1 Press the Edit button to shift the cursor under the letter “C”.
- 2 Select pattern 99 (blank space).
- 3 Press the memory button and a space will be inserted before the letter “C”.



Duplicating a pattern

- 1 Program patterns 28 and 31 in the Mode 3.
- 2 Press the edit button to shift the cursor under the pattern 28.
- 3 Press the memory button and a copy of pattern 28 will be memorized.

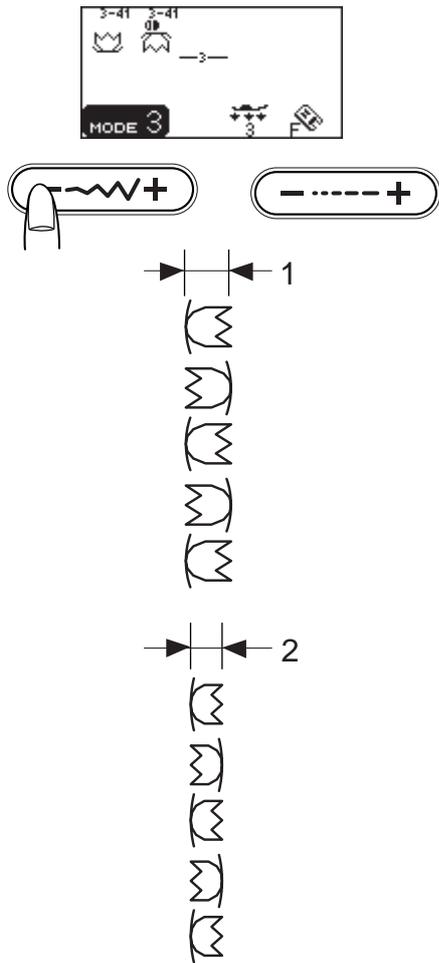
1 Duplicated pattern

EDITING (2)

Uniform stitch adjustment (Modes 2 and 3 only)

The stitch width and length of the programmed stitch patterns can be uniformly altered.

Example 1: To alter the stitch width of the programmed patterns 41 and its mirror image in the Mode 3.



Shift the cursor to the right of the last programmed pattern.

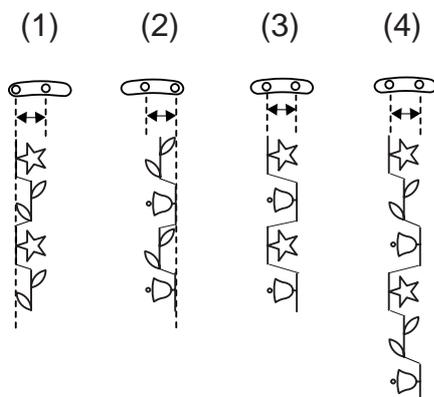
Press the stitch width adjusting button to alter the stitch width.

NOTE:

Stitch length can be uniformly altered when patterns of the same category (satin stitches or stretch stitches) have been programmed.

Start sewing. The programmed patterns will be sewn in the uniform width.

- 1 Default Width
- 2 Uniformly Altered Width



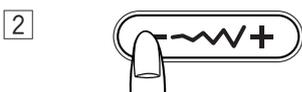
Unified needle drop position:

The needle drop position of the programmed patterns will vary depending on the pattern combination:

- (1) Unified to the left when combining the patterns with the left needle position and the center needle position.
- (2) Unified to the right when combining the patterns with the center needle position and the right needle position.
- (3) Unified to the center when combining the patterns with the left needle position and the right needle position.
- (4) Unified to the center when combining the patterns with the left, center and right needle positions.

Combining satin and decorative stitches

Example: combination of patterns 28 and 41.



1 Select the pattern 28 and 41 in the Mode 3.

2 Press the stitch width adjustment key.

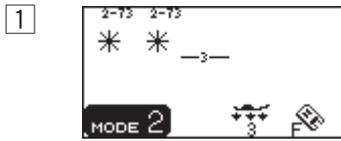
The stitch width will be applied to all memorized patterns.

NOTE:

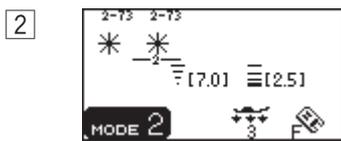
You cannot adjust the stitch length setting when you combine satin stitches and decorative stitches.

Custom stitch adjustment (Mode 2 and 3 only)

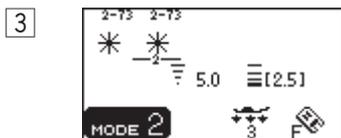
The stitch width and length can be individually altered for each pattern in the programmed combination.



1 **Example:** To alter the stitch width and length of a single pattern 73 in the combination.



2 Press the Edit button to shift the cursor under the pattern you wish to alter.



3 Press the stitch width adjusting button to reduce the width to "5.0".



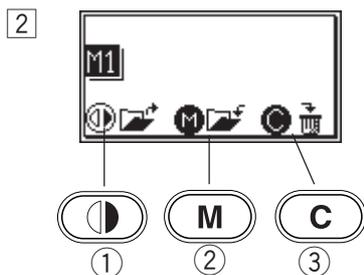
NOTES:
 To view the stitch setting of each pattern, shift the cursor under the desired pattern then press the stitch width or length adjusting button. The settings will be displayed at the bottom center of the LCD screen.
 If you press the stitch width or length adjusting button when the cursor is on the right of the last programmed pattern, a custom adjustment will be cancelled and uniform adjustment will be applied.

TO STORE AND CALL STITCH PATTERN COMBINATIONS

A pattern combination will be kept in the memory for future use even after turning the machine off.

The stored pattern combination can be recalled by pressing the memory/recall button.

You can store up to 5 combinations in mode 2 and mode 3 individually.



1 To store a pattern combination
Program a pattern combination.

2 Press the recall button. An hourglass will appear for a while and the pattern combination will be stored.

- ① : Turn over button
- ② : Memory button
- ③ : Clear button

3 Press the memory button.

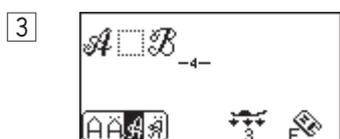
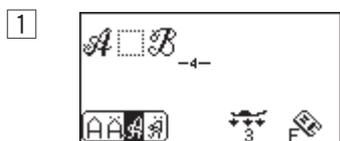
* The machine beeps and an hourglass appears on the LCD screen while the machine is saving the stitch pattern combination.

Do not turn the power switch off while the machine is beeping.

* You can access other memory address (M2 to M5) by pressing the stock/call key.

* To exit from the stock/call mode, press any key except the memory, clear, turnover memory, edit or help key.

Overwriting a stored combination



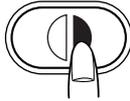
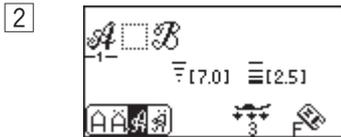
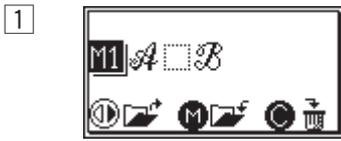
1 Program the desired combination.

2 Press the stock/call key to select the desired memory address. The LCD screen will show the pattern combination already stored.

3 Press the memory key and the stored combination will be replaced with the new combination.

Recalling a stored combination

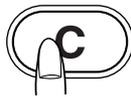
Select mode 2, 3 or monogramming



1 Press the stock/call key to select the desired memory address.

2 Press the turnover memory key to recall the stored combination.

Deleting a stored combination



1 Press the stock/call key to select the desired memory address.

2 Press the clear key to delete the stored combination.

TWIN NEEDLE SEWING

NOTES:

When you sew patterns with the twin needle, press the twin needle button  and test the stitches first before you begin to sew.

Use the zigzag foot A or satin stitch foot F for twin needle sewing.

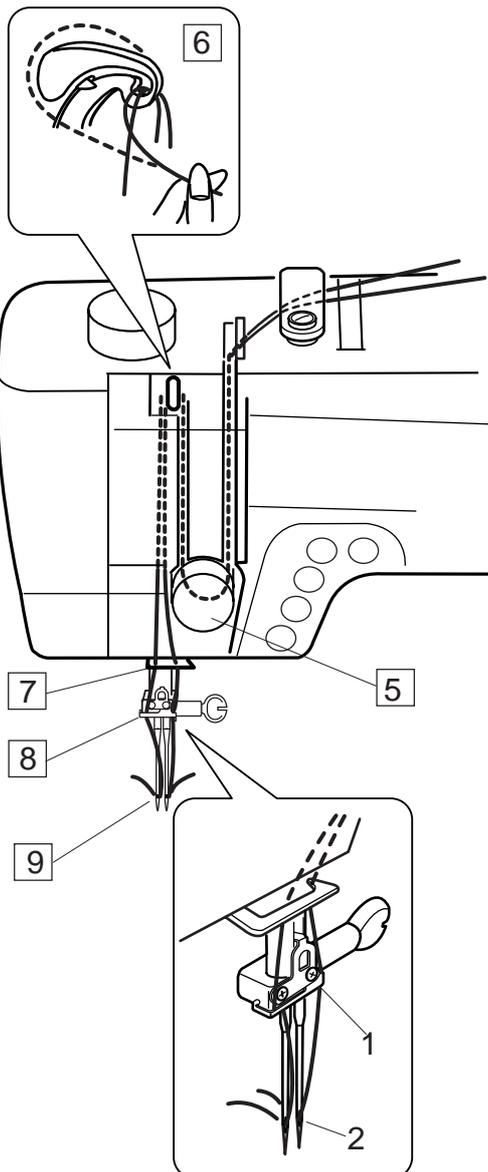
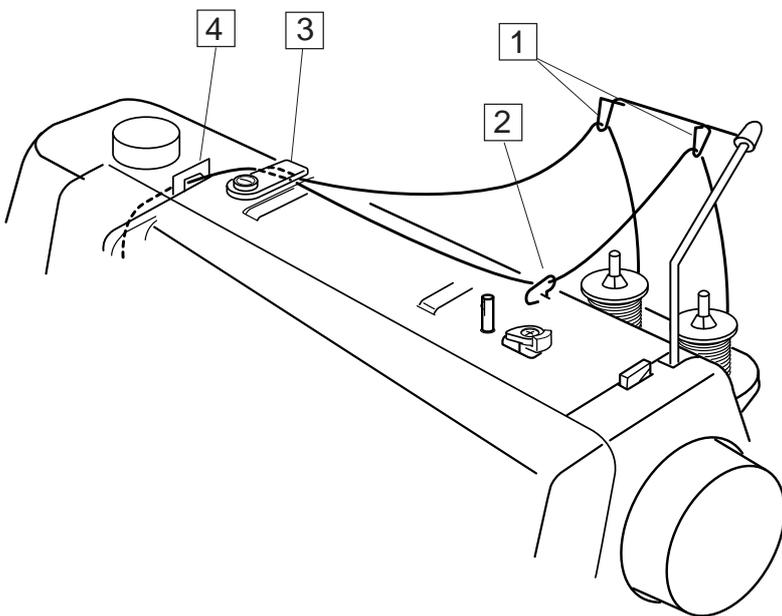
Turn off the machine before changing the needle.
Use #60 or finer threads for twin needle sewing.

Threading the machine for twin needle

Place two spools of thread on the spool stand.

Draw both threads from the spools and pass them through the points from  to .

Make sure that the two strands of thread do not get tangled.



Slip one of the threads in the needle bar thread guide on the left, and the other on the right.

1 Needle Bar Thread Guide

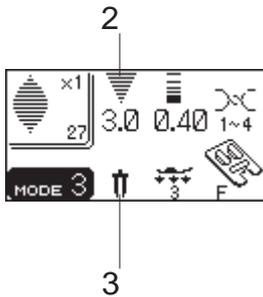
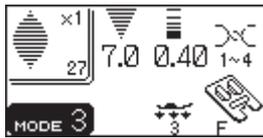
Thread the needles from the front to back with your hand.

2 Thread the Needles.

NOTES:

Threading from  to  is the same as for single needle.

The automatic needle threader cannot be used for the twin needle.



To sew

Select a pattern.

Press the twin needle button .

The LCD screen shows a twin needle icon and the maximum permissible stitch width is restricted to 3.0 mm.

- 1 Twin Needle Icon
- 2 Maximum Width (3.0)
- 3 Twin Needle mark

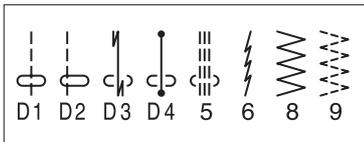
NOTE:
The maximum permissible stitch width is based on a 2 mm wide twin needle.

Sew at a medium speed.

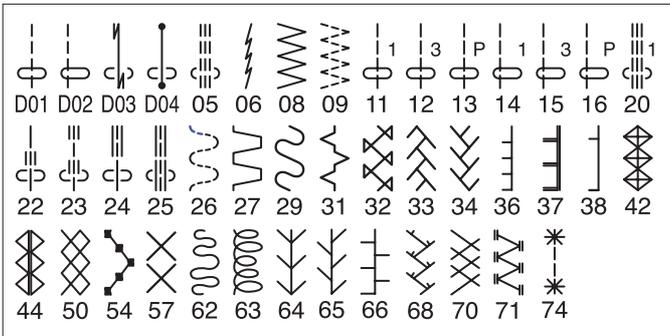
When changing the sewing direction, raise the needle from the fabric.

You can sew patterns shown on the left with the twin needle.

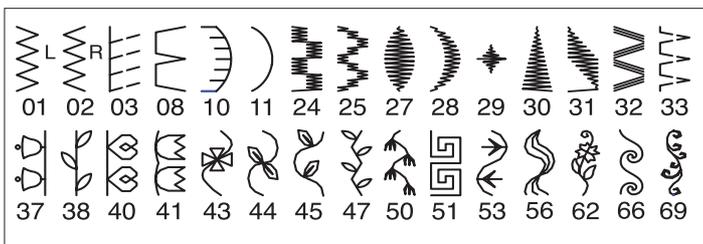
Mode 1



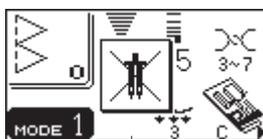
Mode 2



Mode 3



NOTES:
If the selected pattern is not suitable for twin needle sewing, a warning message will be displayed on the LCD screen.
Twin needle sewing is not available in the Mode 4.



- 4 Warning Message Screen

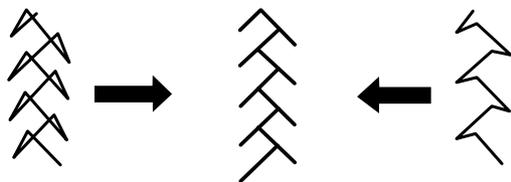
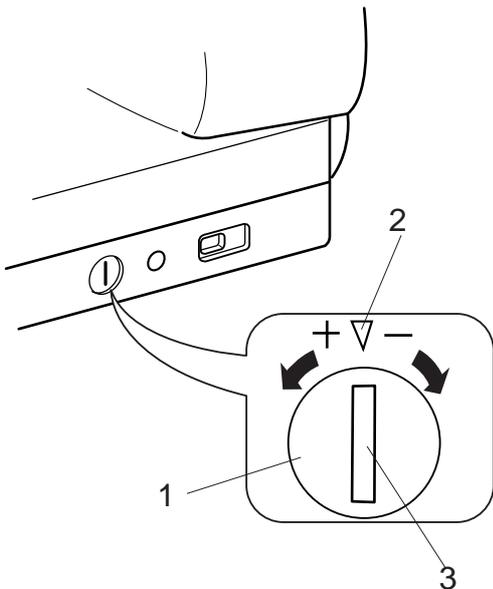
CORRECTING DISTORTED STITCH PATTERNS

The sewing results of the stitch patterns may vary depending upon the sewing conditions, such as sewing speed, type of the fabric, number of layers etc.

Always test sew on a scrap piece of the fabric that you wish to use.

If stretch stitch patterns, letters, numbers or the auto buttonhole stitch are distorted, correct it with the feed balancing dial.

- 1 Feed Balancing Dial
- 2 Neutral Position
- 3 Setting Mark

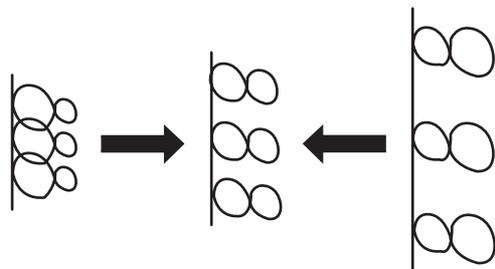


Stretch stitch pattern

Example: Pattern 33 in Mode 2

If the pattern is compressed, turn the feed balancing dial in the direction of “+”.

If the pattern is drawn out, turn the feed balancing dial in the direction of “-”.

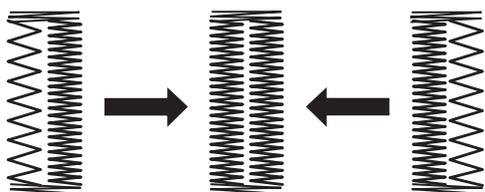


Letters and numbers

Example: Pattern 08 Monogram

If the pattern is compressed, turn the feed balancing dial in the direction of “+”.

If the pattern is drawn out, turn the feed balancing dial in the direction of “-”.



Stitch balance of the auto buttonhole

Example: Pattern 15 in Mode 3

The stitch balance of the right and left rows on the auto buttonhole may vary depending on conditions of sewing.

If the right row is denser, turn the dial in the direction of “+”.

If the left row is denser, turn the dial in the direction of “-”.

NOTE:

Return the feed balancing dial to its neutral position when the sewing is finished.

CARE AND MAINTENANCE

Cleaning the Hook Race, Feed Dog and thread cutter

WARNING:

Turn the power switch off and unplug the machine before cleaning.

NOTE:

Do not dismantle the machine in any way other than what is explained on this page.

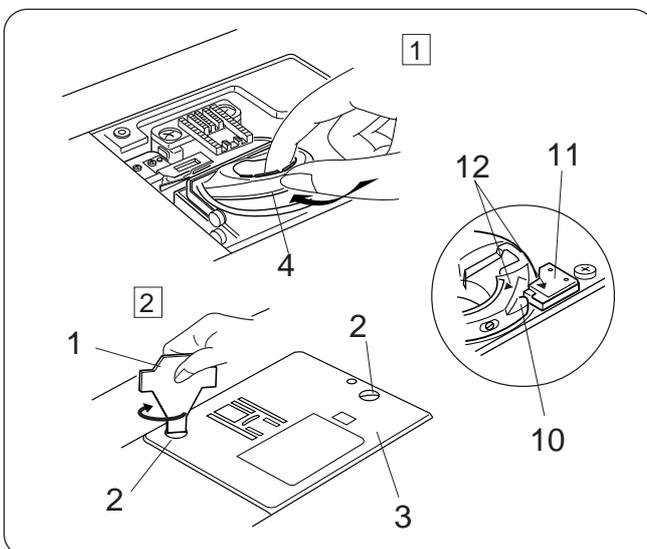
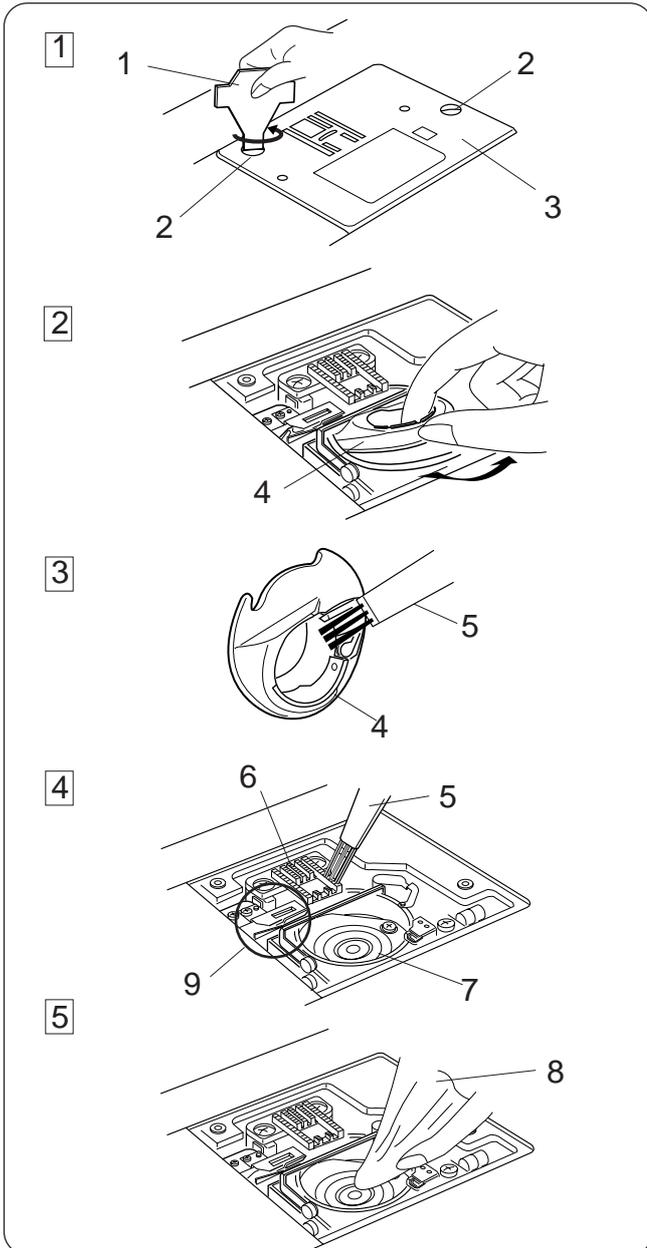
- 1 Remove the needle and presser foot. Remove the setscrews and remove the needle plate.
- 2 Take out the bobbin. Lift up the bobbin holder and remove it.
- 3 Clean the bobbin holder with a lint brush and soft dry cloth.
- 4 Clean the feed dog, auto thread cutter mechanism and hook race with the lint brush.
- 5 Clean the hook race with a dry cloth. (You may also use a vacuum cleaner.)
 - 1 Screwdriver
 - 2 Setscrew
 - 3 Needle Plate
 - 4 Bobbin Holder
 - 5 Lint Brush
 - 6 Feed Dog
 - 7 Hook Race
 - 8 Soft Dry Cloth
 - 9 Auto Thread Cutter Mechanism

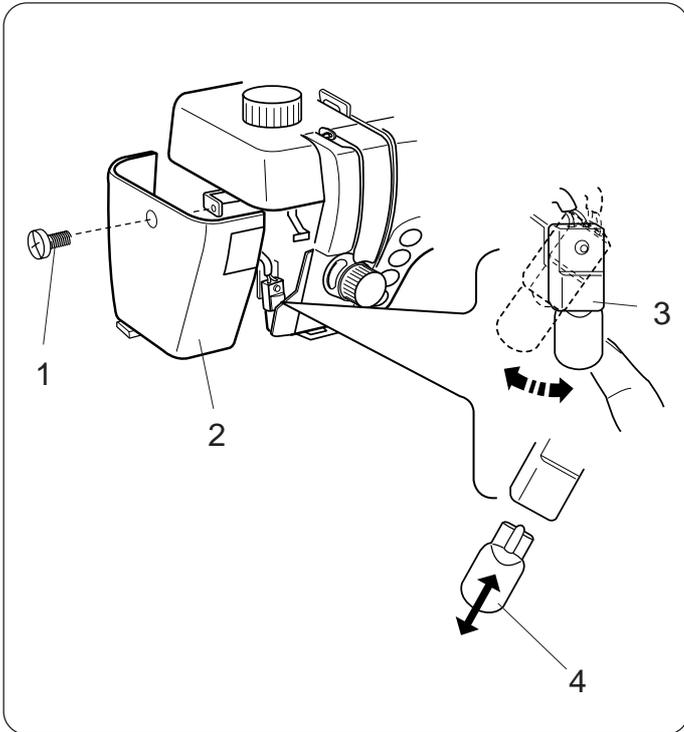
Assemble the hook race

- 1 Insert the bobbin holder. The knob of the bobbin holder should fit next to the stopper on the hook race. Be sure to align the red triangle marks on the bobbin holder and stopper.
- 2 Reattach the needle plate and tighten the screws.
 - 10 Knob
 - 11 Stopper
 - 12 Triangle Marks

NOTE:

After cleaning the machine, insert the needle and attach the presser foot.





Replacing the Light Bulb

WARNING:

Turn the power off before replacing the light bulb.
The bulb could be HOT, wait until it has cooled down before touching it.

To remove:

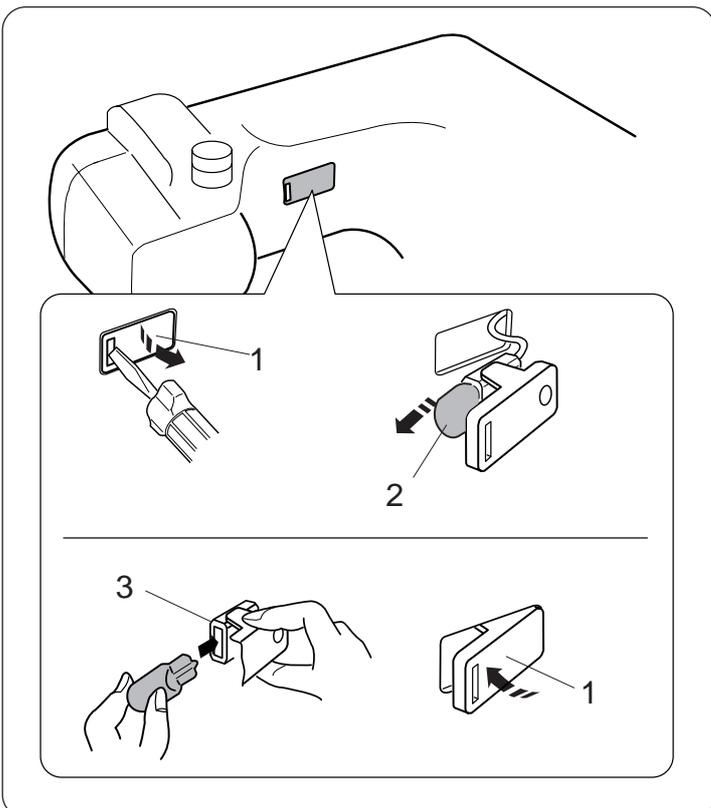
Remove the setscrew.
Remove the faceplate.
Swing the lamp socket to the left and pull out the bulb.

To replace:

Insert a new bulb into the opening of the socket.
Return the lamp socket to the original position.
Attach the faceplate with the setscrew.

- 1 Setscrew
- 2 Faceplate
- 3 Lamp Socket
- 4 Light Bulb

Replace a bulb with the same type, rated 12 V, 5 W.



Replacing the light bulb on the underside of the sewing arm

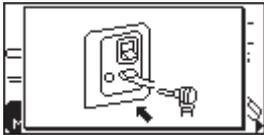
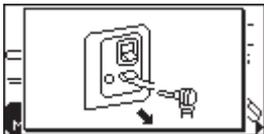
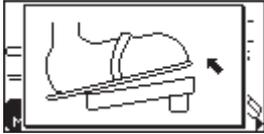
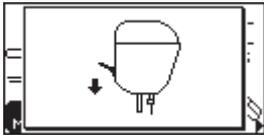
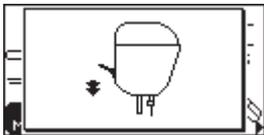
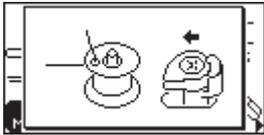
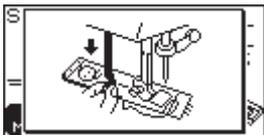
Lay the machine on its back.
Remove the lamp holder with the screwdriver as shown.
Pull out the light bulb from the socket.
Insert a new bulb into the socket.
Push the lampholder back into the opening.

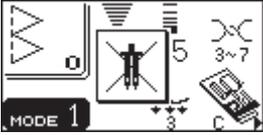
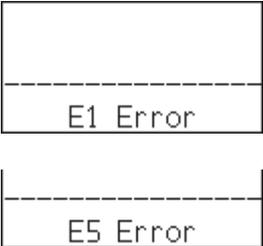
- 1 Lamp holder
- 2 Lamp
- 3 Lamp socket

Replace the bulb with the same type, rated 12 V, 5 W.

PROBLEMS AND WARNING SIGNALS

If a buzzer sounds and the LCD screen shows a warning sign, follow the guidance below.

Warning Sign	Cause	Try this
	The power is turned on without the foot control being connected. The foot control is disconnected while sewing.	Connect the foot control and restart the machine.
	Press the start/stop button with the foot control being connected.	Disconnect the foot control.
	The power is turned on while depressing the foot control.	Release the foot control.
	The power is turned on with the needle in the down position.	Press the up/down needle button to raise the needle.
(A)  (B) 	(A): The machine is started without lowering the presser foot. (B): The presser foot lifter at its extra highest position. The thread cutter button is pressed with the presser foot raised. The machine will stop if the presser foot is raised while sewing.	Lower the presser foot and start the machine. Lower the presser foot and press the thread cutter button again.
	When pushing the bobbin winder stopper to the left.	Press the bobbin winding button.
	When the bobbin winding button is pressed without pushing the bobbin winder stopper to the left.	Push the bobbin winder stopper to the left.
	The machine will stop if the buttonhole is sewn without lowering the buttonhole lever.	Lower the buttonhole lever and restart the machine.
	The foot control is released while sewing a locking stitch.	Depress the foot control again to let the machine stop automatically.
	The auto thread cutter button is pressed when the machine is still initializing after turning the power on. Pressing the thread cutter button 4 times in a row	Press the thread cutter button after the machine stops.

Warning Sign	Cause	Try this
	<p>The twin needle button is pressed when a pattern unsuitable for twin needle sewing has been selected.</p>	<p>Sew with a single needle.</p>
	<p>The elongation button is pressed when a pattern that cannot be elongated has been selected.</p>	<p>Elongation is applicable only to satin stitches.</p>
	<p>The memory button is pressed when a pattern that cannot be memorized has been selected.</p>	<p>Select a memorable pattern.</p>
	<p>The machine is started without lowering the feed dog when you select the basting or free motion quilting.</p>	<p>Lower the feed dog</p>
	<p>The power is turned on again after auto thread cutting has been interrupted.</p> <p>The presser foot is raised before auto thread cutting is completed.</p>	<p>Press the Thread cutter button to finish auto thread cutting.</p>
	<p>The machine is started when it halts due to the overload.</p> <p>The feed dog is dropped while sewing.</p> <p>The bobbin winder spindle is locked while winding a bobbin.</p>	<p>Wait for at least 15 seconds to restart. Remove tangled threads around hook race and auto thread cutting device.</p> <p>Do not drop or raise the feed dog while the machine is running.</p> <p>Turn off the power and remove tangled threads.</p>
	<p>The machine is out of order due to a problem in the control circuit.</p>	<p>Contact the service center or the store from whom the machine was purchased.</p>
<p>The LCD screen shows an abnormal display.</p>	<p>Turn the power off and turn it on again.</p>	

Audible Signal	The Buzzer Sounds when:
pip	Normal operation
pip-pip-pip	Invalid operation or malfunction

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 under the presser foot when start sewing. 6. The threads were not drawn to the rear after sewing. 7. The thread is too heavy or too fine for the needle. 8. The thread is tangled around a spool. 	Page 19 - 21 Page 24 Page 23 Page 23 Page 30 Page 30 Page 23 Page 16
The bobbin thread breaks	<ol style="list-style-type: none"> 1. The bobbin thread is not threaded properly in the bobbin holder. 2. Lint has collected in the bobbin holder. 3. The bobbin is damaged and does not turn smoothly. 	Page 18 Page 87 Change the bobbin.
The needle breaks	<ol style="list-style-type: none"> 1. The needle is incorrectly inserted. 2. The needle clamp screw is loose. 3. The threads were not drawn to the rear after sewing. 4. The needle is too fine for the fabric being used. 5. A wrong presser foot is used. 	Page 23 Page 23 Page 30 Page 23 Use the correct foot.
Skipped stitches	<ol style="list-style-type: none"> 1. The needle is incorrectly inserted, bent or blunt. 2. The needle and/or threads are not suitable for the work being sewn. 3. The Blue Tip needle is not being used for sewing stretch, very fine fabrics and synthetics. 4. The needle thread is not threaded properly. 5. The poor quality needle is used. 	Page 23 Page 23 Page 30 Page 19 - 21 Change the needle.
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 is not adjusted properly. A stabilizer is not used when sewing very fine fabrics. 	Page 24 Page 19 - 21 Page 23 Make stitch shorter. Page 25 Apply a stabilizer.
The cloth is not feeding smoothly	<ol style="list-style-type: none"> 1. The feed dog is packed with lint. 2. The stitches are too fine. 3. The feed dog is not raised after "drop feed" sewing. 	Page 87 Make stitch longer. Page 25
Loops on the seams	<ol style="list-style-type: none"> 1. The needle thread tension is too loose. 2. The needle is too thick or too fine for the fabric. 	Page 24 Page 23
The machine does not work	<ol style="list-style-type: none"> 1. The machine is not plugged in or foot control is not connected. 2. Thread has been caught in the hook race. 3. The presser foot is not lowered. 	Page 5 Page 87 Page 11
Buttonhole sewing is not sewn properly	<ol style="list-style-type: none"> 1. The stitch density is not suitable for the fabric being sewn. 2. The interfacing has not been used for the stretch or synthetic fabric. 3. The buttonhole lever is not lowered. 	Page 47 Apply an interfacing. Page 51
The machine is noisy	<ol style="list-style-type: none"> 1. Thread has been caught in the hook race. 2. Lint has built up in the hook race or bobbin holder. 	Page 87 Page 87
Layers shift	<ol style="list-style-type: none"> 1. The foot pressure is not suitable for fabrics being sewn. 	Page 25
Thread cutter LED blinks	<ol style="list-style-type: none"> 1. The presser foot is raised before auto thread cutting is complete. 2. Thread have been caught in the thread cutter mechanism. 	Lower the presser foot. Page 87

It is not abnormal that a faint humming sound is coming out from the internal motors.

The pattern selection key area may get warm when the machine has been used for hours.