

elna
SWISS DESIGN

Instruction Manual

eXcellence 740



IMPORTANT SAFETY INSTRUCTIONS

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with this sewing machine.

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

This sewing machine is designed and manufactured for household use only.

Read all instructions before using this sewing machine.

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.

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 dealer 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 and/or cutting blade.
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

USA only

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

Use only foot control Model 21371.



Please note that on disposal, this product must be safely recycled in accordance with relevant National legislation relating to electrical/electronic products. If in doubt please contact your retailer for guidance. (European Union only)

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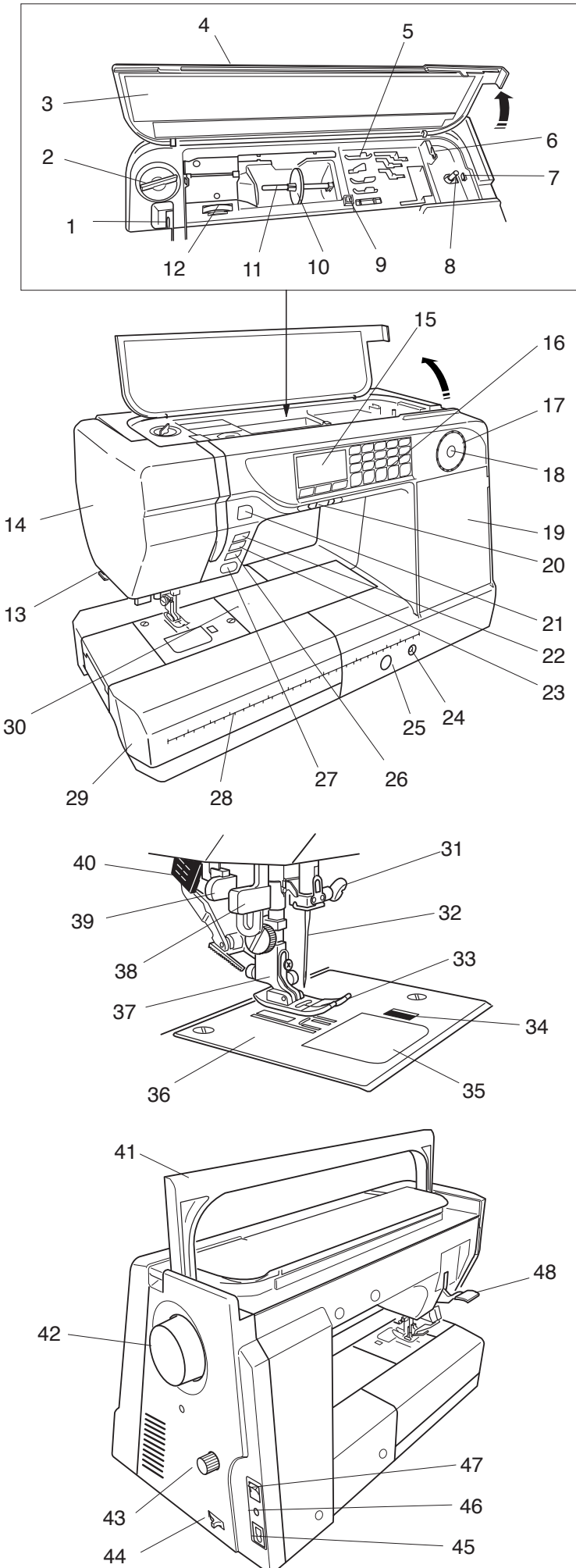
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GETTING READY TO SEW

Names of Parts

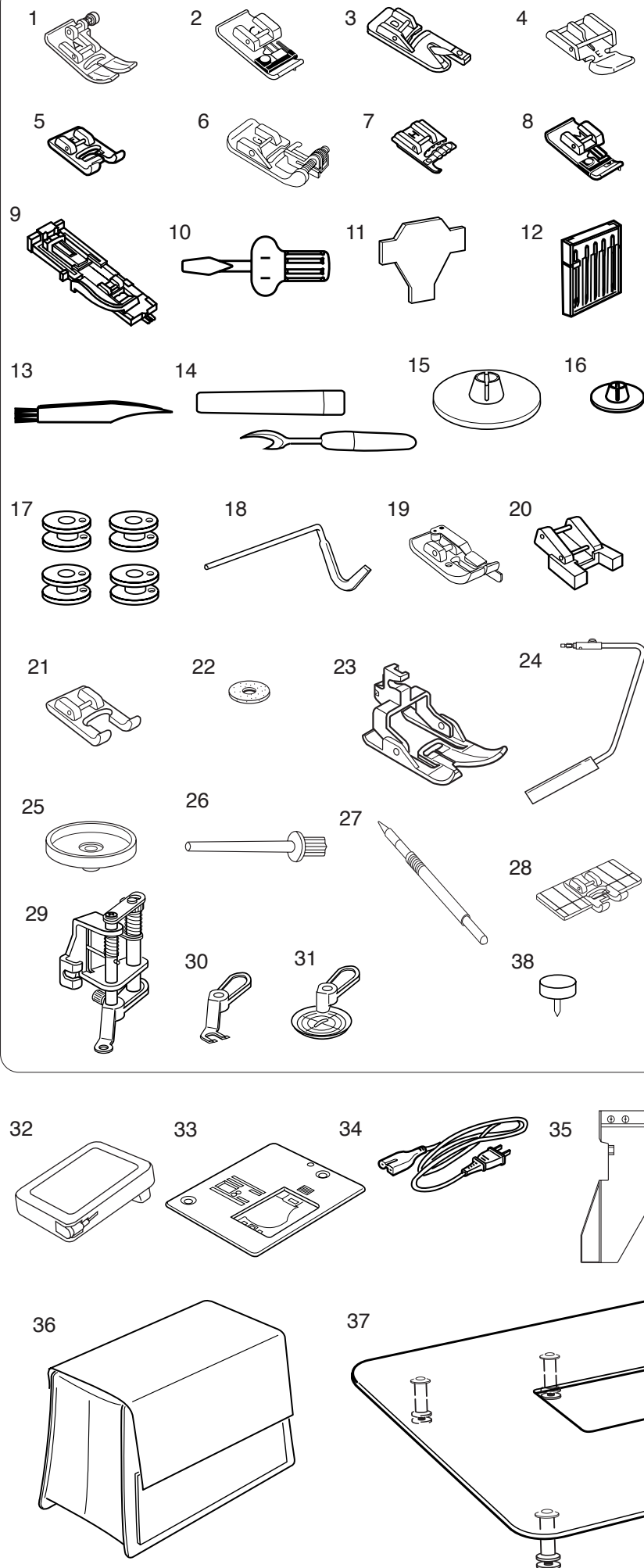


- 1 Take-up lever
- 2 Foot pressure dial
- 3 Reference chart
- 4 Top cover
- 5 Foot storage compartment
- 6 Bobbin thread cutter
- 7 Bobbin winder stopper
- 8 Bobbin winder spindle
- 9 Hole for extra spool pin
- 10 Spool holder
- 11 Spool pin
- 12 Thread tension dial
- 13 Thread cutter
- 14 Face plate
- 15 LCD screen
- 16 Touch panel
- 17 Jog dial
- 18 Confirm button
- 19 Side storage compartment
- 20 Speed control slider
- 21 Thread cutter button
- 22 Up/Down needle button
- 23 Auto-lock button
- 24 Knee lifter socket
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- 26 Reverse button
- 27 Start/stop button
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- 32 Needle
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- 35 Hook cover plate
- 36 Needle plate
- 37 Foot holder
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- 40 Dual feed device
- 41 Carrying handle
- 42 Flywheel (always turn toward you)
- 43 Dual feed adjusting dial
- 44 Drop feed lever
- 45 Machine socket
- 46 Foot control jack
- 47 Power switch
- 48 Presser foot lifter

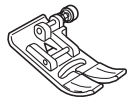
Standard Accessories

- 1 Zigzag foot A (set on the machine)
- 2 Overlock foot C
- 3 Hemmer foot D
- 4 Zipper foot E
- 5 Satin stitch foot F
- 6 Blind hemming foot G
- 7 Multi-cord foot H
- 8 Overedge foot M
- 9 Automatic buttonhole foot R
- 10 Screwdriver
- 11 Screwdriver key
- 12 Set of needles
- 13 Lint brush
- 14 Seam ripper (Buttonhole opener)
- 15 Spool holder (large, set on the machine)
- 16 Spool holder (small)
- 17 Bobbins (4 total, 1 in machine)
- 18 Quilt guide
- 19 Scant 1/4" foot O2
- 20 Button sewing foot T
- 21 Open toe satin stitch foot F2
- 22 Felt cushion
- 23 Dual feed foot AD
- 24 Knee lifter
- 25 Spool supporter
- 26 Extra spool pin
- 27 Touch panel stylus
- 28 Border guide foot
- 29 Convertible free motion quilting foot QB- H (with closed-toe foot)
- 30 Open-toe foot
- 31 Clear view foot
- 32 Foot control
- 33 Straight stitch needle plate
- 34 Power cable
- 35 Cloth guide
- 36 Semi-hard fabric cover
- 37 Extra wide table
- 38 Circular sewing pivot pin
- 39 Instruction book

* The circular sewing pivot pin is stored in the storage compartment inside the side cover.



Presser Foot and Accessory Definitions



A: Standard Metal Foot

This foot comes attached to your machine. It is mainly used for straight stitches and zigzag stitches longer than 1.0. The button locks the foot in a horizontal position helping to sew over multiple layered seams.



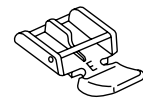
C: Overlock Foot

Prevent fabric edges from raveling by finishing the edge with a zigzag stitch. The brush on the foot helps the stitch lie flatter and reduces puckering. Use with medium weight fabrics.



D: Hemmer Foot

Insert the fabric into the spiral on this foot. The spiral rolls the fabric, creating a rolled hem. An easy, professional way to sew hems.



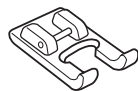
E: Zipper Foot

Use when sewing zippers into place. The grooves on the underside ensure the foot glides over the zipper coil. Attach either to the left or right of the needle to sew each side of the zipper.



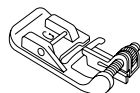
F: Satin Stitch Foot

The cutout on the underside of the foot is designed to accommodate dense stitch formation. Ideal when sewing satin and decorative stitches.



F2: Open toe Satin Stitch Foot

Ideal for precision embroidery, applique, cutwork and monogramming. The cutout on the underside of the foot accommodates satin stitching and the open front ensures greater visibility while sewing.



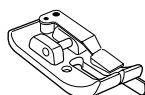
G: Blind Hem Foot

The guide on the foot helps ensure that the needle catches one or two fibers of the hem, resulting in an invisible hemline.



H: Multi-Cord Foot

Design your own braids or trims. Place one to three cord in the foot and sew over cord(s) for a simple couching method. Or sew over one cord with a zigzag to gather heavier weight fabrics.



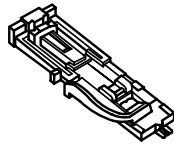
O2: Scant 1/4" Foot

Accuracy is the key to successful patchwork/quilt sewing. Sewn from 3.5 needle position; the edge of the foot provides a perfect 1/4" seam guide. Or use 4.5 needle position and achieve the desirable scant 1/4" often requested by quilters.



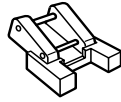
M: Overedge foot

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



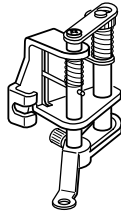
R: Automatic Buttonhole Foot

Place button in foot to determine the buttonhole size. The machine will automatically sew the corresponding buttonhole.



T: Button Sewing foot

No matter the shape, in one quick and easy Special properties of foot are open front and grips on the underside.



QB-H: Convertible Free Motion Quilting Foot

This foot is used for all free-motion quilting techniques such as stippling, embroidery.

The height of this foot can be adjustable, and the toe of foot can be convertible to open-toe or clear view.



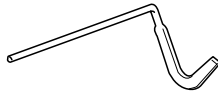
Open-toe Foot

The open-toe foot gives you more visibility when you sew free-motion quilting.



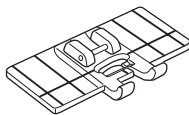
Clea View Foot

The clear view foot is specialized for zig-zag stitch free-motion quilting.



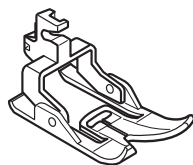
Quilt Guide

The quilt guide is helpful when sewing parallel, evenly spaced rows stitching.



Border Guide Foot

This transparent foot has parallel guidelines to sew evenly spaced rows of decorative stitches.



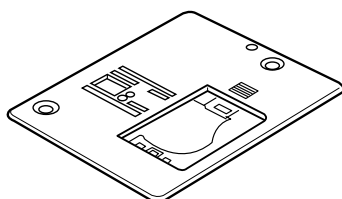
AD: Dual Feed Foot

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.



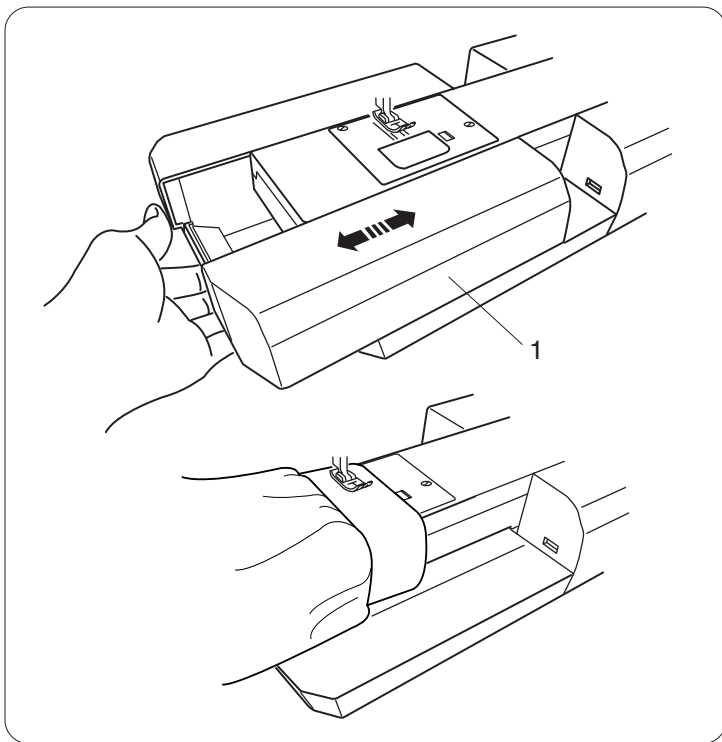
Circular Sewing Pivot Pin

The free arm has holes that are 1.8 cm apart from each other. Use this pivot pin to secure the fabric and sew perfect curves or circles or large scallops.



Straight Stitch Needle Plate

Skipped stitches or puckered fabric? The small needle entry hole in this plate prevents the needle from pushing you fabric underneath the needle plate. (Must use center needle position.)



Extension Table

The extension table provides an extended sewing area and can be removed for free arm sewing.

- 1 Extension table

To detach:

Draw the table out to the left.

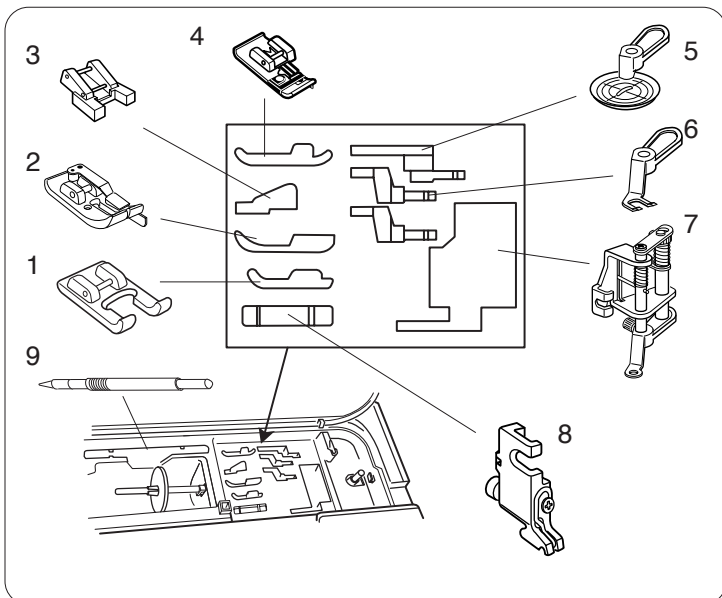
To attach:

Slide the table on the base and push the table to the right.

Free-arm sewing

Free-arm sewing is used for stitching sleeves, waistbands, pant legs or any other tubular garments.

It is also useful for darning socks or mending knees or elbows.

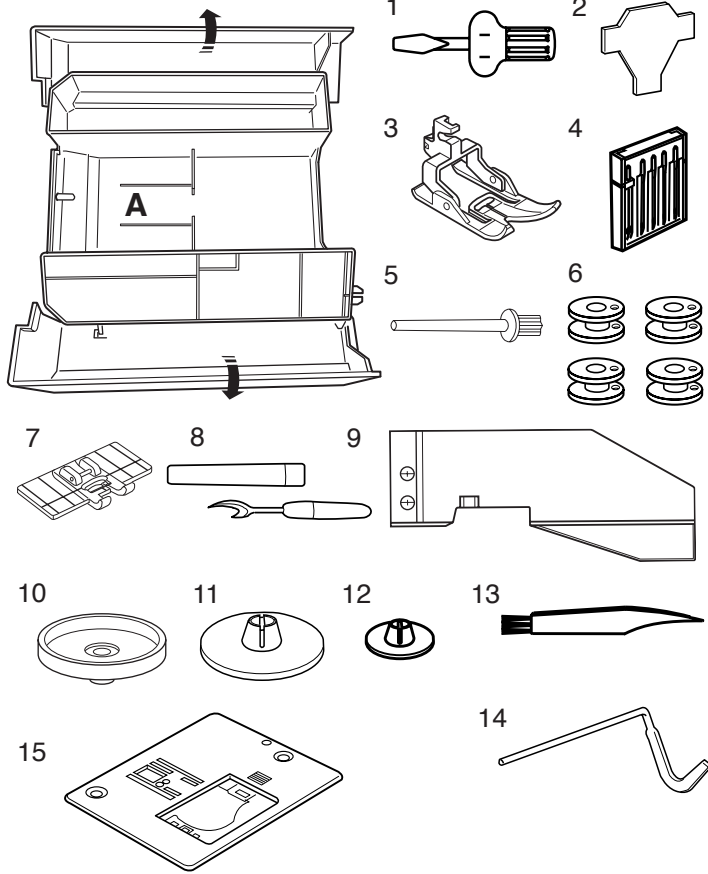


Accessories Storage

The accessories can be conveniently stored in the foot storage compartment under the top cover and in the extension table.

Under the top cover

- 1 Open toe satin stitch foot F2
- 2 Scant 1/4" foot O2
- 3 Button sewing foot T
- 4 Overedge foot M
- 5 Clear view foot
- 6 Open-toe foot
- 7 Convertible free motion quilting foot QB-H
- 8 Foot holder
- 9 Touch panel stylus

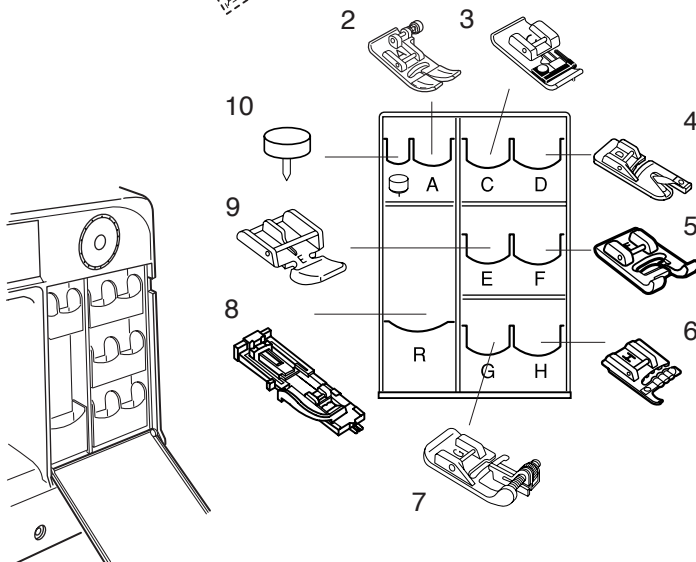
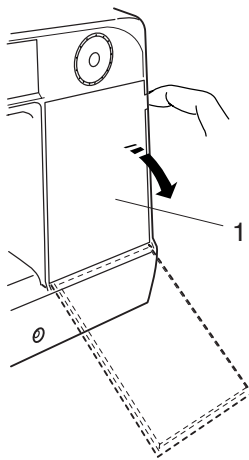


In the Extension Table

Accessories are stored inside the extension table.
Pull lid to open the storage box.

- 1 Screwdriver
- 2 Screwdriver key
- 3 Dual feed foot AD
- 4 Set of needles
- 5 Extra spool pin
- 6 Bobbins
- 7 Border guide foot
- 8 Seam ripper
- 9 Cloth guide
- 10 Spool supporter
- 11 Spool holder (large)
- 12 Spool holder (small)
- 13 Lint brush
- 14 Quilt guide
- 15 Straight stitch needle plate

* The needle plate can be stored in the compartment **A** of the extension table.



Side Cover

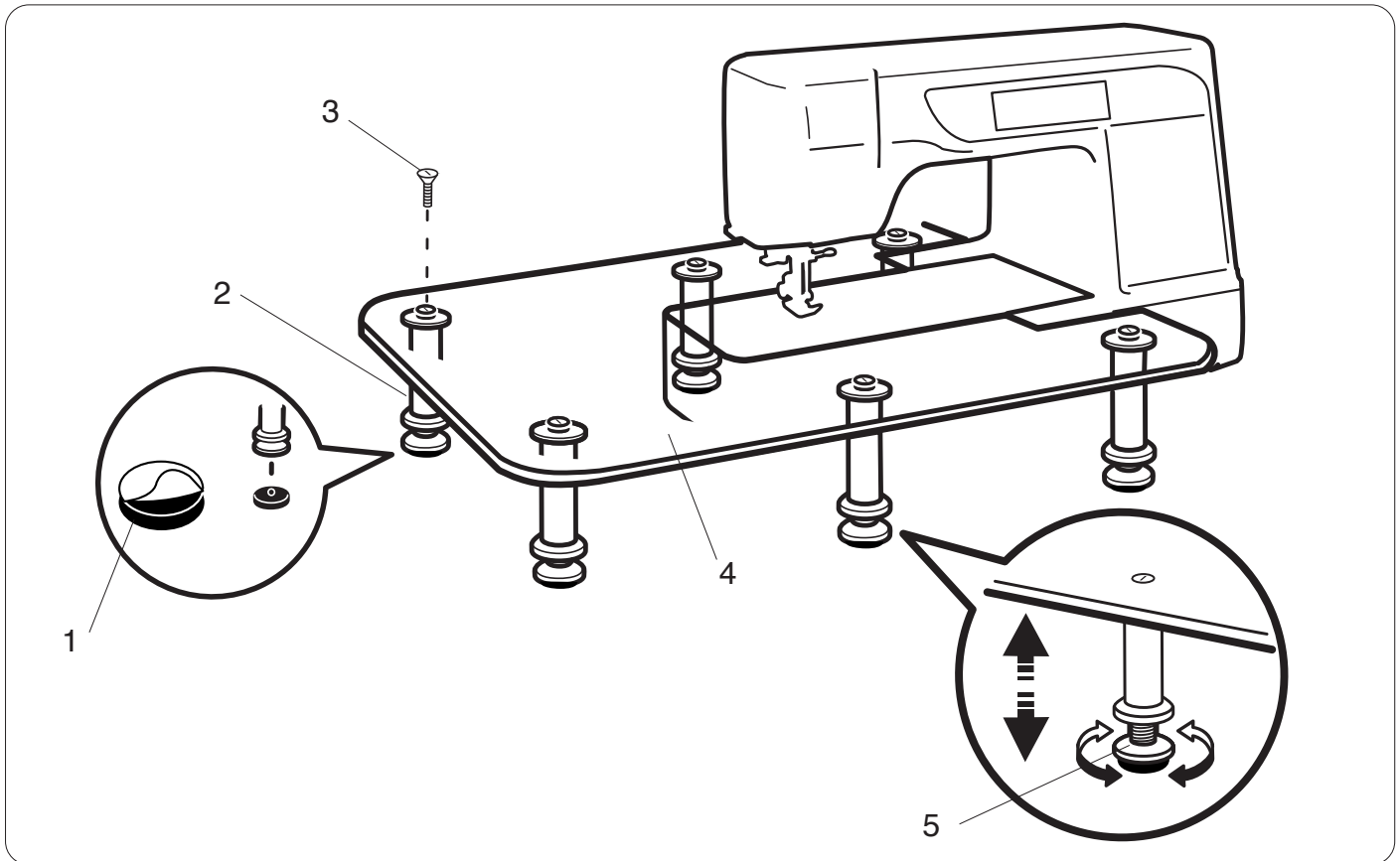
Pull down side cover to open.

- 1 Side cover

- 2 Zigzag foot A (set on the machine)
- 3 Overcasting foot C
- 4 Hemmer foot D
- 5 Satin stitch foot F
- 6 Multi-cord foot H
- 7 Blind hem foot G
- 8 Automatic buttonhole foot R
- 9 Zipper foot E
- 10 Circular sewing pivot pin

Storage compartments can be tilted forward for easy access.

Assembling the Extra Wide Table



Peel off the backing paper from the rubber soles and attach to the bottom of the legs.

- 1 Rubber sole
- 2 Leg
- 3 Setscrew

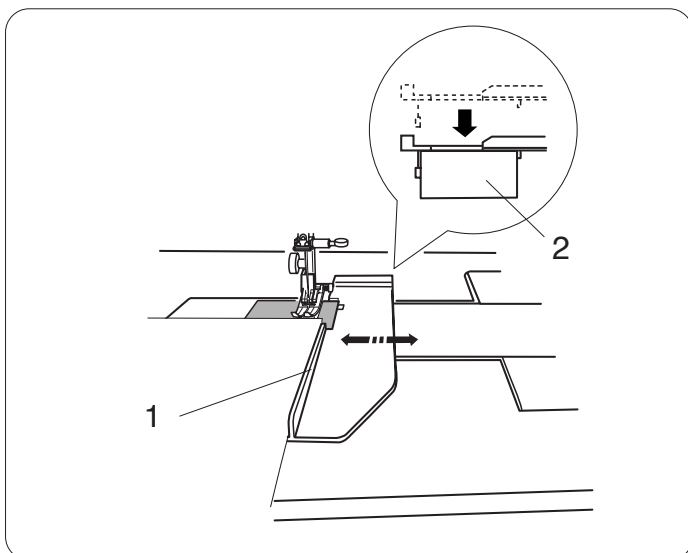
Attach the 6 legs to the table top with the setscrews.

- 4 Table top

Place the assembled table to the machine as shown. Slide the table to the right until the table catches the pin on the backside of the free arm.

Adjust the height of the table top by turning the adjusting screw.

- 5 Adjusting screw



Using the Cloth Guide

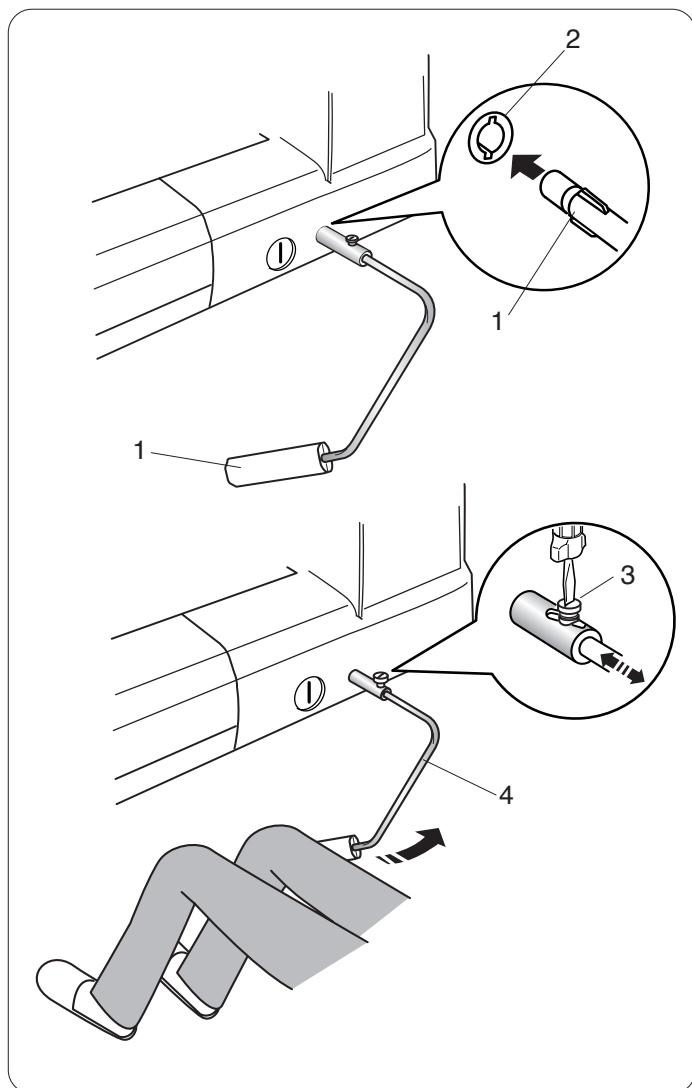
Remove the extension table and attach the extra wide table.

Attach the cloth guide to the free arm by pushing the cloth guide down to snap it in place.

Slide the cloth guide to the desired position.

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

- 1 Cloth guide
- 2 Free arm



Knee Lifter

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

Attaching the knee lifter

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

- 1 Knee lifter
- 2 Knee lifter socket

Adjusting the knee lifter

The angle of the knee lifter can be adjusted to fit you. Loosen the setscrew and slide the angle bar in or out to adjust the angle of the knee lifter.

Tighten the setscrew to secure the angle bar.

- 3 Setscrew
- 4 Angle bar

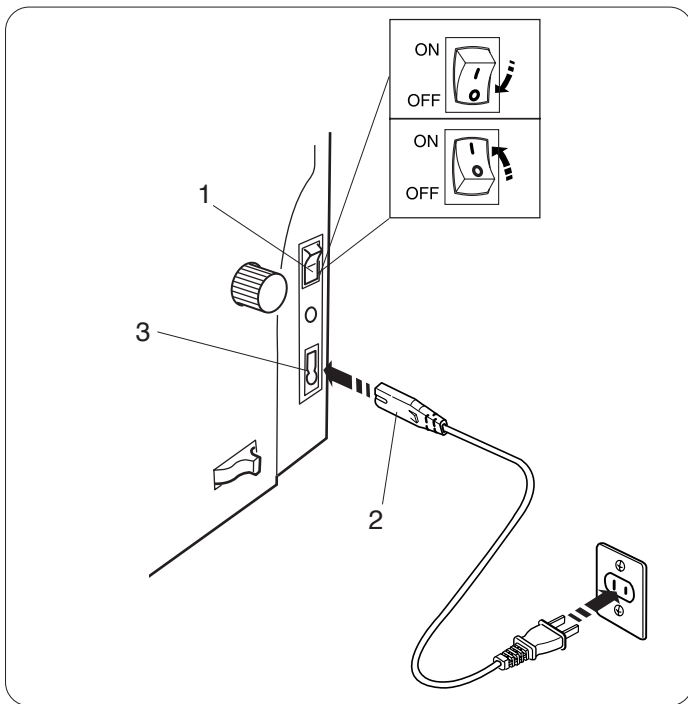
Using the knee lifter

Push the knee lifter with your knee to easily move the presser foot up and down.

You can control how high the foot rises by the amount of knee pressure you exert.

NOTE:

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



Connecting the Power Supply

First make sure the power switch is off.

Insert the machine plug of the power supply cord into the machine socket.

Insert the power supply plug into the wall outlet, and turn the power switch on.

- 1 Power switch
- 2 Machine plug
- 3 Machine socket

NOTES:

Make sure to use the power supply cord that came with the machine.

If you turn off the power switch, wait for 5 seconds before turning it on again.



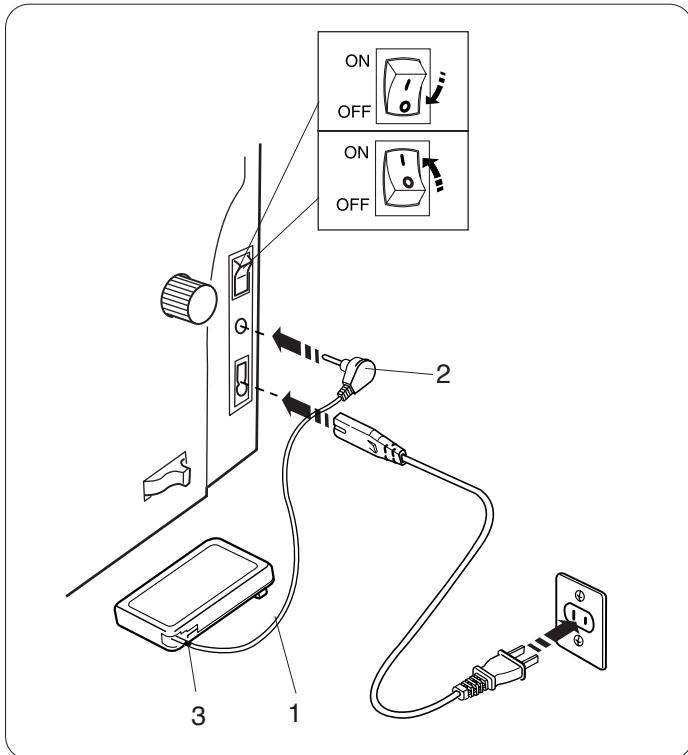
WARNING:

While in operation, always keep your eyes on the sewing area, and do not touch any moving parts such as the thread take-up lever, flywheel or needle.

Always turn off the power switch and unplug the machine from the power supply:

- when leaving the machine unattended.
- when attaching or removing parts.
- when cleaning the machine.

Do not place anything on the foot control.



If you wish to use the foot control, pull out the cord from the foot control and insert the pin connector into the jack on the machine.

- 1 Foot control cord
- 2 Pin connector

Insert the machine plug of the power supply cord into the machine socket.

Insert the power supply plug into the wall outlet, and turn the power switch on.



CAUTION:

Do not pull the foot control cord beyond the red mark.

- 3 Red mark

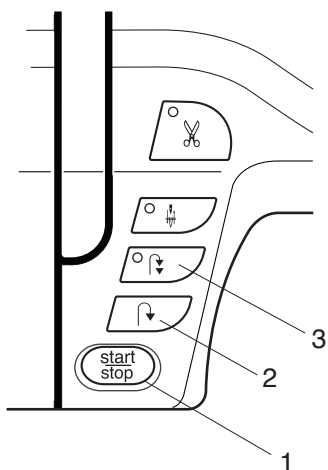
Operating Instructions:

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

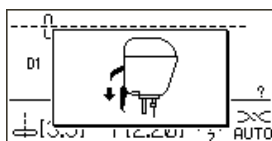
For the U.S.A. only

Polarized plug (one blade wider than the other):

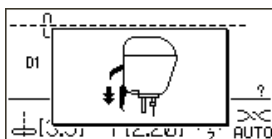
To reduce the risk of electric shock, this plug is intended to fit in a polarized outlet only one way. If it does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not modify the plug in any way.



(A)



(B)



Machine Operating 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 machine runs slowly as long as this button is pressed.

The button will turn red when the machine is running, and green when it has been stopped.

Pressing and holding this button while sewing will slow down the sewing speed and the machine will stop when the button is released.

NOTE:

The start/stop button cannot be used when the foot control is connected to the machine.

The machine will not start if the presser foot is up and the LCD screen shows message (A) or (B).

Lower the presser foot and start the machine.

2 Reverse button

When sewing pattern number D1, D4, 9-11, 94 or 153-156 the machine will sew in reverse as long as the reverse button is pressed.

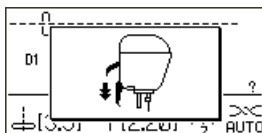
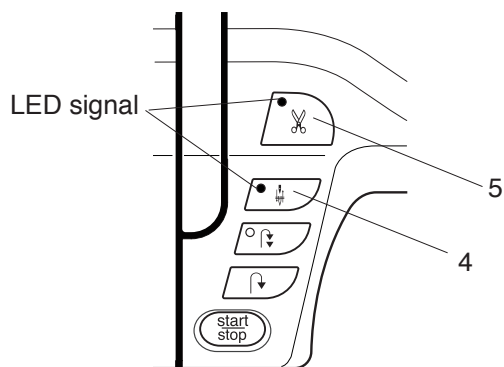
If you press the reverse button when sewing any other patterns, the machine will immediately sew locking stitches and automatically stop.

When the foot control is not connected and pattern D1, D4, 9-11, 94 or 153-156 is selected, the machine will sew in reverse at the slowest speed as long as the reverse button is pressed.

3 Auto-lock button

When sewing pattern number D1, D4, 9-11, 94 or 153-158, the machine will immediately sew locking stitches and automatically stop when the auto-lock button is pressed.

When sewing all other patterns, the machine will sew to the end of the current pattern, sew locking stitches and stop automatically.



4 Up/Down needle button

Press this button to bring the needle bar up or down. The machine will stop with the needle up or down depending on the position set by this button.

The LED signal is turned on when the down position is selected.

NOTE:

The machine will always stop with the needle up after sewing buttonholes, darning and monograms. If you press the up/down needle button when the presser foot is at the extra lifted position, the LCD screen will advise you to lower the foot.

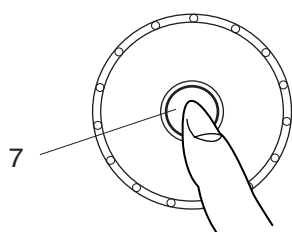
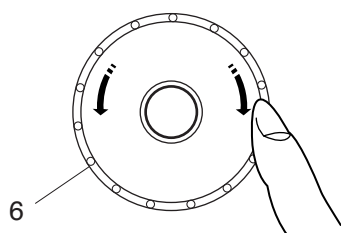
5 Thread cutter button

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

The LED signal blinks while cutting threads.

NOTES:

Use the thread cutter on the face plate when cutting specialized threads or threads #30 or thicker. Clean the auto thread cutter mechanism regularly to avoid malfunction due to built up lint. Avoid using a paper-cored spool with the auto thread cutter. When nearly empty, they may not unwind smoothly and cause the thread to bunch up or slip when using the memory auto thread cutter (refer to page 13). Do not pull the fabric if auto thread cutting fails and the thread tangles. Turn the power switch off and remove the needle plate to remove the tangled threads (refer to page 100).



6 Jog dial

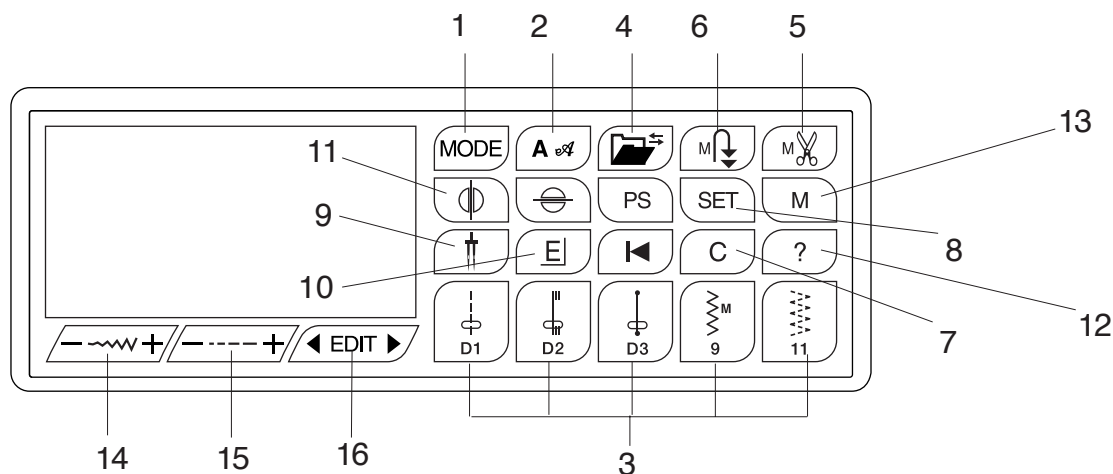
The jog dial is used for selecting stitch patterns, characters and certain settings.

Turn the jog dial clockwise or counterclockwise with your fingertip to browse patterns or settings.

7 Confirm button

Press the confirm button to select the desired pattern or settings.

Function Keys



1 Select mode key (refer to page 15)

Press this key to open the group selection window.

2 Monogram key (refer to page 93)

Press this key to select one of 2 letter styles available.

3 Direct pattern selection keys

Press one of 5 keys to select a straight or zigzag stitch.

4 Memory save/recall key (refer to page 98)

Press this button to register or recall programmed pattern combinations.

5 Memory auto thread cut key (refer to page 91)

Press this key before sewing, if you wish to cut the threads automatically after finishing sewing with a locking stitch.

When programming a pattern combination, press this key after the last programmed pattern to cut the threads automatically after finishing sewing.

The LED signal on the thread cutter button (refer to page 12) will turn on when the auto thread cutter key is pressed.

6 Memory auto-lock key (refer to page 88)

Press this key after the last memorized pattern.

The machine will automatically lock the stitch off and then stop when finishing sewing.

7 Clear key (refer to page 95)

Press this key to delete the last memorized pattern.

Press and hold this key until the buzzer sounds to delete the whole pattern combination.

8 Set key (refer to page 17)

Press this key to open the machine setting window for customizing the machine settings.

9 Twin needle key (refer to page 85)

Press this key when sewing with a twin needle.

10 Elongation key (refer to page 83)

Press this key to elongate satin stitch patterns.

11 Mirror image key (refer to pages 88, 89)

Press this key to sew a mirror image of the selected pattern.

12 Help key (refer to page 16)

Press this key to view information on the selected pattern.

13 Memory key (refer to pages 88, 89)

Press this key to memorize the selected pattern.

Up to 50 patterns can be memorized.

14 Stitch width adjusting key (refer to pages 39, 47, 56)

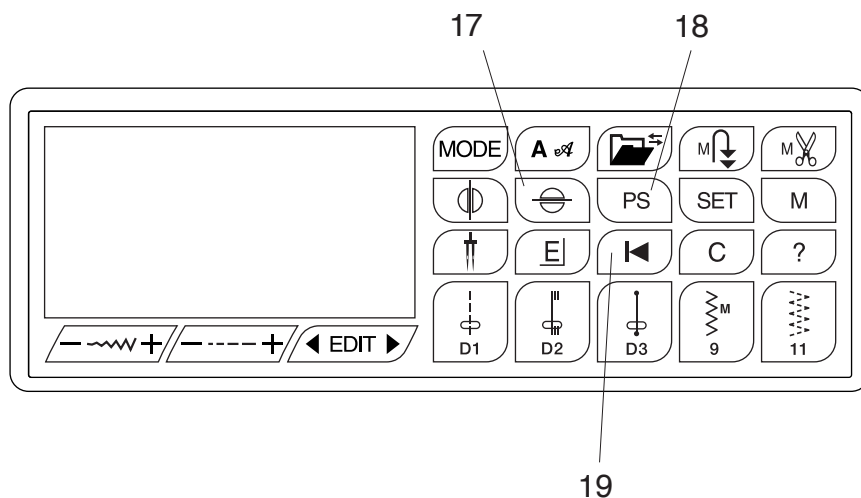
Press this key to alter the stitch width.

15 Stitch length adjusting key (refer to pages 39, 47, 56)


Press this key to alter the stitch length.

16 Edit key (refer to page 95)

Press this key to edit the programmed pattern combinations.




17 Face to face key (refer to page 96)

When this key is pressed after selecting a stitch, the stitch will be flipped vertically (as it appears on the stitch chart) and  symbol will appear in the LCD screen.

Stitches that are compatible with this key are identified on the stitch chart with a shaded background.

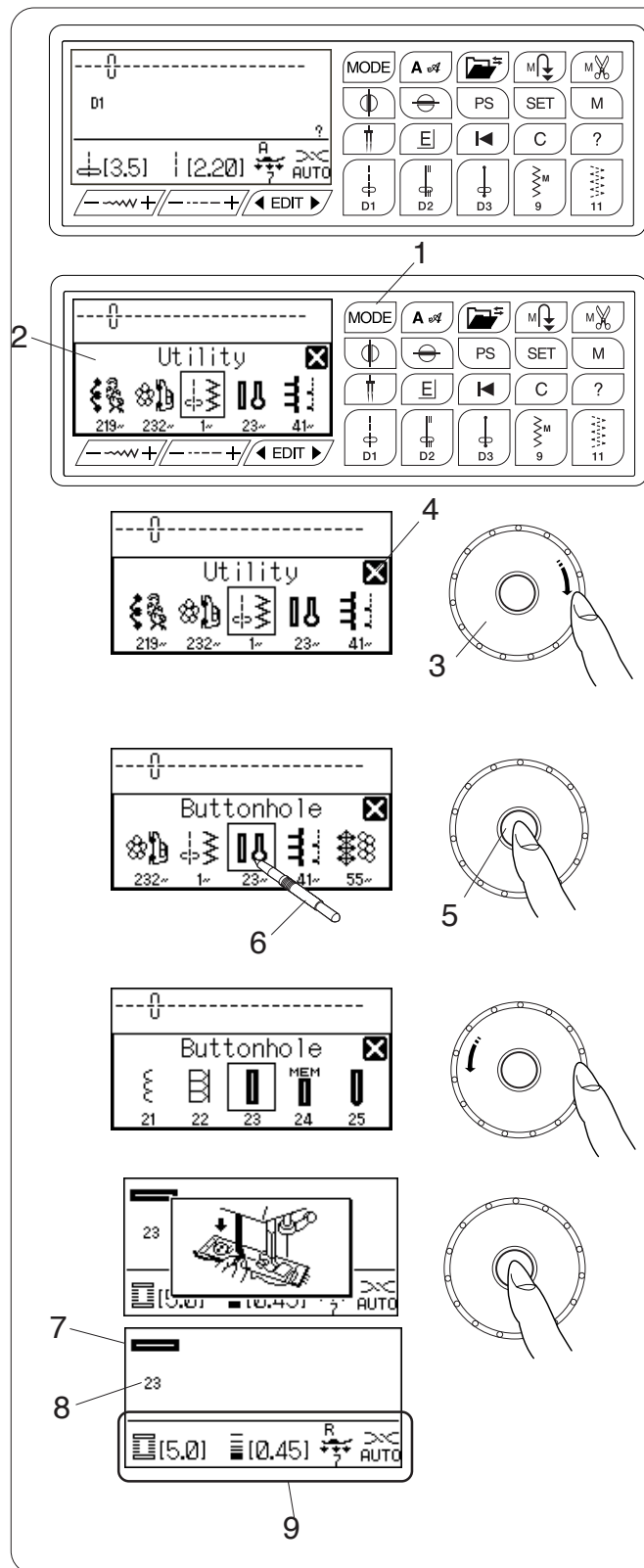
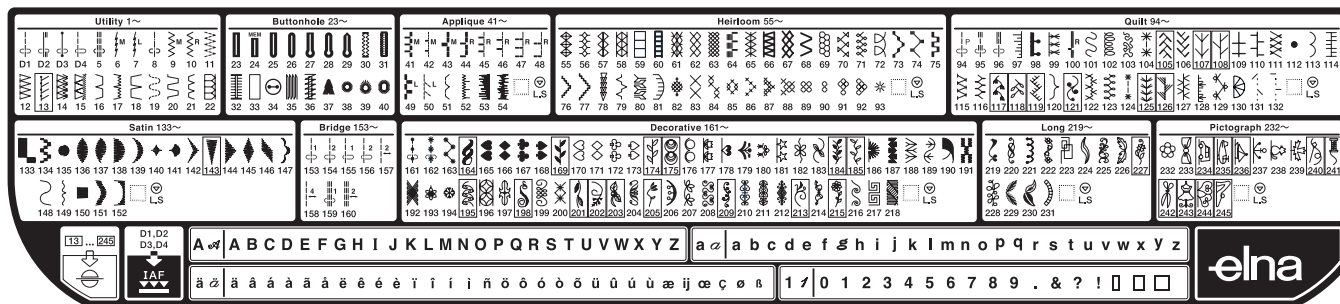
18 My personal setting key (refer to page 40)

Override the factory settings by changing width/needle position or length. Press this key after changing settings. Press "M" key. New setting will now be saved as the default setting with  symbol in LCD screen.

19 Start over key (refer to page 90)

Pressing the start over key allows you to sew the programmed patterns from the beginning.

Selecting the Patterns



The stitch patterns are classified into 10 groups.

To select the desired stitch pattern, refer to the reference chart inside the top cover to identify the stitch group and pattern number.

When turning the power switch on, the LCD screen will show the straight stitch D1 selected.

Press the mode key and the group selection window will open.

- 1 Mode key
- 2 Group selection window

Turn the jog dial clockwise or counterclockwise to browse through the groups.

- 3 Jog dial

NOTE:

To close the group selection window, press the cross mark with the touch panel stylus.

- 4 Cross mark

Press the confirm button in the center of the jog dial to select the group enclosed with a frame, or press the icon of the desired group with the touch panel stylus.

- 5 Confirm button
- 6 Touch panel stylus

The pattern selection window will open.

Turn the jog dial and press the confirm button, or press the stitch icon to select the desired stitch pattern.

The LCD screen will display the pattern number and stitch image, along with information such as stitch width and length, recommended foot, foot pressure and tension setting.

- 7 Stitch image
- 8 Pattern number
- 9 Information

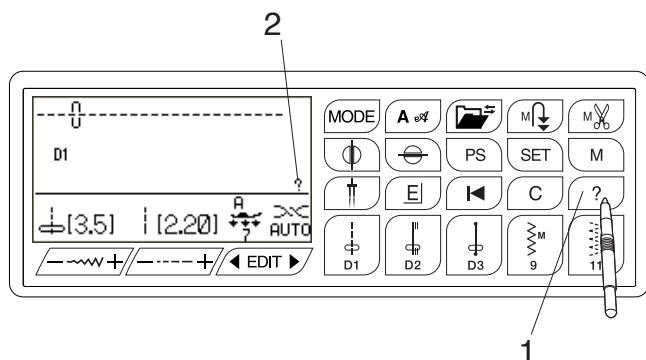
NOTE:

A message window will be displayed for briefly when certain stitch pattern is selected.



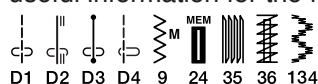
CAUTION:

Do not press the surface of the LCD screen with hard or sharp objects like pencils, screwdrivers or the like. Use the touch panel stylus to press the LCD screen.



Help key

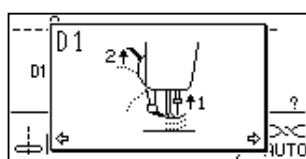
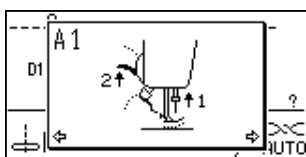
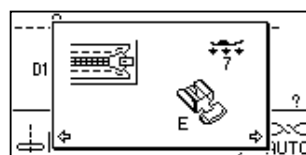
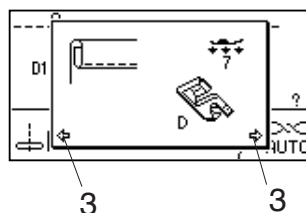
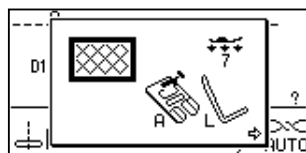
Pressing this key will show alternative applications and useful information for the following stitch patterns:



1 Help key

When one of the above patterns is selected, the “?” mark is displayed.

2 “?” mark



Example: Stitch pattern D1 is selected.

When you press the help key, the following will be displayed on the LCD screen.

The first page shows the zigzag foot A and quilting guide bar for quilting.

NOTES:

Use the jog dial or press the help key to scroll through the pages.

To close the help window, press the clear key.

The second page shows the rolled hem foot D for rolled hemming applications.

NOTE:

Arrow marks indicate that there are previous and next pages to be displayed.

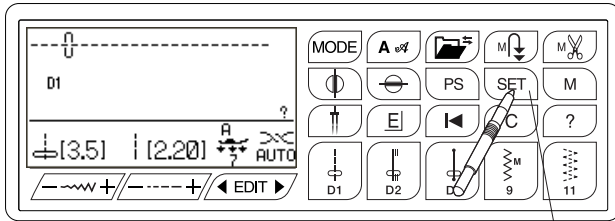
3 Arrow marks

The third page shows the zipper foot E for zipper sewing applications.

Pages A1 to A6 and D1 to D6 show step-by-step instructions on how to engage and disengage the dual feed device.

Customizing Machine Settings

You can customize the machine settings to your preference.



1

Press the set key and the LCD screen will show the machine setting window.

- 1 Set key
- 2 Machine setting window

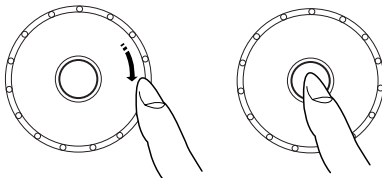


3

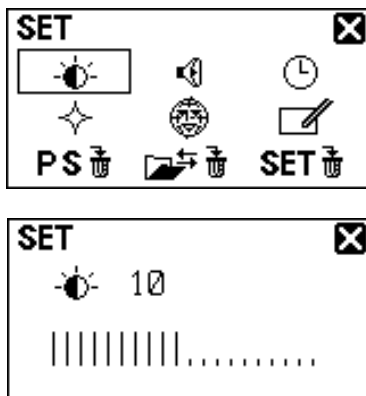
2

To close the machine setting window, press the cross mark.

- 3 Cross mark



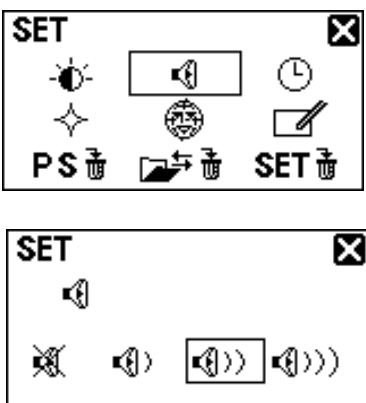
Turn the jog dial to select the desired item to set and press the confirm button.



Screen brightness

The screen brightness can be adjusted from level 0 to 20. The preset level is 10.

Turn the jog dial to adjust the screen brightness. Press the confirm button to register the new setting.



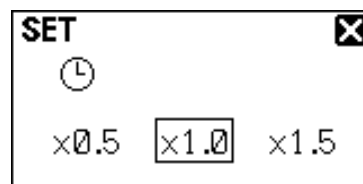
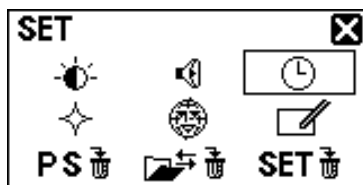
Buzzer sound

The level of the buzzer sound can be adjusted and you can mute the buzzer in normal operation.

Turn the jog dial to select the desired sound level: mute, low normal or loud. Press the confirm button to register the new setting. You can select the desired level by also pressing a sound level icon with the touch panel stylus.

NOTE:

Items and settings can also be selected by pressing the relevant icon on the LCD screen



Sub window display time

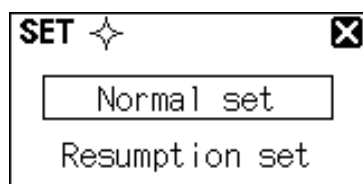
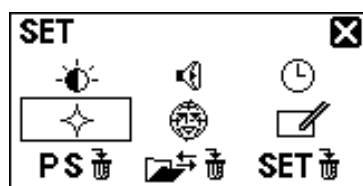
A sub window will appear when selecting certain patterns such as buttonholes.

The duration of the sub window display can be altered.

Turn the jog dial to select x0.5 (1 second), x1.0 (2 seconds) or x1.5 (3 seconds).

The preset time is x1.0 (2 seconds).

Press the confirm button to register the new setting.

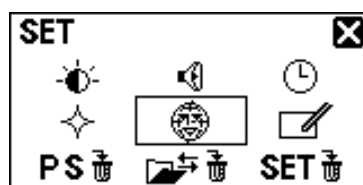


Resumption setting

The last pattern sewn before turning the power off can be recalled when turning the power on again by setting the resumption setting on.

Turn the jog dial to select the normal set or resumption set.

Press the confirm button to register the new setting.



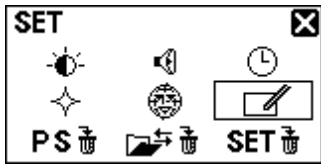
Language selection

You can choose one of the following languages for screen display.

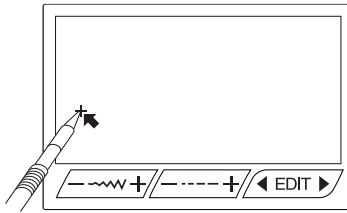
- 1 German
- 2 English
- 3 Spanish
- 4 French
- 5 Italian
- 6 Dutch
- 7 Polish
- 8 Slovenian
- 9 Finnish
- 10 Swedish
- 11 Russian

Turn the jog dial to select the desired language.

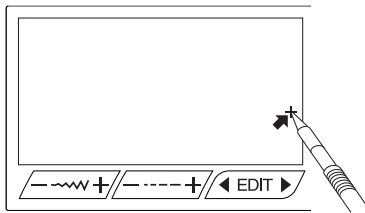
Press the confirm button to register the new setting.



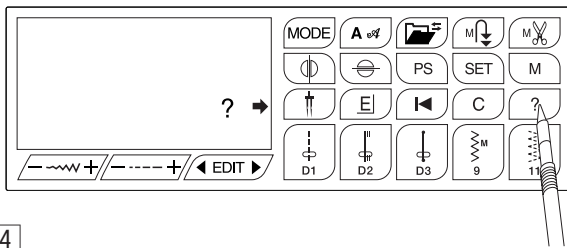
1



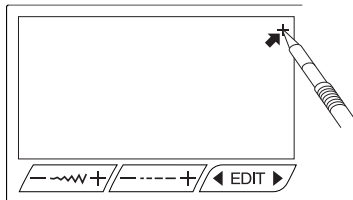
2



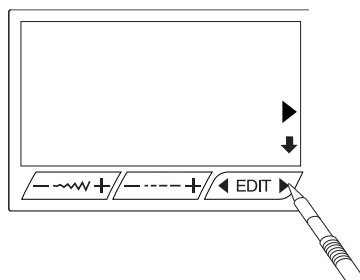
3



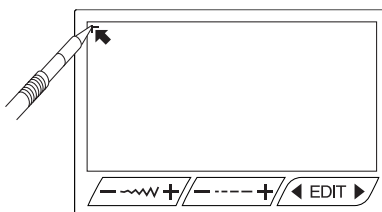
4



5



6



Touch panel calibration

If the touch panel keys seem out of alignment, calibrate the key position as follows.

1 Press the “+” sign that appears on the screen with the touch panel stylus.

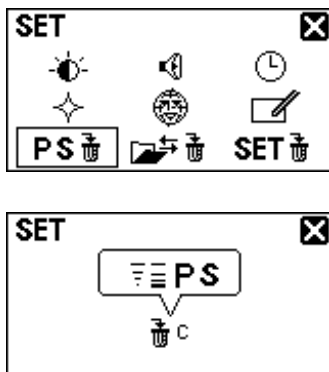
2 Press the “+” sign that appears on the screen with the touch panel stylus.

3 Press the center of the help key with the touch panel stylus.

4 Press the “+” sign that appears on the LCD screen with the touch panel stylus.

5 Press the “▶” sign of the edit key with the touch panel stylus.

6 Press the “L” sign that appears on the LCD screen with the touch panel stylus.
The new settings are registered.

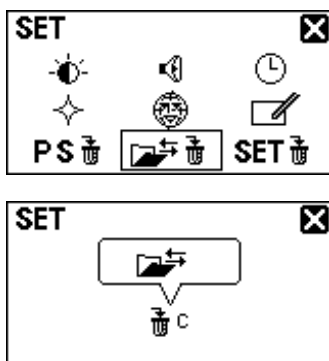


Reset all stitches to factory default settings

It is possible to reset the machine so all personal settings for all stitches revert to the factory default settings.

Press and hold the clear key  or its icon  C on the LCD screen.

If you do not wish to reset all stitches to factory default settings, press the cross mark to return to the previous display.

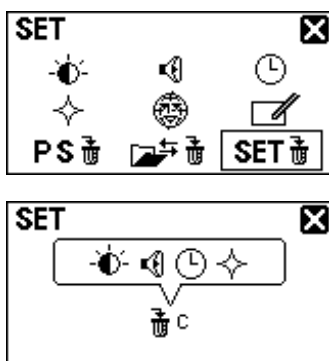


Deleting stored pattern combinations

All the pattern combinations stored in the memory bank can be deleted at one time.

Press and hold the clear key  to delete all the stored pattern combinations.

If you do not wish to delete all the pattern combinations, press the cross mark to return to the previous display.



Resetting all to default

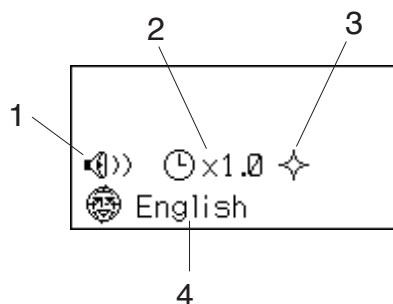
All the customized settings can be reset to the original settings (factory settings).

Press and hold the clear key to reset all the settings to default.

NOTE:

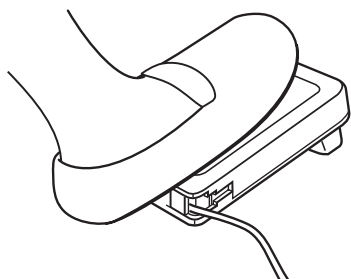
The touch screen calibration and language selection will not be reset.

If you do not wish to reset the settings, press the cross mark to return to the previous display.



When turning the power on, the opening window shows the customized settings that you have made.

- 1 Buzzer sound
- 2 Sub window display time
- 3 Resumption setting
- 4 Language selection



Controlling Sewing Speed

Speed control slider

You can limit the maximum sewing speed with the speed control slider according to your sewing needs.

To increase the sewing speed, move the slider to the right.

To decrease the sewing speed, move the slider to the left.

Foot control

Pressing on the foot control can vary sewing speed.

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

NOTE:

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

Operating Instructions:

Foot control model 21371 is for use with this sewing machine.

NOTE:

This machine is equipped with an automatic shutdown safety feature to prevent overheating whenever the machine is running overloaded. Follow the safety instructions that appear on the LCD screen.

Adjusting the Foot Pressure

The foot pressure can be adjusted with the foot pressure dial located under the top cover.

The dial has 7 setting positions from 1 to 7.
For ordinary sewing, set “7” at the setting mark.

- 1 Foot pressure dial
- 2 Setting mark

Reduce the pressure when sewing fine synthetics and stretch fabrics.

To reduce the pressure, set the dial at a lower number.

The recommended dial setting for the selected pattern will be show on the LCD screen.

For example, set the dial at 5 for heirloom stitch patterns number 55-59, 61-63. Set the dial at 4 for applique stitches number 41-52.

- 3 Recommended setting

Dropping the Feed Dog

The feed dog can be lowered for basting, sewing on buttons, free motion quilting etc.

Shift the drop feed lever toward you to lower the feed dog.

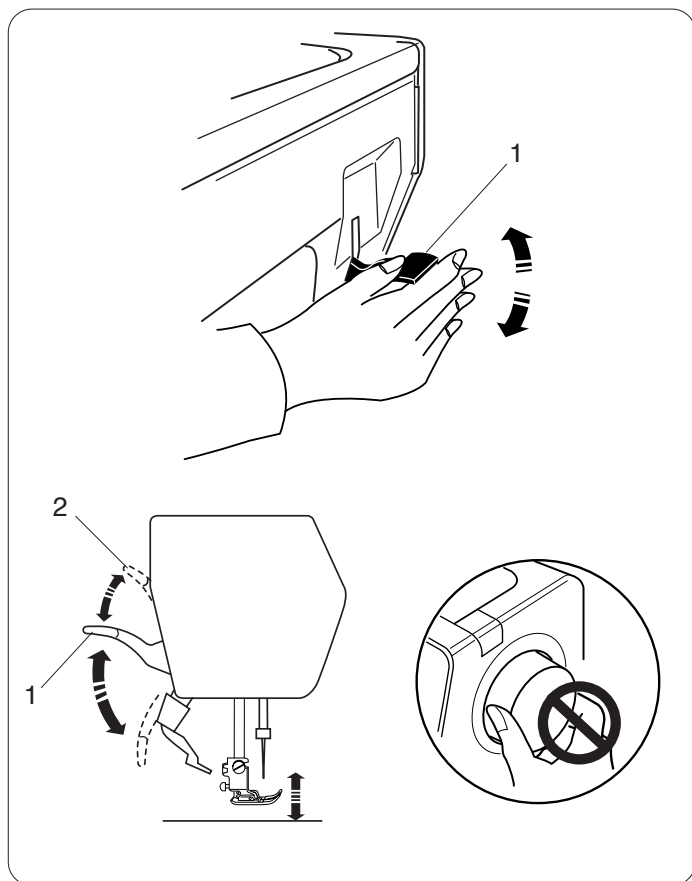
- 1 Drop feed lever

Shift the drop feed lever away from you to raise the feed dog, it will return to the up position when you start the machine.

NOTE:

If you start the machine with the feed dog lowered, a message will appear on the LCD screen.

The machine will not run with the feed dog lowered when pattern number 23-33, 35-40 or monogram is selected.



Raising and Lowering the Presser Foot

The presser foot lifter raises and lowers the presser foot.

1 Presser foot lifter

You can raise the presser foot higher than the normal up position. This allows for setting the dual feed device, attaching presser foot, and also helps you to place thick layers of fabrics under the foot.

2 Extra lifted position

NOTE:

Do not turn the flywheel or press the up/down needle position button when the presser foot is in the extra lifted position.

Changing the Presser Foot



WARNING:

Turn the power switch off before changing the presser foot.

Removing the presser foot

Raise the needle to its highest position and raise the presser foot lifter.

Press the red button on the back of the foot holder.

The presser foot will drop off.

- 1 Red button
- 2 Presser foot

NOTE:

If the dual feed device interferes when pressing the red button, shift the dual feed device away.

- 3 Dual feed device

Attaching the presser foot

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

Lower the presser bar to lock the foot in place.

Each foot is marked with an identification letter.

- 4 Groove
- 5 Presser foot
- 6 Identification letter

Removing and Attaching the Foot Holder



WARNING:

Turn the power switch off before removing or attaching the foot holder.

Remove the needle for easy operation.

Removing the foot holder

Raise the presser foot and loosen the thumbscrew.

Remove the foot holder.

- 1 Thumbscrew
- 2 Foot holder

Attaching the foot holder

Attach the foot holder to the presser bar from the rear.

Tighten the thumbscrew securely with the screwdriver.

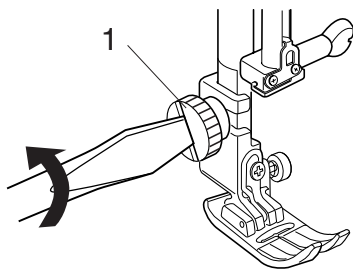
- 3 Presser bar

Attach the needle after installation of the foot holder.

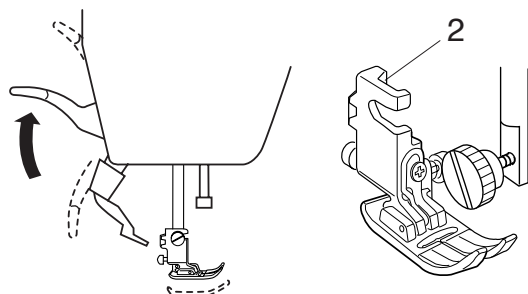
NOTE:

Lower the presser foot when loosening and tightening the thumbscrew if it is hard to access.

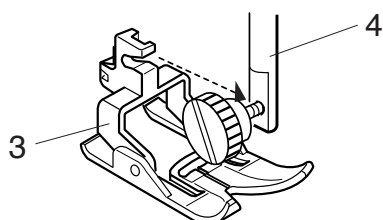
1



2



3



Setting for Dual Feed Sewing



WARNING:

Turn the power switch off before changing the presser foot.

Attach the dual feed foot when sewing with the dual feed device.

* Refer to page 16 for step-by-step instructions on the screen.

Attaching the dual feed foot

- 1 Remove the needle and loosen the thumbscrew with the screwdriver.

1 Thumbscrew

- 2 Raise the presser foot and loosen the thumbscrew to remove the foot holder.

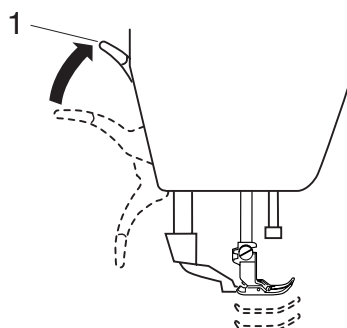
2 Foot holder

- 3 Attach the dual feed foot to the presser bar and tighten the thumbscrew lightly. Lower the presser foot and tighten the thumbscrew securely with the screwdriver.

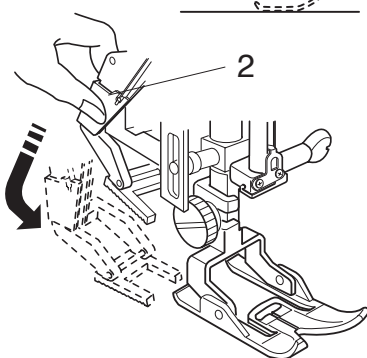
3 Dual feed foot

4 Presser bar

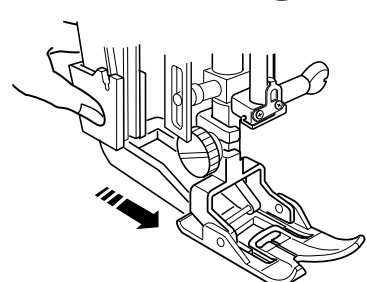
1



2



3



Setting the dual feed device

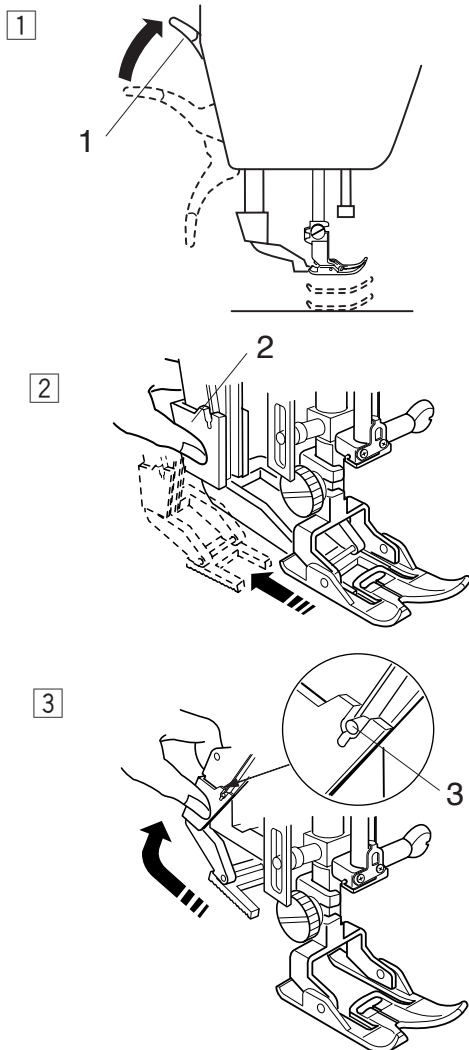
- 1 Raise the presser foot lifter to the extra lifted position.

1 Extra lifted position

- 2 Hold the dual feed device and lower it slowly.

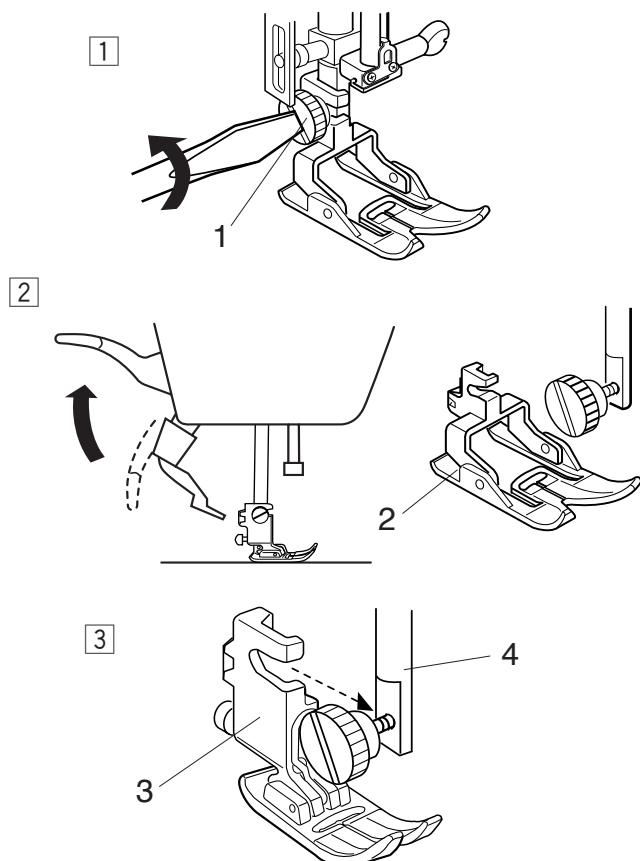
2 Dual feed device

- 3 Swing the dual feed device forward to the underside of the dual feed foot until they engage.



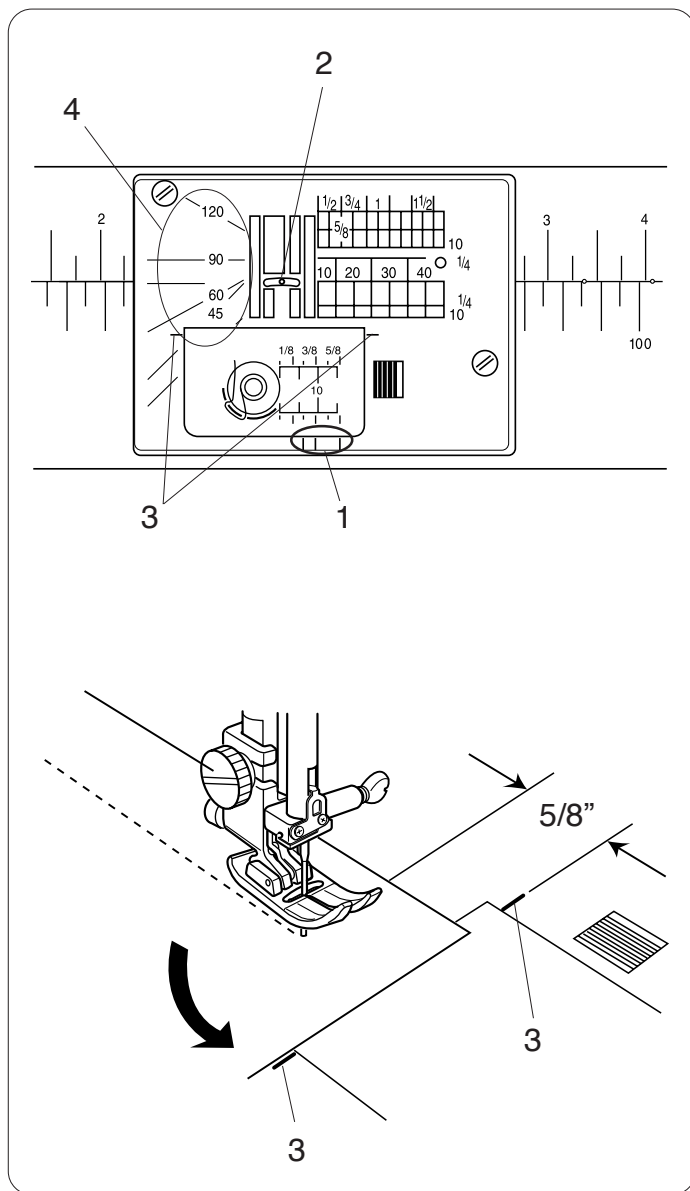
Disengaging the dual feed device

- 1 Raise the presser foot lifter to the extra lifted position.
 - 1 Extra lifted position
- 2 Pull down the dual feed device to disengage it from the dual feed foot. Swing the dual feed device to the rear.
 - 2 Dual feed device
- 3 Swing up the dual feed device until it catches the pins.
 - 3 Pin



Removing the dual feed foot

- 1 Loosen the thumbscrew with the screwdriver.
 - 1 Thumbscrew
- 2 Raise the presser foot and loosen the thumbscrew to remove the dual feed foot.
 - 2 Dual feed foot
- 3 Attach the foot holder to the presser bar and tighten the thumbscrew lightly. Lower the presser foot and tighten the thumbscrew securely with the screwdriver.
 - 3 Foot holder
 - 4 Presser bar



Using the Seam Guides

The seam guides are marked on the needle plate, free arm and hook cover plate.

The seam guides for 1/4", 3/8" and 5/8" are also marked on the front of the needle plate.

- 1 Seam guides on the front of the needle plate

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

- 2 Center Needle Position

The cornering guides are very useful when turning a square corner.

- 3 Cornering guides

The angle scales on the needle plate are useful for patchwork piecing.

- 4 Angle scales

Turning a square corner

To maintain a 5/8" seam allowance after turning a square corner, use the cornering guide on the needle plate.

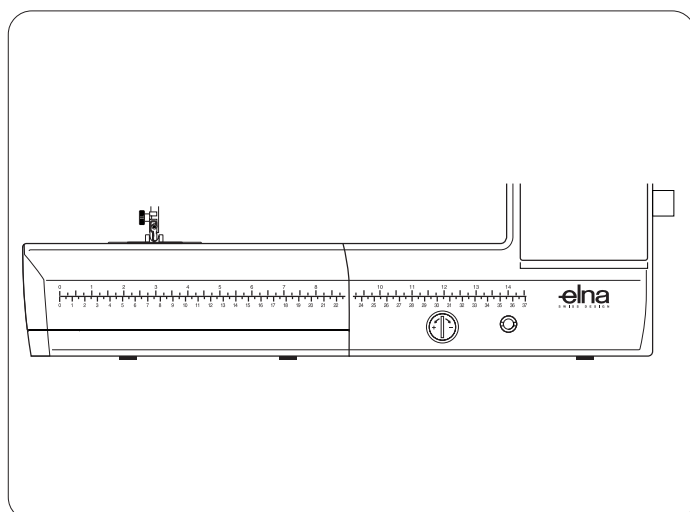
Stop sewing when the front edge of fabric reaches the cornering guide lines.

- 3 Cornering guide

Lower the needle by pressing the up/down needle button.

Raise the presser foot and turn the fabric 90 degrees.

Lower the presser foot, and begin stitching in the new direction.



Centimeter/Inch Quick Measurements

Use this handy tool located on the machine base for quick measurements.

Balancing Thread Tension

Auto-thread tension

For general sewing, set the thread tension dial at AUTO, which covers a wide range of sewing conditions.

Recommended tension setting for the selected pattern is indicated on the LCD screen.

- 1 Thread tension dial
- 2 Recommended tension setting

Balanced thread tension

For straight stitch sewing, both needle and bobbin threads will join at the middle of the fabric.

For zigzag stitch sewing, the needle thread will appear slightly on the wrong side of the fabric.

- 1 Wrong side of fabric
- 2 Right side of fabric
- 3 Needle thread
- 4 Bobbin thread

Manual thread tension adjustment

You should adjust the tension manually if the LCD screen shows a tension setting other than AUTO.

You may also need to adjust tension manually depending on the sewing conditions such as the type of fabric and number of layers.

If the needle thread is too tight, the bobbin thread appears on the right side of the fabric.

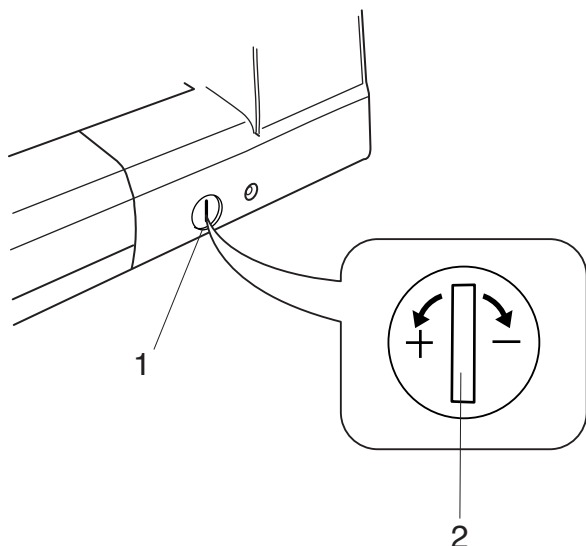
- 1 Wrong side of fabric
- 2 Right side of fabric
- 3 Needle thread
- 4 Bobbin thread

Turn the thread tension dial to a lower number to decrease the thread tension.

If the needle thread is too loose, the needle thread loops on the underside of the fabric.

- 1 Wrong side of fabric
- 2 Right side of fabric
- 3 Needle thread
- 4 Bobbin thread

Turn the thread tension dial to a higher number to increase the thread tension.



Correcting Distorted Stitch Patterns

The sewing results of the stitch patterns may vary depending upon 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 or the stretch buttonhole is distorted, correct it with the fine adjustment screw. Set the fine adjustment screw at the neutral position for normal sewing.

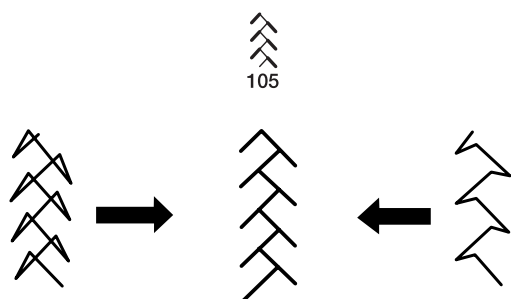
- 1 Fine adjustment screw
- 2 Neutral position

Stretch stitch pattern

Example: Pattern 105 (Quilt)

If the pattern is compressed, turn the fine adjustment screw in the direction of “+”.

If the pattern is drawn out, turn the fine adjustment screw in the direction of “-”.

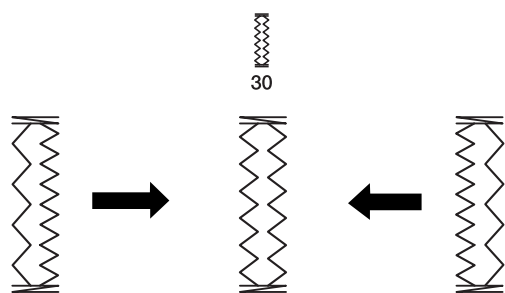


Stitch balance of the stretch buttonholes

Example: Patterns 30 and 32 (Buttonhole)

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 fine adjustment screw to its neutral position when the sewing is finished.

Changing Needles



CAUTION:

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

Raise the needle by pressing the up/down needle button and lower the presser foot.

Turn the power switch off.

Loosen the needle clamp screw and 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 with a screwdriver.

2 Flat side

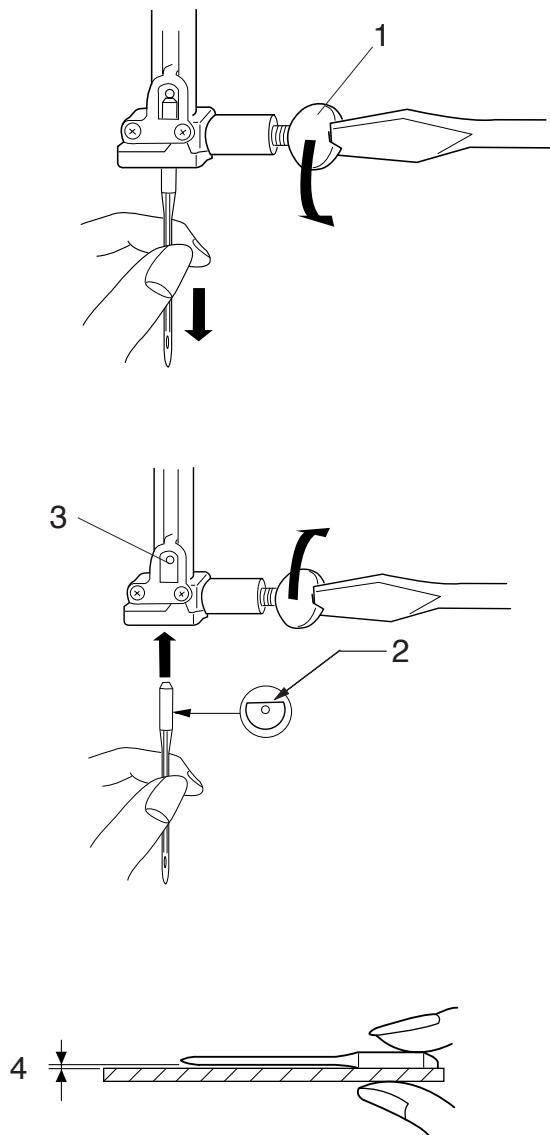
3 Stopper pin

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

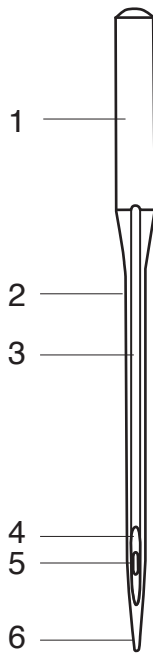


Fabric		Thread	Needle
Light	Lawn	Silk #80-100	#9/65–11/75
	Georgette	Cotton #80-100	
	Tricot	Synthetic #80-100	
	Wool		
	Polyester		
Medium	Cotton	Silk #50	#11/75–14/90
	Polyester	Cotton #60-80	
	Fine jersey	Synthetic #50-80	#14/90
	Wool	Cotton #50	
Heavy	Denim	Silk #50	#14/90–16/100
	Jersey	Cotton #40-50	
	Coating	Synthetic #40-50	
	Quilting	Silk #30	
		Cotton #50	

Needle Definitions

The illustration identifies the main parts of a sewing machine needle.

- 1 Body
- 2 Shaft
- 3 Long groove (round side of needle)
- 4 Short groove (flat side needle)
- 5 Eye
- 6 Point



A: Universal – an all-purpose needle that handles most woven and knit fabrics.



B: Ball point – the point spreads the fibers, preventing tears and is especially suited for loose knits and interlock knits. Not recommended for embroidery.



C: Denim – the sharp point effectively pierces densely woven fabrics such as denim and canvas.



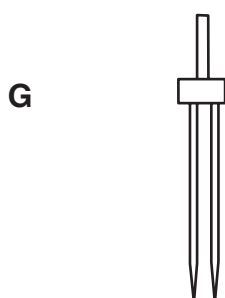
D: Stretch – specially designed to prevent skipped stitches in synthetic suedes and elasticized knits (swimwear).



E: Leather – the cutting point creates small holes in leather and suede. Holes remain after stitching is removed.



F: Topstitching – the extra sharp point penetrates layers of fabrics; extra large eye and large groove accommodate heavyweight topstitching thread.



G: Twin/Double – 2 needles are joined on a crossbar and share a single shaft. Sews two parallel rows of stitching. Available in universal and ballpoint.

Setting the Spool of Thread

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

- 1 Large spool holder

NOTE:

Use the small spool holder to hold narrow or small spools of thread.

- 2 Small spool holder

Extra spool pin

Use the extra spool pin when you need to wind a bobbin without unthreading the machine while working on a sewing project.

Insert the extra spool pin into the spool supporter and then into the hole beside the horizontal spool pin.

Place the felt cushion on the spool pin and place a spool of thread on it as shown.

- 3 Extra spool pin
4 Spool supporter
5 Hole for extra spool pin
6 Felt cushion

NOTE:

The extra spool pin is also used for twin needle sewing.

Removing the Bobbin

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

- 1 Hook cover release button
2 Hook cover plate

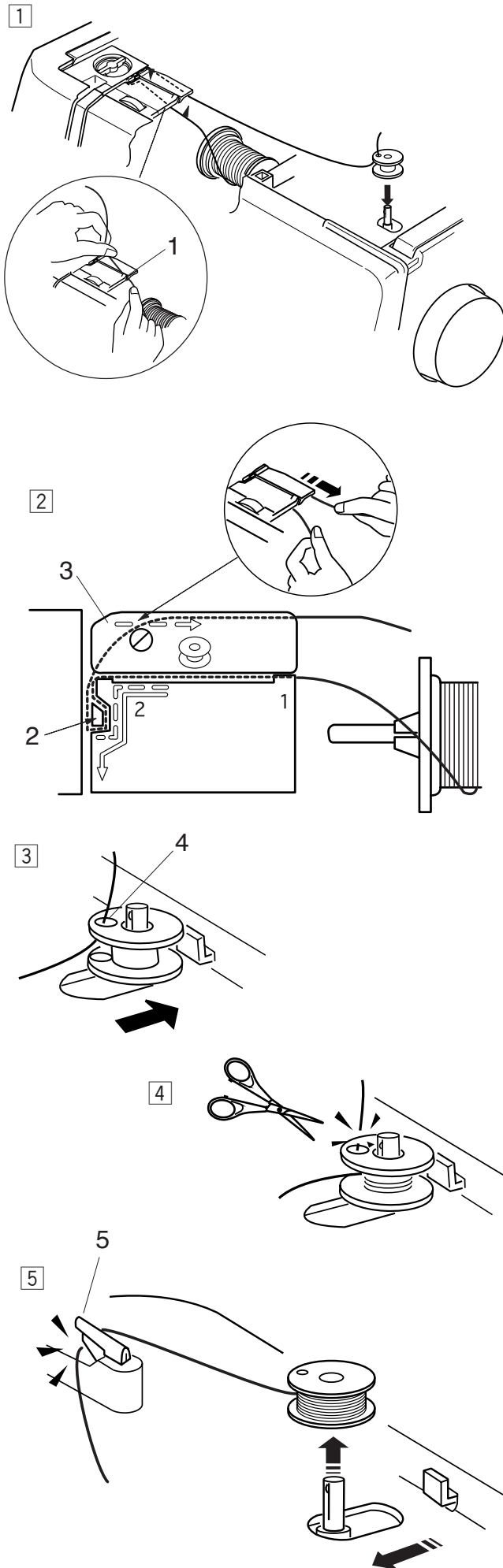
Lift out the bobbin from the bobbin holder.

- 3 Bobbin

NOTE:

Use the plastic bobbins for horizontal hook (marked with "J"). Using other bobbins, such as pre-wound paper bobbins, may cause stitching problems and/or damage to the bobbin holder.

Winding the Bobbin



- 1** Pull the thread from the spool.
Hold the thread with both hands and pass the thread into the guide slot.
1 Guide slot

- 2** Draw the thread to the left and forward around the thread guide.
Draw the thread to the rear and to the right around under the guide plate.
Firmly pull the thread to the right while holding it with both hands.
2 Thread guide
3 Guide plate

- 3** Pass the thread through the hole in the bobbin from the inside to the outside.
Put the bobbin on the bobbin winder spindle.
Push the bobbin to the right.
4 Hole

- 4** Hold the free end of the thread in your hand and start the machine.
Stop the machine when the bobbin has wound several layers, and cut the thread close to the hole in the bobbin.

NOTE:

Set the speed control slider at the fastest position.

- 5** Start the machine again.
Stop the machine when the bobbin is fully wound and stops spinning.
Return the bobbin winder spindle to its original position.
Remove the bobbin and cut the thread with the thread cutter.

5 Thread cutter

NOTE:

For safety purposes, the machine will automatically stop 2 minutes after starting bobbin winding.

Inserting the Bobbin

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

- 2 Guide the thread into the front notch on the bobbin holder.

1 Front notch

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

2 Tension spring blades

- 4 Continue to draw the thread lightly until the thread slips into the side notch.

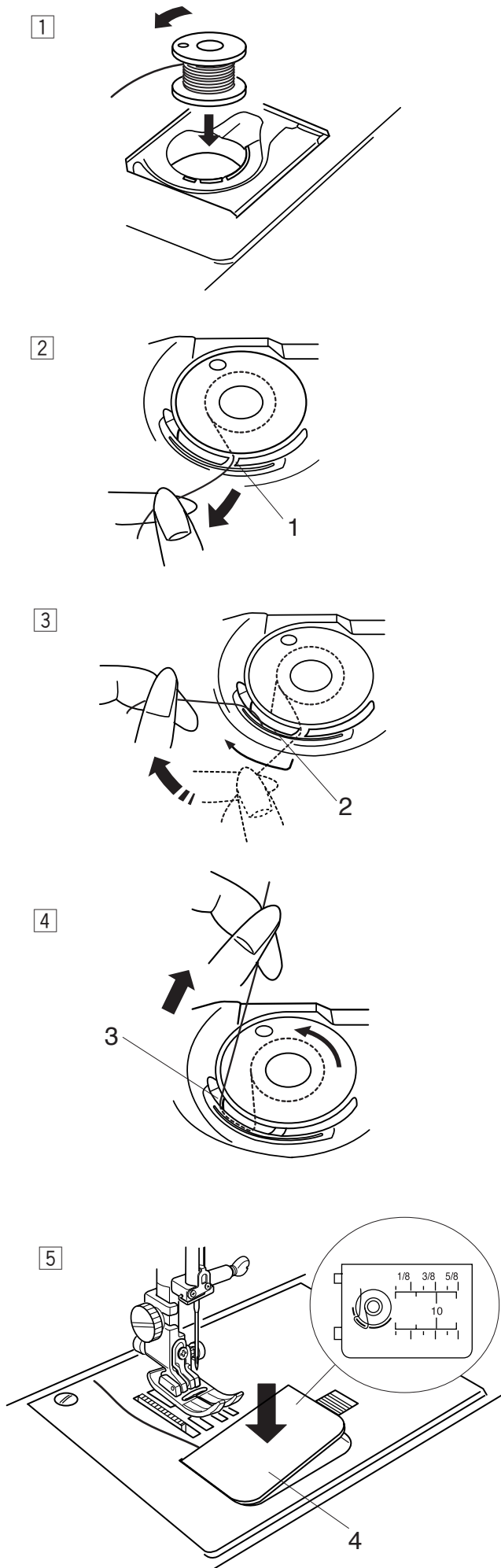
3 Side notch

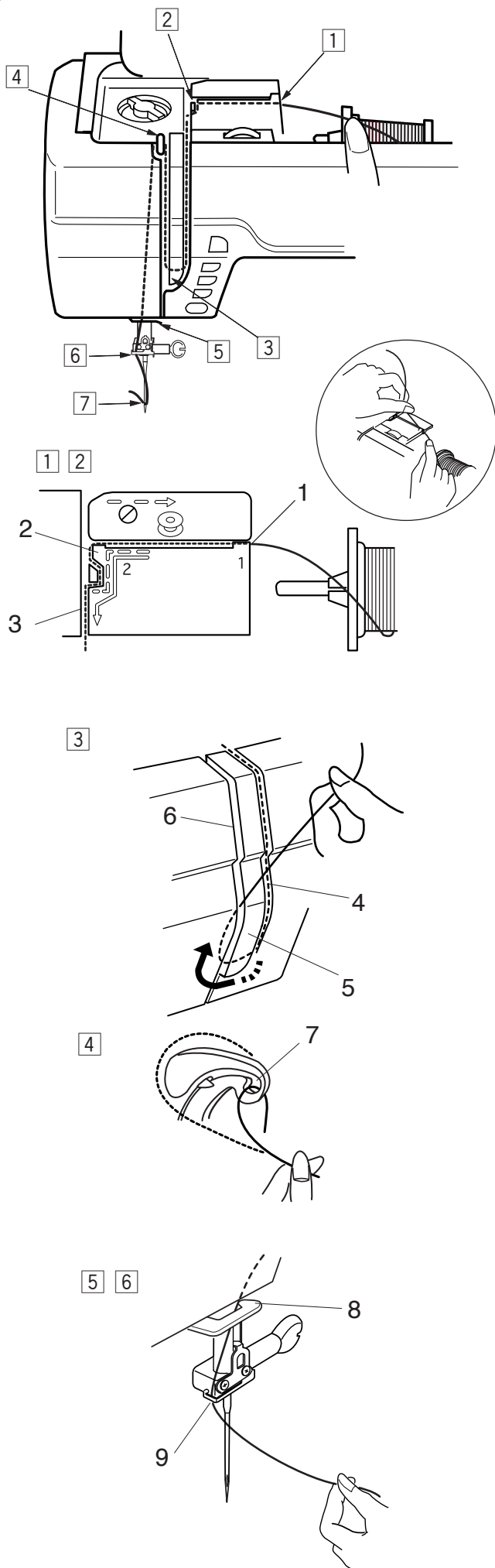
- 5 Pull out about 10 cm (4") of thread to the rear. Reattach the hook cover plate.

4 Hook cover plate

NOTE:

The threading chart is shown on the hook cover plate for your reference.





Threading the Machine

Raise the presser foot. Press the up/down needle button twice to raise the needle.

Turn the power switch off.

Pass the thread in order from 1 to 7.

- 1 Hold the thread with both hands and pass the thread into the guide slot.

1 Guide slot

- 2 Draw the thread to the left and around the corner of the guide toward you.

Pull the thread along the channel.

2 Corner of the guide

3 Channel

- 3 Draw the thread down along the right channel and around the bottom of the thread guide plate.

Pull the thread up along the left channel.

4 Right channel

5 Thread guide plate

6 Left channel

- 4 While holding the thread at the spool, firmly draw the thread up and to the back of the take-up lever. Draw the thread forward to draw it into the eye of the take-up lever.

7 Eye of the take-up lever

- 5 Then pull the thread down along the left channel and through the lower thread guide.

8 Lower thread guide

- 6 Slide the thread behind the needle bar thread guide from the left.

9 Needle bar thread guide

- 7 Thread the needle with the needle threader (refer to the next page).

Built-in needle threader

NOTE:

The needle threader can be used with a #11 to #16 needle, or a #11 Blue needle.

Thread size 50 to 90 is recommended.

- 1 Lower the presser foot. Raise the needle to its highest position. Turn the power switch off. Pull down the needle threader knob as far as it will go. The threader hook comes out through the needle eye from behind.

- 1 Knob
- 2 Threader hook

- 2 Draw the thread from the left to the right, under the left guide, threader hook and the right guide. Draw the thread around the right guide toward you.

- 3 Left guide
- 4 Right guide

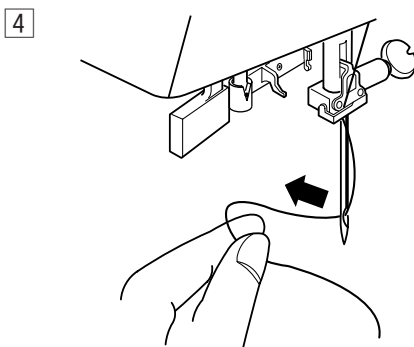
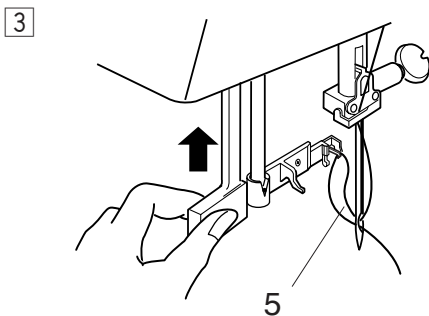
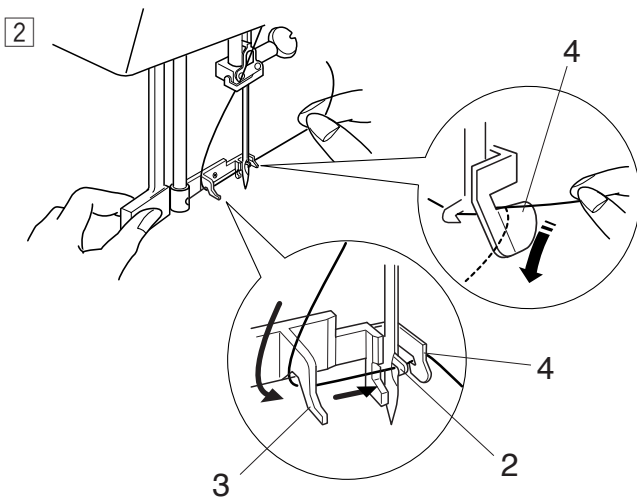
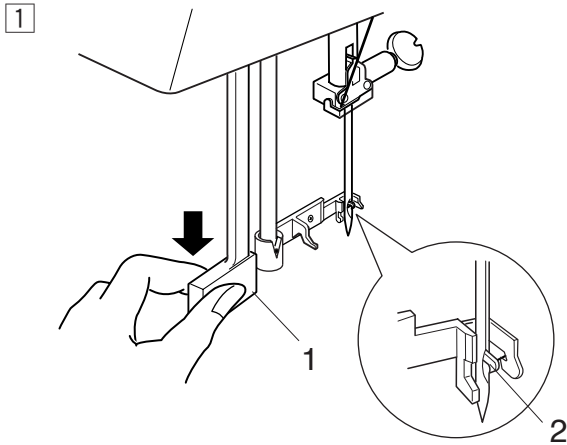
- 3 Raise the threader slowly so a loop of the thread is pulled up through the needle eye.

- 5 Thread loop

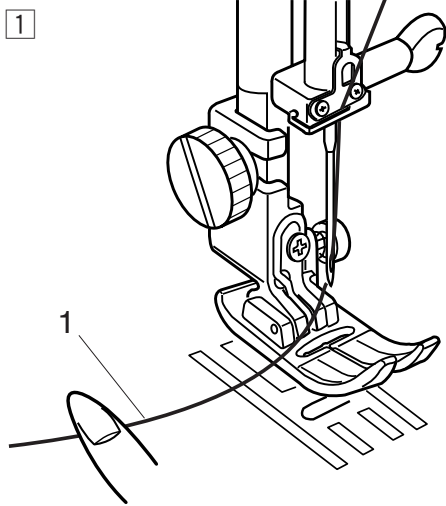
- 4 Pull the thread end through the needle eye.

NOTE:

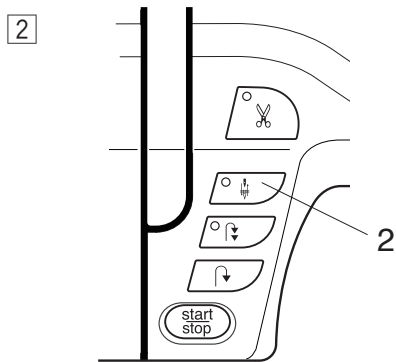
The needle threader cannot be used with the twin needle.



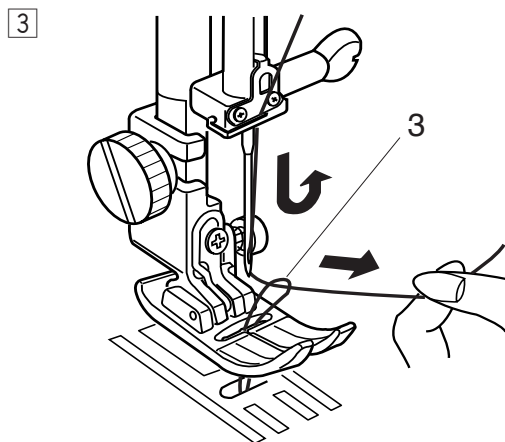
Drawing Up the Bobbin Thread



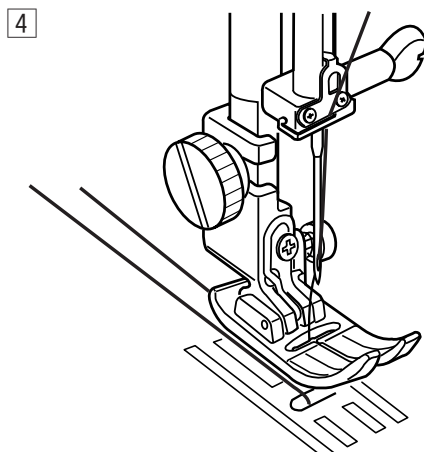
- 1 Raise the presser foot lifter.
Hold the needle thread with your finger.
- 1 Needle thread



- 2 Press the up/down needle button twice to draw up the bobbin thread.
- 2 Up/Down needle button



- 3 Pull the needle thread to bring up the loop of bobbin thread.
- 3 Loop of bobbin thread



- 4 Pull both threads 10 cm (4") and draw them to the rear under the presser foot.

UTILITY STITCHES

Straight Stitch

Machine settings

Pattern:	D1 (Utility)
Thread tension:	AUTO
Presser foot:	Zigzag foot A or Dual feed foot AD
Foot pressure:	7

Starting to sew

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

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

Depress the foot control or press the start/stop button to start sewing.

Gently guide the fabric along the seam guide letting the fabric feed naturally.

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 D2) or locking stitch (pattern D3) so the machine will lock the stitch off and stop automatically.

1 Reverse Button

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

2 Thread Cutter Button

NOTE:

Use the thread cutter on the face plate to cut the specialized threads, thick threads #30 or thicker.

3 Thread Cutter

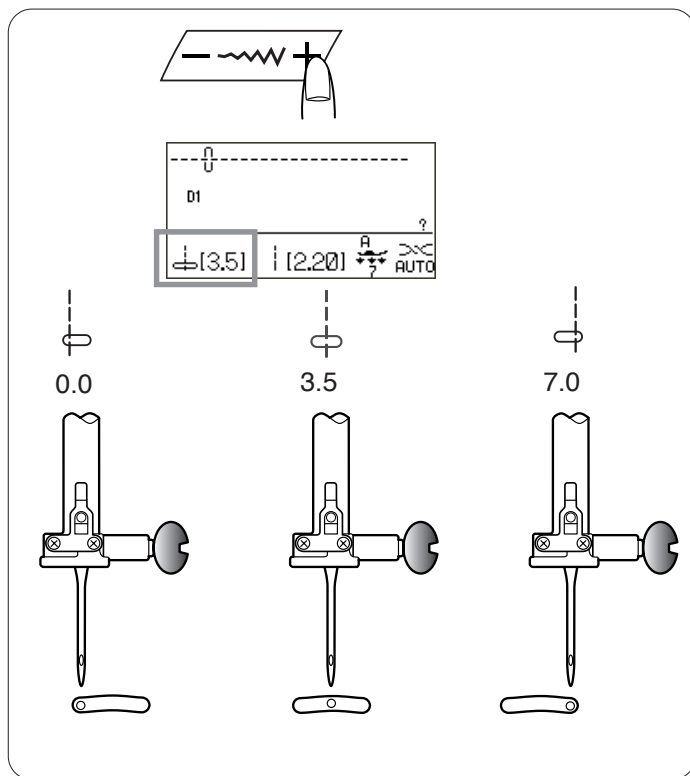
Changing sewing direction

Stop the machine and bring the needle down into the fabrics by pressing the up/down needle button.

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.



Adjusting the needle drop position

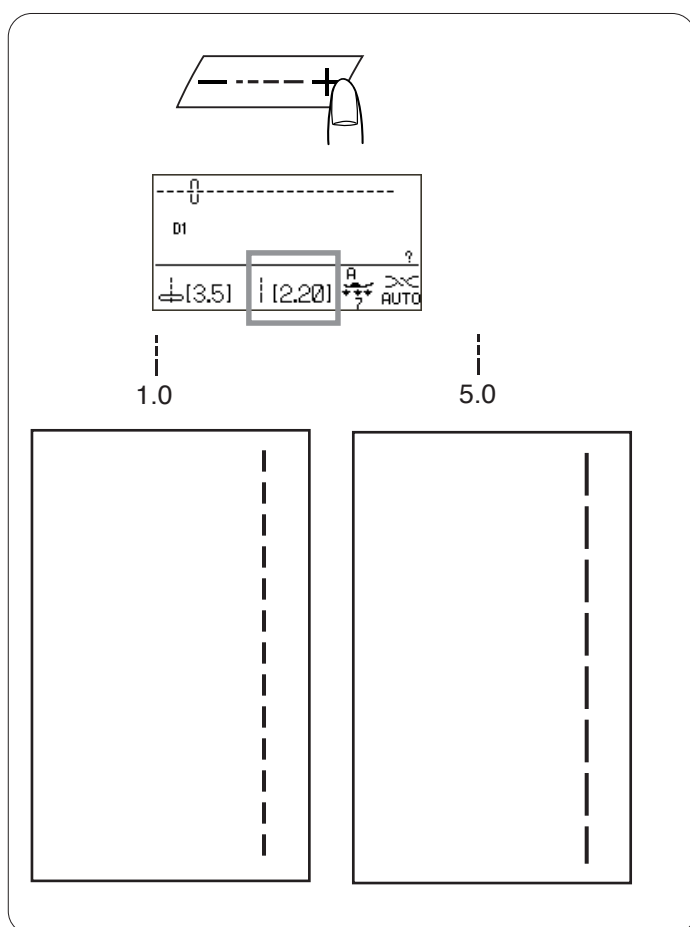
The needle drop position of the straight stitches can be altered by pressing the stitch width adjusting key.

NOTE:

The value in brackets indicates the preset setting.

Press the “+” sign on the key to move the needle bar to the right.

Press the “-” sign on the key to move the needle bar to the left.



Adjusting the stitch length

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

The stitch length indication will change as the key is pressed.

NOTE:

The value in the brackets indicates the preset setting.

Press the “+” sign on the key to increase the stitch length.

Press the “-” sign on the key to decrease the stitch length.

Programming My Personal Settings


The preset values of the stitch length and width are optimized for each pattern.

However, you can change the preset values to suit your sewing preferences.



Example: To change the preset value of the stitch length

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

Adjust the stitch length as you prefer.

Press the my personal setting key .


The LCD screen will display the custom setting window.



Press the memory key  or its icon  on the LCD screen to save the custom settings.

The LCD screen will return to the previous window and the symbol "C" will appear on the screen to indicate that the preset values have been changed.

1 Symbol "C"

Restoring the default settings

Press the my personal setting key .

Press the clear key  or its icon  on the LCD screen to restore the default settings.

Press the clear 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 as when you purchased the machine).

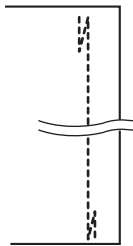
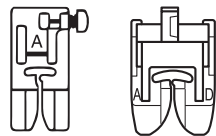
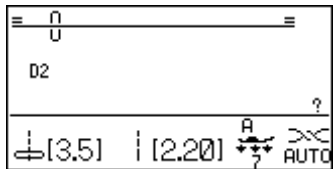
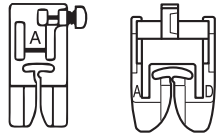
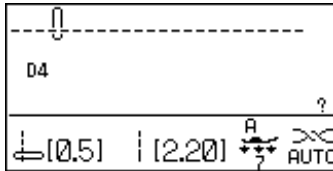
Variety of Straight Stitches

Straight stitch with left needle position

Machine settings

Pattern: D4 (Utility)
Thread tension: AUTO
Presser foot: Zigzag foot A, Dual feed foot AD
Foot pressure: 7

Use this stitch to seam the edge of fabrics.

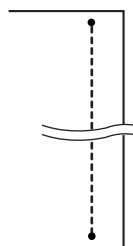
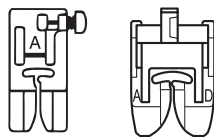
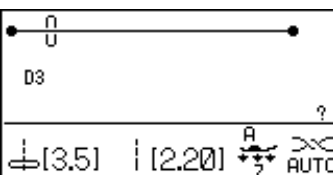


Lock-a-Matic stitch

Machine settings

Pattern: D2 (Utility)
Thread tension: AUTO
Presser foot: Zigzag foot A, Dual feed foot AD
Foot pressure: 7

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 settings

Pattern: D3 (Utility)
Thread tension: AUTO
Presser foot: Zigzag foot A, Dual feed foot AD
Foot pressure: 7

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.

Sewing 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 fabric

2 Black button

Gathering

Machine settings

Pattern: D1 (Utility)

Thread tension: AUTO

Presser foot: Zigzag foot A

Foot pressure: 7

Gathering/shirring evenly distributes fullness in an area with very tiny pleats. Gathering is one row or two parallel rows. Shirring is three or more parallel rows. Light to medium weight fabrics provide the best results.

Decrease thread tension to between 1 and 3.

Increase stitch length to 5.0.

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

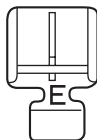
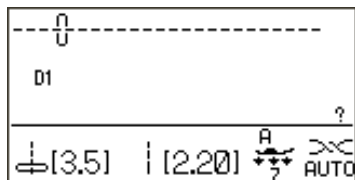
Pull the bobbin threads simultaneously from each end of the fabric until the desired amount is gathered. Knot the threads at each end and distribute the gathers evenly.

Reset thread tension dial to AUTO and decrease stitch length to 2.2.

Sew between two rows of stitching to secure gathering.

OR

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



Zipper Sewing

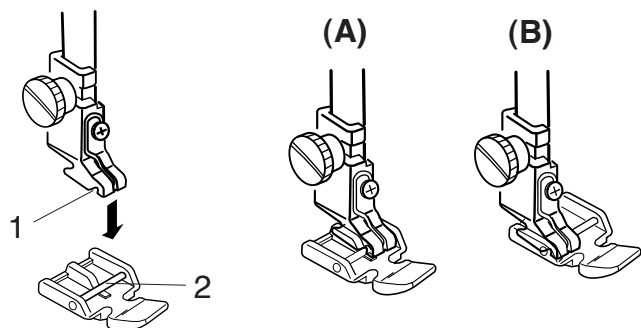
Machine settings

Pattern: D1 (Utility)
Thread tension: AUTO
Presser foot: Zipper foot E
Foot pressure: 7

Attaching the zipper foot E

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

- 1 Groove
- 2 Pin



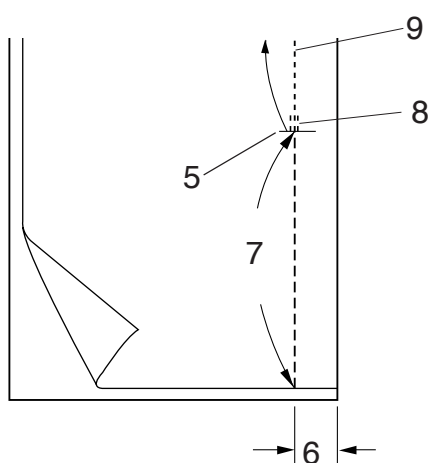
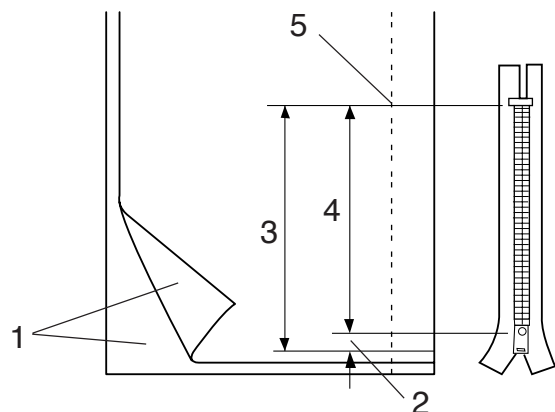
(A): To sew the left side of the zipper, attach zipper foot with the pin on the right-hand side.

(B): To sew the right side of the zipper, attach the zipper foot with the pin on the left-hand side.

Fabric preparation

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 End of the zipper opening



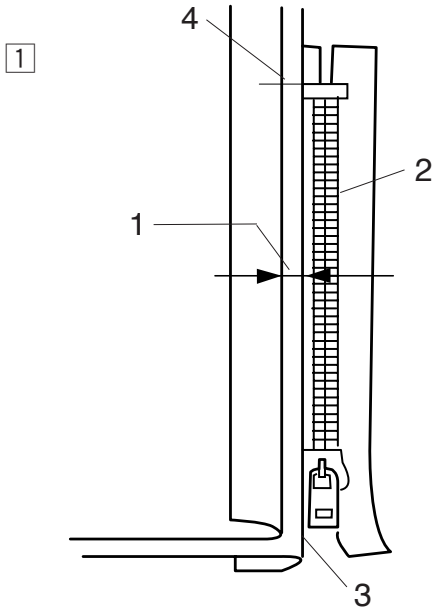
Place the right sides of the fabric together and sew to the end of the opening with a 2 cm (5/8") seam allowance.

Reverse stitch to lock the seams.

Manually increase the stitch length to 5.0 and baste the zipper opening with the thread tension loosened to 1-3.

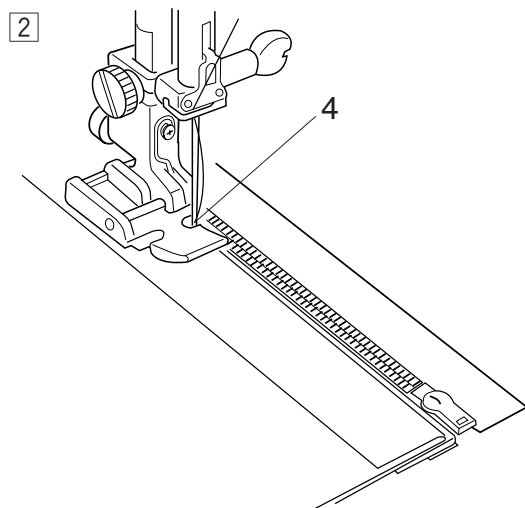
- 5 End of the zipper opening
- 6 2 cm (5/8") seam allowance
- 7 Basting
- 8 Reverse stitches
- 9 Seam stitches

Sewing

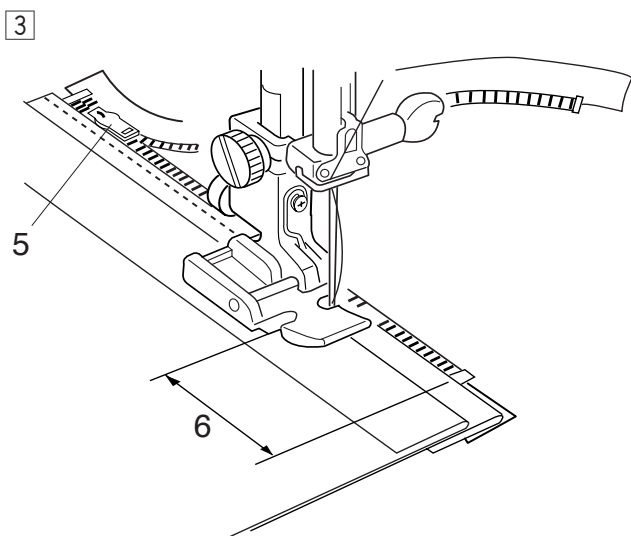


- 1 Fold back the left seam allowance. Turn the right seam allowance under to form a 0.2 to 0.3 cm (1/8") margin. Place the zipper teeth next to the fold and pin in place.
Set the stitch length and thread tension back to the original setting.

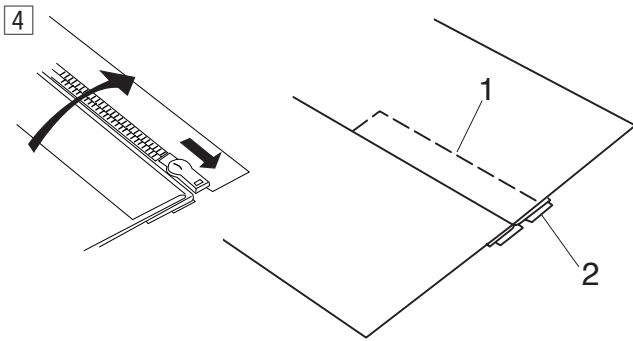
- 1 0.2 to 0.3 cm (1/8") margin
- 2 Zipper teeth
- 3 Fold
- 4 End of the zipper opening



- 2 Attach zipper foot E with the pin on the right hand side.
Lower the foot onto the topside at the end of the zipper opening 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.



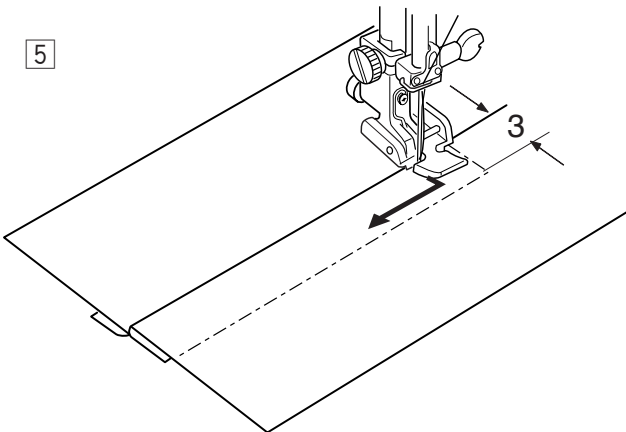
- 3 Sew through all layers next to the fold.
Stop 5 cm (2") before zipper foot E reaches the slider on the zipper tape.
Lower the needle slightly into the fabric.
Raise the foot and open the zipper to clear the slider.
Lower the foot and stitch the remainder of the seam.
- 5 Slider
 - 6 5 cm (2")



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

Baste the opened fabric and zipper tape together.

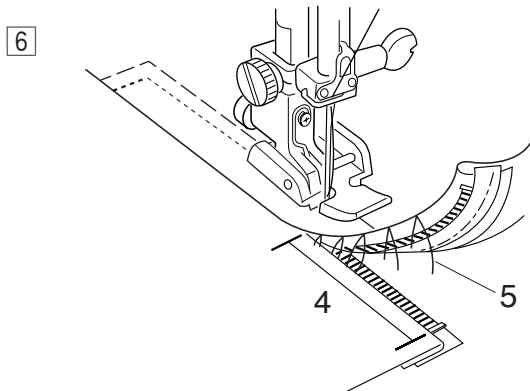
- 1 Basting
- 2 Zipper tape



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

Backstitch across the end of the opening 0.7-1 cm (3/8") and turn the fabric 90 degrees.

- 3 0.7-1 cm (3/8")

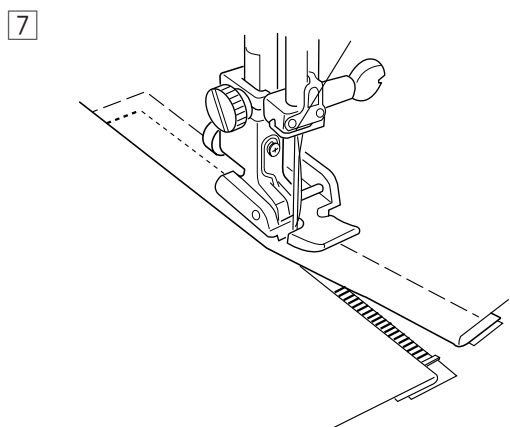


- 6 Stitch through the garment and zipper tape, guiding the zipper teeth along the side edge of the foot.

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

Unfasten the basting stitches.

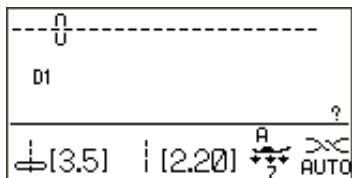
- 4 5 cm (2")
- 5 Basting stitches



- 7 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

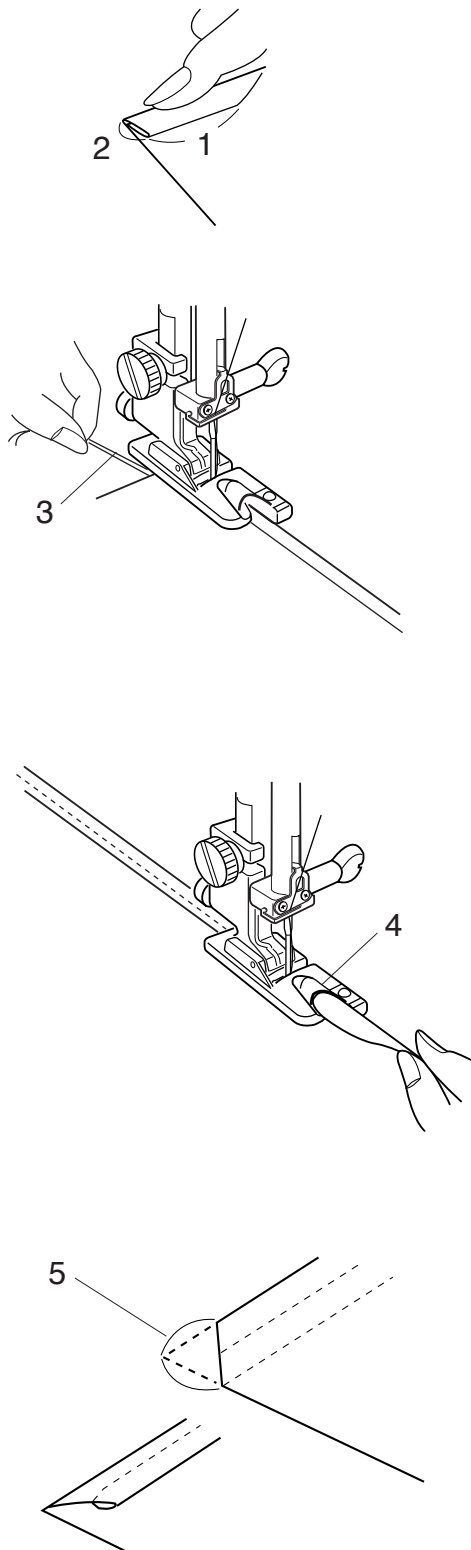
Machine settings

Pattern: D1 (Utility)
 Thread tension: AUTO
 Presser foot: Hemmer foot D
 Foot pressure: 7

Sewing

Fold the edge of the fabric twice, 6 cm (2 3/8") in length and 0.3 cm (1/8") in width.

- 1 6 cm (2 3/8")
- 2 0.3 cm (1/8")



Place the fabric aligning the edge of the hem with the guide on the foot.

Lower the foot and sew 1-2 cm (3/8"-3/4") while pulling both thread to the back.

- 3 Threads

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.

- 4 Curl of the foot

NOTE:

Trim the corner 0.6 cm (1/4") for easier insertion of the hem into the foot.

- 5 0.6 cm (1/4")

Zigzag Stitch

Machine Setting

Pattern: 9 or 10 (Utility)
Thread tension: AUTO
Presser foot: Zigzag foot A
Foot pressure: 7

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 applique.

Adjusting the stitch width

Press the “+” sign on the stitch width adjusting key to increase the stitch width.

Press the “-” sign on the stitch width adjusting key to decrease the stitch width.

1 Stitch Width

(A): The pattern number 9 has a fixed center needle drop position. The stitch width changes symmetrically.

(B): The pattern number 10 has a fixed right needle drop position. When you change the stitch width, the left needle drop position will change.

2 Fixed right needle position

Adjusting the stitch length

Press the “+” sign on the stitch length adjusting key to increase the stitch length.

Press the “-” sign on the stitch length adjusting key to decrease the stitch length.

3 Stitch Length

NOTE:

The stitch length and width can be altered while stitching.

Overcasting with Zigzag Stitch

Machine settings

Pattern: 9 or 10 (Utility)
 Thread tension: AUTO
 Presser foot: Overcasting foot C
 Foot pressure: 7

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

- 1 Edge of fabric
- 2 Guide



CAUTION:

When you use the overcasting foot C, you must set the zigzag width at 4.5 or wider to prevent the needle from hitting the wires on the foot.

Satin Stitch Applique

Machine settings

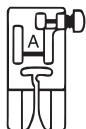
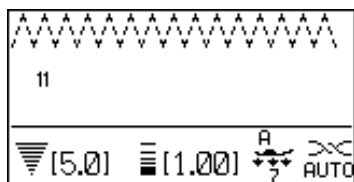
Pattern: 9 or 10 (Utility)
 Thread tension: AUTO
 Presser foot: Satin stitch foot F
 Foot pressure: 4

The zigzag stitch is commonly used for appliqué, monogramming, stems of flowers and petals. (A short zigzag stitch length creates the satin stitch.) Threads of 100% cotton, rayon or silk provide the best results.

- Apply stabilizer to the fabric for the stitch to form correctly.

Appliqué Preparation

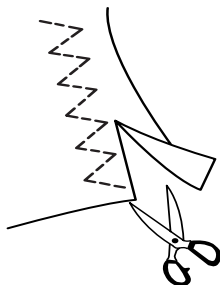
1. Press fusible webbing to the wrong side of a lightweight fabric.
2. Cut out design shape. Fuse design to main fabric.
3. Sew design to fabric with the needle swinging off the appliqué.
4. When you reach a place where you need to turn, lower the needle into the fabric at the outer edge of the turn. Raise the presser foot, turn fabric, lower the presser foot and continue sewing. (You may need to set the foot pressure dial to 4.)



3-Step Zigzag

Machine settings

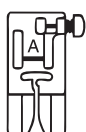
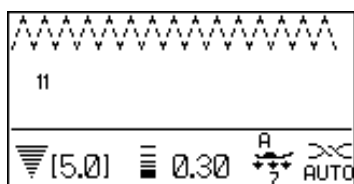
Pattern: 11 (Utility)
Thread tension: AUTO
Presser foot: Zigzag foot A
Foot pressure: 7



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.

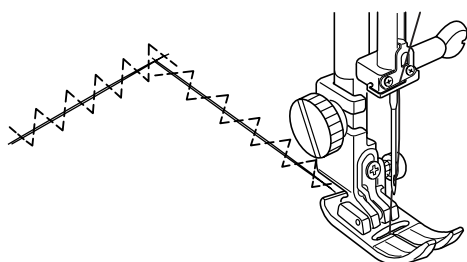
After sewing, trim the seam allowance close to the stitches.



Mending a Tear

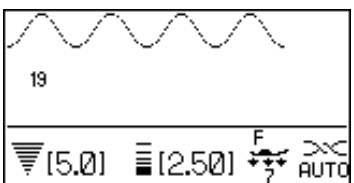
Machine settings

Pattern: 11 (Utility)
Thread tension: AUTO
Presser foot: Zigzag foot A
Foot pressure: 7
Stitch length: 0.2 – 0.5



Pull torn edges together and fuse a piece of interfacing slightly larger than the tear to the wrong side of the garment.

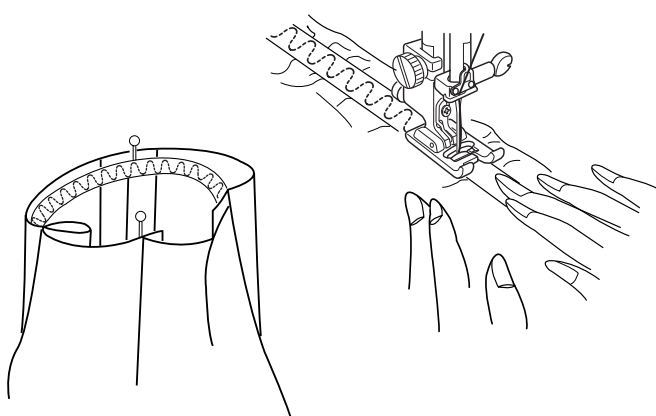
Begin sewing above the tear. Stitch down the middle, pulling edges together. Stop sewing just beyond end of tear. Depending on the tear, you might need to stitch area 2 or 3 times.



Serpentine Stitch

Machine settings

Pattern: 19 (Utility)
Thread tension: AUTO
Presser foot: Satin stitch foot F
Foot pressure: 7



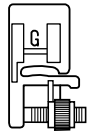
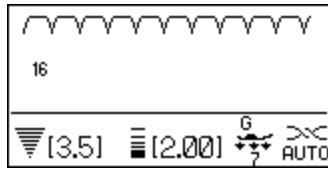
A delicate curve that is great for topstitching or for applying elastic directly to fabric without making an elastic casing.

Applying elastic

Mark elastic and fabric into equal parts.
Match marks on elastic to fabric.

Place middle of elastic under center of presser foot and stitch into place, making sure elastic is evenly stretched.

HINT: Use stitches 11, 20 or 101 to apply elastic for a different look. (Stitch length should be 2.5 or higher.)



Blind Hemming

Machine settings

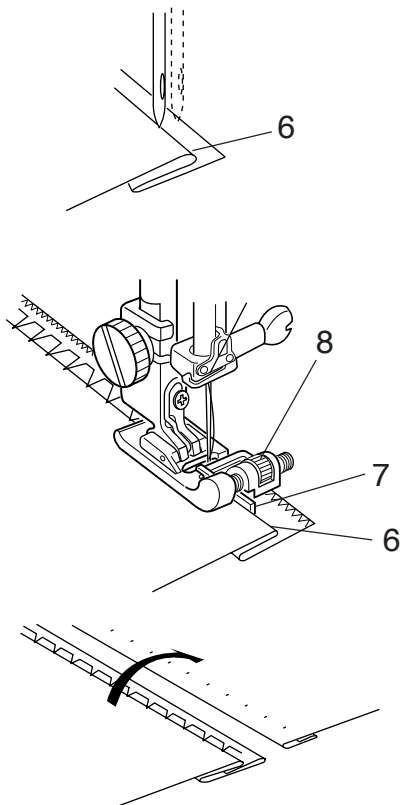
Pattern: 16 or 17 (Utility)
Thread tension: AUTO
Presser foot: Blind hem foot G
Foot pressure: 7

Select pattern 16 for woven fabrics or pattern 17 for elastic fabrics.

Folding 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 Overcasting
- 5 Wrong side of fabric



Sewing

Position the fabric (wrong side up) so the folded edge is to the left side of the guide.

Lower the presser foot.

Hand turn the flywheel and check if wide zigzag catches only one or two fibers of the fold.

The straight stitch will be sewn on the single fabric layer.

- 6 Edge
- 7 Guide

If the guide needle adjustment: raise needle out of fabric, lift presser foot, turn the adjustment nut and move the guide to the right or left.

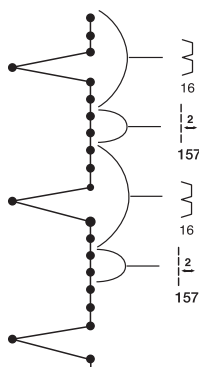
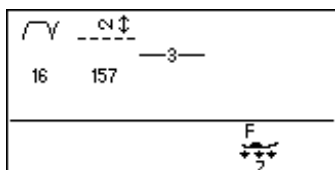
Reposition fabric against guide, check needle swing by turning flywheel, lower presser foot and sew hemline.

- 8 Nut

Unfold and open fabric right side facing up.

Stitches should be almost invisible.

NOTE: If the needle catches too much of the fold, the stitches will show on the right side.



Making the straight stitches in pattern number 16 longer

Program a combination of patterns 16 and pattern 157 or 158.

Two straight stitches will be added to the blind hem stitch when combining with pattern 157.

Four stitches will be added with pattern 158.

Buttonholes

Variety of buttonholes

23 Square (Sensor) buttonhole

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.



24 Square (Memory) buttonhole

This is also a square buttonhole similar to the sensor 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 uneven layers.



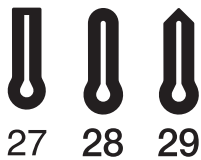
25 Round end buttonhole

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



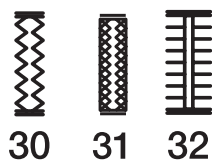
26 Fine fabric buttonhole

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



27-29 Keyhole buttonholes

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



30-32 Stretch buttonholes

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

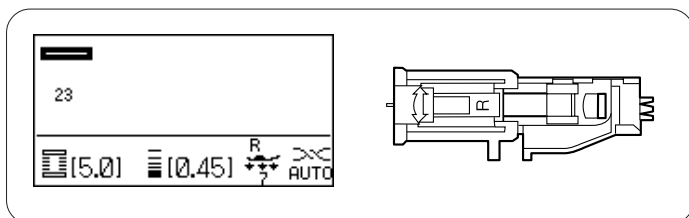


33 Bound buttonhole

This is a template pattern for the hand sewn welted (bound) buttonhole.

NOTE:

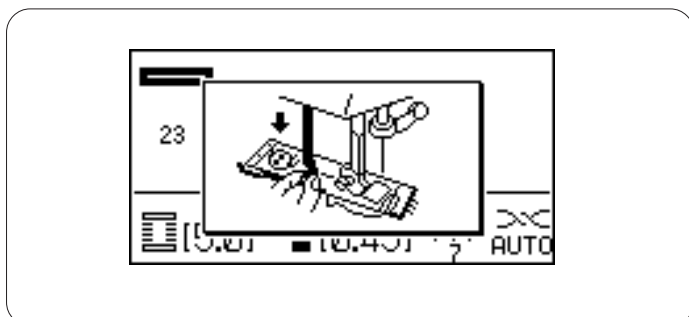
Patterns number 25-33 are sensor buttonholes and the sewing procedure is the same as pattern number 23.



Square (Sensor) buttonholes

Machine settings

Pattern: 23 (Buttonhole)
 Thread tension: AUTO
 Presser foot: Automatic buttonhole foot R
 Foot pressure: 7

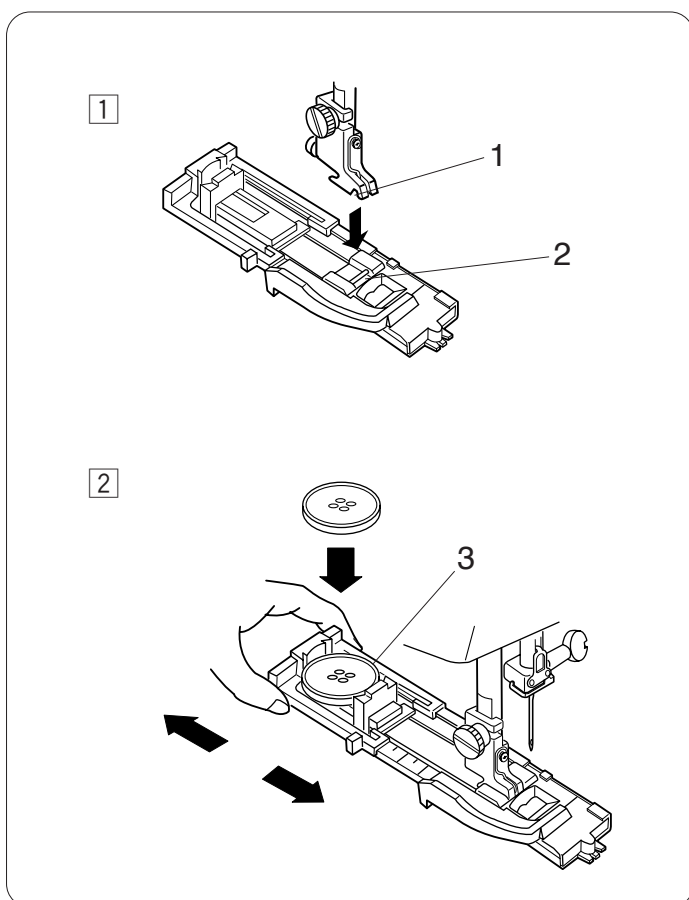


Sensor buttonhole

Patterns number 23 and 25 to 33 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 1 cm (3/8") to 2.5 cm (1") in diameter. When selecting the sensor buttonholes, the LCD screen advise you to lower the buttonhole lever.

NOTES:

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.



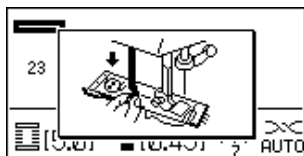
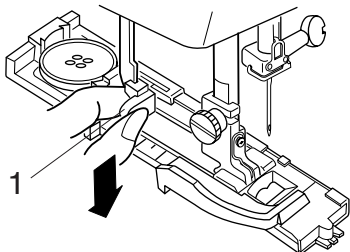
Sewing

- 1 Press the needle up/down position button to raise the needle. Attach the automatic buttonhole foot R snapping the pin into the groove of the foot holder. You may lift the presser foot lifter to the extra lifted position when placing the automatic buttonhole foot under 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.

3



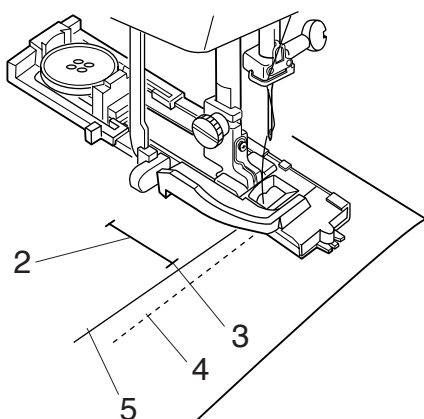
3 Pull the buttonhole lever down as far as it will go.

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 position button twice.

Remove the fabric to the left to draw the needle thread through the hole of the foot.

Place the fabric under the foot, and lower the needle at the starting point of the buttonhole mark.

Then lower the foot.

2 Buttonhole mark

3 Starting point

4 Bobbin thread

5 Needle thread

NOTE:

Make sure there is no gap between the slider and the front stopper, otherwise the buttonhole will be off the position or there will be a sewing gap.

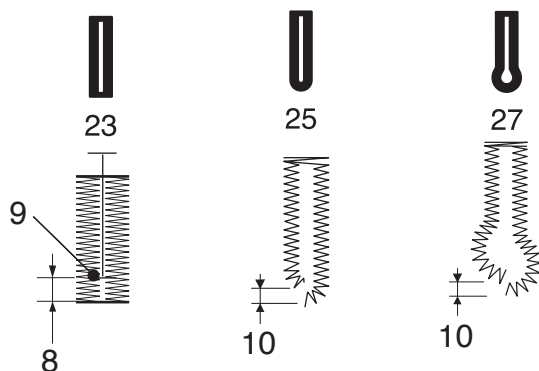
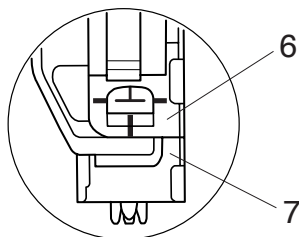
6 Slider

7 Front stopper

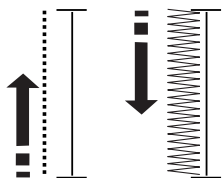
8 Off the position

9 Starting point

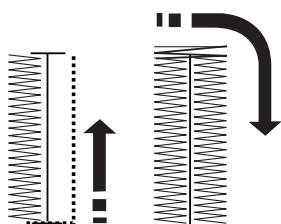
10 Sewing gap



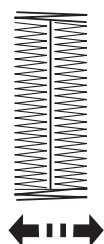
5



6



7



- 5 Start the machine to sew the buttonhole.
The machine will sew the left row first.

- 6 Then it goes to the end point with straight stitches.
The machine will sew the back bartack and the right row.

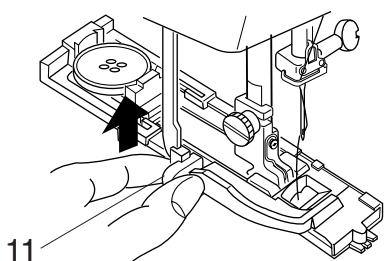
- 7 Finally, the machine will sew the front bartack and stop automatically.

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

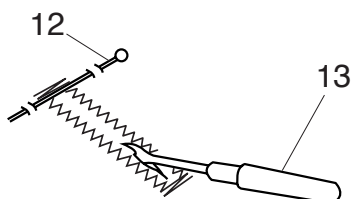
Double layer buttonhole

To make a solid and sturdy buttonhole, sew another layer of buttonhole over the previous stitches. After the buttonhole is finished, simply start the machine again. Do not raise the foot or buttonhole lever.

8



9



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

11 Buttonhole lever

- 9 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.

12 Pin

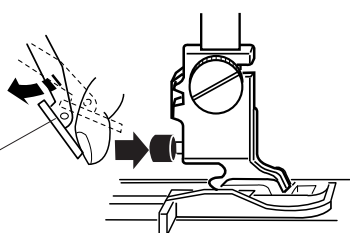
13 Seam ripper

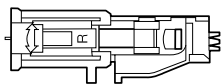
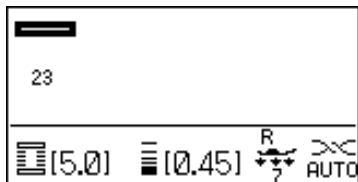
NOTE:

If the dual feed device interferes when pressing the red button, shift the dual feed device away.

14 Dual feed device

14

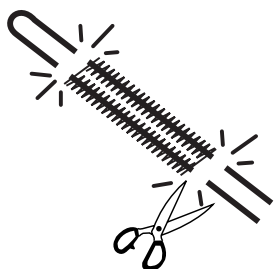
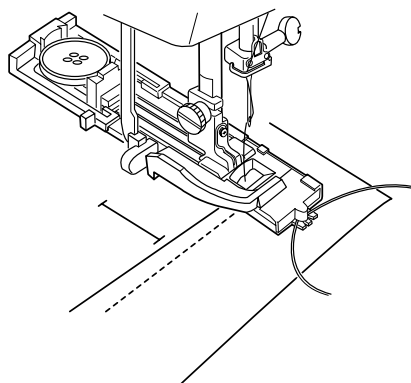
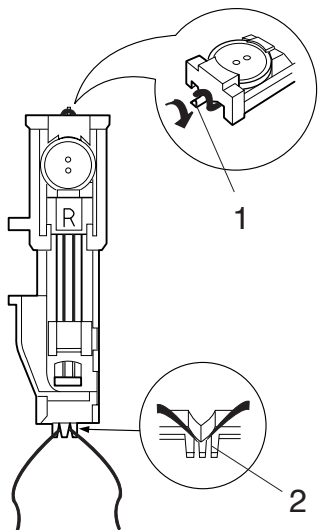




Corded buttonhole

Machine settings

Pattern	23 (Buttonhole)
Thread tension:	AUTO
Presser foot:	Automatic buttonhole foot R
Foot pressure:	7



With the automatic buttonhole foot R raised, hook the filler cord on the spur at the back of the buttonhole foot.

1 Spur

Bring the ends of the cord toward you under the buttonhole foot clearing the front end.

Hook the ends of the filler cord into the forks on the front of the buttonhole foot to hold them tight.

2 Forks

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

Lower the needle into the fabric where the buttonhole will start and start sewing.

The sewing procedure is the same as the square (sensor) buttonhole.

Remove the fabric from the machine.
Cut the filler cord at both ends.

To cut the buttonhole opening, refer to page 54.

NOTE:

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

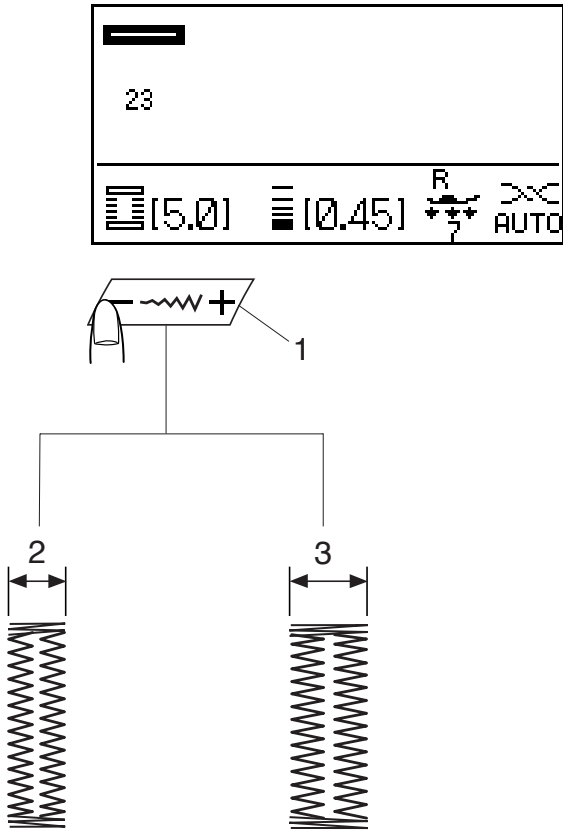
Adjusting the buttonhole width

The buttonhole width can be adjusted by pressing the stitch width adjusting key.

Press the “+” sign on the stitch width adjusting key to increase the buttonhole width.

Press the “-” sign on the stitch width adjusting key to decrease the buttonhole width.

- 1 Stitch width adjusting key
- 2 Narrower buttonhole
- 3 Wider buttonhole



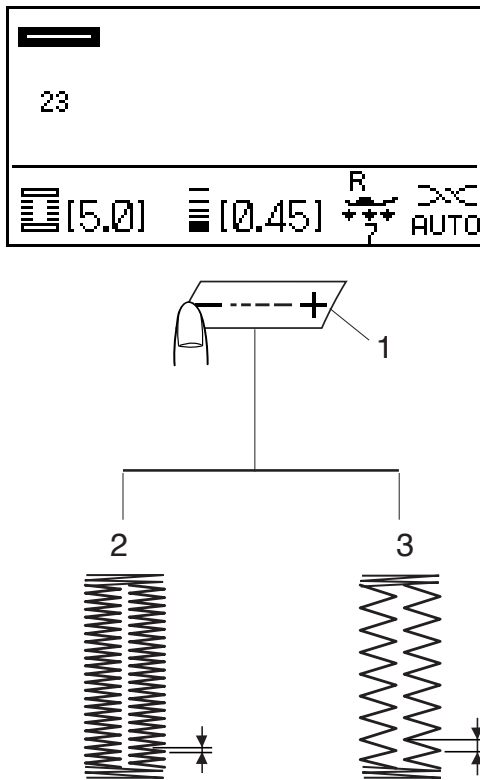
Adjusting the buttonhole stitch density

The buttonhole stitch density can be adjusted by pressing the stitch length adjusting key.

Press the “+” sign on the stitch length adjusting key to make the buttonhole stitch less dense.

Press the “-” sign on the stitch length adjusting key to make the buttonhole stitch denser.

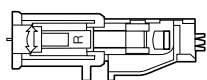
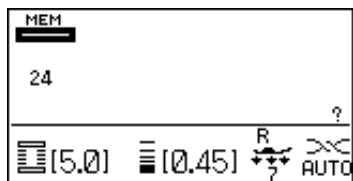
- 1 Stitch length adjusting key
- 2 Denser buttonhole
- 3 Less dense buttonhole



NOTES:

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

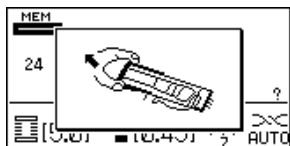
The settings will return to the preset when turning the power switch off or selecting other stitches.



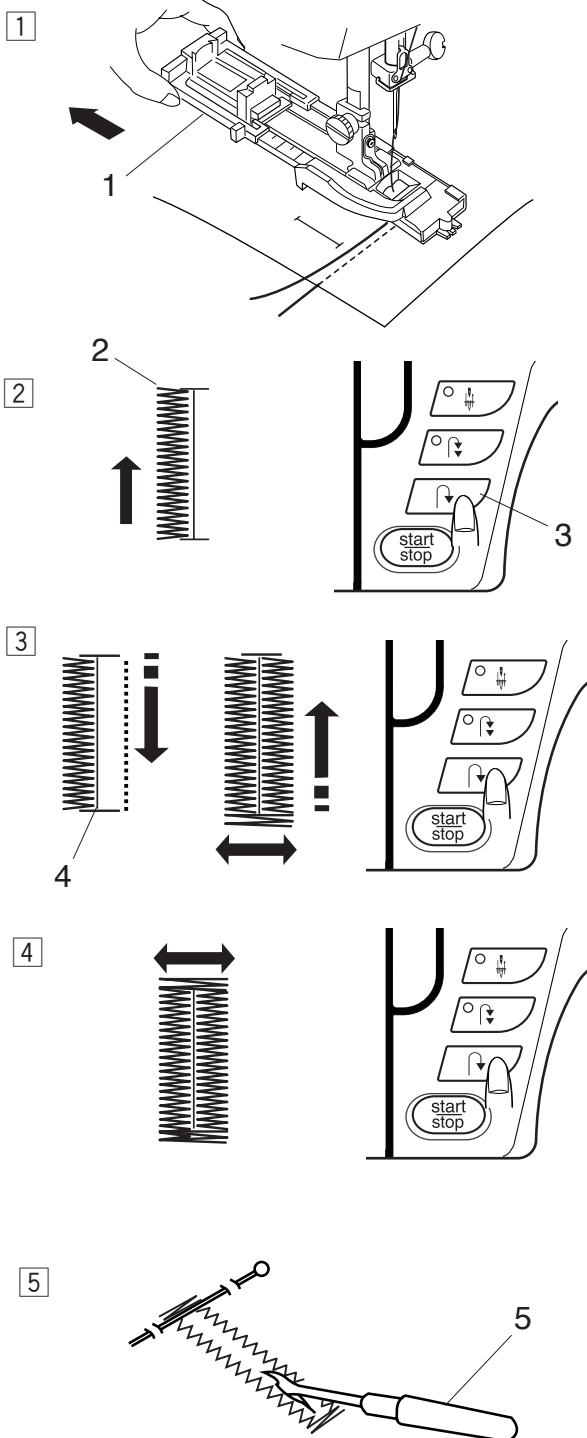
Memory buttonhole

Machine settings

Pattern: 24 (Buttonhole)
 Thread tension: AUTO
 Presser foot: Automatic buttonhole foot R
 Foot pressure: 7



When selecting the memory buttonhole, the LCD screen will advise you to pull the button holder open.



- 1 Pull the button holder of the buttonhole foot all the way out.
Place the fabric and lower the foot.
1 Button holder

NOTE:

You do not need to pull down the buttonhole lever.

- 2 Start the machine to sew the left side up to the required length of the buttonhole.
Stop the machine and press the reverse button.
2 Required length
3 Reverse button
- 3 Start the machine again. The machine will sew back to the starting point.
Press the reverse button when you are directly opposite the starting point.
The machine will sew the front bartack and right row.
Stop the machine when you reach the ending point.
4 Starting point
- 4 Press the reverse button and start the machine. The machine will sew the rear bartack and lockstitches, and stop automatically.
- 5 Cut the buttonhole opening with the seam ripper.
5 Seam ripper

To sew the same size buttonhole, reposition the fabric and start the machine.

To sew a buttonhole of a different size, press the memory key **M** to memorize a new size and start sewing from the beginning.

Round end and fine fabric buttonholes

Machine settings

Pattern: 25 or 26 (Buttonhole)
Thread tension: AUTO
Presser foot: Automatic buttonhole foot R
Foot pressure: 7

The sewing procedure is the same as the square (sensor) buttonhole (refer to pages 52-54).
The machine will sew a buttonhole in the order shown.

NOTE:

The buttonhole width can be adjusted from 2.5 to 5.5.
The stitch density can be adjusted from 0.30 to 1.00.

Keyhole buttonholes

Machine settings

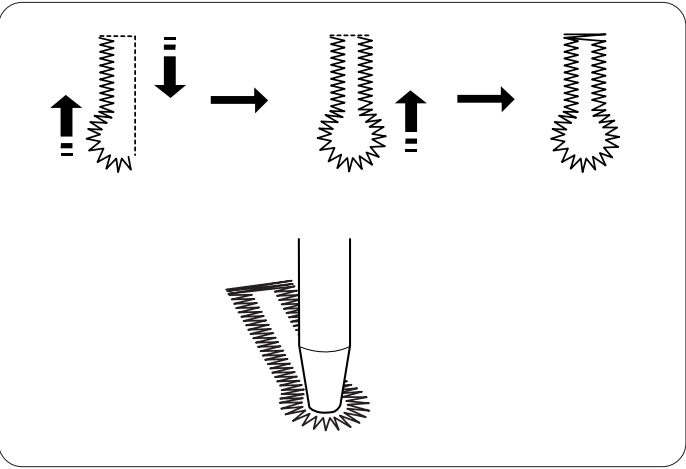
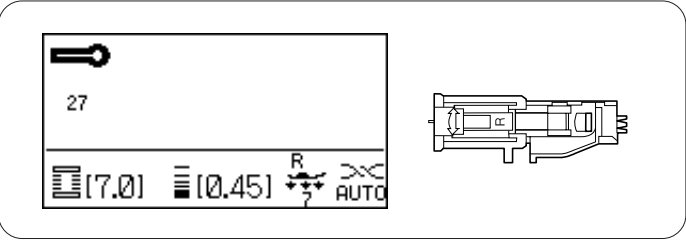
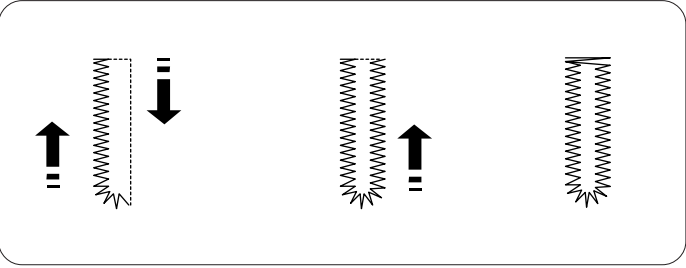
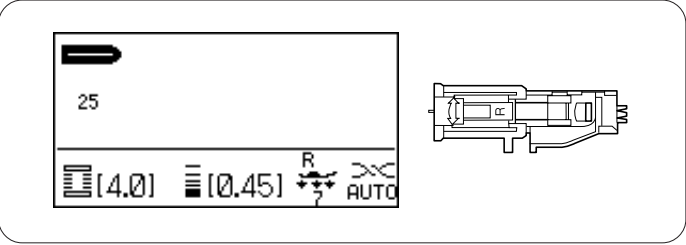
Pattern: 27, 28, 29 (Buttonhole)
Thread tension: AUTO
Presser foot: Automatic buttonhole foot R
Foot pressure: 7

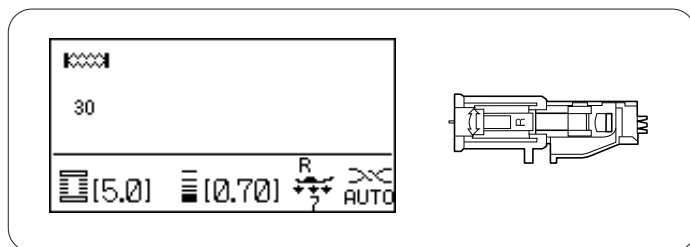
The sewing procedure is the same as the square (sensor) buttonhole (refer to pages 52-54).
The machine will sew a buttonhole in the order shown.

Use an eyelet puncher to open a keyhole buttonhole.

NOTE:

The buttonhole width can be adjusted from 5.5 to 7.0.
The stitch density can be adjusted from 0.30 to 1.00.





Stretch buttonholes

Machine settings

Pattern: 30 or 32 (Buttonhole)
 Thread tension: AUTO
 Presser foot: Automatic buttonhole foot R
 Foot pressure: 7

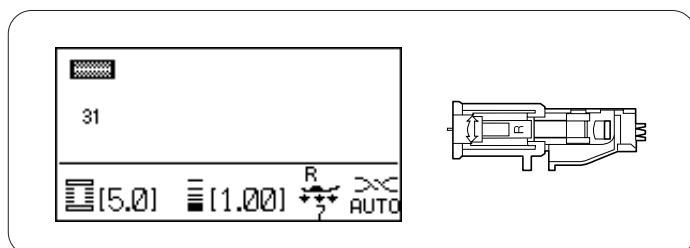


The sewing procedure is the same as the square (sensor) buttonhole (refer to pages 52-54).

The machine will sew a buttonhole in the order shown.

NOTE:

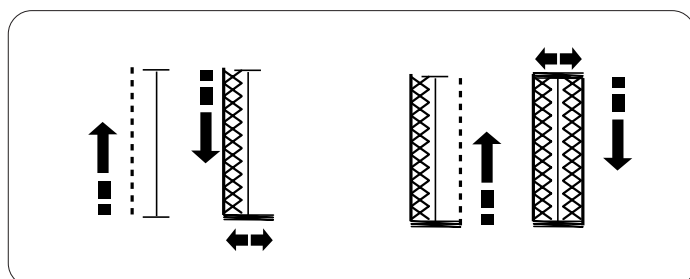
The buttonhole width can be adjusted from 2.5 to 7.0.
 The stitch density can be adjusted from 0.50 to 1.00 for pattern 30 and 0.50 to 2.50 for pattern 32.
 If the stitch balance of the left and right row is not even, correct it by turning the fine adjustment screw (refer to page 29).



Stretch buttonhole

Machine settings

Pattern: 31 (Buttonhole)
 Thread tension: AUTO
 Presser foot: Automatic buttonhole foot R
 Foot pressure: 7

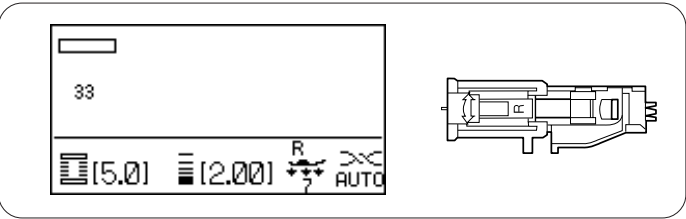


The sewing procedure is the same as the square (sensor) buttonhole (refer to pages 52-54).

The machine will sew a buttonhole in the order shown.

NOTE:

The buttonhole width can be adjusted from 2.5 to 7.0.
 The stitch density can be adjusted from 0.70 to 1.20.



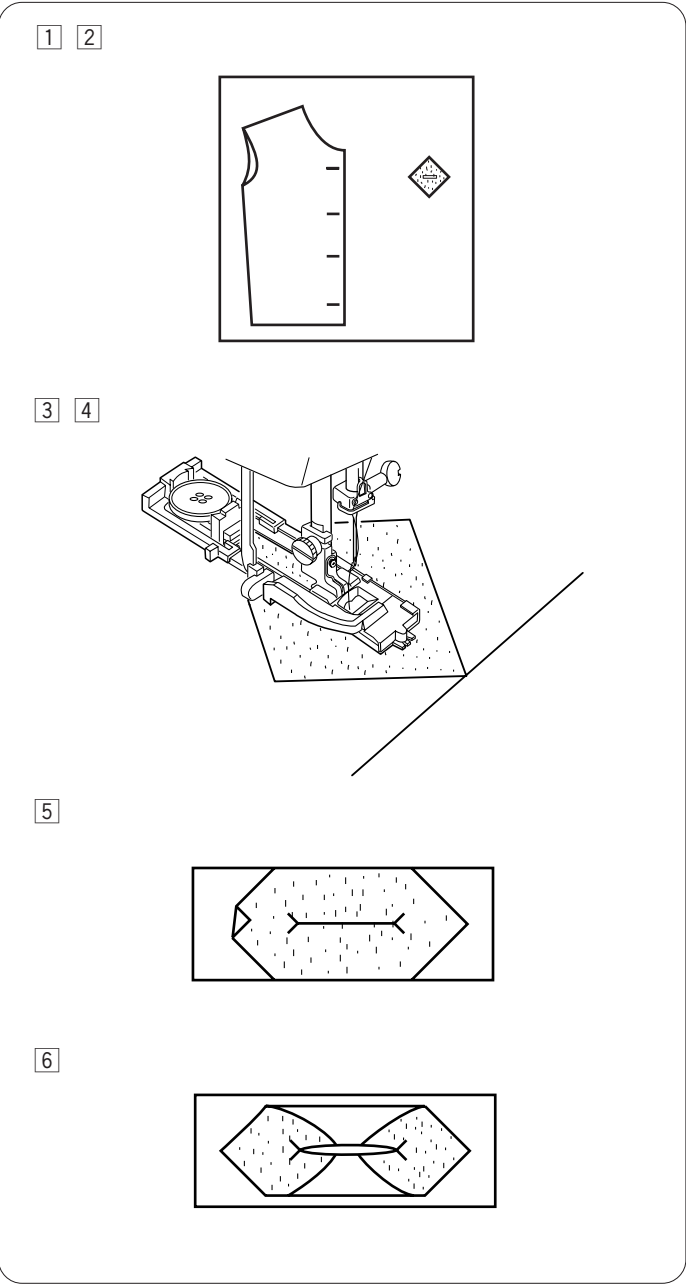
Bound (Sensor) Buttonhole

Machine settings

Pattern:	33 (Buttonhole)
Thread tension:	AUTO
Presser foot:	Automatic buttonhole foot R
Foot pressure:	7

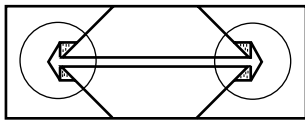
Great for oversized buttons requiring tailored buttonholes, welt pockets or larger decorative openings.
All buttonholes should use interfacing suitable for the fabric weight. Test sew the buttonhole on sample swatch.

Select 33. The LCD screen will briefly show one messages.

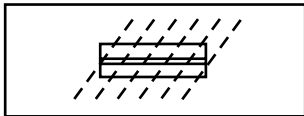


- 1 Prepare bias cut squares. Mark buttonhole on right side of garment and wrong side of bias squares. To determine the buttonhole length, add the diameter of the button to the thickness of the button.
- 2 Place bias cut squares on fabric with right sides together matching guidemarks.
- 3 Place both threads to left under foot. Insert the garment under the foot and hand turn the flywheel to lower the needle at the starting point. Lower the R buttonhole foot.
- 4 Sewing the buttonhole.
- 5 Cut down center of sewn rectangle, snipping into each corner.
- 6 Pass the bias square through slit and pull to wrong side of garment to form the lips of buttonhole.

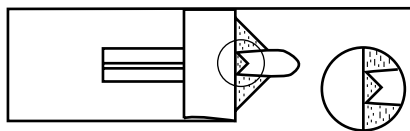
7



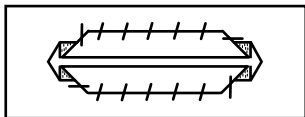
8



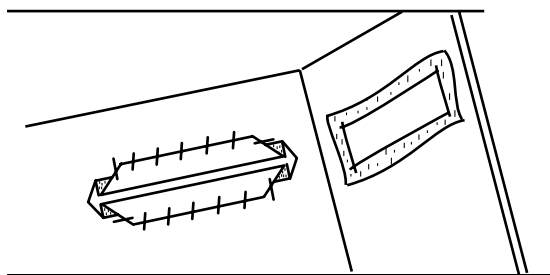
9



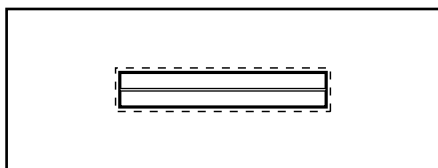
10



11 12



13



7 From wrong side, press lips into center and fold bias fabric over lips forming a tuck at each end.

8 From right side, align lips. Baste and press.

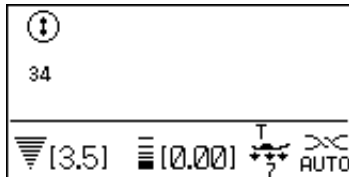
9 Reinforce both ends by folding right sides together at buttonhole end and straight stitch in along the stitch line.

10 Trim away excess bias fabric. Fasten bias fabric by hand.

11 Repeat steps 1 to 11 to form underside of buttonhole on facing of garment.

12 Pass bias fabric through slit and pull to wrong side of fabric. Press flat.

13 "Stitch in the ditch" around outer edges of bound buttonhole opening with a straight stitch.



Button Sewing

Machine settings

Pattern:	34 (Buttonhole)
Thread tension:	AUTO
Presser foot:	Button sewing foot T
Foot pressure:	7
Feed dog:	Lowered (refer to page 22.)



WARNING:

Turn the power switch off before changing the presser foot.

Attaching the button sewing foot T

Insert the rear pin on the foot into the rear groove of the foot holder.

- 1 Rear pin
- 2 Rear groove

Gently lower the presser bar while holding the foot with your fingers.

Sewing

Lower the feed dog.

Place a button on the fabric and lower the needle into the left hole of the button by turning the flywheel with your hand.

Lower the foot to hold the button in place, aligning the direction of the button.

Raise the needle by turning the flywheel until the needle bar swings to the right.

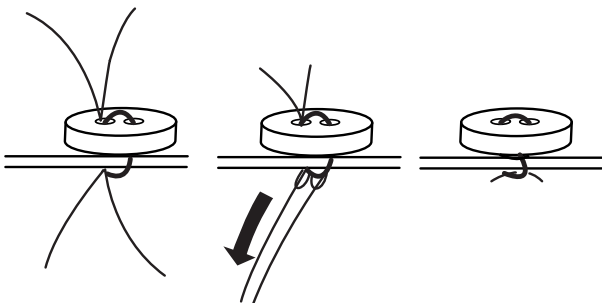
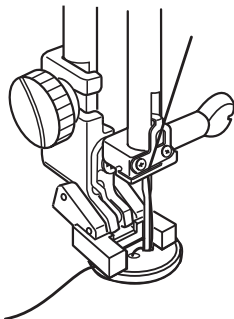
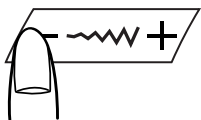
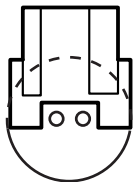
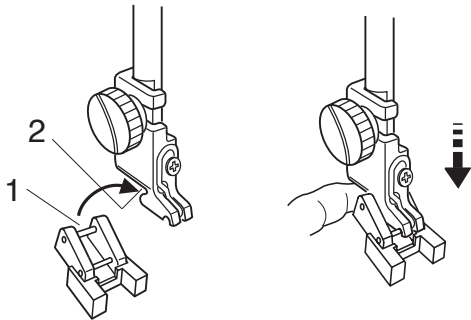
Press the stitch width adjusting key so the needle enters into the right hole of the button.

Start sewing and continue until the machine stops automatically.

Remove the fabric from the machine.

Pull the bobbin threads to bring the needle threads down to the wrong side of the fabric.

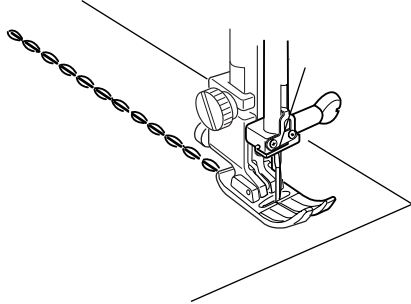
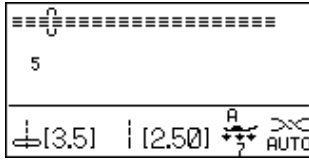
Tie the threads together.



Triple Stretch Stitch

Machine settings

Pattern: 5 (Utility)
Thread tension: AUTO
Presser foot: Zigzag foot A
Foot pressure: 7

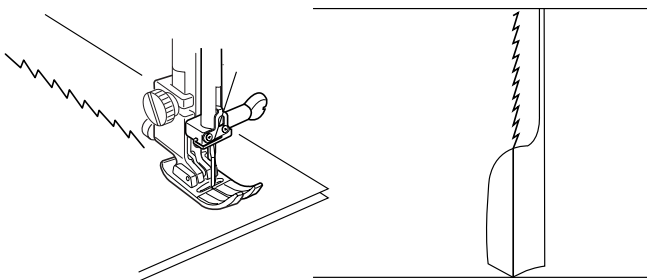
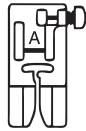


This strong, durable stitch is recommended for areas where both elasticity and strength are needed to ensure comfort and durability. Use it to reinforce areas such as crotch and armhole seams. Also use it when constructing items such as backpacks for extra strength.

Stretch Stitch

Machine settings

Pattern: 6 or 7 (Utility)
Thread tension: AUTO
Presser foot: Zigzag foot A
Foot pressure: 7



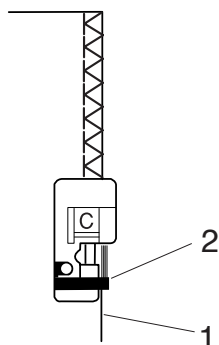
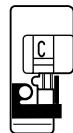
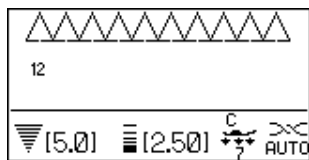
This is a narrow stretch stitch designed to eliminate puckering on knit fabrics and bias seams, while permitting the seam to be pressed completely open flat.

Stitch pattern 7 is a stretch stitch in the left needle position.
Use this stitch when seaming thin fabrics such as tricot and fine jersey.

Overcasting Stitch

Machine settings

Pattern: 12 (Utility)
Thread tension: AUTO
Presser foot: Overlock foot C
Foot pressure: 7

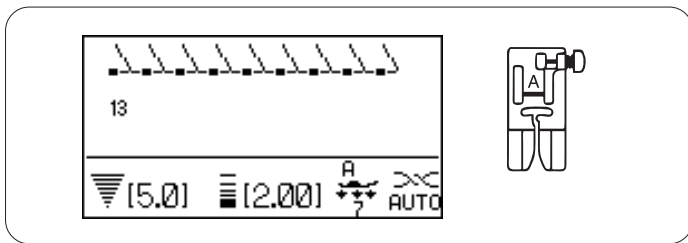


This stitch can be used to simultaneously seam and overcast edges of fabrics.
Use this stitch when you do not need to open seams flat.
Place the fabric edge next to the guide of the foot and then sew.

- 1 Edge of fabrics
- 2 Guide

NOTE:

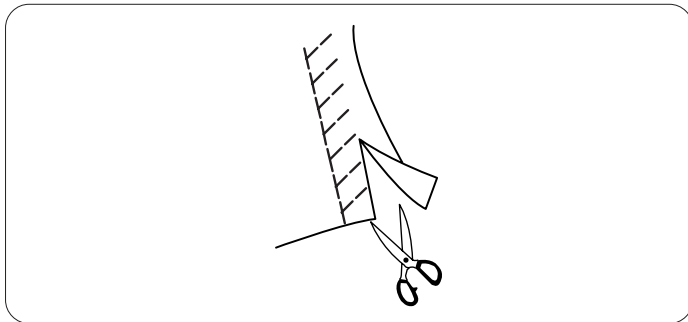
The stitch width cannot be changed to less than 4.5.



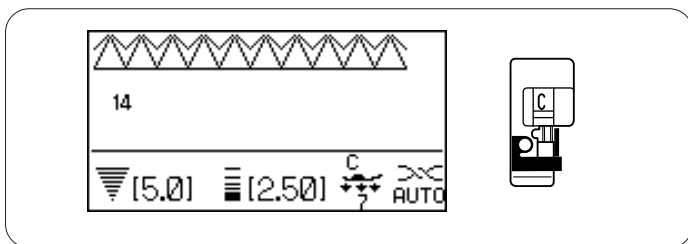
Knit Stitch

Machine settings

Pattern: 13 (Utility)
 Thread tension: AUTO
 Presser foot: Zigzag foot A
 Foot pressure: 7



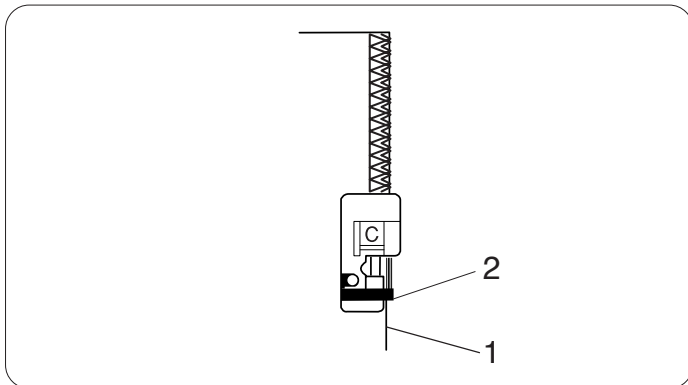
This stitch is recommended for sewing such fabrics as synthetic knits and stretch velour as it provides the greatest amount of elasticity and strength. Sew along the fabric edge leaving an adequate seam allowance. After sewing, trim the seam allowance close to the stitches.



Overcasting Stitch

Machine settings

Pattern: 14 (Utility)
 Thread tension: AUTO
 Presser foot: Overlock foot C
 Foot pressure: 7

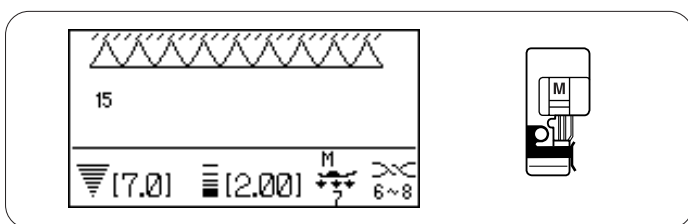


This is an excellent stitch for fabrics that tend to fray extensively such as linens and gabardines. Two rows of zigzag stitches are simultaneously sewn over the edge to insure that fabric will not ravel. Place the fabric edge next to the guide of the foot and then sew.

- 1 Edge of fabric
- 2 Guide

NOTE:

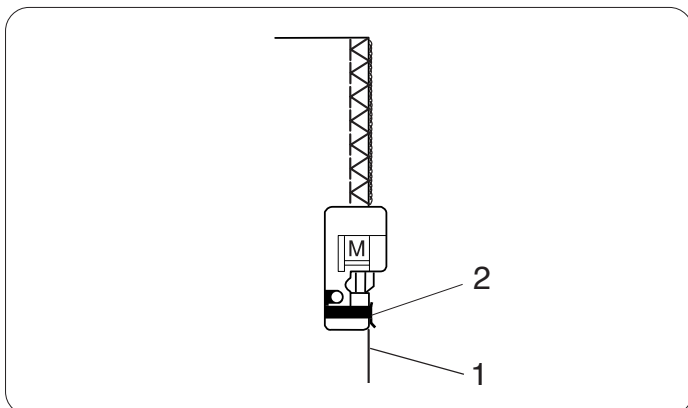
The stitch width cannot be changed to less than 4.5.



Overcasting Stitch

Machine settings

Pattern: 15 (Utility)
 Thread tension: 6-8
 Presser foot: Overedge foot M
 Foot pressure: 7

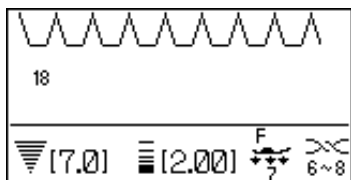


This stitch finishes the edges of fabric similar to a commercial overlocking machine for a professional look. Place the fabric edge next to the guide of the foot and then sew.

- 1 Edge of fabric
- 2 Guide

NOTE:

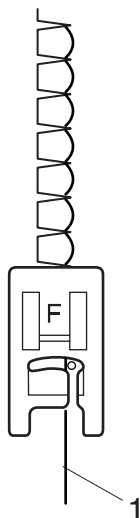
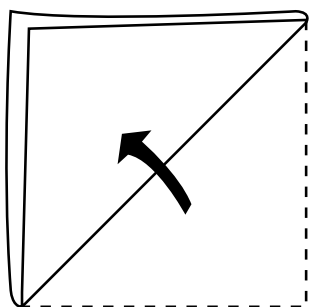
The stitch width cannot be changed.



Shell Tuck

Machine settings

Pattern: 18 (Utility)
 Thread tension: 6-8
 Presser foot: Satin stitch foot F
 Foot pressure: 7



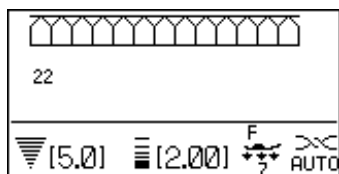
Use a light weight fabric (tricot, for example). Fold the fabric as shown and stitch on the fold.

Allow the needle to just clear the folded edge to create a shelled edge. You may need to increase the needle thread tension.

1 Folded edge

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

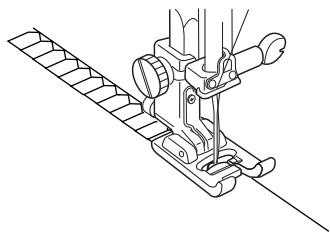
You can also sew shell stitches on knits or soft silky woven fabrics in any direction.



Super Overlock Stitch

Machine settings

Pattern: 22 (Utility)
 Thread tension: AUTO
 Presser foot: Satin stitch foot F
 Foot pressure: 7



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

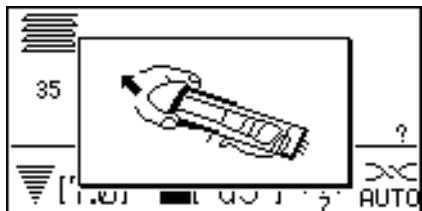
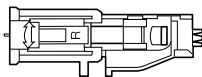
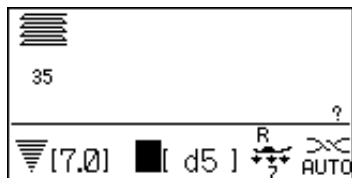
Elna invented this stitch in 1982.

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

Darning

Machine settings

Pattern: 35 (Buttonhole)
Thread tension: AUTO
Presser foot: Automatic buttonhole foot R
Foot pressure: 7



When selecting the darning stitch, the LCD screen will advise you to pull the button holder open.

Pull the button holder to the rear.

Insert the corner of the fabric under the foot. Press the up/down needle position button twice. Remove the fabric to the left to draw the needle thread through the hole of the foot.

Place the fabric under the foot, and lower the needle at the starting point. Then lower the foot.

- 1 Button holder
- 2 Starting point

NOTE:

You don't need to pull down the buttonhole lever.

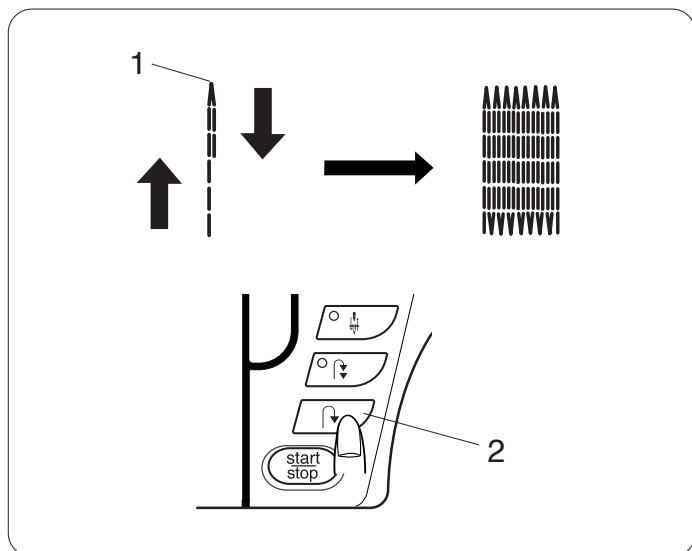
Start sewing. The machine will sew a darning 2 cm (3/4") long and stop automatically.

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")



Sewing 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 again and continue sewing until the machine stops automatically.

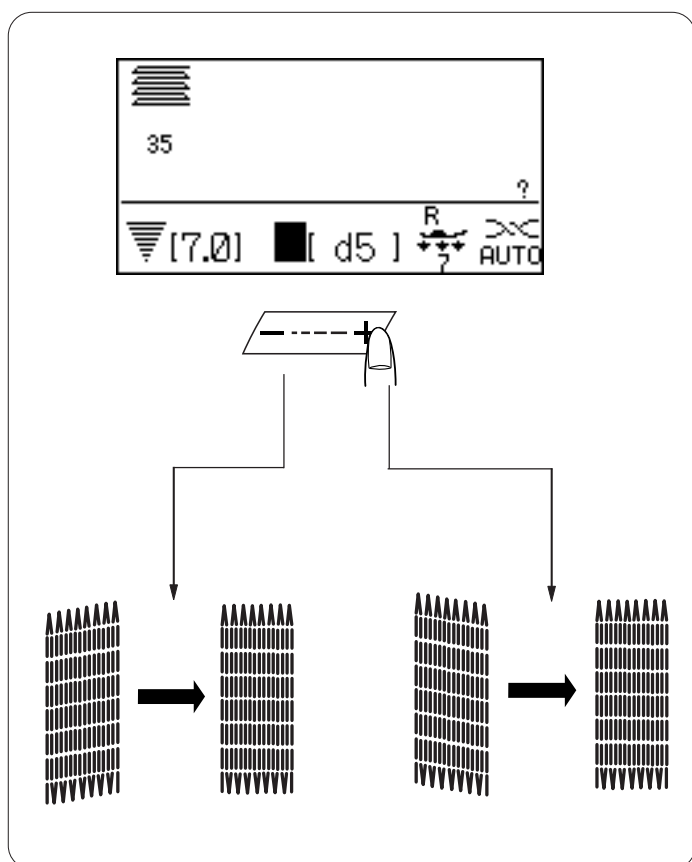
- 1 Required length
- 2 Reverse button

Sewing 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 key **M** and start sewing from the beginning.



Adjusting the evenness of darning

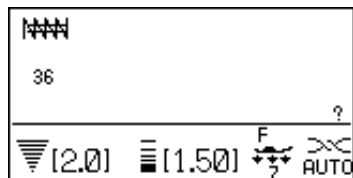
The evenness of darning may vary depending on the sewing conditions, such as type of fabrics, number of layers etc. You can correct the unevenness of darning with the stitch length adjusting key.

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).



Bartacks

Machine settings

Pattern:	36 (Buttonhole)
Thread tension:	AUTO
Presser foot:	Satin stitch foot F
Foot pressure:	7

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

Sewing

Lower the needle at the starting point.

Lower the foot and sew until the machine stops automatically.

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

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

Sewing 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.

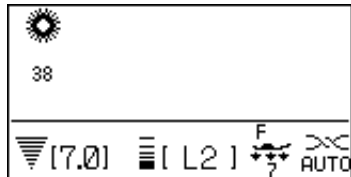
- 1 Starting point
- 2 Required length
- 3 Tack length
- 4 Reverse button

Sewing the same size tack

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

Sewing the tack at a different size

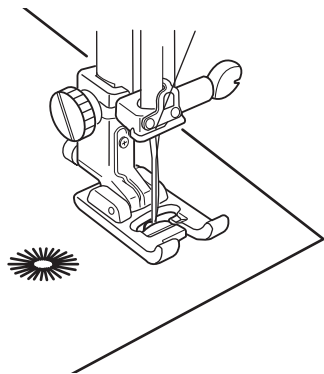
To sew the next tack at a different size, press the memory key  and start sewing from the beginning.



Eyelet

Machine settings

Pattern: 38-40 (Buttonhole)
 Thread tension: AUTO
 Presser foot: Satin stitch foot F
 Foot pressure: 7

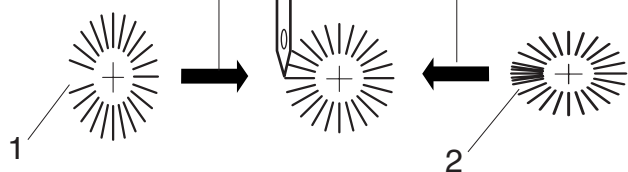
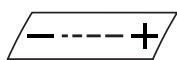
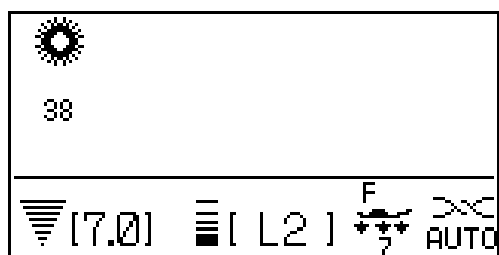


The eyelet is used for belt holes etc.

Sewing

Sew until the machine stops automatically.

Open the eyelet with an eyelet puncher 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:

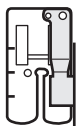
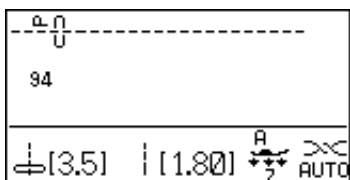
The shape can be adjusted within L1 to L3 (default setting is L2).

PATCHWORK AND QUILTING

Patchwork Piecing

Machine settings

Pattern: 94 (Quilt)
Thread tension: Auto
Presser foot: Scant 1/4" foot O2
Foot pressure: 7



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.

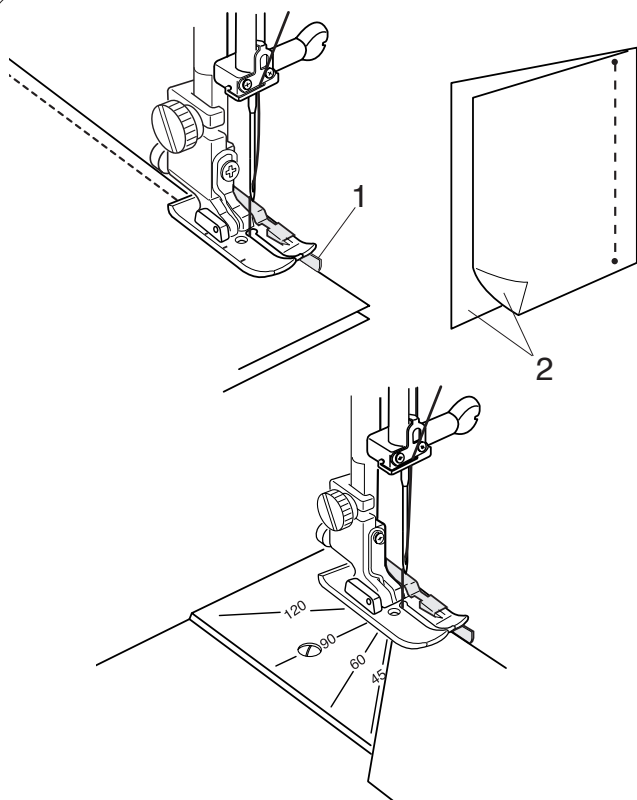
- 1 Guide
- 2 Right sides of the fabric

Use 4.5 needle position for a scant 1/4" seam.

Angle scales on the needle plate

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

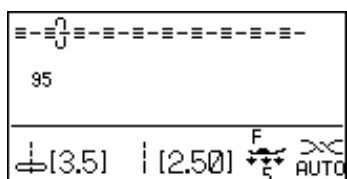
The angle scales are marked at 45, 60, 90 and 120 degrees.



Quilt Stitches

Machine settings

Pattern: 95 (Quilt)
Thread tension: Auto
Presser foot: Satin stitch foot F
Foot pressure: 5

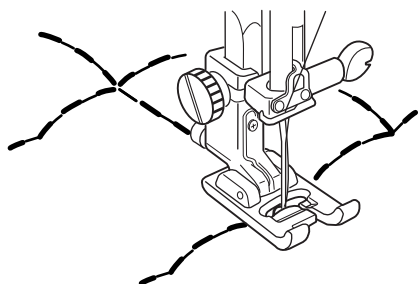


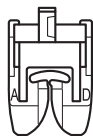
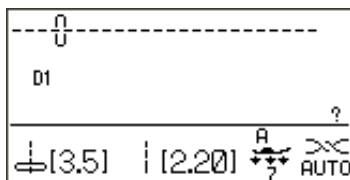
The quilt stitches add a three dimensional effect when outlining designs.

Place monofilament (clear invisible) thread in the needle and 60 weight cotton thread on the bobbin (color matches quilt back).

Use a washable fabric marker to draw design lines on quilt top. Place batting (wadding) between quilt top and backing fabric. Sew over design lines.

NOTE: Upper tension may need to be increased depending on thickness of batting/wadding.





Sewing with the Dual Feed Device

Machine settings

Pattern: D1
Thread tension: AUTO
Presser foot: Dual feed foot AD
Foot pressure: 7

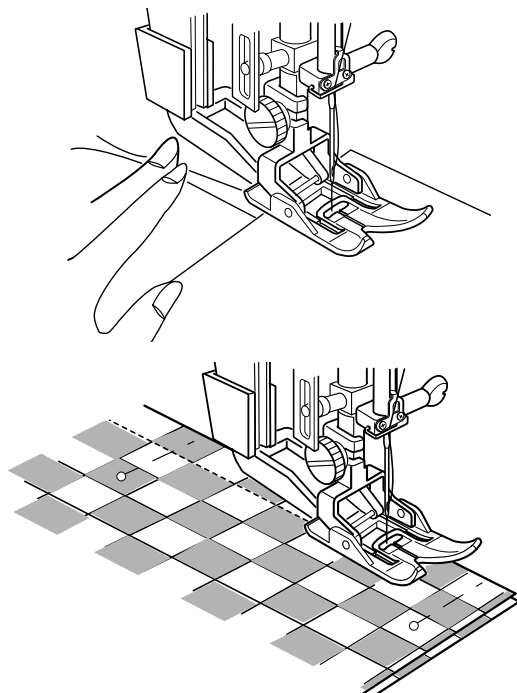
NOTE:

Patterns number D1, D2, D3 and D4 can be sewn with the dual feed device.

The dual feed device is extremely effective for sewing with hard to feed material such as vinyl or leather. It also eliminates layer slippage.

NOTE:

See page 25 for how to attach the dual feed foot and to engage the dual feed device.



Sewing

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

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

Start sewing at medium speed. Gently guide the fabric along the seam guide letting the fabric feed naturally.

When seaming plaid fabrics, match the plaids of the upper and lower layers and pin them together.

Dual feed adjusting dial

The dual feed adjusting dial should be set at "0". However you may need to adjust the dual feed balance with this dial since the effect of the dual feed varies depending on the type of fabric.

Test sew on scrap piece of the fabric you intended to sew to check the feed balance.

(A): If the lower layer puckers, turn the dual feed adjusting dial toward "+".

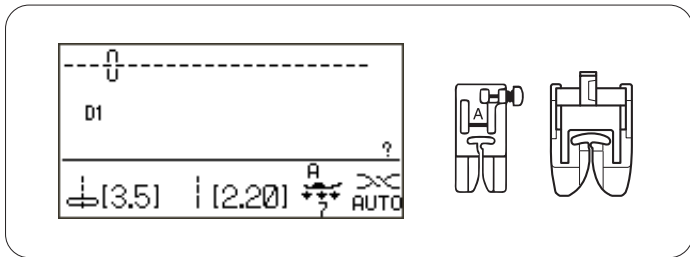
(B): If the upper layer puckers, turn the dual feed adjusting dial toward "-".

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

Set the dual feed adjusting dial to 0 when dual feed mechanism is not used.

NOTE:

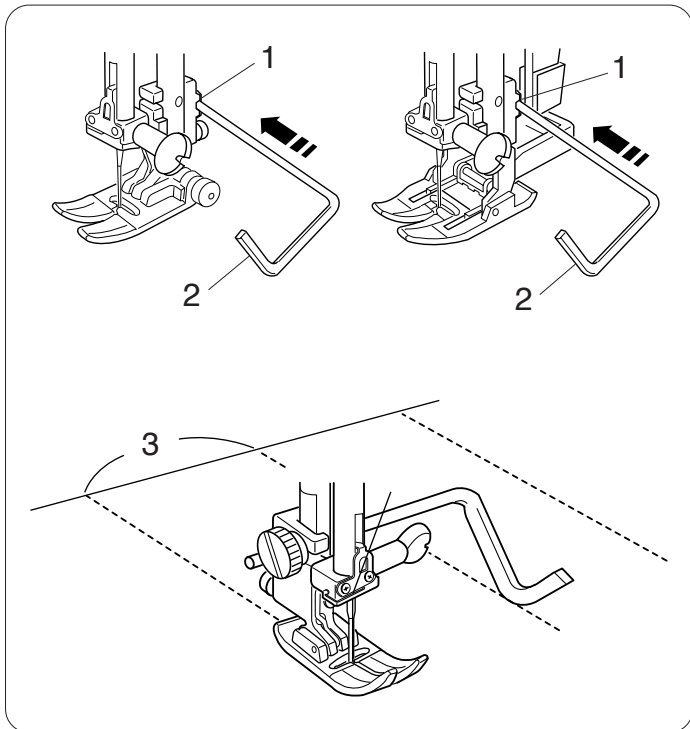
Reducing the foot pressure will also improve the feed balance.



Quilting

Machine settings

Pattern: D1 (Utility)
 Thread tension: AUTO
 Presser foot: Zigzag foot A or dual feed foot AD
 Foot pressure: 7



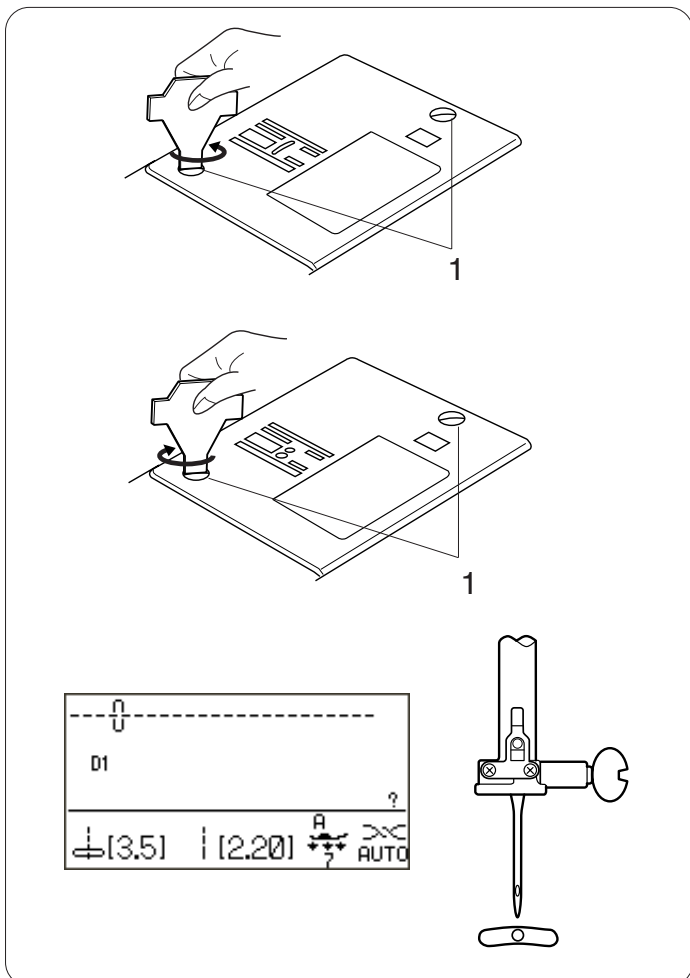
Attaching the quilt guide

Insert the quilt guide into the opening and slide the quilt guide to the position according to the desired space between seams.

- 1 Opening on the foot holder
- 2 Quilt guide
- 3 Space between seams

Sewing

Sew while tracing the previous seam with the quilt guide.



Straight Stitch Needle Plate

The small needle entry hole on the plate prevents puckering and skipped stitches on fabrics when straight stitch sewing (center needle position only).

How to attach straight stitch needle plate

Press the “Up/Down Needle” button until the needle is in an up position. Raise the presser foot.

Turn **OFF** the power switch. Remove the presser foot and needle. Remove the screws in the needle plate.

- 1 Screw

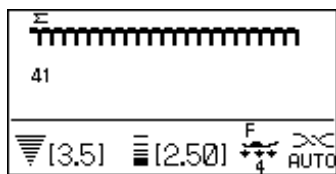
Remove the standard needle plate. Position the straight stitch needle plate. Replace the screws. Turn **ON** power switch.

Place fabric under presser foot. Check that needle is in center position. Lower presser foot and sew.



CAUTION:

Only use a straight stitch in center needle position. Any stitch with sideways movement (Example: zigzag) will cause the needle to break because it will hit the plate.



Buttonhole Applique

Machine settings

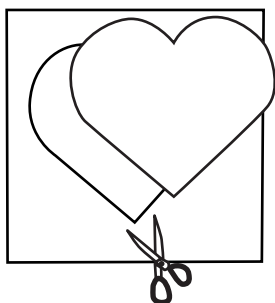
Pattern: 41 (Applique)
 Thread tension: AUTO
 Presser foot: Satin stitch foot F
 Foot pressure: 4

A favorite method of applying small pieces of fabric to quilts for decoration.

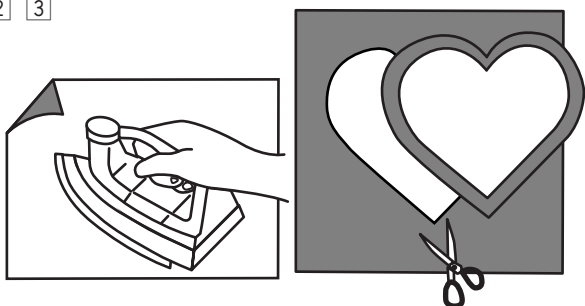
Use fine embroidery thread (50 weight or finer) and needle appropriate to fabric.

You may need to set the foot pressure dial to 4.

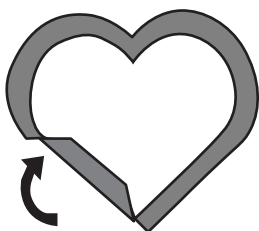
1



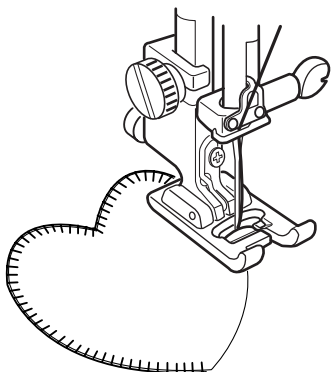
2 3



4



5



1 In this type of applique, raw edges are folded under. To prepare raw edge, first cut applique design out of paper.

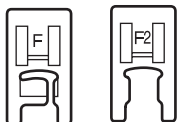
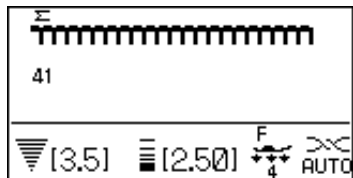
2 Press fusible webbing to wrong side of applique fabric.

3 Cut the fabric slightly larger than paper pattern.

4 Fold fabric under to match paper pattern size. Remove pattern. Press only the edge to form a perfectly shaped design.

NOTE: Clip curves where necessary.

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



Applique

Machine settings

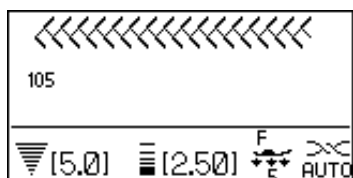
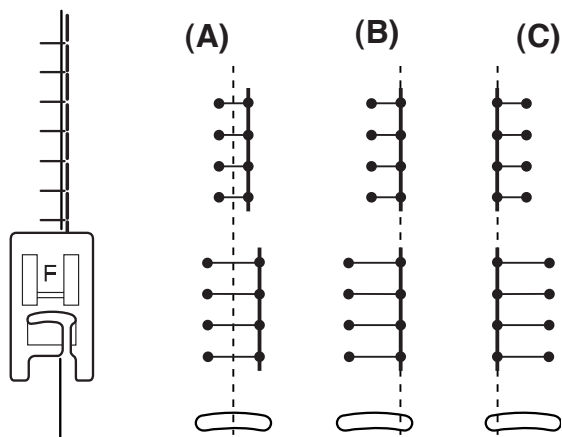
Pattern: 41-50 (Applique)
 Thread tension: AUTO
 Presser foot: Satin stitch foot F or
 open toe satin stitch foot F2
 Foot pressure: 4

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.

(A): The patterns number 41 to 43 have a fixed center needle drop position. The stitch width changes symmetrically.

(B): The patterns number 44 to 48 have a fixed right needle drop position. When you change the stitch width, the left needle drop position will change.

(C): The patterns number 49 and 50 have a fixed left needle drop position. When you change the stitch width, the right needle drop position will change.

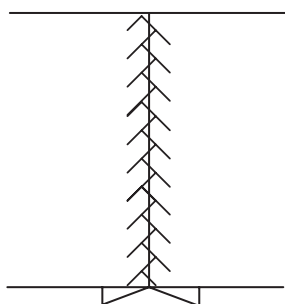


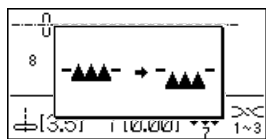
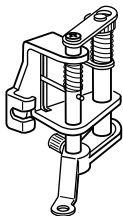
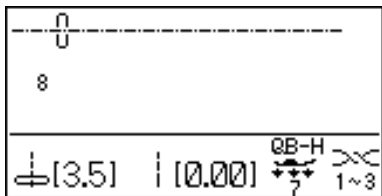
Patchwork Stitches

Machine settings

Pattern: 105-111 (Quilt)
 Thread tension: Auto
 Presser foot: Satin stitch foot F
 Foot pressure: 5

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





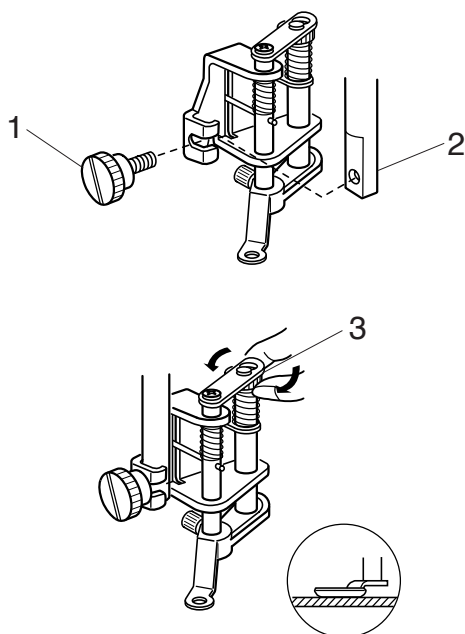
Basting

Machine settings

Pattern:	8 (Utility)
Thread tension:	1-3
Presser foot:	Convertible free motion quilting foot QB-H
Foot pressure:	7
Feed dog:	Lowered

When selecting the basting stitch, the LCD screen will advise you to lower the feed dog.

Refer to page 22 for how to lower the feed dog.



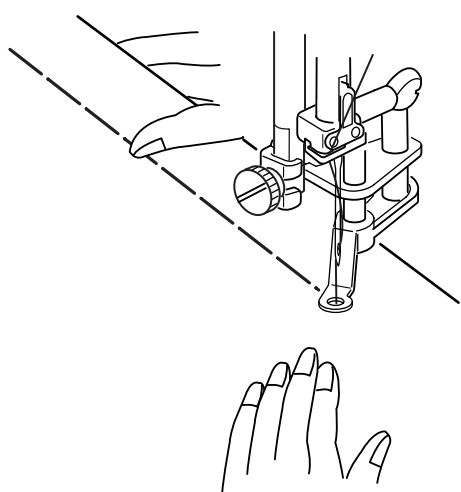
Attaching the convertible free motion quilting foot

Loosen the thumbscrew and remove the foot holder.

Attach the convertible free motion quilting foot to the presser bar and tighten the thumbscrew firmly with the screwdriver.

Adjust the height of the foot by turning the round nut until bottom of the foot barely touches top of the fabric.

- 1 Thumbscrew
- 2 Presser bar
- 3 Round nut



Sewing

Lower the feed dog.

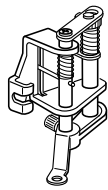
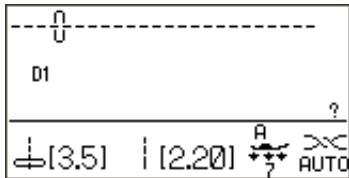
Pass the needle thread through the hole in the foot and draw the thread to the rear.

Place the fabric and lower the presser foot.

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

Release the foot control.

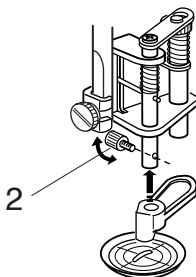
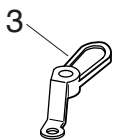
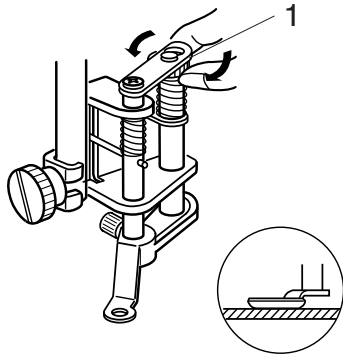
Hold the fabric taut and slide it to where you want the next stitch.



Free Motion Quilting

Machine settings

Pattern:	D1
Thread tension:	AUTO
Presser foot:	Convertible free motion quilting foot QB-H
Foot pressure:	7
Feed dog:	Lowered (See page 22)



Attaching the convertible free motion quilting foot

Attach the convertible free motion quilting foot and make sure that the needle enters the center of the hole in the foot (refer to page 75).

Adjust the height of the foot by turning the round nut until the bottom of the foot barely touches top of quilt layers.

1 Round nut

Use the straight stitch needle plate. See page 72.

Changing the foot

This foot comes with the closed-toe foot attached, however it is convertible to the open-toe foot and clear view foot.

To change the foot, raise the foot and turn the round nut to bring the foot to the lowest position.

Remove the setscrew and remove the closed-toe foot. Attach the desired foot and secure it with the setscrew. Adjust the height of the foot (see above).

2 Setscrew

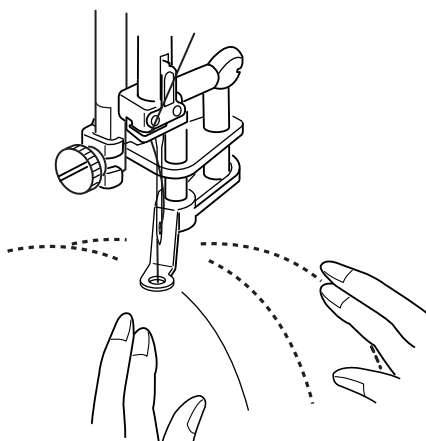
3 Closed-toe foot

4 Open-toe foot

5 Clear view foot

NOTE:

Only the clear view foot can be used for zigzag stitches.



Sewing

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

Sew at medium speed while guiding the quilt layers with your hands.

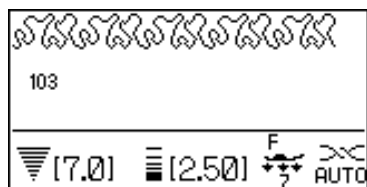
Move the quilt layers 3 mm (1/8") or less per stitch.



CAUTION:

Do not select any pattern other than the straight stitch with center needle position when the closed-toe or open-toe foot is attached.

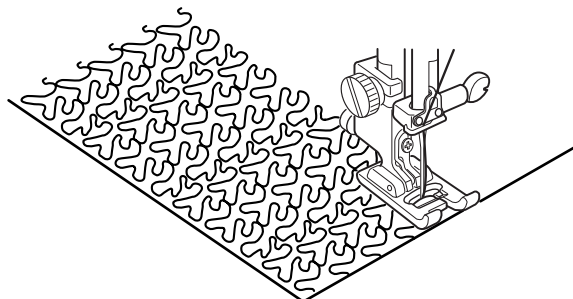
Do not move or pull the quilt layers toward you quickly or with force when the open-toe foot is attached because this may cause the needle to break.



Stippling Stitches

Machine settings

Pattern: 101,102,103 (Quilt)
 Thread tension: AUTO
 Presser foot: Satin stitch foot F
 Foot pressure: 7



A pre-programmed stippling stitch is a fast and easy method to quilt small areas.

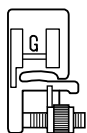
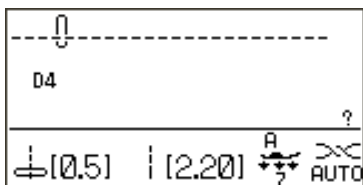
Place batting (wadding) between quilt top and backing fabric.

DECORATIVE SEWING

Pintucks

Machine settings

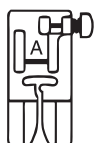
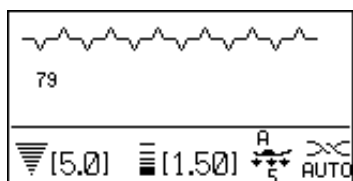
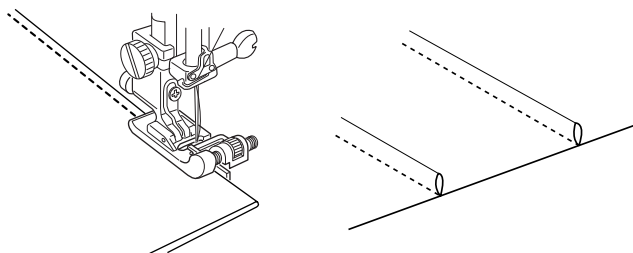
Pattern:	D4 (Utility)
Thread tension:	AUTO
Presser foot:	Blind hem foot G
Foot pressure:	7



A beautiful accent to any project. Pintucks should be added to your fabric before cutting out the pattern piece.

Use a washable marker to draw parallel lines for pintucks on fabric right side. Fold fabric on first line with wrong sides together. Place fold under foot and use foot edge as guide. Move needle position to determine the width of the pintuck. Sew pintuck. Sew remaining pintucks using same method.

Remove marking lines. Press pintucks to one side.



Fagoting

Machine settings

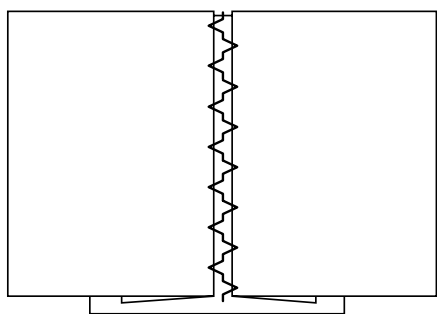
Pattern:	65, 79 (Heirloom)
Thread tension:	AUTO
Presser foot:	Zigzag foot A
Foot pressure:	5

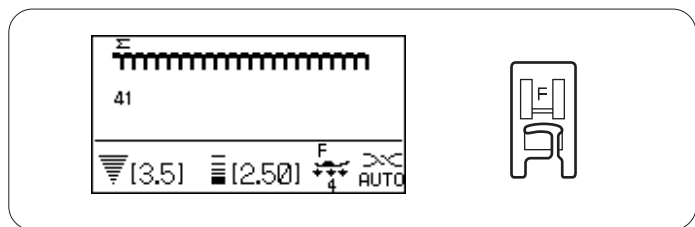
Use this stitch to join two pieces of fabric to create an open work appearance and add design interest.

Fold under each fabric edge 1.5 cm (5/8") and press. Pin the two edges to paper or tear away backing 0.3 cm (1/8") apart.

Sew slowly, guiding the fabric so the needle catches the folded edge on each side.

After finishing sewing, tear away the paper.



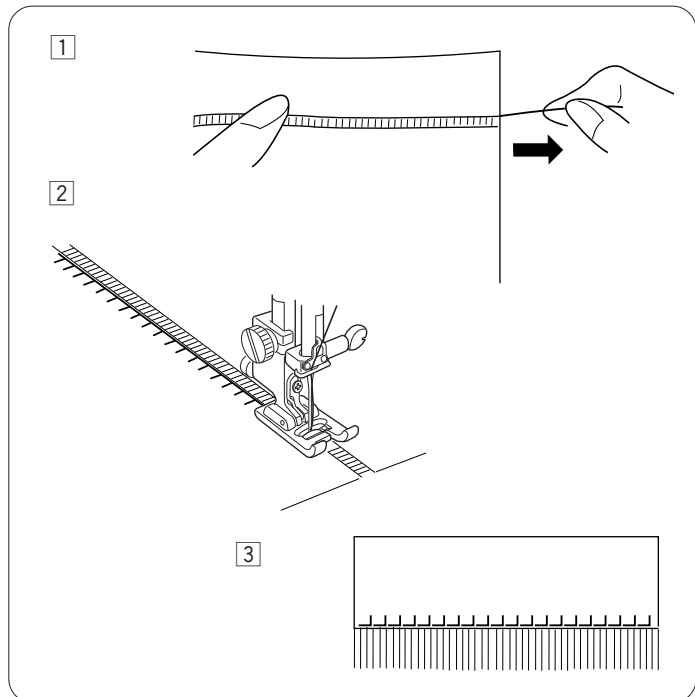


Fringing

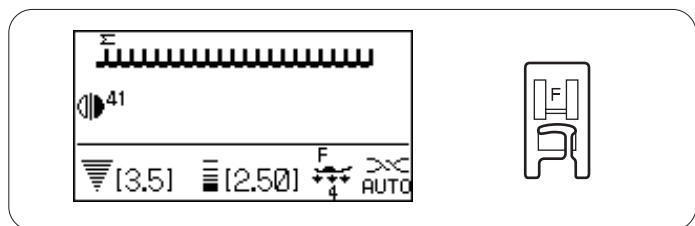
Machine settings

Pattern: 41 (Applique)
 Thread tension: AUTO
 Presser foot: Satin stitch foot F
 Foot pressure: 4

Fringing adds a special touch on table linens and shawls. Choose a firm, woven fabric like linen where threads can be removed easily.



- 1 Carefully cut the fabric on grain. Remove a single yarn or thread where the fringing is to begin.
- 2 Sew down the left side so the right hand stitches fall in the open space.
- 3 Remove all excess yarn located to the right of stitching and create fringe.

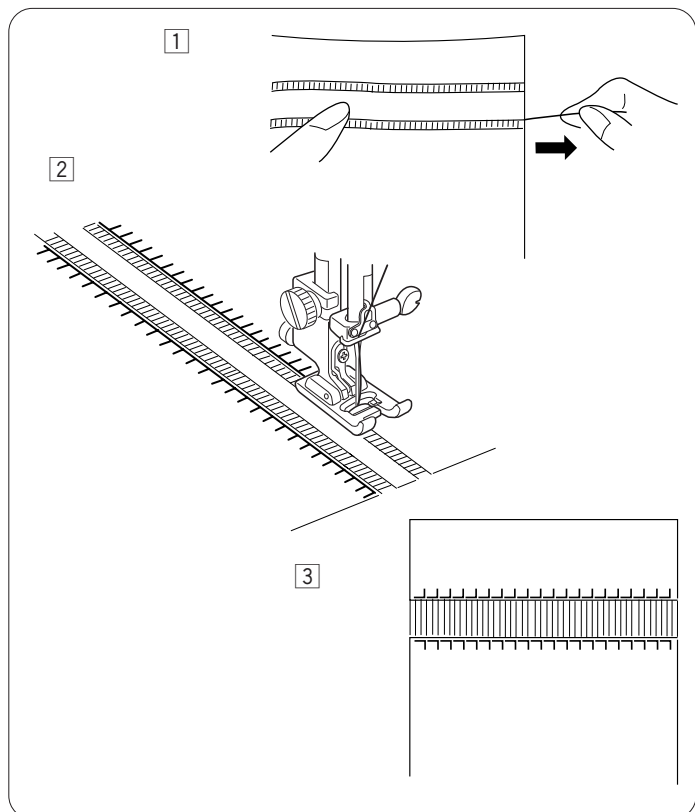


Drawn Work

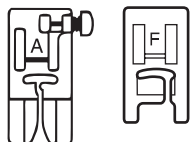
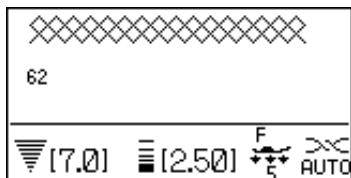
Machine settings

Pattern: 41 (Applique)
 Thread tension: AUTO
 Presser foot: Satin stitch foot F
 Foot pressure: 4

Drawn work uses the same method as fringing. Choose a firm, woven fabric like linen where threads can be removed easily.



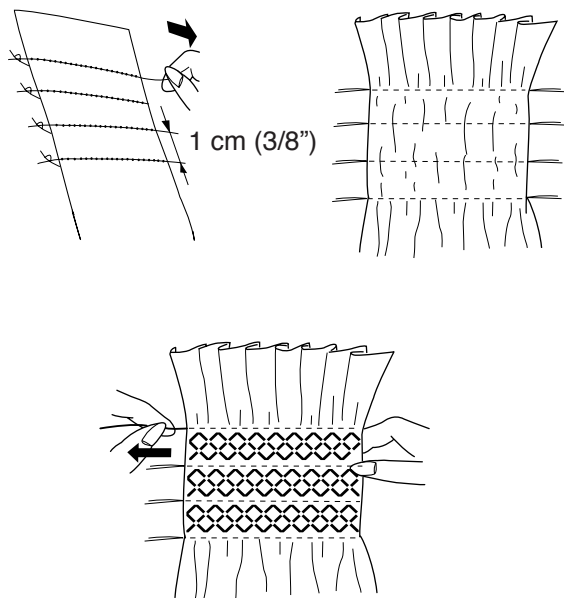
- 1 Carefully cut fabric on grain. Determine width of the drawn work and remove one yarn or fabric thread at each end.
- 2 Select 41 (Utility) and sew down the left side, guiding fabric so right hand stitches fall in open space. Press the mirror image key and sew down the right side.
- 3 Remove the yarn or fabric threads between the stitching.



Smocking

Machine settings

Pattern: 55-58, 61-63, 69-71 (Heirloom)
 Thread tension: AUTO
 Presser foot: Zigzag foot A or satin stitch foot F
 Foot pressure: 5



Choose a soft, lightweight fabric such as batiste, gingham or challis. Cut the fabric three times wider than the projected width.

Sew rows of straight stitches, with the stitch length "5.0" and thread tension loosened to "0", 1 cm (3/8") apart across the area to be smocked.

Tie the threads along one edge. From the other edge, pull the bobbin threads to distribute the gathers evenly.

NOTE:

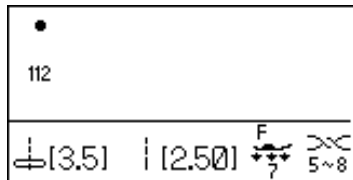
Pull up the bobbin thread and draw a 10 cm (4") thread tail to the back before starting to sew.

Use the thread cutter on the face plate.

Select a smocking stitch and return the thread tension to AUTO.

Sew the smocking stitches between the gathered rows.

Remove the straight stitches between the gathered rows.



French Knots

Machine settings

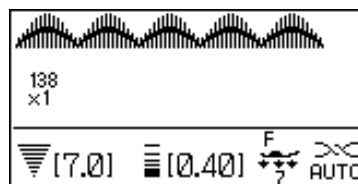
Pattern: 112 (Quilt), 161 (Decorative)
 Thread tension: 5-8
 Presser foot: Satin stitch foot F
 Foot pressure: 7 or 5



Why spend time sewing French Knots by hand?

Place fabric under foot and sew one French Knot. Lift up presser foot, move fabric, lower presser foot and sew next French Knot.

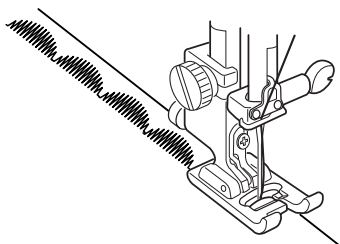
NOTE: If you want to sew a row of evenly spaced French Knots, you must program straight stitches after the French Knot. See Combining a Sequence on page 92.



Scallop

Machine settings

Pattern: 138, 139 (Satin)
 Thread tension: AUTO
 Presser foot: Satin stitch foot F
 Foot pressure: 7



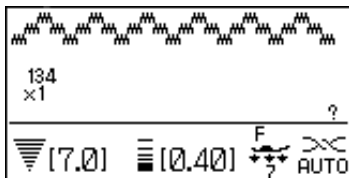
Sew scallops 1 cm (3/8") from the fabric edge.

Trim the allowance close to the stitches.
 Make sure not to cut the stitches.

Cording (3-strand cording)

Machine settings

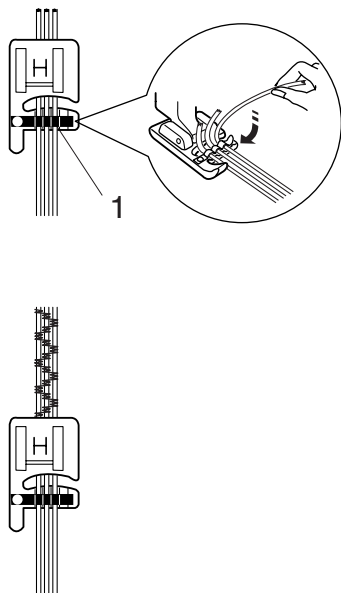
Pattern: 134 (Satin)
Thread tension: AUTO
Presser foot: Multi-Cord foot H
Foot pressure: 7



Insert 3 strands of cording under the spring of the foot and draw them under the foot to the rear.

1 Spring

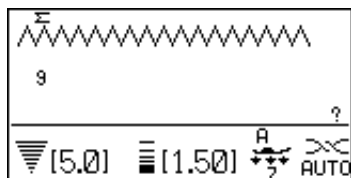
Hold the three strands parallel for even sewing and be sure to sew over the strands
Stitch slowly and smoothly, guiding the fabric as you sew.



Cording (1-strand cording)

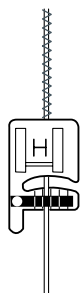
Machine settings

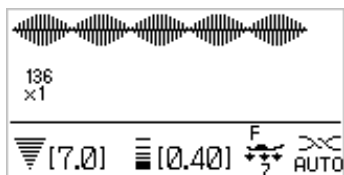
Pattern: 9 (Utility)
Thread tension: AUTO
Presser foot: Multi-Cord foot H
Foot pressure: 7



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 9 (Utility), then decrease the stitch width and sew.





Satin Stitches

Machine settings

Pattern: 133-152 (Satin)
Thread tension: AUTO
Presser foot: Satin stitch foot F
Foot pressure: 7

The stitches in this group can be elongated up to 5 times their original length while the stitch density remains the same.

Example: Pattern number 136

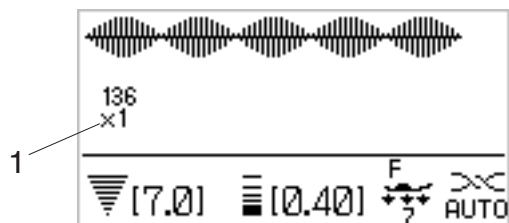
Select pattern number 136.

Press the elongation key  to select the desired elongation ratio.

Elongation ratio is indicated in multiples of the original pattern length; **X1** (original length) to **X5**.

1 Elongation ratio

The stitch length and width can also be changed.



X1



X2



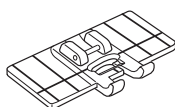
X3



X4



X5



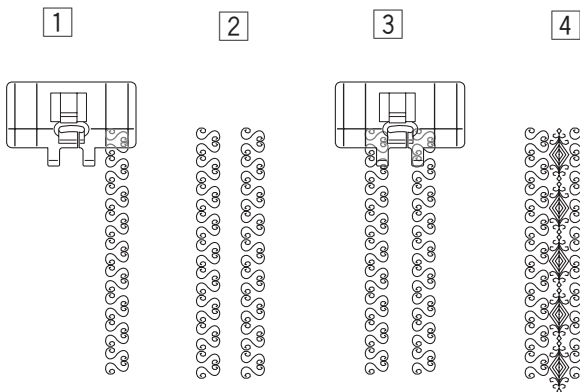
Sewing Border Designs with the Border Guide Foot

Machine settings

Pattern: See example below
Thread tension: AUTO
Presser foot: Border guide foot
Foot pressure: 7

Example: Patterns number 208, 212

Attach the border guide foot.



- 1 Select pattern 208 and sew a line of the pattern.
Position the fabric so that the line of pattern 208 fits between the right guides of the foot.
- 2 Sew a another line of the pattern 208.
- 3 Position the fabric so that the 2 lines of patterns fit between the inner guides of the foot.
- 4 Select pattern 212 and sew a line of the pattern.

Circle Sewing

The circular sewing pivot pin is inserted into the free arm and provides a pivot to sew perfect curves or circles for doilies or large scallops.

Use either utility or decorative stitches.

1 Pivot points

Select a decorative stitch.

Fold fabric into quarters to determine center.

Pierce center of fabric with pivot pin. Insert pivot pin into hole in the free arm. Lower presser foot and sew.

Smooth the fabric out evenly from the center to the front of the foot by hand.

2 Pivot pin


NOTE: Light to medium weight fabrics will need a stabilizer to sew the circle/curve correctly.

Twin Needle Sewing



CAUTION:

Turn off the machine before changing the needle and threading the machine.

When sewing with the twin needle, press the twin needle key .

NOTES:

Use the zigzag foot A or satin stitch foot F.

Use #60 or finer threads.

Test the stitches before you begin to sew.

Threading the machine for twin needle

Raise the needle to the highest position and raise the presser foot.

Attach the extra spool pin (refer to page 32).

Draw both threads from the spools and pass them through the points from **1** to **7**.

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

Pass one of the threads through the needle bar thread guide on the left, and the other on the right.

1 Needle bar thread guide (left)

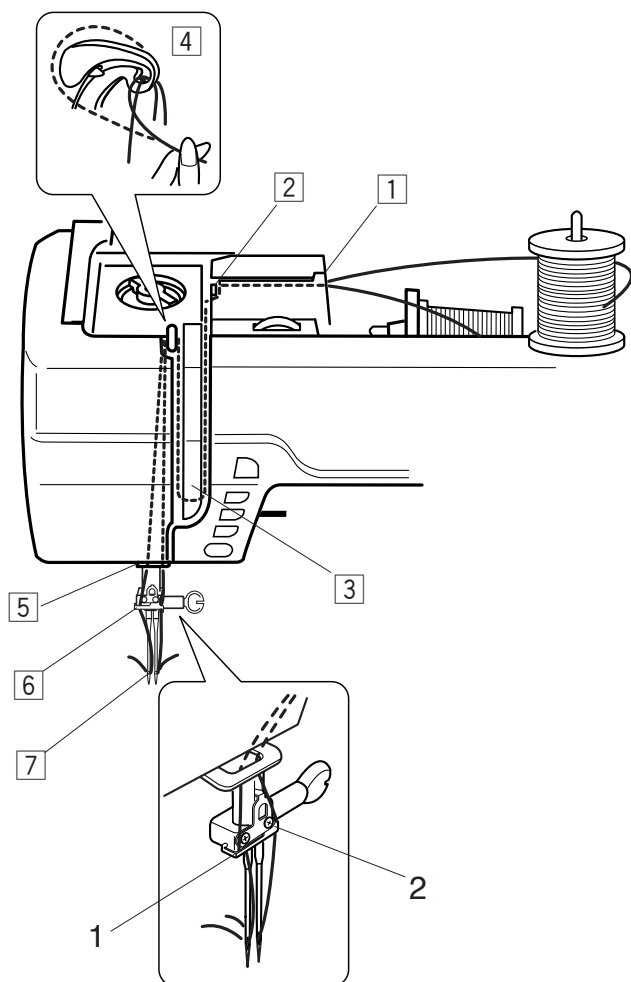
2 Needle bar thread guide (right)

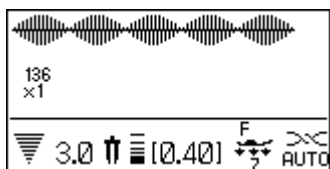
Thread the needles from the front to back by hand.

NOTES:

Threading of points **1** to **5** is the same as for single needle.

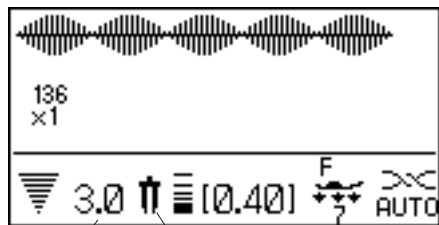
The needle threader cannot be used for the twin needle.



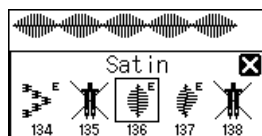
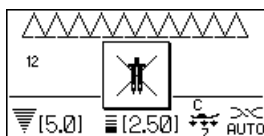


Machine Setting

Pattern:	See below
Thread tension:	AUTO
Presser foot:	Zigzag foot A or satin stitch foot F
Foot pressure:	7



2 1



Selecting the patterns

Select the desired pattern suitable for twin needle sewing.


Press the twin needle key .

The LCD screen shows a twin needle icon and the maximum permissible stitch width is restricted to 3.0 mm. The needle drop position of straight stitches is restricted to between 2.0 and 5.0.

- 1 Twin needle icon
- 2 Maximum width (3.0)

NOTES:

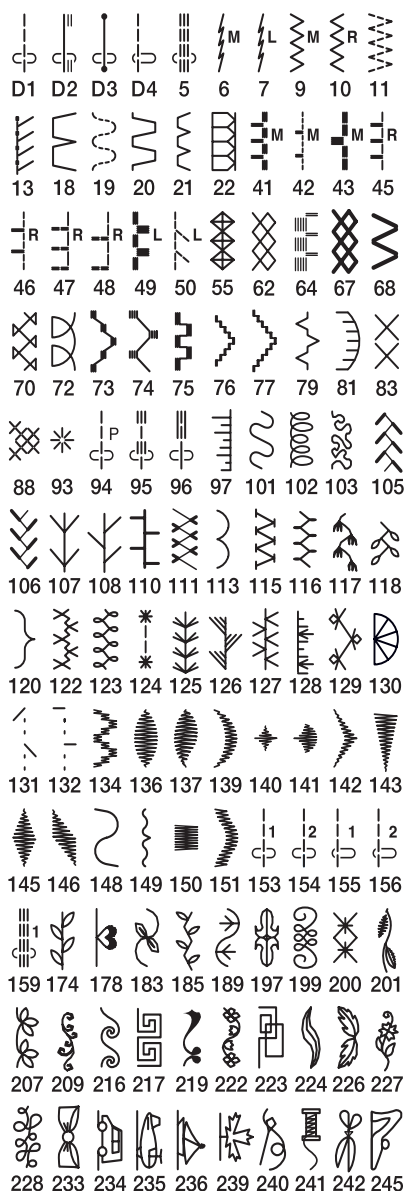
If you press the twin needle key, a warning message will appear when a pattern not suitable for twin needle sewing is selected.

After pressing the twin needle key, patterns not suitable for twin needle sewing cannot be selected and the  mark is shown instead of the pattern icon. Patterns cannot be programmed if the twin needle key has been pressed.

Sewing

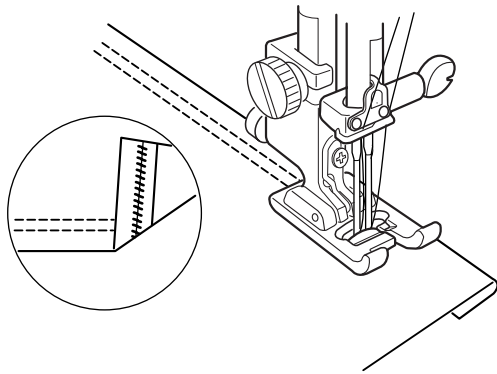
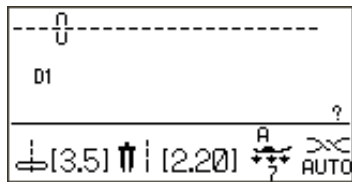
Sew at a medium speed.

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



Twin Needle Hem Machine Setting

Pattern: D1
Thread tension: AUTO
Presser foot: Satin stitch foot F
Foot pressure: 7



A twin needle hem is quick and easy. This is an excellent hemming method for knit fabrics because the bobbin thread zigzags, allowing the hem to stretch with the fabric.

Fold the hem up desired amount and topstitch with the twin needle. Carefully trim away excess fabric using sharp scissors.

PROGRAMMING A PATTERN COMBINATION

Single Repeat with Memory Auto-Lock

Example: Programming pattern 139 (Satin).

1 Select 139.

2 Press “Mirror Image” key.

3 Press “Elongation” key.

4 Press “Stitch Length” key and change stitch length to 0.30.

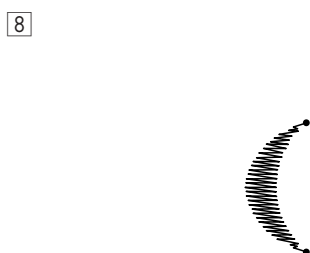
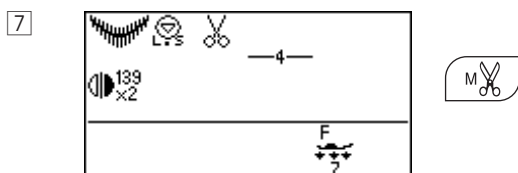
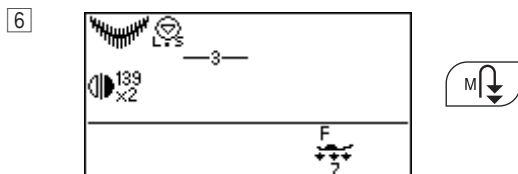
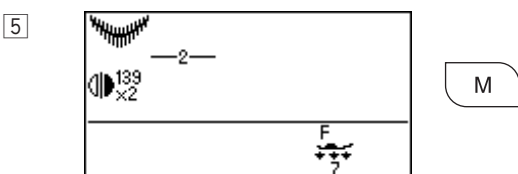
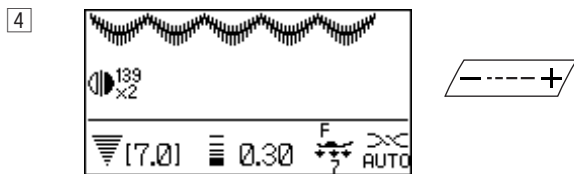
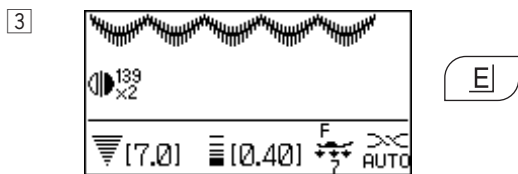
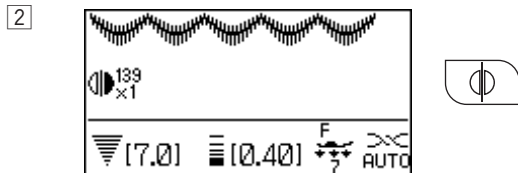
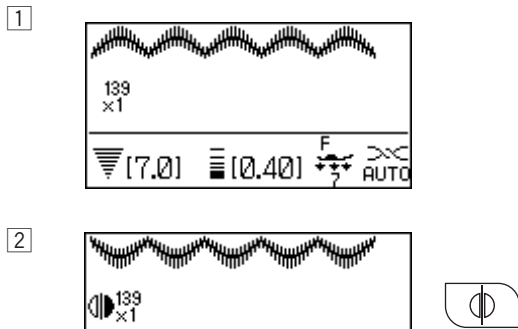
5 Press “Memory” key to memorize. A blinking cursor will appear to indicate where next selected and entered stitch will be memorized within the sequence.

6 Press “Locking stitch” key.

NOTE: It is not possible to add a stitch at the end of a sequence following the memory auto-lock stitch.

7 Press “Auto Thread Cutter” key. (The Thread Cutter LED signal light turns on.)

8 Place fabric and stabilizer under foot and sew. Machine will complete the design, lockstitch, cut threads and automatically stop.



Pattern Combination

Example: Programming patterns 139 and 144.

NOTE:

Patterns in the different groups, letters and numbers can also be programmed.

- 1 Select pattern 139 (Satin).
(Press "Mirror Image" key and change stitch width or length if desired.)

- 2 Press the memory key.

- 3 Select pattern 144 (Satin).

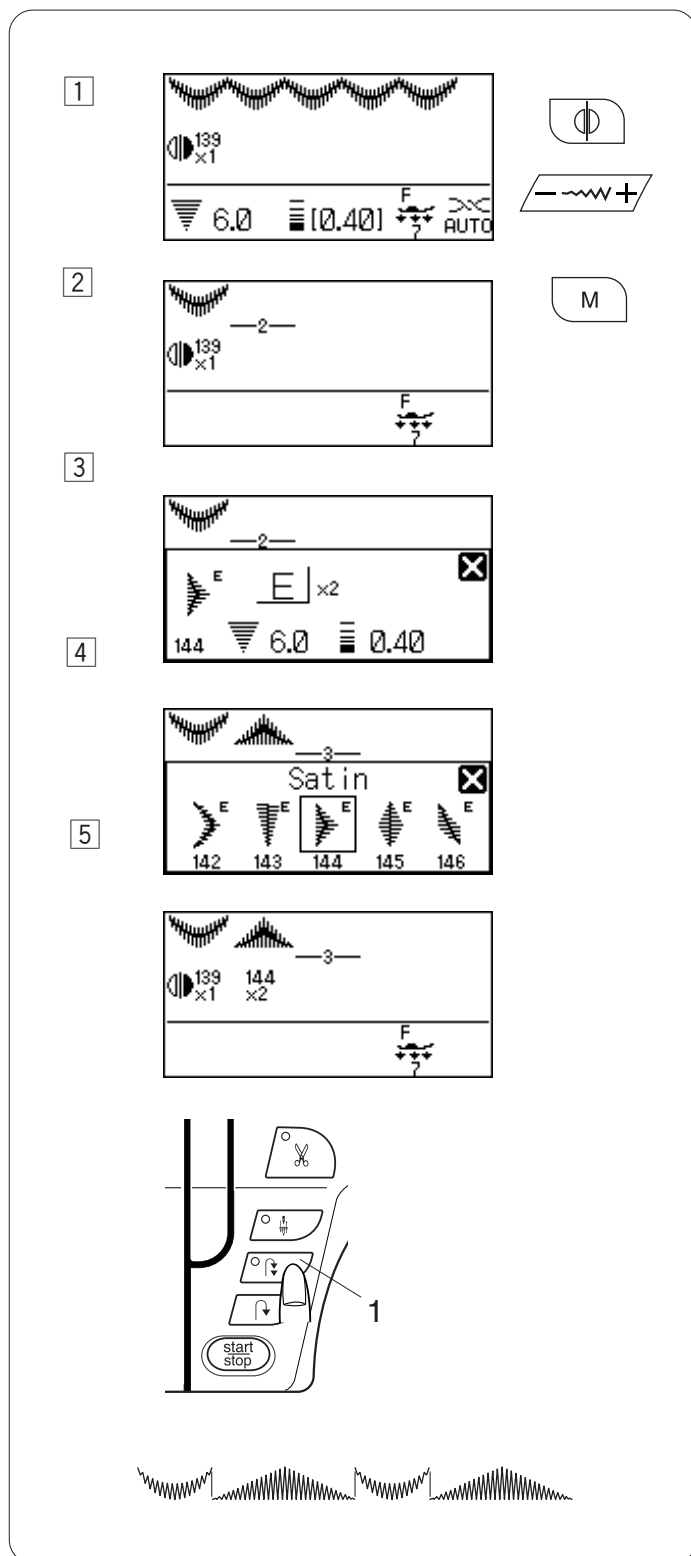
- 4 Press the memory key.

- 5 Combination of patterns 139 and 144 will be sewn continuously.

NOTE:


If you press the auto-lock button in the middle of sewing, the machine will sew to the end of the current pattern, sew locking stitches and stop automatically.

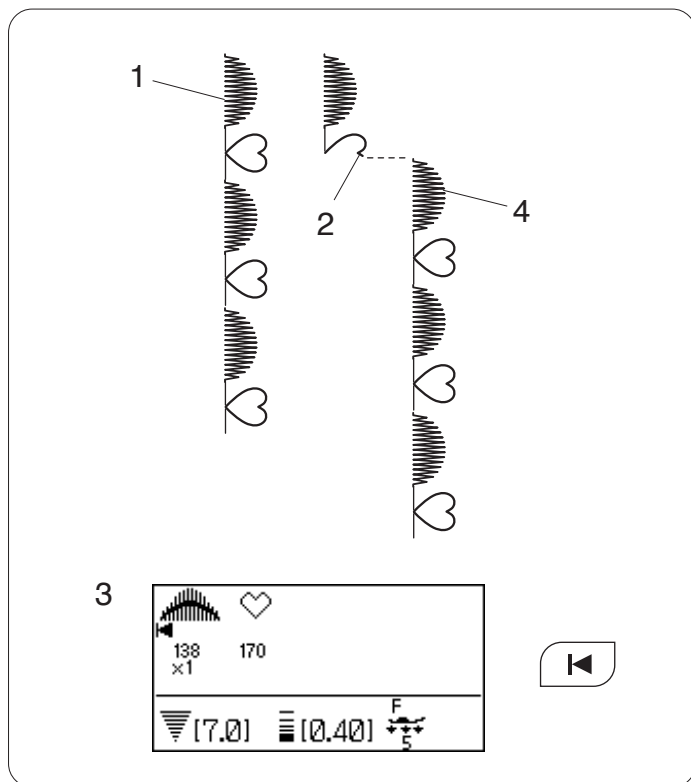
- 1 Auto-lock button



Sewing the Pattern Combination from the Beginning


If you have to stop sewing in the middle of a pattern combination and wish to sew it over again, press the start over key to sew the pattern combination from the beginning.

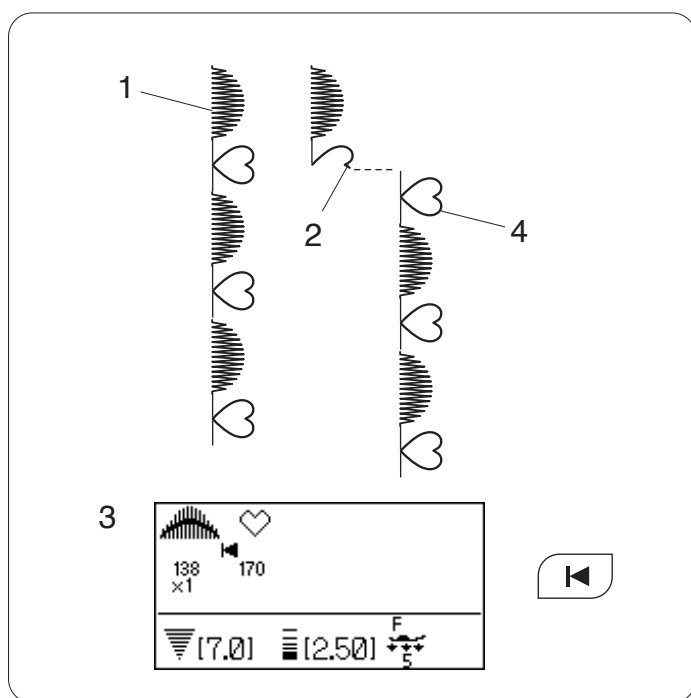
- 1 Programmed pattern combination
- 2 Sewing stopped.
- 3 Press the start over key to show  before pattern 138.
- 4 Sewing starts from the beginning of the pattern combination.

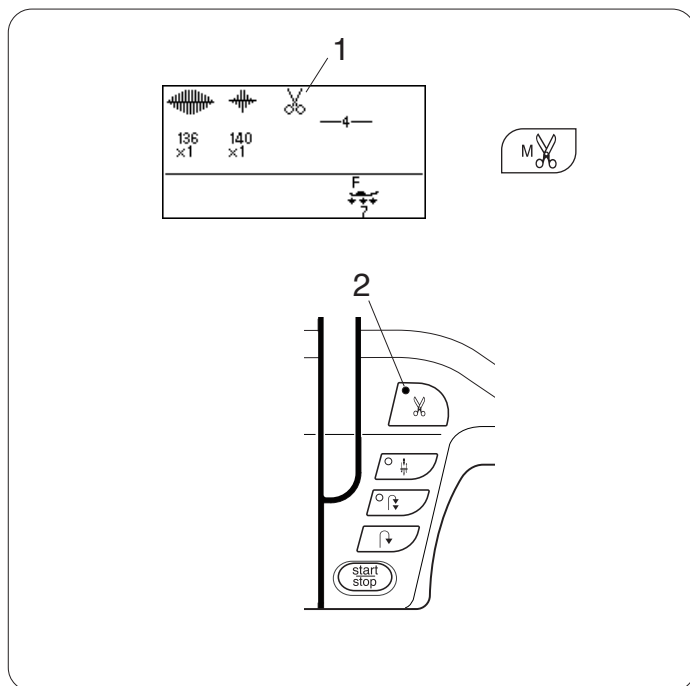


Sewing the Current Pattern from the Beginning

If you have to stop sewing in the middle of a pattern combination and wish to start sewing again from the incomplete pattern, press the start over key to sew from the beginning of the pattern last sewn.

- 1 Programmed pattern combination
- 2 Sewing stopped.
- 3 Press the start over key to show  before pattern 170.
- 4 Sewing starts from the beginning of the incomplete pattern.





Programming Automatic Thread Cutting

To cut the threads automatically after sewing the pattern combination, press the memory auto thread cut key after programming the pattern combination.

The cutter sign will be indicated on the LCD screen and the LED signal on the thread cutter button will turn on.

- 1 Cutter sign
- 2 LED signal

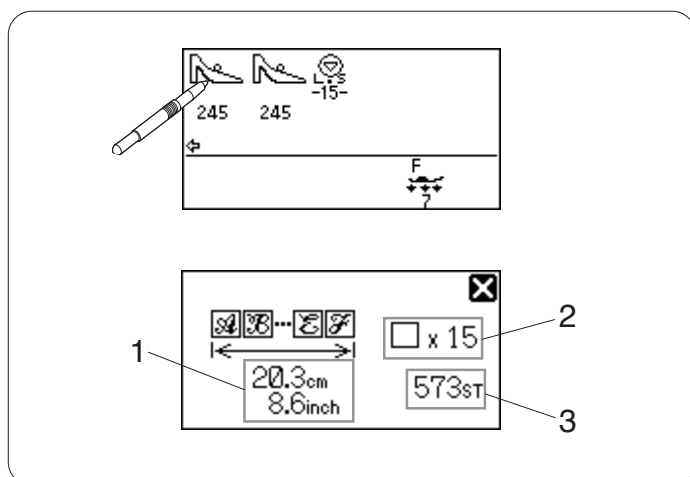
The machine will sew the pattern combination and cut the threads, then stop automatically.

NOTE:

If you wish to cut the threads automatically after sewing the desired pattern, press the memory auto thread cut key after selecting the desired pattern.

When a pattern in the buttonhole group is selected, the machine will cut the threads and stop automatically after the pattern is completed.

When a pattern in any other group is selected, pressing the auto-lock button or reverse button will cause the machine to cut the threads and stop automatically.



Checking Properties of a Pattern Combination

You can check the total length, number of patterns and stitch count of a pattern combination by pressing a pattern icon on the LCD screen.

- 1 Total length in centimeters and inches
- 2 Number of patterns
- 3 Total stitch counts

NOTE:

The total length is a theoretical value not an actual length.

Bridge Stitches

Stitch patterns number 153 to 160 are bridge stitches, which are used to insert straight stitches after a stitch pattern.

Example: Combination of pattern 177 (Decorative) and pattern 157 (Bridge)

1 Select pattern 177 (Decorative).

2 Press the memory key.

3 Select pattern 157 (Bridge).

4 Press the memory key.

5 Two counts of the straight stitch (bridge stitch) are added to pattern 177.

1 Bridge stitch

NOTES:

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

The stitch length and needle drop position of patterns 153 to 156 and 159 are independent from those of the combined pattern.

Patterns 157, 158 and 160 will inherit the stitch length and needle drop position of a previous pattern in the programmed pattern combination.

Use patterns 153-156 with satin stitches

2 Pattern 156 (Bridge)

NOTE:

Use pattern 159 if you wish to add straight stretch stitches.

Use a blank space if you wish to insert a space between stitch patterns.

3 Blank space

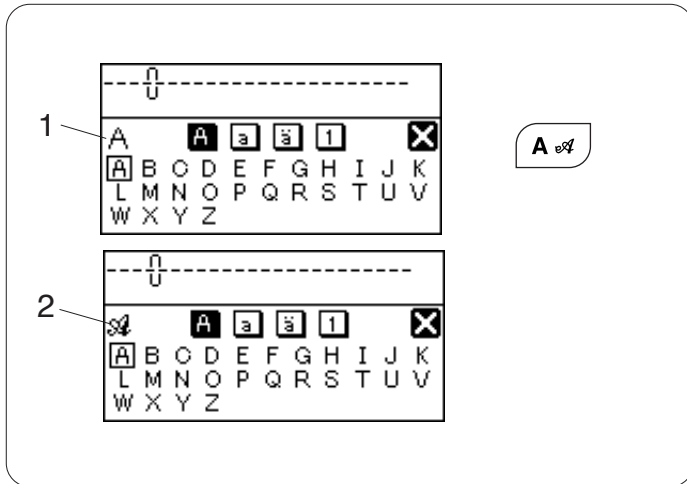
MONOGRAMMING

Selecting a Letter Style

Press the monogram key to select the letter style.
The monogram selection window will open.

The following 2 styles are available.

- 1 Block
- 2 Script



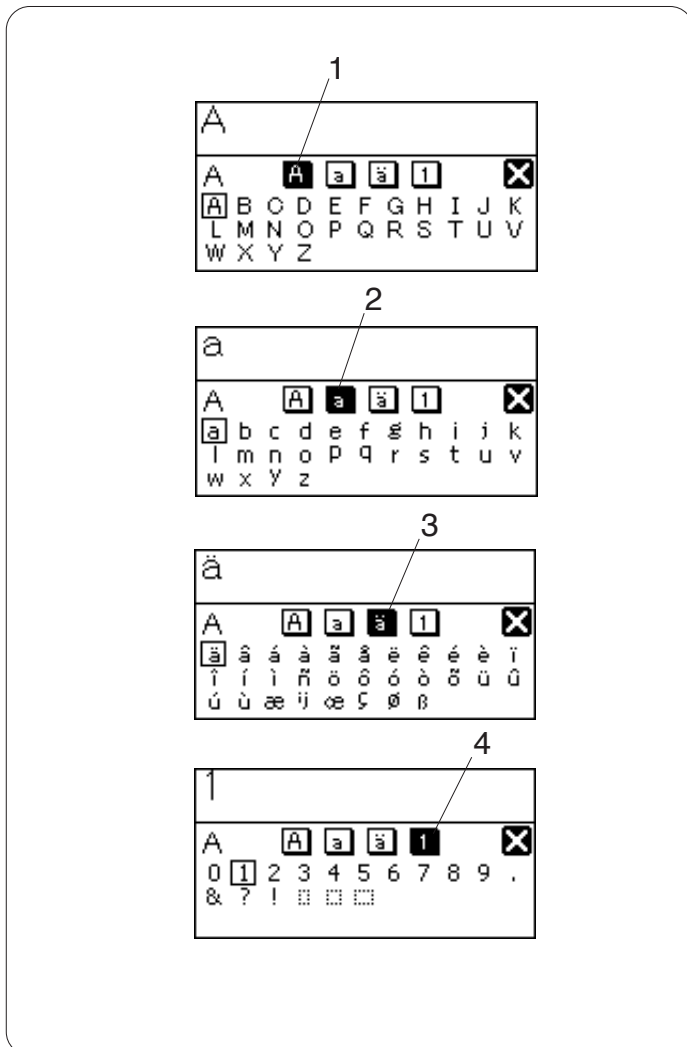
Selecting a Character

Turn the jog dial clockwise or counterclockwise to select the desired character and press the confirm button.

The LCD screen shows the upper case alphabet, lower case alphabet, lower case European letters and numbers in this order.

- 1 Upper case alphabet
- 2 Lower case alphabet
- 3 Lower case European letters
- 4 Numbers

You can also select a character by pressing the icon of the desired case group and the character with the touch panel stylus.



Programming a Monogram

Example: To program “Quilt”

1 Press the monogram key.

2 Select letter “Q” (Block style).
Press the memory key.

3 Press the monogram key.

4 Select letter “u” (Block style).
Press the memory key.

5 Select letter “i” (Block style).
Press the memory key.

6 Select letter “l” (Block style).
Press the memory key.

7 Select letter “t” (Block style).
Press the memory key.

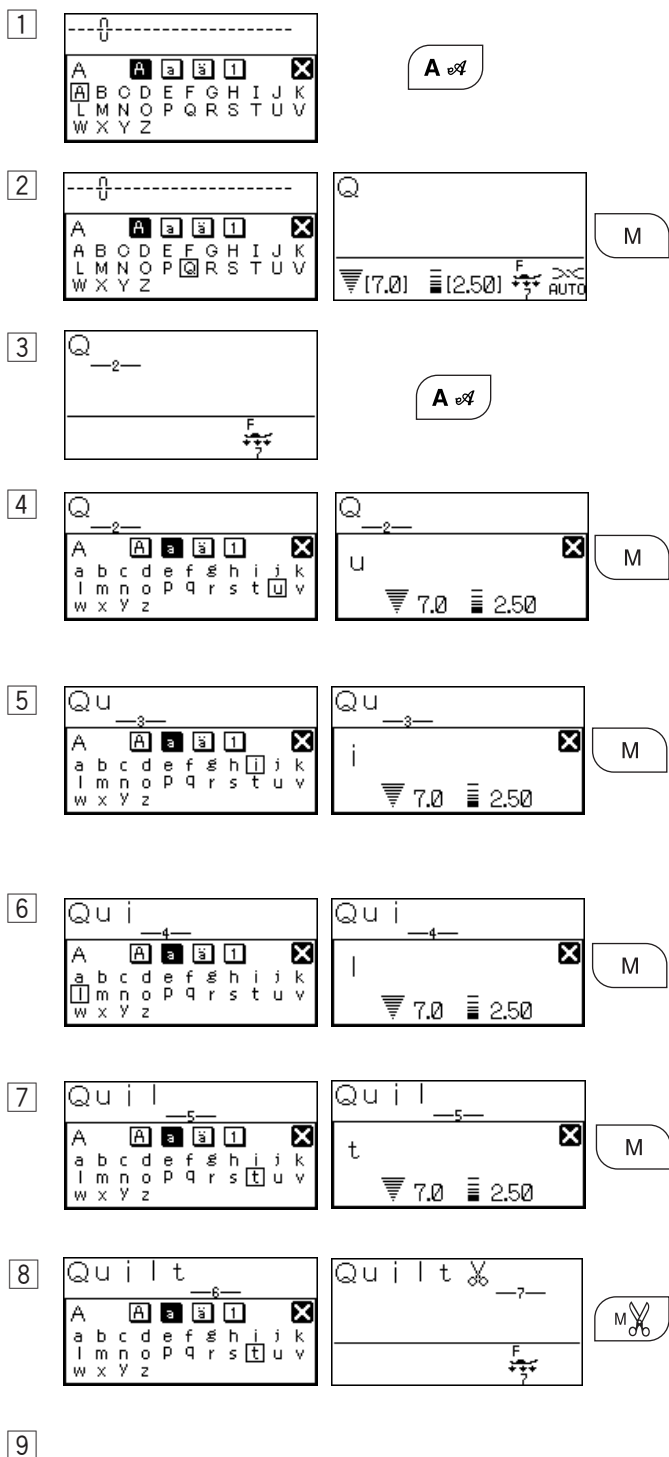
8 Press the auto thread cutter key.

9 The machine will sew “Quilt”, cut the threads and stop automatically.

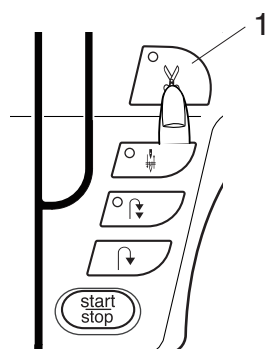
NOTE:

If you cut the threads with the thread cutter button, press the up/down needle position button to bring the needle to the down position before sewing. This prevents the needle mark of the extra stitch when cutting the threads.

1 Thread cutter button



Quilt



Uniformly Adjusting Stitch Width or Length

If the cursor is positioned to the right of the last stitch in the programmed sequence, the stitch width or length adjustment is applied to the entire sequence.

Stitch Width:

- 1 Program 144, 170 and 144. (Cursor must be to the right of last stitch in sequence.)
- 2 Press “-” on “Stitch Width Adjusting” key.
- 3 Place fabric and stabilizer under foot and sew.
All stitches within the sequence will have the same stitch width.


Stitch Length:

- 4 Press “Edit” key to move cursor after last stitch in sequence.
- 5 Press “-” on “Stitch Length Adjusting” key. (BEEP will sound.)

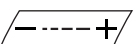
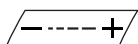
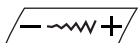
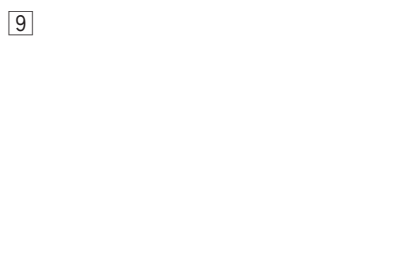
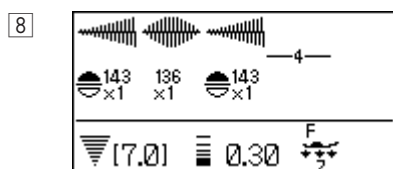
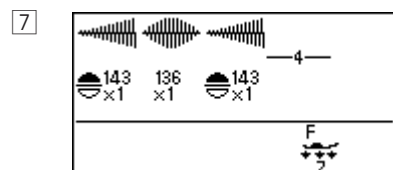
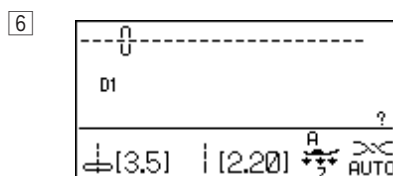
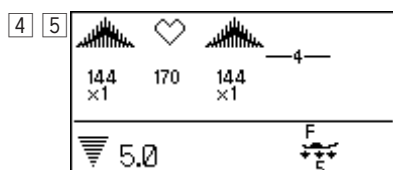
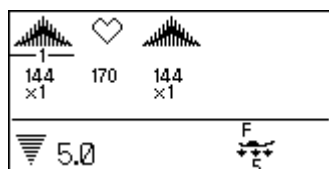
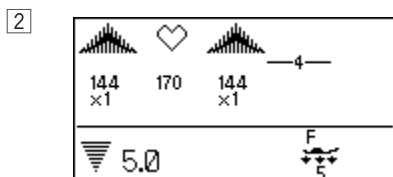
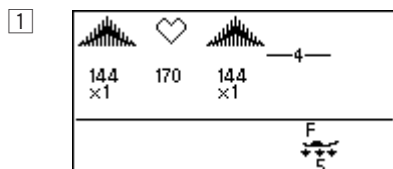
NOTE: It is not possible to uniformly adjust stitch length within a sequence if it contains different styles of stitches (satin stitches vs. decorative or utility stitches).

- 6 Press and hold “C” key.
- 7 Program 143 (face to face image)*, 136 and 143 (face to face image)*. (Cursor must be to the right of last stitch in sequence.)

* To program 143 (face to face image), select 143 and press the face to face key.

NOTE: If you press both “Mirror Image” key and “Face to Face” key after selecting a pattern,  symbol will appear in the LCD screen.

- 8 Press “-” on “Stitch Length Adjusting” key.
- 9 Place fabric and stabilizer under foot and sew.
All stitches within the sequence will have the same stitch length.



Individually Adjusting Stitch Width or Length

If the cursor is positioned under a stitch in the programmed sequence, the stitch width or length adjustment is applied only to that stitch.

1 Program 133 two times.

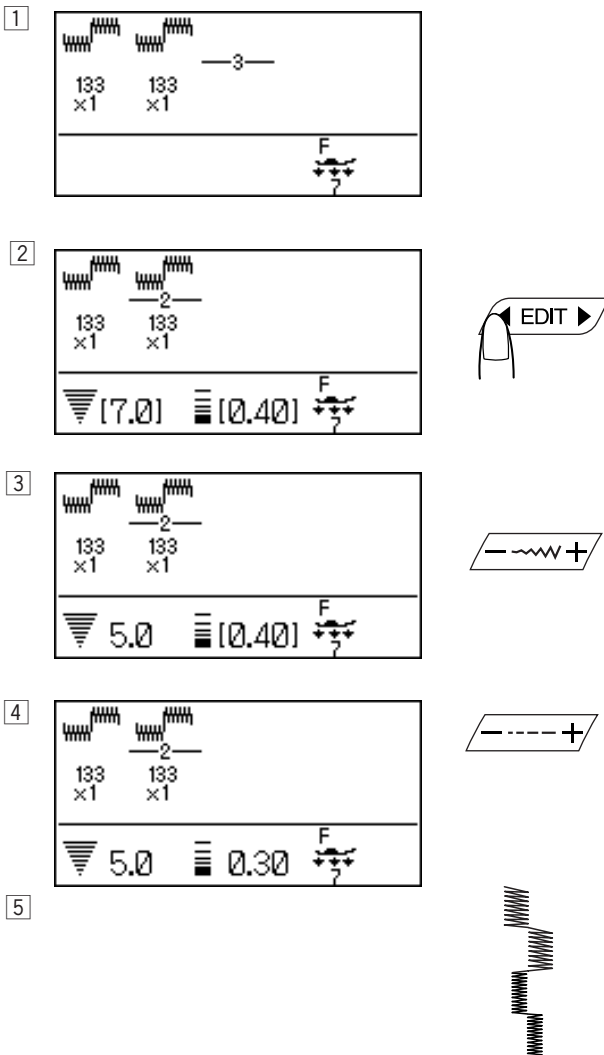
2 Press “Edit Left” key to move cursor.

3 Press “-” on “Stitch Width Adjusting” key.

4 Press “-” on “Stitch Length Adjusting” key.

5 Place fabric and stabilizer under foot and sew.

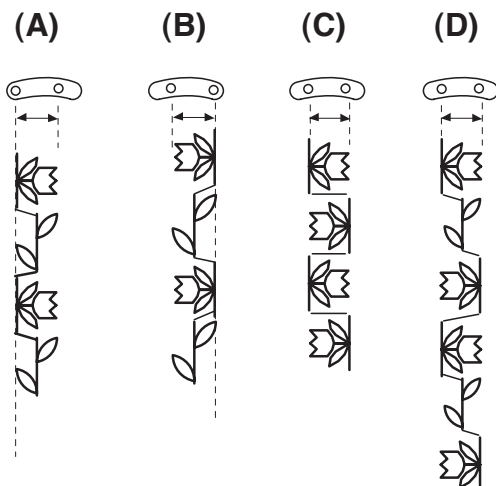
NOTE: If the cursor is to the right of the last stitch in the sequence and either the “Stitch Width/ Adjusting” key or “Stitch Length Adjusting” key is pressed then all individually adjusted settings will be replaced with the uniformly adjusted setting.



Alignment of Stitches Within a Sequence

Often stitches in a sequence have different needle start positions – left, center or right. Your machine will automatically determine a common alignment point based on the stitches in the sequence. There are 4 possibilities:

- (A) Left and center needle positions are aligned to left.
- (B) Right and center needle positions are aligned to right.
- (C) Left and right needle positions are aligned to center.
- (D) Left, center and right needle positions are aligned to center.




STORING AND RECALLING A PATTERN COMBINATION

Permanent Memory

It is possible to retain a sequence for future use even if the machine is turned off. Simply save the sequence in one of the 20 permanent memories. Each memory has a capacity of 50 stitches.

Saving Memory


- 1 Program 121 (mirror image), 165 and 121.
Press the memory save/recall key.
- 2 The LCD screen will show memory address M1 and the key function assignment.
Turn the jog dial to select the desired address.
- 3 Press the memory key or memory key icon  M on the LCD screen.
The pattern combination will be stored in the selected memory address.
1 Memory key icon

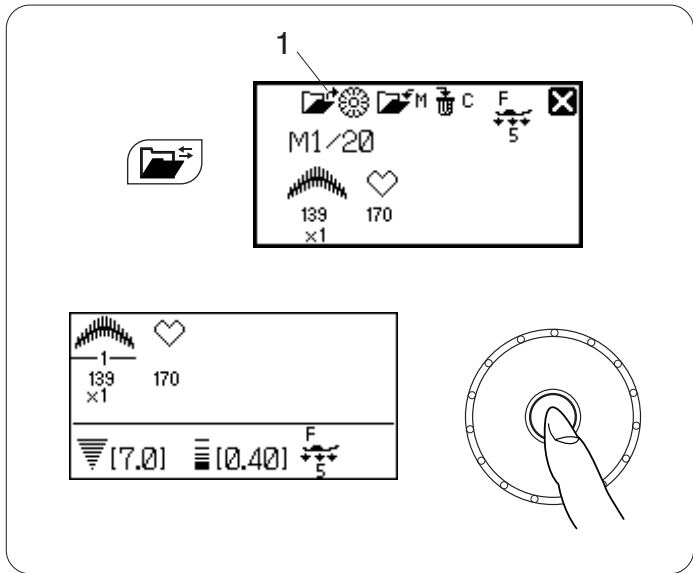
NOTE:

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

Do not turn the power switch off while an hourglass appears on the LCD screen.


Overwriting Memory

- 1 Program 139 and 170.
Press the memory save/recall key to select the desired address.
- 2 If a pattern combination has been already stored, the LCD screen will show the image of the stored pattern combination.
- 3 Press the memory key or memory key icon  M on the LCD screen.
The stored combination will be replaced with the new one.

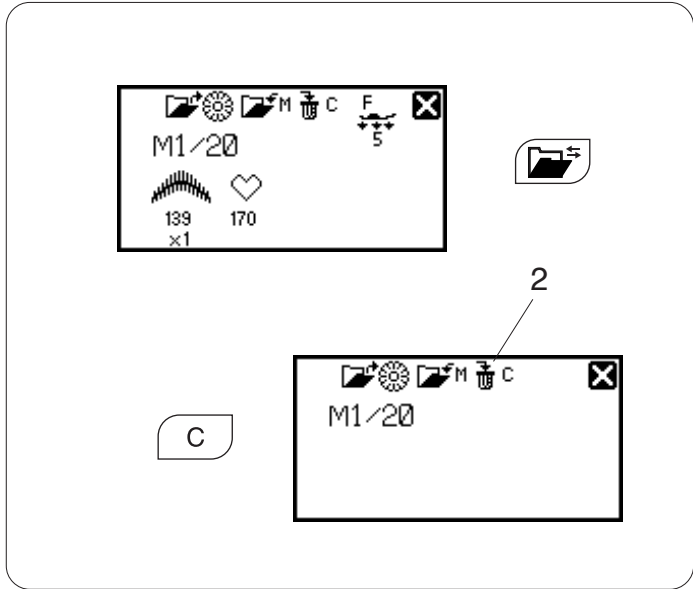


Recalling Memory

Press the memory save/recall key to select the memory address where the desired pattern combination is stored.


Press the confirm button or confirm button icon  on the LCD screen to recall the stored combination.

1 Confirm button icon

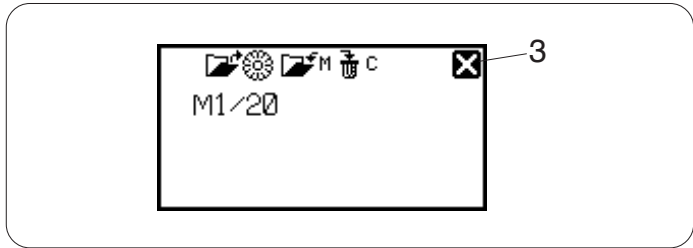


Deleting an Individual Memory

Press the memory save/recall key to select the memory address storing the pattern combination you wish to delete.

Press and hold the clear key or clear key icon  on the LCD screen to delete the stored combination.

2 Clear key icon



NOTE:

To close the memory save/recall window, press the cross mark.

3 Cross mark

CARE AND MAINTENANCE

Cleaning the Hook Race, Feed Dog and Thread Cutter Mechanism

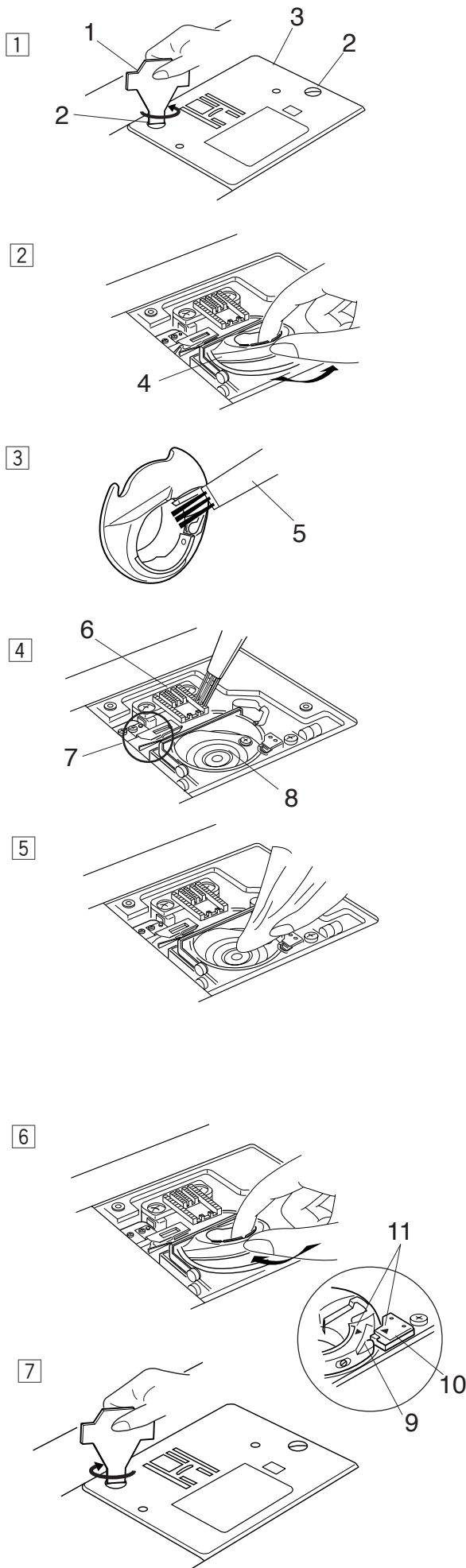


WARNING:

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.

1 Screwdriver
2 Setscrew
3 Needle plate

- 2 Take out the bobbin. Lift up the bobbin holder and remove it.

4 Bobbin holder

- 3 Clean the bobbin holder with the lint brush and a soft dry cloth.

5 Lint brush

- 4 Clean the feed dog, thread cutter mechanism and hook race with the lint brush.

6 Feed dog
7 Thread cutter mechanism
8 Hook race

- 5 Clean the hook race with a dry cloth.

Reattaching Bobbin Holder and Needle Plate

- 6 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 triangle marks on the bobbin holder and stopper.

9 Knob
10 Stopper
11 Triangle marks

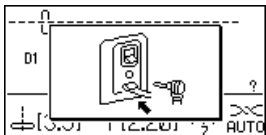
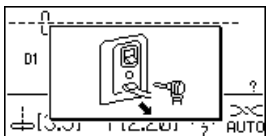
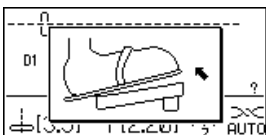

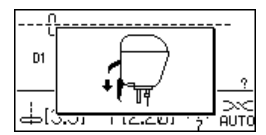
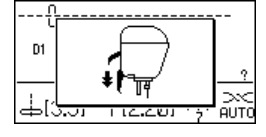
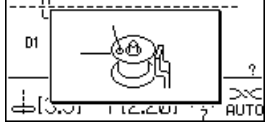
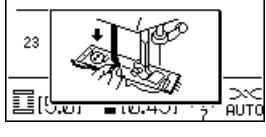
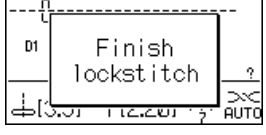

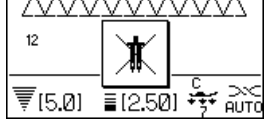
- 7 Reattach the needle plate and tighten the screws.



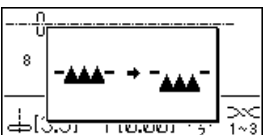
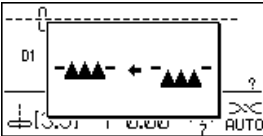

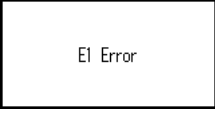
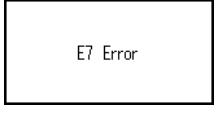
NOTE:

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

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 foot control is disconnected while sewing.	Connect the foot control and start the machine again.
	The start/stop button is pressed with the foot control 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.	Turn the flywheel to raise the needle.
 	The machine is started without lowering the presser foot. 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 start the machine again.
	The bobbin winder spindle is shifted to the right.	Shift the bobbin winder spindle to the left for stitching.
	The machine will stop if the buttonhole is sewn without lowering the buttonhole lever.	Lower the buttonhole lever and start the machine again.
	The foot control is released or the start/stop button is pressed while sewing a locking stitch.	Start the machine again to let the machine stop automatically.
	The auto thread cutter button is pressed while the machine is still initializing after turning the power on. Or, the thread cutter button is pressed 4 times in a row.	Press the thread cutter button after the machine stops.
	The twin needle button is pressed when a pattern unsuitable for twin needle sewing has been selected.	Select the pattern suitable for twin needle sewing.

Warning Sign	Cause	Try this
	The elongation key is pressed when a pattern that cannot be elongated has been selected.	Elongation is applicable only to satin stitches.
	The memory key is pressed when a pattern that cannot be memorized has been selected.	Select a pattern that can be memorized.
	The machine is started without lowering the feed dog with basting or button sewing selected.	Lower the feed dog.
	The machine is started with the feed dog lowered.	Raise the feed dog.
	<p>The machine is started after halting due to overload.</p> <p>The feed dog is lowered while the machine is running.</p> <p>The presser foot is raised while the machine is running.</p> <p>The bobbin winder spindle is shifted to the left while winding a bobbin.</p>	<p>Wait for at least 15 seconds to restart. Remove tangled threads around take-up lever, hook race and automatic thread cutting mechanism.</p> <p>Do not lower the feed dog, raise presser foot or shift bobbin winder spindle while the machine is running.</p>
 	The machine does not work properly due to a problem in the control circuit.	Contact the service center or the store from whom the machine was purchased.
The LCD screen shows an abnormal display.	Turn the power off and turn it on again.	

Audible Signal	The Buzzer sounds when:
pip	Normal operation
pip-pip	Deleting a pattern combination with the clear key
pip-pip-pip	Invalid operation or malfunction
peep	E1-E7 error occurred
pip pi-pi-pi-peep	Buttonhole is completed.

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 fabric is moved too fast when stitching free motion quilting. 8. The thread is tangled around the spool. 	Page 35 Page 28 Page 30 Page 30 Page 38 Page 38 Page 76 Use the spool holder.
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 34 Page 100 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 fabric is pulled forward when using the open-toe foot. 4. The needle is too fine for the fabric being used. 5. An inappropriate presser foot is used. 	Page 30 Page 30 Page 76 Page 30 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. A stretch stitch needle is not being used for sewing stretch, very fine fabrics and synthetics. 4. The needle thread is not threaded properly. 5. A poor quality needle is used. 	Page 30 Page 30 Use the stretch stitch needle. Page 35 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. 6. A stabilizer is not used when sewing very fine fabrics. 	Page 28 Page 35 Page 30 Make stitch shorter. Page 22 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 100 Make stitch longer. Page 22
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 28 Page 30
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 10 Page 100 Page 23
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. 	Pages 56, 58 Apply an interfacing. Page 53
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 100 Page 100
Layers shift	<ol style="list-style-type: none"> 1. The foot pressure is not suitable for fabrics being sewn. 	Page 22
Thread cutter LED blinks	<ol style="list-style-type: none"> 1. The presser foot is raised before auto thread cutting is complete. 2. Threads have been caught in the thread cutter mechanism. 	Lower the presser foot and press the thread cutter button. Page 100

It is not abnormal for a faint humming sound to be heard from the internal motors.

The LCD screen and function key area may become warm after several hours of continuous use.